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Department of Restorative, Preventive and Paediatric Dentistry, School of Dental Medicine, University of Bern, Switzerland

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Ilici RR, Florea BA*, Ivan D, Galbinasu BM, Sfeatcu RI

Faculty of Dentistry, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

OPD 4.6 **A 5-year longevity study of Class I restorations in primary molars**
Niemeyer SH*, Hug T, Un-Arm C, Jeganathan S, Carvalho TS
Department of Restorative, Preventive and Paediatric Dentistry, School of Dental Medicine, University of Bern, Switzerland

OPD 4.7 **Effect of lactic acid on the erosion of glass-ionomer materials**
Gorseta K*, Glavina D
Department of Paediatric and Preventive Dentistry, School of Dental Medicine, University of Zagreb, Croatia

OPD 4.8 **Direct and indirect restorations of teeth treated with vital pulp therapy: a case series.**
Gkourtsogianni S*, Seremidi K, Gizani S
Department of Paediatric Dentistry, National and Kapodistrian University of Athens, Greece

OPD 4.9 **Characterisation of CPP-ACP with the addition of Fluoride**
Lidder HK*
Institute Of Dentistry, Queen Mary University of London, United Kingdom

OPD 4.10 **Antibacterial activity of a bioactive restorative material versus a glass-ionomer cement on Streptococcus Mutans: In-vitro study**
Bardellini E, Bordanzi A, Amadori F, Majorana A*, Conti G
Department of Medical and Surgical Sciences and Public Health, School of Paediatric Dentistry, University of Brescia, Italy

OPD 4.11 **Clinical applications of Propolis in the endodontic therapy of primary and young permanent teeth: A scoping review**
Alghutaimel HA*, Matoug-Elwerfelli M, Nagendrababu V, Dummer P
College of Dentistry, King Saud bin Abdulaziz University for Health Sciences, Saudi Arabia

OPD 4.13 **Pulpectomy: a treatment option with favorable outcome in primary teeth.**
Markouli A*, Seremidi K, Agouropoulos A, Lampraki E, Gizani S
Department of Paediatric Dentistry, School of Dentistry, National and Kapodistrian University of Athens (NKUA), Greece

OPD 4.14 **Accuracy of different apex locators in enlarged root canals: An in vitro study**
Ovsyanytska D*, Esen A, Yilmaz N
Department of Paediatric Dentistry, Sakarya University, Sakarya, Turkiye

Session OPD5

OPD 5.1 **The attitude and practices of paediatric dentists in Greece toward the use of Clear Aligners in treating malocclusion.**
Mastorakis G*, Awawdeh M
Private practice, Greece

OPD 5.2 **Impact of the palatine tonsil size on the morphology of the dental arches**
Alpaycetin E*, Baysan C, Aydemir L, Tuna İnce EB
Istanbul University, Faculty of Dentistry, Department of Pedodontics, Turkiye

OPD 5.3 **Analysis of resin infiltration as a treatment to manage unaesthetic white spot lesions after orthodontic treatment**
Stahl L*, Sabel N, Naoumova J
Institute of Odontology at Sahlgrenska Academy University of Gothenburg, Sweden

OPD 5.4 **A longitudinal study of maxillary incisor root resorption caused by ectopic canines**
Dahlen A*, Persson C, Lofthag Hansen S, Naoumova J
Specialist Clinic of Orthodontics, University Clinics of Odontology, Gothenburg and Department of Orthodontics Sahlgrenska Academy, University of Gothenburg, Sweden

OPD 5.5 **Orthodontic-restorative treatment of cleft lip and palate**
Kadic S*, Magdalenic-Mestrovic M, Nola Fuchs P
Department of Paediatric Dentistry, Dental Polyclinic Zagreb, Zagreb, Croatia

OPD 5.6 **Ectopic eruption of lateral incisors: Two cases reports**
Seirinoglou G*, Fotakidou E, Ifanti K
School of Dentistry, National and Kapodistrian University of Athens, Greece

OPD 5.7 **Management of impacted permanent maxillary anterior teeth in children: two case reports**
Karaduran B*, Koruyucu M
Department of Pedodontics, Istanbul University, Faculty of Dentistry, Istanbul, Turkey

OPD 5.8 **A case of maxillary anterior teeth traction after extraction of compound odontoma with digital guide plate**
Liu Y*
Department of Preventive Dentistry, Shanghai Stomatological Hospital and School of Stomatology, Fudan University, Shanghai, China

OPD 5.9 **Space loss following early loss of primary second molars: Alternative active space maintainer applications**
Elmasli E*, Karaduran B, Gencay K, Koruyucu M, Tuna EB
Istanbul University Faculty of Dentistry, Dept. of Pedodontics, Turkey

OPD 5.10 **Anterior tooth crossbite correction with different treatment techniques**
Misir M*, Koruyucu M, Tuna Ince EB
Department of Paediatric Dentistry, Faculty of Dentistry, University of Istanbul, Turkey

OPD 5.11 **Perplexing Palates: Two cases of foreign bodies mimicking palatal oral lesions**
Webb G*, Hill E, Visholm T, Jeremic P, Fasanmade K
Oxford University Hospitals, United Kingdom

OPD 5.12 **Treatment of Dentigerous Cyst with a custom made appliance: A case series**
Guntut I*, Haznedaroglu E, Mentes AR, Ugurlu F
Marmara University, Institute of Health Sciences, Department of Paediatric Dentistry, Istanbul, Turkiye

OPD 5.13 **Service evaluation on utilisation of clinics at Chapel Allerton paediatric dental unit**
Sanari A*, McDonnell S
Paediatric Dentistry Department, Leeds University, United Kingdom

OPD 5.14 **Endodontically Treated Permanent Molars Restored with CAD-CAM Hybrid Composite Resin Overlays in Children: A Report of 3 Cases**
Akca A*, Eren F, Kalyoncu IO, Kargul B
Department of Paediatric Dentistry, Faculty of Dentistry, Marmara University, Turkiye

OPD 5.15 **A re-audit of the documentation of parental responsibility and consent for paediatric dental patients.**
Albader RS*, Jones A
Paediatric Dentistry Department, Liverpool University, United Kingdom

OPD 5.16 **Quality improvement project: redefining emergency triage service in a Paediatric Dental Department**
Karia S*, Hutchison C, Sumner O
Glasgow Dental Hospital, Scotland, United Kingdom

OPD 5.17 **Factors associated with referral of children for dental treatment under general anaesthesia: A structured literature review**
Charnock S*
University of Manchester, United Kingdom

OPD 5.18 **Evaluation of maxillary sinus pathologies in children and adolescents with cleft lip and palate using CBCT: A retrospective study**
Celik A*, Ersan N, Selvi Kuvvetli S
Department of Paediatric Dentistry, Yeditepe University Faculty of Dentistry, Istanbul, Turkiye

Session OPD6

OPD 6.1 **Lingual lymphatic malformations: A report of two cases**
Irhouma S*, Finn D, Field A
Liverpool University Dental Hospital, United Kingdom

OPD 6.2 **Laser surgical therapy for early treatment of oral mucocele in a newborn patient: A case report**
Vitale M, Modugno F, Catalano F, Gariboldi F*
University of Pavia, Italy

OPD 6.3 **Dental manifestation and management of X-linked hypophosphatemia**
Koberova R*, Radochova V, Skalova S
Dept. of Paediatric Dentistry, Charles University, Fac. of Medicine and University Hospital, Hradec Kralove, Czech Republic

OPD 6.4 **Case report of A 12-years male patient with sever aplastic anemia treated for Noma**
Omairi HS*, Tsilingaridis G
Department of Dental Medicine, Division of Paediatric Dentistry, Karolinska Institutet, Stockholm, Sweden

OPD 6.5 **Dental management of late sequales in a child with Rhabdomyosarcoma therapy**
Bircan Y*, Pinar Erdem A, Kasimoglu Y
Istanbul University, Turkey

OPD 6.6 **A traumatic bone cyst case affecting two mandibular molars' vitality in a female adolescent**
Akcora T*, Kaplan C, Akgun OM
University of Health Sciences Ankara, Turkey

OPD 6.7 **Oro-dental Burden of Teenage Patients Undertaken Chemotherapy with or without Radiotherapy During Childhood**
Asadova N*, Eker N, Dinc O, Gul D, Mentes A
Department of Paediatric Dentistry, School of Dentistry, Marmara University, Istanbul, Turkiye

OPD 6.8 **Changes in the oral microbiome in subjects affected by caries and general diseases**
Hofmann M*, Hain T, Ott B, Kraemer N, Schulz-Weidner N
Department of Paediatric Dentistry, University Medical Center Giessen and Marburg, Campus Giessen, Germany

OPD 6.9 **Giant cell fibroma in a 5-year-old – A case report**
Majanen MR*, Kelppe J, Blomqvist M
1. Department of Oral and Maxillofacial Diseases and Department of Children and Adolescents, Children's Hospital, Helsinki University Hospital 2. Western Uusimaa Unit of Specialised Oral Care, Finland

OPD 6.11 **Effects of Covid-19 pandemic on nutritional habits, lifestyle changes and trauma frequency of children with autism**
Kasimoglu Y*, Safci D, Cerci Akcay H, Coskun M, Pinar Erdem A
Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkiye

OPD 6.12 **Consequences of infant oral mutilation (IOM): two case reports**
Vandenbergh E*, Declerck D
KU Leuven, Department of Oral Health Sciences and Department of Dentistry, Unit of Paediatric Dentistry and Special Dental Care, University Hospitals Leuven, Leuven, Belgium

OPD 6.13 **Antimicrobial effect of platelet-poor plasma on bacteria associated with pulp infection for endodontic regeneration purposes**
Alshammar M*, El-Gendy R, Vernon J, Do T, Balmer R
University of Leeds, United Kingdom

OPD 6.14 **Natal factors influencing newborn's oral microbiome diversity: beyond mother-to-infant microbial transmission**
Kim Y*, Lee J, Choi H, Song J, Kang C
Department of Paediatric Dentistry, College of Dentistry, Yonsei University, Republic of Korea

Session OPD7

OPD 7.1 **A case report of comprehensive care for a paediatric patient with Hypoplastic-Hypocalcified Amelogenesis Imperfecta**
Weston E*, Holroyd I, Parekh S
Royal ENT and Eastman Dental Hospitals, United Kingdom

OPD 7.2 **Enhancing the shear bond strength of composite restorations in defective enamel of MIH using self-assembling peptide P11-4**
Aljuwaihel S*, Balmer R, Davies R, Al-Taie A
Paediatric Dentistry Department, University of Leeds, United Kingdom

OPD 7.3 **A rare case report: Dens Invaginatus in the primary dentition.**
Linden J*, Skene M
NHS Greater Glasgow and Clyde, Scotland, United Kingdom

OPD 7.4 **Management of a trio of triple teeth in the primary dentition**
Abbott LP*, Bowdin L, Hurley C, Anthonappa R
University of Western Australia, Australia

OPD 7.5 **Management of non-syndromic bilateral fusion and gemination of permanent maxillary central incisors: a case report**
Akhter M*, Skutberg C
Distriktstandvarden, Sweden

OPD 7.6 **Management of a permanent fused maxillary lateral incisor with supernumerary tooth: A case report**

Isseven CI*, Sen Yavuz B, Mentes A
Marmara University, Faculty of Dentistry, Department of Paediatric Dentistry, Istanbul, Turkiye

OPD 7.7 **Multiple hyperdontia: report of a rare case.**
Macri LA*
ASST Melegnano-Martesana, Italy

OPD 7.8 **Case report: Management of a supplemental tooth fused to a permanent lateral incisor**
Smyth TG*, Howard K, Humphreys K
Royal Belfast Hospital for Sick Children, United Kingdom

OPD 7.9 **Hidden in the history: Dentigerous cyst masquerading as chronic sinusitis**
Shahi NK*, Ilyas N, Williams R
Birmingham Community Healthcare NHS Foundation Trust, United Kingdom

OPD 7.10 **CAD-CAM technologies used to restore severely destroyed molars in children with MIH**
Petrova SG*, Chuchulska B, Nihtyanova T, Zalamova T, Belcheva A
Department of Paediatric Dentistry, Faculty of Dental Medicine, Medical University- Plovdiv, Bulgaria

OPD 7.11 **Clinical characteristics and clinical problems in Hypomineralised Second Primary Molars (HSPM): a systematic review**
Verdoorn B, Bonifacio CC, Hesse D*
Department of Paediatric Dentistry, Academic Centre for Dentistry Amsterdam (ACTA), Netherlands

OPD 7.12 **Management of a patient with hypomineralized molar teeth treated with indirect composite resin restorations: A case report**
Celik A, Gorken FN, Albayrak M*, Selvi Kuvvetli S
Paediatric Dentistry, Faculty of Dentistry, Yeditepe University, Istanbul, Turkey

OPD 7.13 **MIH-affected teeth in a Greek paediatric population: clinical features and treatment.**
Petroleka K*, Sotira M, Seremidi K, Kraemer N, Gizani S
Department of Paediatric Dentistry, School of Dentistry, National and Kapodistrian University of Athens, Greece

OPD 7.14 **Non-invasive treatment approach of paediatric patient with MIH: a case report**
Zalamova T*, Uzunova I, Petrova S, Nihtyanova T, Belcheva A
Department of Paediatric Dentistry, Faculty of Dental Medicine, Medical University – Plovdiv, Bulgaria

OPD 7.15 **Oligodontia - dental management in children, literature recommendations**
Bucher KH*, Hertel S, Timpel J, Dujic H, Kuhnisch J
Department of Conservative Dentistry and Periodontology, LMU University Hospital, LMU Munich, Germany

OPD 7.16 **Odontomas and disturbances of eruption: case report and literature review.**

Gyftodimou A*, Roulias P, Papanastasiou A, Sifakakis I, Gizani S
Department of Paediatric Dentistry, School of Dentistry, National and Kapodistrian University of Athens, Greece

OPD 7.17 **Managing a case of Polynesian Amelogenesis Imperfecta**
Loh X, Anthonappa R, Buckeridge A*
University of Western Australia, Australia

Session OPD8

OPD 8.1 **Prevalence and risk indicators of severe early childhood caries of 5 year-old immigrant children residing in Greece:**
Reppa C, Theodorou C*, Berdouses ED, Kavvadia K, Oulis C
National and Kapodistrian University of Athens, Dental School, Greece

OPD 8.2 **Dental caries in children from the Western Region of Ukraine**
Kitsak T*, Godovanets O, Kotelban A
Department of Paediatric Dentistry, Bukovinian State Medical University, Chernivtsi, Ukraine

OPD 8.3 **Social factors associated to caries in preschool children exposed to social adversity**
Hultquist AI*, Robertson A, Sabel N
Department of Paediatric Dentistry, Institute of Odontology, Sahlgrenska Academy, University of Gothenburg Public Dental Service of Region Ostergotland, Linkoping, Sweden

OPD 8.4 **Level of infiltration of newly synthesized fluorinated self-assembling peptides in incipient carious lesions**
Uzunova I, Nihtianova T, Raycheva R, Danalev D, Belcheva A*
Medical University of Plovdiv, Faculty of Dental Medicine, Department of Paediatric Dentistry, Bulgaria

OPD 8.5 **Study on different approach and treatment of carious lesions for anxious children**
Dumitru DA*, Cosac D, Lackner AK, Kozma A, Neculau C
Faculty of Dental Medicine, “Titu Maiorescu” University, Bucurest, Romania

OPD 8.6 **Effect of bioactive restorative materials on bovine dentine under demineralising and remineralising conditions.**
Abohasel NS*, Wong F, Mills D
Queen Mary University of London, United Kingdom

OPD 8.7 **Demineralization inhibition by short chain length glutamic acid polypeptides under caries simulating conditions**
Alkkaldi M*, Hill R, Lynch R, Anderson P
Queen Mary University of London, United Kingdom

OPD 8.8 **Comparative evaluation of the effectiveness of Tooth Mousse in the treatment of Severe Early Childhood Caries using ICDAS**
Esian D, Bud A, Stoica O, Contac L, Bica C*
University of Medicine, Pharmacy, Science and Technology, Romania

OPD 8.9 **The influence of caries resistance on the fillings condition in treating caries of children's permanent teeth**
Shevchenko M*, Kiselnikova L, Kruzhalova O, Karaseva R, Malanchuk I
Federal State Budgetary Educational Institution of Higher Education, Russian Federation

OPD 8.10 **The severity of early childhood caries in correlation with parents' education level**
Stancu M*, Feraru I, Raducanu A, Zmarandache D, Tanase M
Carol Davila UMP Bucharest, Romania

OPD 8.11 **The effects of divalent metal ions on demineralisation: A real-time ISE study**
Alfailakawi O*, Anderson P, Lynch R, Shahid S
Queen Mary University of London, Dental School, United Kingdom

Session OPD9

OPD 9.1 **The need for orthognathic surgery in children with repaired unilateral CLP in Latvia**
Rascevska E*, Mauliņa I
Riga Stradins University, Faculty of Dentistry, Latvia

OPD 9.2 **A service evaluation exploring the provision of oral health advice to medically complex patients**
Alhennawi S*, Albadri S, Elsharkasi L, Quinn B
University of Liverpool, United Kingdom

OPD 9.3 **Case report of a 10-year-old boy with a non-syndromic hypoplastic mandible**
Lambrinaki T*, Therisopoulos A, Michael A, Gizani S
National Kapodistrian University of Athens, Greece

OPD 9.4 **Utilization and perspectives of the Hall technique by paediatric dentists in Turkey: A questionnaire-based survey**
Gumus H, Rueda Manjarres M*, Dogan S, Ozturk G
Department of Paediatric Dentistry, Faculty of Dentistry, Erciyes University, Kayseri, Turkiye

OPD 9.5 **Pain-free dental treatments for children via PaFein+ curriculum development project**
Kuscu OO, Vinereanu A*, Galeotti A, Kargul B
Asociata Nationala de Stomatologie Pediatrica din Romania, Romania

OPD 9.6 **Review of the undergraduate (UG) paediatric assessment clinic pathway at Dundee Dental Hospital and Research School**
El Wahed H*, Crowder L, Surendran S
Dundee Dental Hospital and Research School, Scotland, United Kingdom

OPD 9.8 **Exploring organic markers in human enamel affected by Molar-Incisor Hypomineralization through energy dispersive X-ray spectroscopy**
Rexhaj F*, Ali Shah F, Lundgren T
Department of Paediatric Dentistry, Institute of Odontology, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden

OPD 9.9 **Local anaesthesia for children undergoing tooth extractions under general anaesthesia.**
Shmueli A*, Shashua N, Fux Noy A, Halperson E, Ram D
Faculty of Dental Medicine - Hebrew University - Jerusalem, Israel

OPD 9.10 **Sustainability considerations for prescribing to the paediatric dental patient: Assessing attitudes of the dental prescriber**
Seeballuck C*, Chalmers E
University of Dundee, United Kingdom

OPD 9.11 **Evaluation of psychological trauma-informed care awareness in paediatric dental staff before and after training: a pilot study.**
Hennigan M*, Campbell C, Johnston E, Marks D
Glasgow Dental Hospital and School, United Kingdom

OPD 9.12 **Unintentional removal of the developing premolar tooth germ during a deciduous tooth extraction – a case report**
Vivado Stupin P*, Verikaki E
Buckinghamshire Priority Dental Service, United Kingdom

OPD 9.13 **Two-colour chewing gum mixing ability test for evaluating masticatory performance in schoolchildren**
Younus S*
Greifswald University, Germany

OPD 9.14 **Rewarding children: A sticky situation**
Abdulla R*, McEwan A, Phillips J
Glasgow Dental Hospital & School, United Kingdom

OPD 9.15 **A pilot study in the adaptation of Child Perceptions Questionnaires and Parental Perception Questionnaires Latvian versions**
Meistere D*, Neimane L, Kronina L, Zolovs M
Department of Conservative Dentistry and Oral Health, Riga Stradins University, Riga, Latvia

OPD 9.16 **Overprotective parenting in relation to children's behaviour during dental treatment and oral health: a cross-sectional study.**
Geuns EE*, Duijster D, De Jong-Lenters M
Department of Paediatric Dentistry, Academic Center for Dentistry Amsterdam, University of Amsterdam and VU University, Amsterdam, Netherlands

OPD 9.17 **Dental health and dental care in children placed in out-of-home care**
Kirkinen TM*
Malmo University and Region Varmland, Sweden

OPD 9.18 **Assessment of parents' knowledge about the first permanent molar**
Luca R*, Stanciu I, Munteanu A, Farcasiu C, Tanase M
Pedodontics Department, Carol Davila University, Bucharest, Romania

Session OPD10

OPD 10.2 **Amelogenesis imperfecta: management of two severe cases.**
Katechi V*, Sotiropoulou S, Seremidi K, Gizani S
Department of Paediatric Dentistry, School of Dentistry, National and Kapodistrian University of Athens (NKUA), Greece

OPD 10.3 **Molar-incisor hypomineralisation (MIH): a retrospective cohort study on clinical characteristics and treatment strategies**
Amend S, Sotira M, Seremidi K, Gizani S, Kraemer N*
Department of Paediatric Dentistry, Medical Centre for Dentistry, University Medical Centre Giessen and Marburg (Campus Giessen), Justus-Liebig-University (JLU) Giessen, Giessen, Germany

OPD 10.4 **Green pigmentation of primary and permanent teeth as a result of cholestasis in early life: report of three cases**
Karaseridis K*, Tsiantou D, Boka V, Arhakis A, Arapostathis K
Postgraduate Student, Department of Paediatric Dentistry, School of Dentistry, Aristotle University of Thessaloniki, Greece

OPD 10.6 **Digital flow and printed crowns as a rehabilitation option for teeth with severe Molar Incisor Hypomineralisation – Report of cases**
Amarante BC*, Marinho GB, Costa VS, Gentile AC, Bonecker M
University of Sao Paulo, Brazil

OPD 10.7 **Microscopic Examination of a Molar Incisor Malformation(MIM): A case report**
Dogan E*, Kaya S, Kervancioglu G, Topaloglu-Ak A
Istanbul Aydin University,

OPD 10.8 **Double impacted front teeth: a report of two cases**
Boven B*, Wyatt J, Declerck D
KU Leuven, Department of Oral Health Sciences and Department of Dentistry, Unit of Paediatric Dentistry and Special Dental Care, University Hospitals Leuven, Leuven, Belgium

OPD 10.9 **Improving Dental Confidence in Child with Incontinentia Pigmenti**
Alyousif F*, Humphreys J, Kewley V, Lee S
University of Liverpool, Paediatric Dentistry Department, United Kingdom

OPD 10.10 **Prophylactic Hall crowns in child with osteogenesis and dentinogenesis imperfecta: 6-years follow-up**
Lam P*, Yeh H, Yiu C
Paediatric Dentistry, Faculty of Dentistry, The University of Hong Kong, Hong Kong

OPD 10.11 **Pre-eruptive intracoronal resorption (PEIR) of a second mandibular molar in a 14-year old child: a case report**
Beckers S*, Boven B, Declerck D
KU Leuven, Department of Oral Health Sciences and Department of Dentistry, Unit of Paediatric Dentistry and Special Dental Care, University Hospitals Leuven, Leuven, Belgium

OPD 10.12 **Familial non syndromic oligodontia of permanent dentition: A case report.**
Tallab HY*, Abdulgader A
KFAFH, Saudi Arabia

OPD 10.13 **The challenge of providing treatment for the pre-cooperative, symptomatic child presenting with Dentinogenesis Imperfecta.**
Al-Diwani H*
Leeds Dental Hospital, United Kingdom

OPD 10.14 **Are developmentally missing teeth a predictive risk marker of malignant diseases in non-syndromic individuals? A systematic review**
Al-Muzian L*
Sunrise Dental Clinic, United Kingdom

Session OPD11

OPD 11.1 **Orofacial manifestations in children with Mucopolysaccharidosis: Three cases report**
Okur Z*, Oktay S, Guven Y, Pinar Erdem A
Department of Pedodontics, Faculty of Dentistry, Institute of Health Sciences, University of Istanbul, Turkey

OPD 11.2 **Hypodontia in a child with the keratitis-ichthyosis-deafness syndrome, classified as an ectodermal dysplasia.**
Saleh T*, Poulsen T, Nyman J
Region Vasternorrland, Sweden

OPD 11.3 **A case of unilateral facial infiltrating lipomatosis: summary of dental findings**
Bode A*, Humphreys A
Paediatric Dental Department, Royal Belfast Hospital for Sick Children, Belfast, United Kingdom

OPD 11.4 **Case report: The multidisciplinary management of dentoalveolar challenges in a paediatric patient with cleidocranial dysplasia**
Parsons LV*, Illing H, Patel D
East Surrey Hospital, United Kingdom

OPD 11.5 **17-year-old female with Bardet-Biedl syndrome treated for periodontitis stage III, grade C**
Trang J*, Tsilingaridis G
Department of Dental Medicine, Division of orthodontics and paediatric dentistry, Karolinska Institutet, Stockholm, Sweden

OPD 11.6 **Craniosynostosis in paediatric patients: clinical assessment of oral features**
Bocca N*, Ninivaggi R, Defabianis P
University of Turin - C.I.R. Dental School - Section of Paediatric Dentistry, Turin, Italy

OPD 11.7 **Case- report of a 9-year-old with KBG syndrome**
Suliman W*, Tsilingaridis G
Department of Dental Medicine, Division of Paediatric Dentistry, Karolinska Institutet, Stockholm, Sweden

OPD 11.8 **OFCD syndrome. Combined surgical and prosthetic treatment of the dental anomalies in an adult patient.**
Vendt MS*, Kofod T, Lempert J, Kreiborg S, Hermann NV
Department of Oral and Maxillofacial Surgery and Odontological Knowledge Centre, Copenhagen University Hospital, Rigshospitalet, Copenhagen, Danmark

OPD 11.9 **Oral disease risk and dental prevention challenges in a boy diagnosed with Avoidant Restrictive Food Intake Disorder (ARFID)**
Rughani R*, Su W, Parry J
Sussex Community NHS Foundation Trust, United Kingdom

OPD 11.10 **A mixed methods evaluation of the pilot Leeds City Council's 'Choose the Cup' intervention**
Rabeea H*, Gray-Burrows K, Day PF
University of Leeds, United Kingdom

OPD 11.11 **Regionally conditioned preventive dental program for children in the western region of Ukraine**
Hodovanets O, Kotelban A, Bohdan K, Sauka E*
Department of Paediatric Dentistry, Bukovinian State Medical University, Chernivtsi, Ukraine

OPD 11.12 **Evaluation of an early childhood caries preventive programme starting during pregnancy—Results after three and six years**
Blomma C*, Bagesund M, Borgstedt Risberg M, Warnberg Gerdin E, Davidson T
Ostergotland Public Dental Service, Region Ostergotland, Linkoping and Department of Health, Medicine and Caring Sciences, Linkoping University, Linkoping, Sweden

OPD 11.13 **Barriers to access dental care for schoolchildren at Princess Irene school in The Hague (NL). A participatory action research.**
Suljevic A, Grasveld A, Van Der Veen MH, Bonifacio CC*
Department of Paediatric Dentistry, ACTA, Amsterdam, Netherlands

OPD 11.14 **Oral health status of children from different socio-economic backgrounds.**
Katsouli K*, Theristopoulos A, Agouropoulos A, Gizani S, Papaioannou W
Department of Paediatric Dentistry, School of Dentistry, National and Kapodistrian University of Athens (NKUA), Greece

OPD 11.15 **Dental and periodontal diseases among teenagers using oral narcotics**

Nica FS*, Catana E, Serban I
The National Association of Paediatric Dentistry from Romania /ASSMB, Romania

OPD 11.16 **Risk assessment and evaluation of retention of resin-based sealant on first permanent molars in 7-8 year old children.**
Kancheva MI*, Shtereva LH, Kondeva VK, Dimitrova MM, Angelova SK
Department of Paediatric Dentistry, Faculty of Dental Medicine, Medical University, Plovdiv, Bulgaria

OPD 11.17 **Exploring the caries risk factor immigrant background focusing on country of origin**
Anderson M*
Center for Paediatric Oral Health, Karolinska Institutet, Folktandvarden Eastmaninstitutet, Sweden

OPD 11.18 **Beyond belief: assessing what parents believe about oral health in their children.**
Carvalho TS*, Hug T, Consortium K, Wierichs RJ, Niemeyer SH
Department of Restorative, Preventive and Paediatric Dentistry, University of Bern, Switzerland

Posters No Discussion (PND) Session

Session PND1

PND 1.1 **Chanting as a behavioral control strategy: Report of a case of complicated crown fracture in an uncooperative patient.**
Trindade A*
Escola Nacional de Saude Publica, Portugal

PND 1.2 **Recruiting practices to a trial on silver diamine fluoride in primary dental care, is it feasible?**
Timms L*, Rodd H, Brocklehurst P, Deery C, Marshman Z
University of Sheffield, United Kingdom

PND 1.3 **Multiple caries. Problem- oriented approach in diagnosis and treatment**
Veleganova V*
MU-Plovdiv Faculty of dental Medicine, Department of Paediatric Dentistry, Bulgaria

PND 1.4 **The influence of ceramic crowns as an aesthetic alternative on the child's quality of life**
Youssef B*
Private practice, Germany

PND 1.5 **Direct composite restoration in a 14-year-old patient with aplasia: A case report**
Rozgonyi L*, Rozsa NK
Semmelweis University, Department of Pedodontics and Orthodontics, Hungary

PND 1.6 **Diagnosis of a radiolucent mandibular lesion of uncertain origin: a case report**
Lowet S*, Declerck D, Van Gorp G

KU Leuven, Department of Oral Health Sciences and Department of Dentistry, Unit of Paediatric Dentistry and Special Dental Care, University Hospitals Leuven, Leuven, Belgium

PND 1.7 **Management of a 9-year-old patient with totally luxated permanent incisor: A case report**
Baksa S*, Auth A, Rozsa NK
Semmelweis University, Department of Pedodontics and Orthodontics, Hungary

PND 1.8 **Impact of congenital hypotonia on the treatment strategy for the craniofacial deformity in infants with the Pierre Robin Sequence**
Preda D*, Danila D, Mirica A, Seyedin Kharrazi S, Buica A
"Grigore Alexandrescu" Emergency Hospital for Children, Romania

PND 1.9 **We can't provide care if the child isn't there**
Ao P*, Power R, Crowder L
Paediatric Dentistry Department at Dundee Dental Hospital and Research School, Scotland, United Kingdom

PND 1.10 **An unusual oral/facial presentation of disseminated Burkitts lymphoma in an adolescent**
FitzGerald K*, MacAuley Y, Broderick V
Children's Health Ireland at Crumlin, Ireland

PND 1.11 **A qualitative study to inform the development of a board game for kindergarten caries prevention**
Wang M*, Hou H, Wu P
WanFang Hospital, Taiwan

PND 1.12 **Case report of a 9 year old girl with Retts syndrome and autism**
Tavana S*
Division of Paediatric Dentistry, Karolinska Institutet, Stockholm, Sweden

PND 1.13 **Developmental defects of enamel in children born preterm**
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Full Abstract List

Oral Session (O)

Session O1

O 1.1 **Oral health evaluation of children and adolescents residing in residential care in Istanbul**

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AIM The oral hygiene and dental care of children and adolescents in residential care pose unique challenges, with limited research addressing their oral health status and utilization of dental services. This study aimed to assess the oral health of 9-17-year-old children residing in a single social care home in Istanbul. **METHODS** A cluster cross-sectional survey was designed, involving children living in the same social care home. Oral examinations were conducted, assessing decayed, missing, filled teeth in primary (dmft) and permanent dentition (DMFT), Visible Occlusal Plaque Index (VOPI), and Oral Hygiene Index-Simplified (OHI-S) scores. Additionally, a questionnaire examined oral hygiene practices, last dental visits, treatments received, and dietary habits. **RESULTS** The study included 103 boys, with 47% (n = 48) aged 9-12 and 53% (n = 55) aged 13-17. The mean age was 12.73 ± 1.79 years. Children had a mean dft of 0.81 ± 1.71 and DMFT of 3.83 ± 2.88. Forty-five percent (n = 47) brushed their teeth twice daily, while 47% (n = 49) consumed preferred sweets twice a week. A majority of children (90%) reported dental visits, with 90% having no or thin visible plaque (VOPI 1-0). The mean(SD) OHI-S index was 14.55±5.18. **CONCLUSIONS** Despite the study's limitations, such as the homogeneous nature of the residential care population, the findings suggest that children in social care homes demonstrated good oral health influenced by dietary habits and oral health behaviors.

O 1.2 **Evaluation of Oral Health-Related Quality of Life in Children with Early Childhood Caries using T-ECOHIS and T-SOHO-5**

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AIM The aims of this study were to assess the impact of early childhood caries (ECC) on the oral health-related quality of life (OHRQoL) of preschool-aged children using the Turkish version of ECOHIS (T-ECOHIS) and the newly created Turkish version of SOHO-5 (T-SOHO-5) and to evaluate parent-child agreement on OHRQoL. **METHODS** The study sample consisted of 86 child-parent pairs attending the paediatric dentistry clinic for treatment. Data were collected via clinical examination (dmft and ICDAS) and self-reported questionnaires, including socio-demographic characteristics, the T-ECOHIS and T-SOHO-5. The SOHO-5 scale was firstly cross-culturally

adapted to Turkish and pilot-tested (n=20). Following adaptation, the Cronbach alpha value was evaluated for testing the internal consistency of the T-SOHO-5 scale. The frequencies of answers given to scales and the level of agreement (T-ECOHIS vs T-SOHO-5 parent and T-SOHO-5 parent vs child), the relationships between caries status and OHRQoL were tested with Percent agreement, Spearman's rho, Intraclass Correlation Coefficient (ICC), Cohen's Kappa and Gwet's AC. **RESULTS** showed a significant correlation between dmft values and T-ECOHIS (p=0.002), T-ECOHIS/ child section (p=0.002), T-ECOHIS/ family section (p=0.020), T-SOHO-5 parent (p=0.029) and T-SOHO-5 child (p0.001). The agreement analysis between T-ECOHIS vs T-SOHO-5 parent and T-SOHO-5 parent vs child were statistically significant (p0.05), except the items related to the child's self-esteem and appearance (p0.05). **CONCLUSIONS** ECC's consequences on children's oral health affect both preschool children's and their parents' OHRQoL. T-SOHO-5 and T-ECOHIS were found to be valid tools for assessing the effects of ECC on preschool children's OHRQoL.

O 1.3 **Ethnic inequalities in child oral health behaviours among five- and eight-year-old children from England, Wales and Northern Ireland**

Bin Hayyan FM*, Heidari E, Bernabe E
Institute of Dentistry Queen Mary University of London, United Kingdom

AIM To examine whether there are ethnic inequalities in child oral health behaviours and the role of parental socioeconomic status (SES) in explaining them. **METHODS** Data from 2,186 five- and eight-year-olds of white, Asian, Black and other ethnicity, who participated in the 2013 Children's Dental Health Survey, were analysed. Parents reported their children's toothbrushing and dental attendance. Logistic regression was used to explore ethnic inequalities in child behaviours, adjusting for demographic factors and parental SES. **RESULTS** Children of Asian ethnicity were less likely to start brushing early in life (odds ratio [OR]: 0.25; 95% confidence interval [CI]: 0.15-0.43), brush regularly (OR: 0.56; 95% CI: 0.32-0.97) and have a check-up last year (OR: 0.28; 95% CI: 0.16-0.49) than those of white ethnicity. Children of Black ethnicity were less likely to have a check-up last year (OR: 0.39; 95% CI 0.17-0.89) than those of white ethnicity. Children of other ethnicity were less likely to start brushing early in life (OR: 0.41; 95% CI: 0.23-0.77) and brush regularly (OR: 0.45; 95% CI: 0.23-0.87) than children of white ethnicity. Inequalities in toothbrushing frequency and regular dental attendance between children of Black and white ethnicity were fully attenuated after adjustment for parental SES. **CONCLUSIONS** There were ethnic inequalities in child toothbrushing and dental visiting, with children of Asian ethnicity being the most affected. Parental SES only explained part of these inequalities.

O 1.4 **Dental treatment provided under general anaesthetic in a high-caries risk sibling population**

Davies JA*
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AIM To assess the mean number of teeth extracted and restored during general anaesthetic in a high caries risk sibling group and to identify associations between sociodemographic factors.

METHODS Electronic health records of children who had a dental general anaesthetic (DGA) between January 2010 and October 2021 at a London teaching hospital were identified. Siblings were identified using surname, postcode and next of kin data. Data extraction included sociodemographic factors (including the Index of Multiple Deprivation (IMD)) and DGA treatment. Need for an interpreter was recorded as a proxy measure for parental English fluency. SPSS was used to analyse relationships between number of teeth extracted/restored and socioeconomic factors. **RESULTS** A total of 730 children from 356 families had a sibling who also required a DGA during the time period. Caries was the commonest diagnosis (n=674, 92.3%) with 716 children (98.1%) having an extraction and 172 (23.6%) having a restoration, including composite fillings and pre-formed metal crowns. The mean number of teeth extracted and restored were 6.15 (SD:3.5) and 0.83 (SD:1.8) respectively. When analysing the mean number of extractions, factors that were statistically significant including age at first DGA (p0.001), ethnicity (p=0.002), IMD Quintile (p0.001) and whether an interpreter was required (p=0.002). For mean number of restorations, only age (p=0.01) and "learning and behavioural difficulties" (p0.001) were statistically significant. **CONCLUSIONS** Analysis of the sibling data demonstrates that there are shared familial caries risk factors. There are groups of this population that would benefit from targeted family-based rather than individual intervention.

O 1.5 **Patterns and risk factors for decay in temporary teeth-parents role in children's oral health**

Muntean A*, Candrea S, Lupse I, Cuc S, Sarosi C
UMFIH Cluj Napoca, Romania

AIM Parents have direct influence and play active role in children's oral health. The purpose of this study was to assess tooth decay prevalence in preschool children's, and parents' knowledge on risk factors and preventive methods regarding this pathology. **METHODS** One trained examiner using ICDAS criteria evaluated 80 children (3-5 years old) who required treatment in the Paediatric Dentistry Department, University of Medicine and Pharmacy Cluj Napoca, Romania. Following clinical examination, parents completed a simple questionnaire regarding oral hygiene and dietary habits. Data analysis, included descriptive statistics and multivariate regression, was set at $p \leq 0.05$ significance. **RESULTS** In the study group, the gender distribution was balanced-38 girls, 42 boys. Temporary molars exhibited complex lesions (ICDAS 5 and 6) and the most affected surfaces were occlusal and buccal (p0.025). Control of carbohydrate intake and use of toothpaste containing fluoride revealed statistically significant differences between group ages, correlated with the incidence of dental caries (p0.05), while the frequency of brushing did not significantly influence the caries incidence (p=0.251). 86.5% parents reported that their children's dental status was good, but 18.75% of 3 years old, 30% of 4 years old 36.25% of 5 years old had decay on temporary teeth. **CONCLUSIONS** Parental knowledge about child's oral hygiene, caries risk and prevention, treatment needs and options for primary dentition was generally low. There was an overrated parental opinion of their child's teeth status despite the

decay incidence. Parents' understanding of the effects of tooth loss and the importance of maintaining dental hygiene are crucial for temporary teeth.

O 1.6 **Pharmacological management of pain in child dentistry - A survey study**

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AIM The aim was to investigate the frequency of use of different types of pharmacological pain management strategies in children, among General Dental Practitioners (GDPs) and Specialists in Paediatric Dentistry (SPDs). **METHODS** 102 Swedish SPDs and 243 GDPs in Skane county (southern Sweden) answered a questionnaire, which comprised 4 clinical scenarios covering filling therapy and tooth extraction in children aged 4 through 12 yrs. Each scenario had questions about how often the dentist would use local anaesthetics or recommend pre- and postoperative analgesics, that were answered on a 5-point Likert scale (Always, Often, Sometimes, Seldom, Never). **RESULTS** 90.9% of GDPs and 98.0% of SPDs reported always or often using local anaesthetics when performing filling therapy in a primary molar ($p = 0.019$). Corresponding figures for filling therapy in a permanent molar were 91.7% of GDPs and 99.0% of SPDs ($p = 0.006$). Postoperative administration of analgesics after extraction of a premolar was recommended always or often by 60.4% of GDPs and by 80.4% of SPDs (p 0.001). The most often recommended analgesic agent for postoperative administration was paracetamol/ acetaminophen, which 63.4% of GDPs and 60.4% of SPDs recommended. **CONCLUSIONS** This study shows that GDPs generally used local anaesthetics and recommended postoperative analgesics less frequently than SPDs. If there is a general underuse of pharmacological pain management strategies in child dental care, it is problematic since pain is a major contributing factor for developing dental fear and anxiety in children.

O 1.7 **Mandibular cortical bone and osteogenesis imperfecta: is there a direct correlation?**

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AIM Assess the correlation between mandibular cortical bone and osteogenesis imperfecta (OI) in children. **METHODS** Double-blinded, cross-sectional study evaluating bone quality and quantity from dental panoramic radiographs (DPTs), using anthropometric indices. The sample derived from the electronic database of the Department of Paediatric Dentistry, NKUA and consisted of children diagnosed with OI and age and gender-matched controls (ratio 1:2). Radiographs were assessed bilaterally by two independent, calibrated observers qualitatively, according to a three-point scale (Klemetti et al., 1994) and quantitatively by calculating its width at four pre-determined sites (Paulsson-Bjornsson et al., 2015). Significant differences in quality were tested using Chi-square and Fisher's exact test, and in quantity using independent t-test

and Mann-Whitney U test. **RESULTS** DPTs of 60 patients, 24 boys and 36 girls, with a mean chronological age of 9.6 years (s.d. 3.8) were assessed. OI patients (n=20) presented in their majority normal bone and 1/3 presenting moderately erosive, with the differences between gender or patient groups not being significant (p-value 0.05). Median value for cortical bone width was 3.9mm for OI patients and 2.4mm for the healthy controls, with the difference not being statistically significant. A significant difference was observed in the median value in the most posterior point (antegonion), with patients having a higher value (median difference= 1.4, p-value=0.038 0.05). **CONCLUSIONS** No significant difference in the quality and quantity of cortical bone was recorded in this sample, with more studies being required to demonstrate the effect and underline the significance of dental radiographs for monitoring this population.

O 1.8 **Is Hall technique safe for temporomandibular joint (TMJ)?**

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AIM The Hall Technique(HT) may initially disrupt occlusion, but stabilization is typically achieved shortly thereafter. However, our current understanding and comprehension of adaptation of the masticatory muscles in children is limited. **METHODS** HT was implemented on 13 paediatric patients. The occlusal vertical dimensions of the patients were assessed by measuring the change in the interincisal overlapping of upper and lower canines using dental callipers. Measurements were recorded in millimetres at baseline, after HT, two weeks and a month later. The activity of the temporal and masseter muscles was measured while the patient was in the resting and clenching position. Values were recorded in millivolts using an electromyography(EMG) at baseline, after HT, two weeks and a month later. Data were evaluated in IBM SPSS program. p0.05 was considered statistically significant. **RESULTS** Vertical dimension measurements revealed a statistically significant increase between baseline and after HT, two weeks later.(p=0,003) Interincisal overlapping of upper and lower canines exhibited a reduction immediately after HT implementation; however, it demonstrated a reversion to its baseline levels throughout follow-up appointments. When the values of muscle activities were compared, no statistically significant difference was observed in both temporal and masseter muscles in the rest position. However, in clench position both temporal and masseter muscle showed a statistically significant decrease between baseline and after HT(p=0,003).No significant difference was observed for two weeks and a month later. **CONCLUSIONS** Results revealed that, HT implementation is a reliable treatment modality, which does not pose any harm to the TMJ and is safe for use in paediatric patients.

Session O2

O 2.1 **A comprehensive analysis of chair time for patients with severe Molar-Incisor Hypomineralization (MIH) in Sweden**

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AIM This study aimed to evaluate chair time at the dental office for patients with severe Molar Incisor Hypomineralization (MIH), who underwent either restorative treatment or extraction of their first permanent molars (FPM), in comparison to patients without enamel defects. **METHODS** A retrospective analysis of chair time data was conducted for 254 patients over six years (aged 6-11 years). Among them, 85 were identified as patients with severe MIH (study group), and were randomly assigned into two subgroups: 40 received restorative treatment and 45 underwent extractions of at least one FPM. A control group of 169 patients without enamel defects, matched for age, gender, and socioeconomics, was formed. Chair time, measured in minutes, was documented for each patient using digital dental record system. **RESULTS** The mean chair time for the study group (941 minutes, SD 443) exceeded that of the control group (464 minutes, SD 804), (p0.001; T-test). However, there was no statistically significant difference in mean chair time between the study group having received restorative treatment (907 minutes, SD 329) and those who underwent extraction (892 minutes, SD 453), (p=0.428; T-test). **CONCLUSIONS** Patients who underwent treatment for severe MIH, involving the first permanent molars, experienced at least twice the chair time at the dental office compared to patients without enamel defects, between the ages of six to eleven years.

O 2.2 **A large cohort study of the prophylactic management of premolars with Dens Evaginatus**

Gan J*, Lim W, Chay P, Sim Y, Hong C
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AIM Dens evaginatus (DE) is a developmental dental anomaly characterized by the presence of a tubercle projection that may contain pulp tissue. Tubercle fractures may lead to pulpal pathology. The aim of this study was to assess the outcomes of asymptomatic premolars with DE managed with tubercle grinding and composite overlay. **METHODS** This is a retrospective cohort study of 9-year-old Singaporean school-going children from four nationwide enrolment cohorts (2008-2011). The primary outcome was the success of prophylactic management of asymptomatic DE premolars with tubercle grinding and composite overlay, as determined by the absence of clinical signs or symptoms. The survival risk factors were evaluated and statistically analysed. Cox proportional hazard regression were performed. **RESULTS** The prevalence of DE among Singaporean children was 7.1% (12,677/178,801). DE premolars were more prevalent among females (56.1%) and those of Chinese ethnicity (87.1%). At the tooth level, 26,875 asymptomatic DE premolars were prophylactically managed with tubercle grinding and

composite overlay, and 2,471 DE premolars did not receive any intervention. The mean recall period was 46.2 ± 20.2 months. The success rate for DE premolars that received the prophylactic intervention was significantly higher (p0.001) at 98.9% versus 94.1% in untreated DE premolars. Multivariate analysis revealed that mandibular premolars (p0.001), second premolars (p0.001), and DE premolars with fractured tubercles at the time of diagnosis (p0.001) are significantly associated with a higher failure outcome of the intervention. **CONCLUSIONS** Prophylactic management of asymptomatic DE premolars with tubercle grinding and composite overlay is a successful treatment option.

O 2.3 **Remineralizing potential of SDF and a novel green-synthesized Nano-silver fluoride on incipient enamel lesions – in-vitro study**

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AIM To make in-vitro comparison of remineralizing effect of 38% SDF + KI (Riva Star) and a novel green synthesized Nano-silver fluoride on incipient enamel lesions on deciduous teeth. **METHODS** Incipient caries lesions were induced in primary sound teeth by storing each specimen in demineralization solution for 72h. Specimens were randomly assigned in 3 groups of 10 (n=30): Gr-S (SDF+KI single application); Gr-D (SDF + KI double application); Gr-N (NSF application). Following the material application each specimen was subjected to a chemical ph-cycling model for 7 days. Microhardness evaluation using Vickers microhardness device was performed at baseline, after demineralization and after ph-cycling to evaluate the remineralization potential of each material. Photographs were taken before, 1, 3 and 7 days after treatment to assess color changes. Data was analysed using one-way ANOVA with post-hoc tests with significance at p0.05. **RESULTS** Post-demineralization values of microhardness number (VHN) significantly decreased in all groups (p 0.001). Post-treatment values significantly increased in all groups Gr-S (p = 0.003); Gr-D (p = 0.001); Gr-N (p = 0.003). Highest VHN values were observed in SDF+KI single application group (mean 257.71±18.29), followed by NSF group (mean 197.14±41.77) and SDF+KI double application group (mean 187.74±24.05). No color changes were determined only in Gr-N. **CONCLUSIONS** SDF+KI single application has best remineralizing effect on incipient enamel lesions, but staining of teeth is visible. A novel green synthesized nano-silver material has both remineralizing effect and better aesthetic features. Therefore, it should be further examined for its potential as non-operative treatment mean.

O 2.4 **Investigation of the root canal morphology of primary molars by using CBCT: an in vitro study**

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AIM Comprehensive understanding of root canal morphology of primary molars is crucial for successful endodontic treatment. The aim of this study was to investigate root canal morphology

of primary molars by using cone-beam computed tomography (CBCT). **METHODS** Eighty extracted primary molars were divided into four groups(n=20); Group I=mandibular first, Group II= mandibular second, Group III= maxillary first, Group IV=maxillary second. CBCT was used to assess number of roots, length of roots, shape of roots and root canal configuration. ANOVA, LSD, and Student t tests were used for evaluations. **RESULTS** All mandibular primary molars exhibited two roots while 35% of maxillary primary molars exhibited three roots. Fusion between distobuccal and palatal roots were observed in 65% of maxillary primary molars. According to Vertucci's root canal configuration; in Group I, mesial root exhibited 60% type I, distal root 30% type V. In Group II, mesial root exhibited 45% type IV, distal root 35% type V. In Group III, mesial root showed 75% type I, distal root 70% type IV , palatal root 95% type I. In Group IV, mesial root showed 50% type I, distal root 70% type I and palatal root 100% type I. Conical root shape was the most frequently observed. The relationship between root shape and root length was found to be statistically significant in distal and palatal roots, while it was not significant in mesial root. **CONCLUSIONS** This study showed the complexity of root canal systems in primary molars and highlighted the efficacy of CBCT imaging as a new and reliable method.

O 2.5 **Antibacterial activity and cytotoxicity of tricalcium silicate cement with different antibacterial additives**

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AIM To assess the antibacterial activity and cytotoxicity of tricalcium silicate-based cement (TCS) with additive antibacterial agents in various concentrations. **METHODS** Five antibacterial agents [Benzalkonium Chloride (BC), Cetrimide (CT), Titanium Oxide (TiO2), Zinc Oxide (ZnO), and Tin Fluoride (SnFl)] were added to TCS at varying concentrations (0.5, 1, 2, 4, and 7%). The prepared cements were tested for antibacterial activity against Streptococcus mutans(SM), Lactobacillus acidophilus(LA), Lactobacillus casei(LC), Actinomyces odontolyticus (AO), and Escherichia coli(EC) using the agar diffusion test. TCS without antibacterial additive was used as control. Cytotoxicity evaluations of BC and CT were performed on human dental pulp stem cells (hDPSCs) and fibroblasts using MTT analysis and live/dead staining. Data were statistically analysed using One-way ANOVA and Kruskal-Wallis tests. **RESULTS** BC exhibited the highest antibacterial activity against all bacterial species compared to control TCS(P0.0001). CT displayed increased antibacterial activity against only LA, LC, and AO at 4 and 7%(P0.05). TiO2, ZnO, and SnFl demonstrated elevated antibacterial activity against SM and AO at 4 and 7%(P0.05). CT exhibited no cytotoxicity against fibroblasts but was slightly cytotoxic(60-90%) at 1%, moderately cytotoxic(30-60%) at concentrations higher than 2% against hDPSCs. BC showed no cytotoxicity up to 1%, slight cytotoxicity(60-90%) at 2% and 4%, and moderate cytotoxicity(30-60%) at 7% against fibroblasts. Against hDPSCs, BC displayed slight cytotoxicity (60-90%) at all concentrations. **CONCLUSIONS** Organic antibacterial agents(BC and CT) demonstrated superior

antibacterial activity compared to inorganic counterparts. BC outperformed CT in antibacterial activity but exhibited higher cytotoxicity at elevated concentrations. Optimal antibacterial efficacy and minimal cytotoxicity were best achieved with 1% concentration of BC.

O 2.6 **Developmental changes in the determinants of oral function**

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AIM To evaluate development and age-related changes in the determinants of oral functions in growing children and explore the sex-related differences in these determinants. **METHODS** The study involved 167 children between the ages of 3 to 17. The determinants of oral functions such as maximum voluntary bite force (MVBF), tongue, lip, and cheek pressure were measured. Further, the participants were asked to perform a food comminution test, and two-colour chewing gum mixing ability test to measure their masticatory performance. A multiple regression analysis was performed to investigate the relationship between age and all the measured determinants of oral functions. Further, a t-test was conducted to investigate the sex-related difference in the investigated determinants of oral function. **RESULTS** The (preliminary) results of the multiple regression analysis showed that MVBF (P= 0.013), tongue pressure (P 0.001), lip pressure (P= 0.021), the number of pieces (P= 0.045) and the time (P = 0.009) of the food comminution test, and the mixing ability (P 0.001) were significant predictors of age. The overall model was statistically significant (F=21.889, P 0.001), explaining 55.4% of the variance in age (Adjusted R^2 = 0.529). Further, the results also showed that there was a significant difference in lip pressure (P = 0.026) between boys and girls. **CONCLUSIONS** Determinants of oral function such as MVBF, tongue and lip pressure, and performance in masticatory function tests are important predictors of developmental changes in children. Further the results also showed significantly higher lip pressure in boys than the girls.

O 2.7 **Pulpal response of Hypomineralised first permanent molars**

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AIM Approximately 14% of children have hypomineralised first permanent molars, with an incidence of 140 new cases per 1000 children. These teeth often cause hypersensitivity, pain, and infection due to qualitative effects in the enamel, which enables microorganisms to invade the dentine and dental pulp. Impacting children's overall health and socio-psychological status. This laboratory investigation aims to correlate the clinical presentation with the pulpal inflammatory response of hypomineralised first permanent molars. **METHODS** A total of 17 hypomineralised first permanent molars extracted from children 7–11 years of age attending the Oral Health Centre of Western Australia were included. Of these teeth, 13 were classified as having severe defects, and 4 were diagnosed as having mild defects. After extraction of teeth and imaging, teeth were fixated and demineralised for 28 days using a standardised approach with 17% EDTA and then sectioned for histopathology assessment. To visualise microanatomy, cell perceptibility,

and nerve fibres, haematoxylin-eosin, picrosirius red with light-polarisation, and luxol fast blue staining techniques were used. **RESULTS** In regions with enamel defects and breakdown, additional cell types, including fibroblasts, vascular and neuronal networks, and immune and stem cells, were evident, illustrating a variety of specific protection mechanisms and inflammatory responses. Whereas, without enamel defects, normal pulp architecture was evident. **CONCLUSIONS** The findings highlight the inflammatory pulpal response adjacent to enamel defects with breakdown evident clinically, thus enabling a deeper understanding of the hypersensitivity found in children with Molar Incisor Hypomineralisation.

O 2.8 **Dental caries experience of oncology patients in a tertiary care hospital: a five-year review**

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AIM This study examined the incidence of dental caries in paediatric oncology patients at the onset of their cancer diagnosis at the Hospital for Sick Children, with a focus on socioeconomic influences and accessibility to dental care. **METHODS** A retrospective chart review was conducted of children aged 0 to 18 years receiving a new cancer diagnosis from June 2, 2018 to June 1, 2023. Patient data were derived from the Epic and axiUm electronic health records. The Ontario Marginalization Index (ON-Marg) was used to gauge socioeconomic status. Logistic regression analyses were used to examine the association between dental caries and various demographic, clinical, and socioeconomic factors. **RESULTS** A total of 1770 children were diagnosed with cancer during the study period. A dental referral was placed for 617 patients, of which, 557 received dental consultations, with radiographs possible in 125 cases. Dental referrals increased, particularly in 2022. Dental caries were diagnosed in 183 patients. Patients receiving radiographs had greater odds of caries detection (OR = 4.22; 95% CI = 2.89, 6.18). Although, the ON-Marg dimensions of material resources, racialized populations, and households dwellings were associated with greater odds of experiencing caries, findings were not statistically significant, even adjusting for age and sex. **CONCLUSIONS** The consequences of dental caries on oncologic treatment is known. These findings point to the importance of dental screenings as part of the early oncologic treatment plan, ideally with the utilization of radiographs. This study highlights the need for further investigation into the intricate dynamics between cancer, dental health, and socioeconomic factors.

O 2.9 **Effects of Virtual Reality and Laser Biostimulation on Pain Perception and Dental Anxiety in Children**

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Altinbas University, Turkey

AIM The aim of this study is to evaluate the effect of virtual reality glasses (VR) and Low Level Laser Therapy (LLLT) on dental anxiety levels and pain perception during local anaesthesia applications in paediatric patients. **METHODS** Forty children aged between 6-10 years, who

attended to Altınbas University Department of Paediatric Dentistry for their dental treatments, were included in the study designed as a randomized, single-centre, split-mouth, double blind clinical trial. Patients were randomly assigned to two groups which used tell-show-do (Group I) and distraction with VR glasses (Group II) as behaviour management techniques. Each group was further divided into two subgroups: one receiving LLTT (Group Ib, Group IIb) and the other topical anaesthesia application (Group Ia, Group IIa) before local anaesthesia injection. A total of 2 infiltration anaesthesia were administered to each patient with intervals of 7 days. Dental anxiety and pain perception were evaluated by using FLACC Scale, Wong-Baker Pain Scale, Venham Picture Test and pulse oximeter. Independent Sample T test and Mann Whitney U test were used for group comparisons. **RESULTS** FLACC, VPT and Wong-Baker Pain Scale scores were found significantly lower in Grup II than Group I (p0,01, p0,01 p0,05). Group IIb has statistically significant lower scores than Group Ia, which used tell-show-do and topical anaesthesia (p0,01). Dental anxiety and pain scores were found to be lower in Group IIb, than Group IIa (p0,01). **CONCLUSIONS** It was concluded that the use of VR glasses together with LLLT during local anaesthesia application was effective in reducing anxiety and pain perception.

Session O3

O 3.1 Use of dental floss did not prevent interproximal caries increment in Norwegian teenagers

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AIM To explore use of dental floss in teenagers, and study if dental floss prevented development of interproximal caries. **METHODS** The study included 1128 teenagers monitored from 14-18 years of age. Data were collected at routine dental examinations which included motivation to use dental floss, and a questionnaire about flossing frequency, oral health behaviours and family characteristics. Data on interproximal caries in enamel (D1-2Sa) and dentine (D3MFSa) was extracted from dental records. Data were tested with t-test and analysed using multivariable logistic regression. **RESULTS** At baseline, 80.1% brushed twice daily and 52.8% reported flossing. Teenagers who brushed twice daily more often reported flossing than those brushing less frequently (p0.05). At the end of the study, 61% reported flossing of which 30.8% flossed several times a week. Teenagers who at baseline flossed several times a week had higher probability of flossing several times a week at the end of the study than teenagers flossing less frequently (OR 5.1, 95% CI 3.7-7.1). During the study period, interproximal caries increment; D1-2Sa and D3FSa was 1.9 (SD 3.0) and 0.9 (SD 2.1), respectively. No association was found between interproximal caries increment and flossing frequency (p0.05). Frequency of tooth brushing, use of fluoride supplements and sugar intake was associated with interproximal caries increment. **CONCLUSIONS** Few teenagers flossed several times a week. Flossing several times a week did

not prevent increment in interproximal caries in teenagers. Caries increment was associated with tooth brushing frequency, use of fluoride supplements and frequency of sugar intake.

O 3.2 **Usage of minimally invasive caries control strategies in paediatric dentistry in clinical practices in Riga**

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AIM To investigate minimally invasive caries control strategies in paediatric dentistry and their use in clinical practices of Riga and dentists' attitudes towards the methods. **METHODS** A cross-sectional study was conducted using a questionnaire survey method on the use of the following minimally invasive caries control strategies: fluoride varnish or gel, silver diamine fluoride, Hall technique, atraumatic restorative therapy, selective removal of carious tissues, step-wise method and sealants. Questions were about frequency of usage and factors that affect their choice to use these methods. After the questionnaire was validated, it was distributed on Facebook in a group for dental care specialists. The acquired data were statistically analysed using IBM SPSS software with level of significance set to p0,05. **RESULTS** In total 35 dentists who work with children and practice clinically in Riga participated in the study. Of 80% were general dentists and 20% - certified paediatric dentists. The Fisher's exact test was used to analyse data. There was a statistically significant difference between fluoride varnish use and clinical experience with children (p=0.005) and between position and SDF (p=0.003) and HT use (p=0.002). **CONCLUSIONS** Most dentists practicing in Riga willingly use minimally invasive caries control strategies. Dentists with less clinical experience with children are more likely to use fluoride varnish. SDF and HT are more likely to be used by certified paediatric dentists than general dentists.

O 3.3 **Dental health in children where physical abuse is suspected: Preliminary results from a cross-sectional study in Eastern Denmark**

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AIM: The overall aim of the study was to investigate potential changes in oral and dental health, habits, and hygiene in children where physical abuse was suspected. In this pilot study, we focus on caries prevalence in preschool children (7 years of age). **METHODS**: A total of 203 children (boys: 108 boys; girls:95), were included in the study. The median age was 8,6 years (range: 3-15 years), and 58 were 7 years of age. Data were collected during systematic and standardized forensic medical and dental examinations at The Danish Children´s Centre in the Capital Region of Copenhagen from 1st May 2020 to 30th April 2023. All children were police-reported cases of physical child abuse. In all cases, a legal guardian had accepted the examination of the child. The prevalence of caries in the study group was compared to the mean caries activity score values for children in the Capital Region of Copenhagen (National Child Odontology Registry, SCOR,

2022). **RESULTS**: Overall 65 of 203 children (32%) presented with caries experience. In the preschool group the prevalence among the 5-year-olds was 44%, and 41 % for the 6-year-olds, also caries was found in the group 5 years of age. For comparison, the mean SCOR for children in the Capital Region of Copenhagen was 16% for 5-year-olds and 22% for 6-year-olds. **CONCLUSIONS**: The prevalence of caries among preschool children where physical abuse was suspected was 2-3 times higher in the study group than for the average population in the same geographic area.

O 3.4 **Measuring the effect of poly gamma glutamic acid on demineralisation rates of hydroxyapatite discs at different pH**

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AIM To investigate the effect of Poly Gamma Glutamic Acid (γ-PGA) on the demineralisation rates of synthetic hydroxyapatite (HAp) discs of varying porosity when exposed to acetic acid of different pH. Background: γ-PGA is a non-toxic, water-soluble, non-immunogenic biopolymer that has recently gained significant interest in the dental field due to its high binding affinity for HAp and the demineralisation inhibitory effect in caries-simulating research [Parati et al.: Polymers 2022;14:2937]. **METHODS** γ-PGA was dissolved in water to make a 1% concentration. 0.1M acetic acid was buffered to pH 3, 4 and 5. HAp discs (both fully dense and micro-porous) were exposed to the different pH of acetic acid for 1 hour at 37.0 (±1.0°C); then treated with 20ml 1% γ-PGA for 2 minutes and re-exposed to the acetic acid for a further hour. Real-time ion selective electrode measured the calcium ion release every 30 seconds for 1 hour before and after the γ-PGA treatment; these measurements were plotted against time and the percentages of demineralisation inhibition were calculated. **RESULTS** For the micro-porous HAp discs, γ-PGA inhibition of demineralisation at pH3, 4 and 5 were 48.57%, 58.38% and 60.33% respectively; for the fully dense discs, inhibition was 32.47%, 45.49% and 45.93% respectively. Linear regression showed R2 exceeded 0.98 for all and was statistically significant. **CONCLUSIONS** γ-PGA is effective at reducing the demineralisation of both fully dense and micro-porous HAp discs at pH 3, 4 and 5; higher levels of demineralisation inhibition were seen for the micro-porous discs and at pH 4 and 5.

O 3.5 **Gender balance of invited speakers at major Paediatric Dentistry Congresses over the last 8 years. Are we there yet?**

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AIM To evaluate the representation of female scientists as invited speakers at the Paediatric Dentistry Congresses of the European Academy (EAPD) and the American Academy of (AAPD), held between 2016 and 2023. A secondary aim was to explore association with lecture- or scientist- related characteristics. **METHODS** The gender of all invited speakers was identified through electronically searching programs and abstract books of the EAPD and the AAPD

Congresses held between 2016 and 2023. Variables assessed were year of the congress, the continent of origin of the invited scientist, the type of meeting (congress or seminar) and lecture topic. **RESULTS** A total of 462 lectures were included in the assessment and the overall representation of female scientists was 44.2% . Since 2016, yearly representation of female invited speakers exceeded in number that of male only twice, in 2021 (59.4%) and in 2023 (53.7%). For the EAPD, invited female lecturers were 41.1%, while for the AAPD congress was 46.3%. There was equal representation of female and male speakers in seminars (50% each), although this type of meeting is solely organized by the EAPD. Pain management (62.5%), insurance (54.8%) and paediatrics (55.6%) and orthodontics (52.4%) were the only thematic regions where female speakers outnumbered their male counterparts. Univariable and multivariable analyses did not reveal any overall significant association between invited speaker gender and year, congress or continent of authorship (p-value0.05 in all cases). **CONCLUSIONS** Females' voice representation at major paediatric dentistry congresses was found balancing out as compared to males.

O 3.6 **Accuracy of the Cameriere method of dental age estimation**

Azhar AS*, Davies J, Liversidge H

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AIM To test the accuracy of Cameriere's European radiographic dental age estimation method. **METHODS** The sample was 880 archived dental radiographs of dental patients aged 4.0 to 16.9 years from the Maber collection. Exclusions were late development of 2nd premolar and 2nd molar, hypodontia and children with seven mature mandibular teeth. Dental age was estimated in 661 individuals (310 females, 351 males). Cameriere European formula method was used to estimate dental age; this measures the apex width to tooth length of mandibular permanent teeth. The mean difference and mean absolute difference between dental and chronological ages were calculated and assessed using a t-test for females and males separately. Analysis also compared one year age category results. **RESULTS** Mean difference between dental and chronological ages was small for both females and males (0.04 year, SD 0.59 and 0.09 year, SD 0.66 respectively) but this was significantly different in males (P0.05). Mean absolute difference values were 0.40 year in females and 0.45 year in males. Analysis by age category found mean differences were not significant for 8, 9 and 13 year old females and 8, 9 and 12 year old males. All age categories from 6 to 13 for both sexes had mean difference and absolute mean difference values of less than six months. Age was over-estimated by more than one year in a large proportion of 4- and 5-year-olds. **CONCLUSIONS** Cameriere method could accurately estimate age for most of our sample but may be unsuitable for children younger than 6 years.

O 3.7 **The dental clock to explain age variation in tooth formation**

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AIM Children of the same chronological age vary in tooth development. The aim of this study was to explore how this occurs by assessing developing mandibular permanent molars. **METHODS** The sample was archived dental radiographs of dental patients aged 2-23 years (2111 females and 2020 males). Teeth 36, 37 and 38 were scored into Demirjian stages. Median age of tooth 36 stage H and stage A of teeth 37 and 38 were calculated using probit regression. **RESULTS** Age of stage A for tooth 37 and 38 varied. Median age of stage A for tooth 37 was 3.54 ± 0.66 years (range 2.8-4.9, N 150); tooth 38 was 9.24 ± 2.10 years (range 6.4-13.8, N 150). This indicates that some children initiate these teeth early, others initiate considerably later. It is known from histological evidence that molar crowns take around 3 years to form. The timespan for root formation of tooth 36 varied; median age of stage H 9.50 ±1.20 years with the youngest child being 6.78 and all children having reached stage H by 12 years. This indicates that the time it takes to form a molar root varied considerably. In some children the dental clock ticks slowly and in others, it ticks fast. This could explain why some children reach dental maturity at an earlier age and others are delayed. **CONCLUSIONS** The dental clock might explain age variation in dental development at the dentition level (early/late initiation) and/or the individual tooth level (rapid/slower root timespan).

O 3.8 **Roles of Astrocytes and Microglia in Neuroinflammation of primary tooth pulp**

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AIM To determine functions of astrocytes and microglia in the immune mechanism of primary tooth pulp by quantitatively evaluating the densities of these cells involved in neuroinflammation in healthy (H), reversible pulpitis (R), and irreversible pulpitis (IR) primary tooth pulps. **METHODS** Pulps from 12 primary teeth extracted from patients aged 5-9, were isolated and preserved in 2% paraformaldehyde dissolved in phosphate-buffered serum. These pulps were categorized into H, R, and IR groups. Glial fibrillary acidic protein (GFAP) and ionized calcium-binding adapter molecule-1 (Iba-1) expression amounts were examined to determine astrocyte and microglia immunoreactivity, respectively. Transverse sections (5-µm) were immunofluorescently stained for GFAP and Iba-1 and analysed using a laser-scanning confocal microscope. ImageJ software was used for selected area analyses. Data underwent analysis of variance (ANOVA) and Fisher's LSD post-hoc comparison with GraphPad Prism (Version 9.5) for each parameter evaluated (p0.05). **RESULTS** ANOVA results showed significant differences in the expression levels of Iba-1 (p=0.001) and GFAP (p=0.047) among the H, R, and IR groups. Pairwise comparison results revealed that Iba-1 expression in the IR group was significantly higher than in the H group (p0.001). Additionally, GFAP expression was significantly higher in the R group than in the H group (p = 0.015). **CONCLUSIONS** Our study's findings indicate that astrocytes support homeostatic

balance, while microglia reflect macrophage function. Both astrocytes and microglia play a role in neuroinflammation within the primary tooth pulp, similar to their roles in the nervous system. They actively participate in the immune defence mechanisms of both healthy and inflamed primary tooth pulp.

Session O4

O 4.1 **A Novel Behaviour Guidance Technique: The Paediatric Quiz Game for the Management of Dentally Anxious Children - A Pilot Study**

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AIM The present pilot study aims to assess the effectiveness of a novel Behaviour Guidance Technique (BGT) called The Paediatric Quiz Game (PQ) on the cooperation and anxiety levels of children during dental examinations. **METHODS** After obtaining ethical approval and conducting a power analysis, 80 children aged between 4 and 8 years, identified as anxious (Children's Fear Survey Schedule-Dental Subscale ≥ 32, Venham Picture Test (VPT) ≥ 3), were enrolled at the university dental clinic and examined by the same paediatric dentistry resident. The control group children were managed using the Tell-Show-Do (TSD) technique at the trial's outset, while the study group children were sequentially exposed to TSD and Paediatric Quiz (PQ) game, an ice breaker involving basic questions about animals, body organs, and dental instruments. Children's cooperation and pre-post examination anxiety scores were evaluated using the Frankl scale, VPT and Facial Image Scales (FIS), respectively. The findings were analysed using Mann-Whitney U test. **RESULTS** Preliminary anxiety levels exhibited no significant difference between groups (p 0.05). During examinations, better cooperation was observed in the PQ study group compared to the control group (Frankl score 2.70 ± 0.79 and 2.28 ± 0.82, p 0.05). Anxiety reductions in the study and control groups were reported as 0.43 ± 0.19 and 0.35 ± 0.13 for FIS (p 0.05), and 4.28 ± 1.28 and 3.45 ± 0.9 for VPT (p 0.01), respectively. **CONCLUSIONS** The PQ game may be considered an effective tool in the BGT armamentarium for the management of dentally anxious children.

O 4.2 **Conscious sedation efficacy of 0.3 and 0.5 mg/kg oral midazolam for 3-6 yo uncooperative children undergoing dental treatment:**

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AIM Midazolam with variable dosages has been used to induce sedation in paediatric dentistry. The aim of this study was to compare the efficacy of two dosages of oral midazolam for conscious sedation of children undergoing dental treatment. **METHODS** In this randomized crossover double blind clinical trial, 20 healthy children (ASA I) aged three to six years with definitely negative Frankl behavioural rating scale were evaluated. Half of the children received 0.5mg/kg oral midazolam plus 1mg/kg hydroxyzine (A) orally in the first session and 0.3mg/kg oral

midazolam plus 1mg/kg hydroxyzine (B) in the next session. The other half received the drugs on a reverse order. Sedation degree by Houpt sedation rating scale, heart rate and level of SpO2 were assessed at the beginning and after 15 and 30 minutes. The data were analysed using SPSS 19 and Wilcoxon Signed Rank and McNemar's tests. **RESULTS** The results showed that although administration of 0.5mg/kg oral midazolam was slightly superior to 0.3mg/kg oral midazolam in terms of sedation efficacy, the differences were not significant (P0.05). The difference in treatment success was not significant either (P0.05). Heart rate, oxygen saturation (SpO2) and respiratory rate were within the normal range and did not show a significant change (P0.05). **CONCLUSIONS** The overall success rate of the two drug combinations namely 0.5mg/kg oral midazolam plus hydroxyzine and 0.3mg/kg oral midazolam plus hydroxyzine was not significantly different for management of paediatric patients.

O 4.3 **Rare case of stage IV Neuroblastoma with metastatic spread to the mandible in a 15-month-old: A case report**

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INTRODUCTION Premature loss of primary teeth can occur as a consequence of dental trauma, natal/neonatal tooth extraction, early childhood caries, periodontal problems, or it can be a manifestation of systemic disease. Metastatic tumours of the oral cavity are uncommon. Infants and young children with neuroblastoma (NB) may present with metastases. **CASE REPORT(S)** We present a case of a 15-month-old child who was referred by their primary care dental practitioner due to early eruption and mobility of the LLE. Nine days later the patient was admitted under oncology with suspected neuroblastoma. History revealed the LLE had exfoliated and exam revealed a healing socket and expanding swelling of the mandible. Imaging confirmed the presence of a metastatic tumour. **FOLLOW UP** The patient was entered on the HR/NBL2/SIOPEN cancer research treatment protocol where NB is treated with induction chemotherapy to shrink the tumour followed by surgery to remove the main tumour. This can then be followed by high dose chemotherapy and a stem cell transplant. The Paediatric Dentistry department will provide support as necessary during the patient’s cancer journey. The Paediatric Dentistry department will support this child’s dental development which may be adversely affected due to the use of chemotherapy and / or radiotherapy which can result in tooth agenesis, impaired root development and enamel defects. **CONCLUSIONS** Over the previous years, only 30 cases of neuroblastoma metastasis to the mandible have been reported in the literature. This case report highlights the importance of considering metastatic lesions as a sinister reason for early exfoliation of primary teeth.

O 4.4 **Amelogenesis Imperfecta type-1 hypoplastic type treatment approach in a patient: A case report**

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INTRODUCTION This study aims to explain the treatment approach for a 5.5-year-old patient with Amelogenesis Imperfecta Type-1 Hypoplastic type. **CASE REPORT(S)** A 5.5-year-old male patient was referred to Marmara University Paediatric Dentistry Clinic with a complaint of excessive dentine sensitivity. Intraoral and radiographic examination revealed an Amelogenesis Imperfecta Type-1 Hypoplastic Type. A familial transmission was present in the medical history. The main complaint of the patient was dentine sensitivity while eating. The patient exhibited a lower growth percentile than the normal range due to the impact on nutrition. Another critical point was that the patient avoided talking and laughing due to his appearance. The patient and parents were informed about the treatment and their consent was obtained. CPP-ACP and 900 ppm fluoride (MI Paste Plus, GC, Tokyo, Japan) was recommended. Temporary restoration of partially erupted permanent first molars was performed with glass hybrid (EQUIA Forte®HT, GC, Tokyo, Japan) restorations. After 6 months; permanent restoration of the first molars was performed with a stainless-steel crown (SSC). Subsequently, primary second molars were restored using SSC with the Hall Technique. The mandibular primary first molars were also restored using SSC with a modified Hall Technique. **FOLLOW UP** At the end of the 18th-month follow-up, it was noted that the elimination of dentin sensitivity during nutrition disappeared and the patient's growth and development accelerated and reached normal percentile. The patient has stated satisfaction with the 'Iron Man' appearance. **CONCLUSIONS** Temporary restorations and the Hall Technique might be preferred for rehabilitation in terms of both aesthetics and function.

O 4.5 **An unusual presentation of dental eruption cysts in a baby lead to investigation for and probable diagnosis of a bleeding disorder**

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INTRODUCTION Eruption cysts are benign cystic lesions that appear shortly before the tooth erupts. They are often bluish in colour, are generally inconsequential and do not require specific treatment. They are usually an isolated lesion, and it is rare to see multiple lesions in a baby. **CASE REPORT(S)** A healthy 7 month old baby presented with a bluish swelling preceding the eruption of a primary upper incisor. The baby was referred to a tertiary care paediatric dentistry service. After referral, while the baby was awaiting assessment, additional lesions became apparent. At the time of examination, a number of bluish swellings typical of eruption cysts with haematoma were found. There was no family history of a bleeding disorder, but the baby was noted to have bruising post intramuscular vaccinations. Based on the initial presentation, the haematology team had been consulted prior to the examination. Advice was received regarding

haematological investigations, and the baby had bloods taken on the day of the dental examination. The final results are awaited, but the initial impression is that the baby has a disorder of coagulation. The lesions were not causing feeding or other functional difficulties and remain under observation with conservative management anticipated. (Photos taken to add to presentation) **FOLLOW UP** To be confirmed following haematology results **CONCLUSIONS** This case highlights a) the value in further consideration for unusual oral lesions in infants; b) the importance of multidisciplinary communication in managing these; and c) the importance of thorough history taking and careful consideration prior to surgical treatment of eruption cysts.

O 4.6 **Juvenile Psammomatoid Ossifying Fibroma of the mandible mimicking odontogenic cyst in a child**

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INTRODUCTION Juvenile Psammomatoid Ossifying Fibroma (JPOF) is an uncommon benign fibro-osseous tumor characterized by aggressive local growth, typically seen in individuals aged 16 to 33. This case report presents a rare occurrence of JPOF in the lower jaw of a 12-year-old female patient, detailing its treatment and a 6-month follow-up. **CASE REPORT(S)** A 12-year-old girl was referred to the Department of Paediatric Dentistry, School of Dentistry, Marmara University, with a painless extra and intra-oral swelling on the right mandible. Tooth #85 exhibited dental caries, and panoramic radiography followed by a CBCT examinations revealed a well-defined radiolucent lesion (12mm in diameter) between teeth #85 and #44, causing expansion, destruction, and perforation of the buccal cortical bone, involving the root of #85. Tooth #45 was missing, and the preliminary diagnosis was an odontogenic cyst. A band and loop space maintainer was prepared prior to the surgical procedure due to the absence of an underlying permanent tooth germ. During surgery, #85 was extracted, a fibrous compact lesion was removed from the mandible, and the space maintainer was cemented. **FOLLOW UP** Histopathological sections confirmed JPOF, revealing a lesion composed of young mesenchymal cells containing spherical calcified structures. Follow-ups at 1-, 3-, and 6-month intervals showed no recurrence, and the patient remains under our surveillance. **CONCLUSIONS** JPOF predominantly occurs extra-gnathic, with two-thirds developing in the paranasal sinuses. When involving the jaws, it presents common pathological features challenging clinical diagnosis and potentially leading to misidentification with other odontogenic lesions. The tumor's inherent rapid growth emphasizes the need for prompt clinician intervention.

O 4.7 **Multiple compound odontomas and supernumerary teeth in a 14-year old with a complex medical background of Mowat-Wilson Syndrome**

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INTRODUCTION Mowat-Wilson syndrome (MOWS) is a complex genetic and developmental condition affecting several body systems and functions. Craniofacial concerns previously identified in MOWS include typical facies, widely spaced teeth, crowding and delayed tooth eruption. Dental care can be challenging due to intellectual disability. **CASE REPORT(S)** A 14-year old with MOWS presented to a tertiary care paediatric dental department for examination and treatment of retained primary teeth. The patient had epilepsy, unilateral anophthalmia, previous PDA ligation, autonomic dysfunction and Hirschprung's disease. Dental care including clinical and radiographic examinations, extraction of primary teeth, and cleaning was provided under oral sedation with midazolam. The sedation regimen was very effective. Radiographic examination revealed an incidental finding of multiple compound odontomas and supernumerary teeth. (Periapical radiographs to be provided for poster presentation). **FOLLOW UP** Patient will be followed-up by a primary care dental team for his ongoing oral health need and by maxillofacial services in relation to odontomas/supernumerary teeth. **CONCLUSIONS** This is likely the first report of multiple compound odontomas/supernumerary teeth in a patient with Mowat-Wilson Syndrome.

O 4.8 **Treatment of dentigerous cysts in childhood with different approaches-a case series**

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INTRODUCTION Dentigerous cysts, commonly seen in paediatric dentistry, are odontogenic cysts that form around an unerupted tooth. Treatment options primarily include marsupialization and enucleation, often involving fixed or removable dental appliances. **CASE REPORT(S)** This study focuses on five cases (3 males, 2 females) aged 11-14 years. The first case, a 14-year-old boy, experienced significant pain around tooth 75, with radiographic imaging revealing a radiolucent lesion at tooth 35. The second case involved a 10-year-old girl with an asymptomatic cyst around an impacted tooth 35. Similarly, an 11-year-old boy, the third case, had an asymptomatic cyst in the same location. The fourth case, a 12-year-old boy, presented with acute pain in tooth 13. Finally, the fifth case, a 13-year-old girl, had a cyst around impacted tooth 45. Histopathological examination of biopsies from all cases confirmed the diagnosis of dentigerous cysts. **FOLLOW UP** The treatment approach varied. Case 1 involved extracting the affected tooth and inserting a temporary tube for drainage, followed by a removable appliance. Cases 2 and 3 underwent cyst enucleation under local anaesthesia. In cases 4 and 5, post-extraction treatment mirrored that of case 1, with the use of fixed appliances. The treatment period spanned 6–8 months, resulting in the spontaneous eruption of impacted teeth. Subsequent orthodontic treatment was

necessary for all cases to correct tooth positioning. **CONCLUSIONS** The study concludes that marsupialization and enucleation are viable methods for treating dentigerous cysts. Both fixed and removable appliances have proven effective, though the success of removable appliances depends significantly on patient compliance, unlike fixed appliances.

Session O5

O 5.1 **Excessive wear of stainless steel crowns in primary molars, a retrospective study**

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AIM To investigate the prevalence of excessive wear of stainless steel crowns (SSCs) in primary molars. Also, possible associated factors and time to failure were evaluated. **METHODS** Patients were retrieved from the files of a referral practice for paediatric dentistry in Amsterdam, Netherlands. Children who were treated in 2019 with at least one SSC on a primary molar were selected. Excessive wear was defined as a perforation of a SSC that required an intervention. Data concerning patient variables and variables that might be associated with excessive wear of SSCs were collected from the patient files by two independent researchers from January to October 2023. Statistical analysis was done by descriptive statistics and clustered logistic regression (α=5%). **RESULTS** A total of 1.044 patient files (2.455 SSCs) of children aged 1-11 years old were included. The prevalence of excessive wear was 11.4%. Time to failure was 25.27 (+12.50) months after placement of the SSCs. Associated factors were a previous SSC at the treated tooth presenting excessive wear (OR=5.19; CI:1.15-23.34; p=0.032), brand of the SSC (OR=1.93; CI:1.34-2.79; p0.001), and treated second primary molar (OR=1.47; CI:1.03-2.10; p=0.034). Older children (OR=0.77; CI:0.67-0.89; p0.001), and those presenting three or four occlusal units in the primary dentition and four occlusal units in the permanent dentition were less likely to present excessive wear (p 0.05). **CONCLUSIONS** The prevalence of excessive wear in this population was 11.4%. Significant associations were found with patient related factors.

O 5.2 **Effect of the addition of calcium phosphate on the physical an biological properties of tricalcium silicate based cements**

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AIM To evaluate the effect of addition of different calcium phosphate (CP) to tricalcium silicates (TCS) in varying quantities on the physical and biological properties of Tricalcium silicate based cements (TCSC). **METHODS** TCSC was prepared by adding 20 wt% Barium titanate (radiopacifier) to TCS synthesized in the laboratory by sintering technique. A total of 9 test groups were prepared by adding 3 types of CP - amorphous calcium phosphate (ACP), alpha-tricalcium phosphate (αTCP) and dicalcium phosphate dihydrate (DCPD) in 3 different concentrations (5

wt%, 10 wt% and 25 wt%) to TCSC. TCSC without CP as additive was used as the control group. The prepared cement was mixed to 0.7793M calcium chloride solution in a powder-to-liquid ratio of 0.3. All groups were tested for initial setting time, final setting time, compressive strength, radio-opacity, solubility, water uptake, sorption, porosity, bioactivity and cytotoxicity. **RESULTS** Addition of low quantities (5 or 10 wt%) of CP to TCSC showed an improved effect on the physical and biological properties of the biphasic cement . However, addition of CP in higher quantity (25 wt %) resulted in detrimental effects on the physical properties of the TCSC with significantly lower compressive strength and higher solubility (p0.05). Addition of ACP and αTCP at 5 wt% to TCSC performed significantly better than the control group. **CONCLUSIONS** Addition of CP to TCSC in low quantities (5 wt%) resulted in a biphasic cement with significantly improved physical as well as biological properties. ACP and αTCP performed significantly better than DCPD as an additive to TCS.

O 5.4 **'It looks like you're eating a golf ball!' - A case report on an unexplained mandibular swelling.**

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INTRODUCTION This is a case report of a Buccal Bifurcation Cyst. These are rare, inflammatory odontogenic cysts that often occur in children aged five to fourteen years. These are usually related to first permanent molar teeth. **CASE REPORT(S)** A 7-year-old, medically fit and well boy attended the department of Paediatric Dentistry in November 2023 complaining of a persistent left side facial swelling. This had been present for approximately one week. The patient's general medical and dental practitioners prescribed antibiotics; however, the swelling did not respond. Extra and intra-oral examination revealed a fluctuant, round swelling of approximately 3cm at the anterior body of mandible. It was mobile, tender and the patient's cheek was erythematous. Mouth opening was reduced and so, no sensibility testing could be carried out. Radiographic investigations included an OPT and CBCT. The differential diagnosis was a Buccal Bifurcation Cyst following radiographic reporting. Following this, the patient had an excisional biopsy, removal of the lower first permanent and adjacent second primary molar, all under general anaesthetic. **FOLLOW UP** The histopathology examination demonstrated fibrous tissue, moderate inflammatory infiltrate and focal granulation tissue. These features are consistent with a Buccal Bifurcation Cyst. The patient was reviewed one month following their treatment. They were healing well with no impaired function or associated paraesthesia. **CONCLUSIONS** This case has allowed reflection on differential diagnoses of mandibular swellings. This should encourage further insight into the aetiology, demographics and management of Buccal Bifurcation Cysts.

O 5.5 **Oral disease burden in children scheduled for hematopoietic stem cell transplantation – a multicenter study**

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AIM to study the oral disease burden in children and adolescents scheduled for an allogeneic hematopoietic stem cell transplantation (HSCT) and oral health care provided before HSCT. **METHODS** In a prospective longitudinal multicenter cohort study (OraStem), 68 children, and adolescents, mean age 11.2 (4.6) years of age, scheduled for HSCT were recruited at three centers: Huddinge, Sweden, Charlotte, USA, and Singapore. An oral examination was performed 1-8 weeks before HSCT, at admission to hospital Oral hygiene habits were recorded, examination of oral hard and soft tissues, radiographic examination, and registration of patient-reported current oral problems. **RESULTS** 93% of the patients were examined 8 days before HSCT. 72% reported previous regular dental care and 62% that they brushed their teeth twice a day. Altogether, 32% experienced oral symptoms around the time of onset of disease, pain and bleeding from gingiva and ulcers being most frequent. The mean dmft/DMFT was 1.2 (2.9) (range 0-15), 19% had loose exfoliating primary teeth and 16% had partially erupted teeth that communicated with the oral cavity. 16% were found to have dental plaque on more the 50% of the teeth. Regarding treatment prior to HSCT, 21% had extractions and 15% had one or more restorations performed. 12% had one or more teeth with caries into the dentine left untreated. **CONCLUSIONS** Oral symptoms and diseases are common in children and adolescents scheduled for allogeneic HSCT. 93% of patients had an oral and dental examination prior to HSCT allowing for dental treatment to be performed.

O 5.6 **"It's like being chained up"- Oral mucositis experience in children with cancer, parents and healthcare teams, a qualitative study**

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AIM To explore the experiences of children and young people (CYP) with cancer, their parents, and healthcare professionals (HCPs) of oral mucositis. **METHODS** CYP with experience of mucositis, and their parents, were purposively sampled for diversity in age, gender, and cancer diagnosis. HCPs involved in paediatric cancer care were purposively sampled for diversity in professional role. Semi-structured interviews with CYP/parent dyads and focus groups with HCPs were conducted. Interviews were audio recorded and professionally transcribed. Anonymised transcripts underwent thematic analysis using an inductive approach, and codes discussed for validity and sense-checking. Analysis coincided with recruitment until no new codes were identified. **RESULTS** Eight CYP (six male, two female), ten parents, and nine HCPs were interviewed. CYP age range was 8-15 years old. Cancer diagnoses were diverse: non-Hodgkin's lymphomas (n=3), acute lymphoblastic (n=2) myeloid (n=1) leukaemia, Hodgkin's lymphoma

(n=1), anaplastic large-cell lymphoma (n=1), and osteosarcoma (n=1). HCPs included: senior and junior oncologists and paediatric dentists, play therapy, senior medical and dental nursing staff. Four themes were identified. For families: (1) mucositis as a multi-faceted, negative emotive experience; (2) being taken away from "normality". For all groups: (3) complex biopsychosocial impact on eating; (4) additional strain presented by mucositis management. Within these themes, cross-cutting challenges in maintaining oral health were identified. **CONCLUSIONS** Oral mucositis presents a significant strain to CYP, families and HCPs during cancer treatment functionally, psychologically, and socially, and affects treatment experiences. Participants expressed a strong desire to prevent mucositis, as a supportive care priority.

O 5.7 **Silent Sinus syndrome - A Rare paediatric condition diagnosed in the orthodontic department**

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INTRODUCTION Silent Sinus Syndrome (SSS) is defined as unilateral maxillary sinus hypoplasia and orbital floor resorption. SSS is a rare finding in paediatric patients. **CASE REPORT(S)** This case report describes a 7-year-old paediatric patient who was referred to the autotransplantation multidisciplinary clinic following significant dental trauma to the upper anterior teeth. The diagnostic orthopantogram (OPG) and cone-beam computed tomography showed complete opacification of the left maxillary sinus. Following referral to the Ear, Nose and Throat (ENT) department, a CT sinus confirmed SSS. **FOLLOW UP** Due to the risk of facial asymmetry in a growing adolescent patient without surgical intervention, ENT is listed for management of this with functional endoscopic sinus surgery. **CONCLUSIONS** This case highlights the importance of full assessment of radiographic investigations for incidental findings and the importance of a multidisciplinary approach.

O 5.8 **Oral candidiasis in children. Case series; different clinical presentation and management**

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INTRODUCTION Oral candidiasis is a common opportunistic fungal infection and is divided into two groups of acute and chronic forms. Age, risks factors and family history are important variables affecting the incidence rate of candidiasis. This is a case series of three different presentations referred to the joint oral medicine paediatric clinic in a London hospital requiring different treatment modalities. **CASE REPORT(S)** Patient A, is a 3 y.o boy referred with persistent recurrent oral candidiasis despite Nystatin suspension and Miconazole gel treatment. Clinical examination revealed an extensive pseudo-membraneous plaques on all mucosal surfaces and recurrent blisters. Oral Fluconazole was commenced, resulting in complete resolution. The patient was referred to the paediatric immunology team, the genetic screening confirmed the patient to be heterozygous for STAT1 c.1151GA variant. Patient B, a 12 y.o boy presented with

white plaque patches and redness on his tongue and the corner of his mouth. Following a course of Miconazole gel, the patient reported a significant improvement. Patient C, a 9 y.o boy presented with a fissured tongue, angular cheilitis, pitted and mottled gingivae. Miconazole gel application along with Nystatin provided minimal relief to his symptoms. The saliva swab test revealed heavy growth of Staphylococcus aureus with candidiasis. Clarithromycin and Fucidin ointment prescription resolved his symptoms. **FOLLOW UP** The 3 patients were followed up on the same clinic with significant improvement. Further investigations including bloods and genetic testing ensured the best clinical outcome. **CONCLUSIONS** Different management modalities including appropriate investigations and multidisciplinary team approach enabled appropriate treatment of these different cases of candidiasis.

Session O6

O 6.1 **Prevalence and severity of ectopic eruption of first permanent molars: A retrospective university-based study in a Dutch population**

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AIM To assess the prevalence and severity of ectopic eruption (EE) in first permanent molars (FPMs) in children. **METHODS** This University-based retrospective study analysed bitewing radiographs of 5-11 year old patients from the Academic Centre for Dentistry Amsterdam (ACTA) between 2010 and 2022. Data on EE and severity of second primary molar (SPM) root resorption was collected by trained and calibrated examiners. Descriptive statistics and logistic regression were conducted to investigate the association with EE severity and independent variables (age, sex, uni/bilateral EE presentation, premature SPM loss) ($\alpha = 5\%$). **RESULTS** A total of 795 patient charts were included. The prevalence of EE of FPMs was 7.8% (n=65/795) at the patient-level, and 2.97% (n=87/3180) at the tooth-level. Most ectopic FPMs were in the maxillary arch (78.33%). Unilateral cases were more prevalent (59.68%) than bilateral (40.32%). Severity ranged from mild (12.6%), moderate (43.7%), severe (23%) and very severe (20.7%). Male gender, bilateral presentation and premature SPM loss were associated higher severity of EE (p0.05). Self-correction was observed in 70.11% of the cases with the majority being less severe cases (p0.05). **CONCLUSIONS** The prevalence of EE in FPM was 7.8% at the patient-level, and 2.97% at the tooth-level. It primarily involved unilateral cases in the maxillary arch. A higher severity was associated with bilateral presentation, premature SPM loss and male gender.

O 6.2 **The prevalence and defect characteristics of hypomineralised second primary molars in 3 to 6-year-olds in Ghent: a pilot study.**

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AIM To evaluate the prevalence and defect characteristics of hypomineralised second primary molars (HSPM) in an urban area (Ghent-Belgium) on a child and a tooth level. **METHODS** To collect the data, preschools were contacted for an examination of the dentition of 3 to 6-year-olds on-site. Beforehand, informed consent as well as a short questionnaire were obtained. The primary molars were examined using a mirror with a built in artificial light and a blunt probe after cleaning with a gauze. HSPM were scored according to Ghanim et al. (2017) and ICDAS scores and other deformities were recorded. Statistical analysis (IBM SPSS 28) was carried out. **RESULTS** In total 224 children were examined. 196 out of the 1761 (11,1%) teeth were found to be affected with HSPM, with a prevalence of 32,3% found on child level. The most common characteristic was white, yellow, creamy or brown demarcated opacities (61,2%) followed by post-eruptive breakdown (14,3%) and atypical restorations (10,2%). The second primary molars were most affected (63,9%), in contrast to the first primary molars (5,6%). There was no significant difference in the incidence of caries with or without HSPM (p0.05). **CONCLUSIONS** The prevalence of HSPM (32,3%) in preschool children in Belgium is not to be underestimated as our results were higher than in most studies. However, there was no difference found in risk of developing caries between children with and without HSPM. The small sample size of these pilot study could cause the result to deviate from the actual situation.

O 6.3 **The precipitation and penetration of silver fluoride on hypomineralised enamel and dentin – an in vitro study.**

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AIM To investigate the precipitation and penetration of silver fluoride (AgF) on enamel and dentin of molars affected by Molar Incisor Hypomineralisation (MIH). **METHODS** Four extracted human first permanent molars affected with MIH were collected and clinical characteristics of hypomineralised lesions were scored using the EAPD MIH index. Digital images of all surfaces of each tooth were taken using a full-sensor SLR camera (Canon 550D). All teeth were treated with a 38% stabilized aqueous silver fluoride solution (AgF, Riva Star Aqua; SDI) which was actively applied for 3 minutes using a microbrush. Teeth were stored for 7 days in a remineralizing solution at 37oC and the solution was changed daily. Digital images of all surfaces of each tooth were taken. Afterwards, all teeth were embedded in resin and serially sectioned (thickness approximately 1 mm) in buccolingual or buccopalatinal direction using a hard tissue microtome. Digital images of all samples were taken and the amount and depth of Agf precipitation on hypomineralised dental hard tissues was assessed. **RESULTS** Agf precipitation and visible black staining was observed on the surface of hypomineralised enamel with yellow-brown opacities

and post-eruptive breakdown, while this was not observed on the surface of white-creamy hypomineralised enamel lesions. Penetration of silver ions into yellow-brown lesions was observed and maximum penetration depth was close to the dentine-enamel junction. **CONCLUSIONS** AgF has the ability to precipitate and penetrate hypomineralised enamel. AgF tends to penetrate deeper in severely affected hypomineralised areas than in minor affected areas.

O 6.4 **MIH-affected teeth pre-treated with Er,Cr:YSGG laser – a qualitative in vitro study of tooth microstructure.**

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AIM Evaluate etching pattern and surface roughness of teeth diagnosed with molar-incisor hypomineralisation (MIH, European Academy of Paediatric Dentistry) after being irradiated with a solid-state Er,Cr:YSGG laser (BIOLASE Waterlase iPlus™) and compare findings with corresponding from sound and artificially demineralized teeth. **METHODS** Twenty-three extracted permanent teeth (3 MIH-affected, 10 sound, 10 artificially demineralized) were cut into halves and irradiated (2.5 W, 50 Hz) for 40s in one half and etched with 35%-37% phosphoric acid for 60s in the other. Surface microstructure was evaluated under a Scanning Electron Microscope and surface roughness using optical profilometry. Differences in the etching patterns produced were tested using chi-square test and in surface roughness paired Wilcoxon test. **RESULTS** Laser irradiation produced an irregular surface with micro-cracks in areas and prism cores relatively recognizable (etching pattern II) in most cases. Etching with phosphoric acid produced a more homogeneous surface presenting a mixture of areas where prism cores were preferentially removed and others where they were recognizable (etching pattern III). Difference in surface roughness before and after treatment ranged between -2.9 to -5.48µm in laser-treated and -2.54 to -8.12µm in etched teeth. Differences were significant for all but not MIH-affected teeth. Surface roughness produced by irradiation was 0.4 to 2.51µm higher than that produced by etching, with differences not being significant. **CONCLUSIONS** Er,Cr:YSGG laser, despite producing a more rough surface achieves comparable roughness to conventional acid etching. Pre-treatment may, therefore, have a substantial influence on the penetration of adhesives into of porous hypomineralised enamel to improve adhesion.

O 6.5 **Minimal invasive management of multiple pre-eruptive intracoronal resorptions (PEIR): A case report**

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INTRODUCTION Pre-eruptive intracoronal resorption (PEIR) is a rare pathological condition affecting developing teeth, characterized by localized dentin resorption within the dental crown

before eruption. PEIR can manifest as static or developing lesions with varying degrees of severity. **CASE REPORT(S)** A healthy 13-year-old Danish boy was incidentally diagnosed with PEIR through radiographs revealing well-defined occlusal radiolucencies within the coronal dentin (1/3 into the dentin) of the following teeth: 16,27,45,44,34,36,37,38. Clinically, the affected teeth had normal occlusal features and intact enamel surfaces. The patient showed no clinical symptoms. Radiolucencies in an eruptive (45) and non-eruptive tooth (38) combined with a low caries-risk status confirmed the diagnosis of PEIR and supported the differentiation from dental caries. TREATMENT. The patient and parents were informed about the rare diagnosis, and they were actively involved in the decision-making process regarding treatment options. The chosen approach was minimally invasive dentistry with resin sealants (Ul-traseal XT-plus, Ultradent) applied to the affected teeth to prevent the development of dental caries. **FOLLOW UP** FOLLOW-UP (69 months). The affected teeth were systematically monitored through clinical examinations, including photographic documentation, and annual radiographs to assess changes or progression of PEIR. **CONCLUSIONS** This case emphasizes the importance of precise differential diagnostics and a nuanced understanding of diverse PEIR lesions. The initial selection of the accurate diagnosis, combined with a minimally invasive approach, has proven effective, with no observed progression of the PEIR lesions during the follow-up period. Within the domain of dentistry, our primary objective is the preservation of valuable tooth substance whenever possible.

O 6.6 **Proteomic analysis - unfolding aetiology of Hypomineralised teeth**

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AIM To qualitatively and quantitatively evaluate and compare the proteins in the hypomineralised enamel of primary and permanent teeth and sound enamel through liquid chromatography coupled with tandem mass spectrometry(LS-MS/MS). **METHODS** Enamel blocks (2mm x 2mm x 1mm) were sectioned from the extracted sound and hypomineralised second primary molars (HSPM) (n=10 each) MIH-affected first permanent molars sound premolars (n=10 each).The solutions for protein analysis were prepared by acid etching of enamel blocks, followed by reductive alkylation and tryptic digestion. The prepared sample solutions were subjected to LC-MS/MS analysis and data generated was analysed by compatible software **RESULTS** There was a significant upregulation in the number of proteins in both MIH affected and HSPM affected enamel in comparison to the sound enamel of both the primary and permanent teeth. Both MIH and HSPM enamel showed significant increase in Albumin and Calcium Binding proteins (fold change ratio1.5). MIH-affected enamel also revealed an upregulation of anti-thrombin III, and dentin sialophosphoprotein (DSPP), whereas HSPM enamel samples showed an upregulation of proteins like LEG1 homolog, ODAPH, Leucocyte elastase inhibitor, Serine HTRA1and OFML3.Proteins associated with stress response inflammatory processes were also upregulated in both MIH and HSPM affected enamel **CONCLUSIONS** There

appears to be an underlying infectious/inflammatory aetiology responsible for hypomineralisation of primary as well as permanent enamel in these patients which needs further evaluation

O 6.8 **How amelogenesis and dentinogenesis imperfecta psychosocially affect adolescents?**

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AIM Dentinogenesis (DI) and amelogenesis imperfecta (AI) are rare genetic developmental abnormalities of the teeth that result in negative aesthetic and functional consequences. Their psycho-social impact has been little studied. We carried out a multicentric cross-sectional study to evaluate the impact of AI and DI on oral health - related quality of life (OHrQoL), exposure to bullying and dental anxiety in a population of youth aged 10 to 18 years followed in seven French national competence or reference centres in rare oral diseases. The «Filière de Santé Maladies Rares de la Tête, du Cou et des Dents (TETECOU)» supported this research. **METHODS** The study is based on a clinical examination assessing the severity of oral disability, an evaluation of socio-demographic characteristics and questionnaires to both adolescents (COHIP, Bullying and Cyberbullying Scale for Adolescents BCSA, CFSS-DS) and parents (MDAS, P-CPQ). The sample size of 76 subjects was calculated to evaluate the impact of bullying on OHrQoL. Descriptive statistics and correlation tests have been done with a significance level of 0.05. **RESULTS** Adolescents were less anxious about dental care than their parents. Most of youth had a negative perception of their smile and suffered from tooth hypersensitivity. The COHIP and P-CPQ scores confirmed their decreased OHrQoL. A small proportion reported school bullying, usually face-to-face. Bullying did not impact oral health related quality of life, except in the socio emotional well being dimension. **CONCLUSIONS** Psychosocial impact of AI and DI should be explored by dental practitioners to develop psychological support in this specific paediatric population.

O 6.9 **Audit on the dental management of children with Osteogenesis Imperfecta (OI) at 4 specialised centres in the UK**

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AIM Osteogenesis imperfecta (OI), a rare genetic bone condition is characterised by bone fragility. Children with OI present with dental anomalies including Dentinogenesis imperfecta (DI), malocclusion, hypodontia, ectopic or impacted teeth. Medical management is often with bisphosphonates (BP), which can impact on dental management. The aim was to establish if patients being referred from UK specialised centres are receiving appropriate dental care. **METHODS** Retrospective audit of children attending dental visits, referred from four national OI centres between August 2022-January 2023. Patients were identified using electronic patient records or clinic databases. Type of OI, BP and dental treatment were recorded. Data was collected analysed on Microsoft Excel. **RESULTS** 27 children were seen during the time frame,

average age was 8.4 years with a range of 1 to 15 years old. Majority of children attended for dental review (n=23, 85%). 74% (n=20) had DI and 59% (n=16) had other dental anomalies such as hypodontia or impacted teeth. Regular dental care was being provided in primary care for 67% (n=18) of patients whilst for 7% this was provided in secondary care (n=2). The majority of the cohort (n=22, 81%) were on IV Bisphosphonates, only 11% (n=3) having a dental assessment prior to starting BP therapy. **CONCLUSIONS** Children with OI seen present with a number of dental anomalies and have a high treatment need. Children require referral in a timely fashion to avoid unmet treatment need which requires management in tertiary care. Further communication is required highlighting the importance of a dental assessment and on-going regular dental care.

Session O7

O 7.1 **Is YouTube™ a reliable source of information about sports mouthguards?: A cross-sectional study**

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AIM Mouthguards are intraoral appliances that prevent tooth fractures, tooth loss and soft tissue traumas during sports. YouTube™, as a video-sharing platform, has a large number of videos about mouthguards. This study aims to evaluate the quality, accuracy and reliability of YouTube™ videos about mouthguards. **METHODS** For each search term, the first 100 videos from YouTube™ were collected using keywords “mouthguard,” “sports mouthguard,” “mouthguard and dental trauma.” Videos meeting the inclusion criteria were categorized based on publishers (dental professionals and others) and types (animation/slideshow, interviews, product information). Video demographics were recorded. Video content quality, reliability and accuracy were measured by Global Quality Scale (GQS), Video Information and Quality Index (VIQI), DISCERN scale, Journal of the American Medical Association (JAMA) benchmarks and Usefulness Score. Data were analysed using SPSS (IBM 29.0) at a 95% statistical significance level (p=0.05). **RESULTS** A total of 80 videos were included. Most of the videos were uploaded by dental professionals (n=49). The average values of GQS, VIQI, DISCERN and JAMA scores were 2.99/5.00; 15.33/20.0; 49.24/80.0 and 1.38/4.00 respectively. Videos uploaded by dental professionals had significantly higher scores in DISCERN, VIQI, GQS, JAMA criteria and Usefulness Score but exhibited lower number of likes, comments and views (p0.05). 51% of all included videos (n=41) were categorized as “moderately useful” and 10% (n=8) as “very useful”. **CONCLUSIONS** Mouthguard videos uploaded by dental professionals are more useful, accurate and of high quality. Therefore, patients should consider the information shared by dentists. Dentists having greater participation in sharing high-quality content would be beneficial.

O 7.2 **"Spontaneous Revascularisation" following dental intrusion and external infection-related resorption in a young permanent tooth**

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INTRODUCTION External infection-related resorption (EIRR) following dental intrusion may result in a weakened dental root and poor long-term prognosis. **CASE REPORT(S)** A healthy eight-year-old girl presented with 7mm intrusion of the maxillary right and left central incisors (teeth #11 and #21). Orthodontic extrusion was initiated two weeks post-trauma. Both teeth erupted 2 months following treatment commencement. However, #21 was diagnosed radiographically with progressive EIRR on the mid-distal root. Pulp extirpation was carried out and the root canal was dressed with calcium hydroxide (CH). At five months post-injury, during an attempt to redress the canal with CH, copious bleeding was encountered in the root canal suggestive of a resorption-related perforation in the lateral root surface. Radiographs taken 1 month later showed that #21 had an intact periodontal ligament (PDL) space, no progression of root resorption, and bone regeneration alongside the defect. A radiopaque structure, suggestive of a calcific barrier, was seen intracanal at mid-root level. This finding was corroborated clinically under the microscope. Apex locator showed no premature readings, which was indicative of absence of any extra-radicular communication. The canal was chemically re-debrided with sodium hypochlorite. Two weeks later, the tooth was obturated with Biodentine until the level of the calcific barrier. The access cavity was restored with composite resin. **FOLLOW UP** At 24 months post-injury, both teeth demonstrated normal clinical and vitality findings and continued root development radiographically. **CONCLUSIONS** This case highlights the potential of dental stem cells in inducing continued root development and self-reparation of EIRR induced perforation, akin to regenerative endodontics following dental trauma.

O 7.3 **Are We Meeting IADT Guidance for The Management of Complicated and Uncomplicated Crown Fractures**

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AIM To assess whether children with a crown fracture on the permanent incisors receive care per the International Association for Dental Traumatology (IADT) guidelines and assess this group's demographics and care pathway within Leeds Dental Institute (LDI), UK. **METHODS** A retrospective analysis of 50 patient records and radiographs with complicated or uncomplicated enamel dentine fractures of permanent incisors who were treated or assessed at the LDI were reviewed. All data collection and analysis were performed using Microsoft Excel (Microsoft Corporation). The initial audit cycle encompassed a retrospective study of data collected from 2022 to 2023. Standard: 100% of uncomplicated and complicated enamel dentine fractures should be reviewed according to the IADT guidelines. **RESULTS** It was observed that 92% of patients underwent timely clinical reviews, including sensibility testing and necessary radiographic imaging. Complexity levels, assessed according to NHS Paediatric commissioning

standards, ranged from level 2 to level 3b. According to the patients who have completed treatment, 65.8% were discharged and 31% had further reviews at the LDI. On average, patients attended the LDI for 5.8 appointments, with an average travel distance of 21 kilometres. **CONCLUSIONS** The results of this audit underscore the effective management of patients with appropriate complexity within the Paediatric department at LDI. Conversely, there is notable variability in discharge practices; patients often attend from a considerable distance. Implementing a standardised discharge protocol is essential to alleviate the care burden on patients and the National Health Service.

O 7.4 **How long is it sufficient to wait for intrusive immature teeth? Four case reports**

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INTRODUCTION Immature teeth are expected to re-erupt within four weeks after intrusion. According to the latest trauma guidelines, orthodontic repositioning should be considered if teeth don't re-erupt during this timeframe. This case report presents the follow-up of immature intrusive teeth. **CASE REPORT(S)** Case reports: Three 8-year-old female patients presented at our clinic with intrusion. For four weeks, the intruded teeth were allowed to reposition spontaneously, but no eruption occurred during this period. Treatment: In case 1, spontaneous reposition hadn't been occurred and therefore surgical treatment had been planned. Due to the COVID-19 pandemic, the patient was able to attend the appointment 22 months later, and tooth 21 had been erupted. In the 4th year, the tooth became symptomatic, and endodontic treatment was performed. In Case 2, tooth 21, which didn't undergo spontaneous repositioning within four weeks, commenced eruption in the sixth month. In case 3, there were intrusion in teeth 11 and 22. Tooth 11 underwent apexification treatment due to signs of inflammatory external resorption. Teeth began to erupt at four months. **FOLLOW UP** Case 1, case 2, and case 3 were followed up at five years, one year, and one year, respectively, and the teeth are radiographically and clinically asymptomatic. In case 2, tooth 21, and in case 3, tooth 22 responded positively to vitality tests. In case 3, inflammatory root resorption stopped. **CONCLUSIONS** This case series demonstrated that spontaneous repositioning of intrusive immature teeth can occur in more than four weeks. Immature teeth with intrusion should be given more time for re-eruption.

O 7.5 **Improving uptake of stainless steel crowns using Hall technique in deciduous molars**

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AIM This audit aims to enhance the uptake of Hall Technique stainless steel crowns within an Essex-based Dental Practice for the management of multi-surface caries in deciduous molars. **METHODS** In the initial cycle, retrospective data collection was conducted on the first 10 eligible teeth for either Glass Ionomer Cement (GIC) restoration or Hall Technique treatment over a one-month period. Subsequently, interventions involving the distribution of informative leaflets and

utilization of dental models were implemented. Cycle 2 followed, wherein data was collected on the subsequent 10 suitable cases, documenting the selected treatment modality. **RESULTS** During Cycle 1, only 1 out of 10 cases (10%) preferred the Hall Technique over GIC restoration. Following the implementation of interventions, Cycle 2 witnessed an improvement in uptake, with 3 out of 10 cases (30%) opting for the stainless-steel crown approach. **CONCLUSIONS** The introduction of educational models and informative leaflets on the Hall Technique significantly bolstered the acceptance and utilisation of stainless-steel crowns in managing multi-surface caries in deciduous molars within the dental practice setting.

O 7.6 **A case of infective endocarditis from a dental Origin in a healthy child**

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INTRODUCTION Infective endocarditis (IE) in children is a disease predominantly associated with congenital heart disease (CHD). We present a 3 year-old with no history of CHD, JW, who developed IE secondary to asymptomatic dental caries. **CASE REPORT(S)** JW presented with a three-month history of fever, lethargy and night sweats to a regional hospital and referred to Cardiology for further management on the Intensive Care Unit at Birmingham Children's Hospital. Blood cultures confirmed a diagnosis of bacterial endocarditis secondary to Streptococcus-viridans. Dental examination revealed extensive caries affecting his upper first primary molars, but no signs of sepsis. No other source of infection was identified. His family informed us that he was being managed preventatively by his Dentist as he was asymptomatic and pre-cooperative. An aortic root replacement was completed by Cardiology but JW suffered a cardiac arrest peri-procedure. After deterioration in his health an urgent CT scan identified a subdural haematoma, an urgent craniectomy and drainage was completed by Neurosurgery. Once stable, the Dental team carried out extractions of carious teeth under GA. **FOLLOW UP** JW has been followed up by Cardiology and is recovering well. **CONCLUSIONS** This case aims to raise awareness of the rare possibility of IE in healthy children secondary to dental caries. Treatment planning for childhood caries depends on child compliance and the extent of disease, with active monitoring and a preventative programme indicated in pre-co-operative children with asymptomatic caries. Although rare, IE from dental sepsis in a healthy child can occur and cause life-threatening complications.

O 7.7 **Oral Health-Related Quality of Life in Children with and without Asthma**

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AIM This study aimed to evaluate the oral health-related quality of life (OHRQoL) among a group of Turkish children with and without asthma aged between 8-10 years using a child perception questionnaire (CPQ8-10) **METHODS** A case-control investigation was conducted on 158 eligible

participants who were assigned into two groups (76 children with asthma and 82 healthy children). The OHRQoL was measured using a validated structuredCPQ8–10. Data were analysed using chi-square and Mann-Whitney U test. Spearman correlations have been calculated to inspect the interrelation between oral health status (dmft/DMFT, plaque index (PI), and gingival index(GI)) and CPQ8-10 scores **RESULTS** The control group exhibited statistically significantly higher dmft/DMFT scores (P0.001), PI (P=0.035),and GI (P=0.02) than asthmatic children. The mean CPQ score was 13.95 ± 9.91 for the control group and 13,44 ±10.96 for the asthma group. There was no statistically significant difference in CPQ scores between groups(P=0.651, Mann-Whitney U). dmft/DMFT was found to be positively correlated with CPQ scores for both controls(P0.001) and the allergy group (P=0.005) **CONCLUSIONS** No difference in OHRQoL scores was found between asthmatic children and control group. However the difference in DMFT/dmft, PI and GI between groups may be related to the hygiene hypothesis

O 7.8 **Factors affecting UK Paediatric Dentists' treatment decisions for carious primary second molars under GA: a cross-sectional study.**

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AIM To investigate which factors influence paediatric dentists' decisions about treatment of carious primary second molars under GA. **METHODS** A bespoke questionnaire was designed and tested. Participants were recruited through the British Society of Paediatric Dentistry, and asked to complete an online questionnaire. Questions pertained to a) Respondent demographics b)Local paediatric dental GA services; c)Decision-making about the use of GA and treatment of carious primary second molars when using GA. Descriptive statistics were used for the quantitative data, and free text comments were analysed using content analysis. **RESULTS** A total of 75 were included in the study, which represents 30% of the specialist workforce in the UK. The majority of respondents reported that although comprehensive care and exodontia only GA were both generally available there were perceived challenges to accessing comprehensive care under GA. Child cooperation was considered the most important factor when deciding whether to treat under GA. The extent of caries and the presence of infection were the most important factors determining how carious primary second molars should be treated under GA. Service-related factors, such as the size of the waiting list, were also important. The majority of respondents used guidelines but felt they were outdated and could be more specific, 68% supported the standardisation of assessment. **CONCLUSIONS** There was a perceived lack of access to comprehensive dental care under GA by paediatric dentists despite its availability. Both patient and service-related factors influenced the decision to treat under GA and the type of treatment provided.

O 7.9 **Acceptance of teledentistry for treatment planning among specialists in paediatric dentistry: A feasibility acceptability study**

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AIM In 2023, paediatric dental caries led to 16,102 hospital admissions in England, yet only 56% of children in the UK have access to paediatric dentistry specialists. Consequently, a dental general anaesthesia (DGA) is frequently planned by non-specialists, resulting in a high repeat rate . This study aimed to explore the feasibility and acceptability of a platform to facilitate remote DGA treatment planning by paediatric dentistry specialists. **METHODS** A secure online platform was designed and constructed. Paediatric dentistry specialists were recruited and asked to review clinical images and radiographs for clinical cases, and subsequently provide a treatment plan for DGA. To evaluate feasibility and acceptability of the platform, a mixed methods approach was employed, commencing with individual structured questionnaire, followed by a qualitative, exploratory focus group. Topic guide was developed from quantitative feedback gathered. Audio recording was transcribed and coded. **RESULTS** 100% (n=3) of paediatric dentistry specialists agreed the platform was acceptable and that the time available to review cases was sufficient. The average time required to complete each case, decreased as participants became familiar with the platform. All participants suggested minor platform modifications, such as colour coding of treatment options and presentation formats. **CONCLUSIONS** Gathering input from stakeholders validated that the proposed intervention garnered widespread acceptance and played a crucial role in identifying potential challenges before implementation. This study provides novel evidence of the feasibility and acceptability of the remote platform built for the MODERN study (reMOte DEntal tReatment planning). Patient and specialist recruitment for the vignette study will now commence.

Session O8

O 8.1 **Oral health coaches' effect on caries recurrence after dental treatment under general anesthesia: A randomized controlled trial**

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AIM To assess the effect of a phone delivered, MI based parental support program on caries recurrence and oral health habits in children treated under GA for severe Early Childhood Caries. **METHODS** Prospective 2-arm RCT with blinded outcome assessment. Patients (n=151) were recruited from departments of pediatric dentistry in the Region of Stockholm, Sweden. Inclusion criteria were healthy children aged 6 years who were scheduled to have treatment for ECC under

GA. Parents in the control group received standard advice on toothbrushing and sugar reduction. The intervention group received additional planned biweekly phone counselling with an oral health coach (OHC) for one year, based on MI-principles and offered in Arabic, English, Polish, Turkish and Swedish. The primary outcome was caries progression one- and two-years post-surgery, assessed by ICDAS II-criteria. Secondary outcomes were parental reported daily toothbrushing and dietary habits. Cross-sectional differences between groups were tested using Chi2 test. **RESULTS** 65 % of the CG and 77 % of the IG had caries relapse on at least one new surface after 1 yr (NS). At the 2-yr follow up relapse rates were 53 % (CG) and 71 % (IG) (p 0.05). IG was significantly less likely to engage in adverse oral health behaviors eating sweets for snack (IG 10%, CG 33 %) and consuming sweet drinks (IG 9%, CG 29 %) after 1yr. No group differences were seen in daily F-toothpaste brushing. **CONCLUSIONS** OHC did not reduce the relapse rate following a dental surgery for ECC

O 8.2 **Oral health among children participating in an extended home-visiting program in Stockholm, Sweden**

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AIM To study if an extended home-visiting program, delivered by child health nurses in collaboration with parent counsellor social workers, prevents caries and positively affects oral health habits among children living in areas with low socioeconomic status. **METHODS** All families in Sweden are offered one home-visit at the child's age of 2 weeks. The program included 5 extra home visits between 2 and 15 months of age. Themes were child safety, feeding, attachment/interaction, parenthood, social network and selfcare. Toothbrush and toothpaste together with oral health information was given around 7 months of age. Clinical examination was performed at 12, 24 and 36 months of age together with a questionnaire on oral health habits. ICDAS was used to assess caries and the results were compared to a control-group not receiving the intervention. **RESULTS** Significantly more children had caries at 36 months of age in the intervention group (32.8%) compared to control group (10.1%) (p=0.003). More children in the intervention group had plaque at 36 months (p=0.043) ate sweet snacks between meals at 12 months (p=0.025) and drank sweets drinks between meals at 24 months (p=0.016). In the intervention group, more parents were under the age of 25 (p=0.014) and foreign-born (p=0.001). Among foreign-born parents, 74.5% in the control group were born in high-income countries compared to 46.1% in the intervention group (p0.001). **CONCLUSIONS** This study demonstrates that an extended postnatal home-visiting programme in this cohort of children did not have a beneficial effect on caries prevalence and oral health habits.

O 8.3 **In vitro investigation of the effects of light-cured varnishes on erosive lesions**

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AIM This study investigated the remineralization efficiency of two light-cured glass ionomer varnishes and two conventional varnishes on erosive lesions. **METHODS** Acid-demineralized surfaces of 30 extracted third molars were subjected to microhardness tests and roughness measurements. The specimens were then divided into five groups: CXT (ClinproXT; 3M™ ESPE, USA), PRG (PRG Barrier Coat; SHOFU™, USA), MIV (MI varnish; GC Corp., Japan), VPF (Profluoride varnish; VOCO GmbH, Germany) and DSU (Distilled water-negative control). Following baseline assessments, fluoride varnishes were applied, and after a 5-day remineralization period, the measurements were repeated. The varnishes were reapplied, and the teeth underwent a new acid cycle, with final measurements taken after the second demineralization. The therapeutic and anti-erosive effects of the applied agents were compared using the Friedman test, one-way analysis of variance and Kruskal-Wallis test. **RESULTS** The therapeutic effect was only statistically significantly higher in the VPF group than in the control group (p0.05). When the anti-erosive effect was evaluated, the CXT and PRG groups showed significantly higher erosion resistance than the negative control. However, there was no difference between the treatment groups (p0.05). Surface roughness measurements did not differ between groups (p 0.05), although three-dimensional profilometer images indicated a transition from rough, variably coloured areas to more homogeneous and smooth surfaces. **CONCLUSIONS** In conclusion, conventional fluoride varnishes exhibited superior therapeutic effects, while light-curing varnishes showed enhanced anti-erosive efficacy. The study suggests that light-curing fluoride varnishes may be particularly advantageous in cases aiming for prolonged fluoride release.

O 8.4 **Mobile app for cariogenic dietary assessment in 2 to 6 years old children**

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AIM The aim of this study was to assess the accuracy of a mobile app in detecting cariogenic diet in 2 to 6 years old children. **METHODS** A total of 82 children, 2-6 years old were recruited from the daycare and paediatric clinic of the National and Kapodistrian University of Athens. Data was collected via questionnaires referred to children's oral health behavior and a 24-hour diet recall. A mobile app was designed to analyze dietary data calculating a percentage of diet's cariogenicity. Diet was also analyzed using the daily acid minutes suggested by Nizel Pappas. Children were also clinically examined by a calibrated paediatric dentist to assess dental caries (dmft/DMFT- ICDAS criteria). Pearson correlation and logistic regression models were used to detect relations between the different diet analysis methods and dental caries. **RESULTS** Cariogenic diet analyzed by the app was positively correlated with dmft (p0.001) with odds ratio 1.22 (95% CI:1.12-1.46). The daily acid minute score was not found to be correlated in a statistically significant level with dmft (p=0.724) with odds ratio 1.01 (95% CI:0.98-1.03).

CONCLUSIONS The results of the present study suggest that the app was able to detect cariogenic diet in children 2 to 6 years old. Thus, it can be a useful tool to analyze diet from a caries risk perspective.

O 8.5 **Patient-rated Outcome and Experience Measure (POEM) among patients attending a paediatric dental practice in London; UK**

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AIM Using innovative PEOM tool, this project aims to assess the effectiveness of the provision of oral health session and advice and to look at modifications required to improve the dental prevention provided. key relevant questions revolve around how to measure oral health outcomes that matter to children and their parents. **METHODS** PEOM is a tool developed to capture satisfaction over time and detect fluctuations within a service. The POEM is themed around communication with patients and parents, care environment and information prevention. Children's oral health is maintained through a combination of parents' knowledge and attitude along with children oral health information mainly provided at dental visits. The overall aim is to improve the oral health of the paediatric patients and reduce any future restorative dental burden. This would ultimately impact quality of life and costs implication emphasising more on value-based oral health care. During the first hygiene session: Oral health and dietary advice is systematically provided by the hygienist using a standardised oral health advice proforma. This is followed by a telephone review to assess the effectiveness of the advice and the retention of information by parents. **RESULTS** 100 patients were assessed and contacted following the initial hygiene session. Results have been collected and are currently analysed. **CONCLUSIONS** This project helped streamlining the aim of the hygiene session from the parents' perspective. It provided a better understanding of the way the oral health information is communicated and how to provide an enhanced targeted dental prevention for the high-risk caries' families.

O 8.6 **An in vitro study of the preventive action of agents against erosive tooth wear.**

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AIM To investigate the preventive effect of the combination of salivary pellicle with stannous fluoride (SnF2) toothpaste or natural toothpaste with mastic against erosive tooth wear. **METHODS** Fifty-two human premolar enamel specimens were ground, polished and divided into 3 groups: (G1-Control) salivary pellicle, (G2) salivary pellicle and SnF2 Toothpaste, (G3) salivary pellicle and Toothpaste with mastic. Stimulated saliva was collected from a single healthy donor and, following its clarification by centrifugation, the supernatant was stored at -80 ◦C until use. The 5-day erosion cyclic treatment (one cycle/day) consisted of: salivary pellicle formation (30 min, 37 ◦C), modification with the solutions (30 min, 25 ◦C), further salivary pellicle formation (2

h, 37 ◦C) and erosive challenge (2 min, 1% citric acid, pH 3.6). At the end of the cycles, surface roughness measurements (Sa, Sq and Sz) were taken from treated regions of the specimens by an optical interferometric profiler. Data were analysed with Kruskal-Wallis One Way Analysis of Variance on Ranks and Dunn's test ($\alpha = 0.05$). **RESULTS** Statistically significant differences were determined between groups for Sa and Sq while no differences were identified for Sz (all values in nm). Group 2 showed statistically significant (p0.001) lower values [Sa=33(28,44); Sq=49(41,66)] than the control [Sa=75(63,98); Sq=102(89,129)] and group 3 [Sa=83(72,99); Sq=116(98,133)]. However, no significant differences were found between control group and group 3. **CONCLUSIONS** Based on the results of the surface analysis, SnF2 toothpaste seems to provide a smoother surface, which was not observed with the natural toothpaste with mastic.

O 8.7 **Interventions to reduce sports drinks consumption in children and adolescents for oral health: a systematic review**

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AIM This review aims to examine the effect of interventions to reduce consumption of sports drinks and its subsequent effects on oral health. Specifically, it seeks to determine whether a significant reduction in the consumption of sports drinks can directly contribute to enhanced oral health. Insights from this assessment are intended to shape and support the efforts of policymakers and educators. **METHODS** A comprehensive search was conducted on 10th August 2023 across multiple electronic databases. Detailed data extraction from each study covered various parameters, including authorship, study design, participant characteristics, intervention details, comparison groups, outcome measures, and overall findings. The inclusion criteria targeted studies focusing on children and adolescents under 18 who consume sports drinks, with no geographical constraints. Eligible studies were those assessing the efficacy of interventions at universal, selective, and indicated levels to reduce sports drink consumption. The primary outcome centred on behavioural shifts in sports drink consumption whereas secondary outcomes investigated changes in oral health metrics. **RESULTS** The results derived from this systematic review indicate that educational interventions have the capacity to induce behavioural changes, leading to a reduction in the consumption of sports drinks among children and adolescents. The use of this strategy has the potential to successfully reduce the potential adverse effects associated with the consumption of sports drinks on the dental well-being of young individuals. **CONCLUSIONS** This review underscores the necessity for additional comprehensive research to clarify the concerns related to the consumption of sports drinks and its influence on oral health.

O 8.8 **Molar-incisor hypomineralization affects oral health-related quality of life in 8–9-year-old children**

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AIM To study if oral health-related quality of life (OHRQoL) was affected by having molar incisor hypomineralization (MIH) and, furthermore, to compare the OHRQoL of children with mild and severe affection of MIH. **METHODS** The cross-sectional study consisted of 2593 children aged 8-9 years in one age cohort. Participants were recruited in conjunction with regular dental examination in the Public Dental Service. MIH was diagnosed based on the criteria of the European Academy of Paediatric Dentistry. OHRQoL was assessed using a validated Norwegian version of the child oral impact of daily performance (C-OPID) questionnaire. Differences in C-OIDP scores between children with and without MIH and with mild or severe MIH were tested using non-parametric statistics (Mann-Whitney U test). **RESULTS** Data were obtained for 2080 children with MIH and 513 children without MIH. C-OIPD mean score was higher for children with vs. without MIH (8.61 ± 1.69 vs. 8.38 ± 1.18, p 0.05). The items with negative impact were relaxing, eating and toothbrushing (p 0.05). Children with severe MIH reported higher mean C-OIPD score than those with mild MIH (8.81 ± 2.02 vs 8.43 ± 1.31, p 0.05). Severe MIH was associated with a greater negative impact on the eating and cleaning items compared to mild MIH (p 0.05). **CONCLUSIONS** MIH had a negative impact on OHRQoL. Children with severe MIH experienced a greater negative impact on OHRQoL compared to children with mild MIH.

Session O9

O 9.1 **Creating health equity through a new service - The Eastman Dental Hospital neurodiverse dental general anaesthesia list**

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AIM At the Eastman we have two general anaesthesia lists, a list for medically compromised children who need to be treated at our main hospital, and a list for children who are fit and well or have stable medical conditions, who can be treated at our tertiary setting, as the risk of complication is low. We identified many neurodiverse children on our medically compromised list, on average they were waiting for 12 months for treatment. It was noted many of these neurodiverse children did not have any additional confounding medical factors. Our plan was to select these children, and provide them with general anaesthesia in tertiary care with a specialised care package for neurodiverse children, the aim to reduce the waiting time and improve health equity. **METHODS** Patients were sign posted by clinical teams, then selected by the consultant paediatric dental surgeon running the service. Inclusion Criteria, Neurodiversity,

ASA I/II, BMI 97%, Verbal, Non-verbal, Comprehensive care, Surgical treatment. Exclusion Criteria, ASA III/IV, BMI 98%, Non-toilet trained, Non-neurodiverse. **RESULTS** Since the start of the service in 2022, many neurodiverse children have been treated successfully. By implementing this new service, our medically compromised general anaesthesia waiting list has reduced from 12 to 9 months, our neurodiverse children are on average waiting 3 months for treatment. **CONCLUSIONS** We demonstrate by tailoring care, safe GA can be provided to neurodiverse children in a tertiary setting, and waiting times can be improved.

O 9.2 **Oral features and salivary flow rate in childhood cancer survivors: cross sectional study.**

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AIM This cross-sectional study aimed to investigate oral features, dental caries experiences and salivary disfunction as underestimated oral late effect of chemotherapy, in Italian children in remission from cancer, comparing them with age- and gender-matched healthy children. **METHODS** Paediatric patients hematological malignancies survivors, aged six to fourteen years, treated for cancer before the age of ten, and off-therapy for at least two years and healthy age- and gender-matched controls, referred to Section of Paediatric Dentistry at University of Turin, were recruited for this study. Comprehensive dental examinations were conducted evaluating carious lesions using dmft/DMFT indexes, stimulated saliva flow rate, pH, and buffer capacity. U Mann-Whitney test and Kruskal-Wallis test were used to evaluate DMFT/dmft indexes, T-Student test and ANOVA test were used to analyse saliva flow rate, pH and buffer capacity. **RESULTS** Thirty-two paediatric cancer survivors and thirty-two healthy children were enrolled in this study. Childhood cancer survivors exhibited significantly lower stimulated whole saliva and pH compared to their healthy controls (both p 0.001), with a higher prevalence carious lesions in both deciduous (p = 0.002) and permanent teeth (p = 0.015). Stimulated whole saliva impairment was more pronounced in children treated with chemotherapy before five years of age (p 0.001), persisting even after five-nine years of disease remission. **CONCLUSIONS** The study reveals the lasting damage of chemotherapy to salivary glands, with a persistent decrease in salivary flow in paediatric cancer survivors up to nine years post-antineoplastic treatment, increasing the risk of caries and discomfort for the patient.

O 9.3 **The dental health and experiences of children with Congenital Heart Disease**

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AIM To explore the dental health experiences of children in Yorkshire with congenital heart disease, born subsequent to the implementation of the Paediatric Congenital Heart Disease Standards and Specifications (PCHDS) 2016. **METHODS** This two-part study looked at the

proportion of children appropriately referred for specialist paediatric dental screening at the age of two years within Yorkshire and the Humber. Semi-structured interviews were subsequently conducted using the theoretical domains framework to identify and describe current behaviours and barriers amongst cardiology consultants, nurses and paediatric dental specialists and consultants. **RESULTS** Only one patient of the 49 had been referred for dental screening as per the standards. Five core themes were identified during interviews. Clarification of standards was raised by the dentists, in particular relating to the follow up of the children once the screening was completed. In general, clinical priority was given to the referrals received from cardiology. Challenges associated with the current referral process included a lack of delegation amongst staff. Organisation barriers were predominantly based on the lack of specialist dentists in the region and the lack of nursing staff to do the referrals. The value of communication between cardiology and paediatric dentistry was also highlighted. **CONCLUSIONS** The standards are not well implemented at present, with low numbers being referred. Barriers need to be discussed within the region to help overcome them.

O 9.4 **Do intra-operative photographs under general anaesthetics on behaviourally challenging patients improve parental understanding?**

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AIM To see if intra-oral photographs during a general anaesthetic (GA) for behaviourally challenging patients improves understanding of the severity of decay and treatment completed. To use visual aspects of intra-operative photographs to increase parental motivation in engaging with preventive measures. **METHODS** Selection criteria included children who are not co-operative for examination of mouth/toothbrushing by parent (e.g severely autistic patients). Intra-operative photographs were taken using the ENT Endoscopy Stack System for children being treated under GA. Dental photographs were taken pre- and post-caries removal. The Stack System was used as it allowed for better access of the camera in a GA setting where mouth opening is limited and oral tubes are often in situ. The system prints photographs instantly which were given to parents at the operation de-brief. Questionnaires were completed by parents pre- and post-op to assess their understanding of their child's dental needs, including severity of dental disease, and treatment carried out. **RESULTS** This pilot study of 5 patients that found that 100% of parents had an increased understanding of the severity of their child's dental needs and treatment carried out following the explanation of the photographs. All parents found this a positive tool for motivation. **CONCLUSIONS** Taking intra-operative photographs in a GA setting has demonstrated increased parental understanding of the severity of their child's dental needs and the treatment carried out. To disseminate wider in our department so can be considered for all our behaviourally challenging patients to aid the continual process of consent and to help with review appointments.

O 9.5 **Fibrous dysplasia: A multi-disciplinary approach**

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INTRODUCTION Fibrous dysplasia (FD) is a progressive and incurable osseous condition, characterised by the replacement of medullary bone into fibrous tissue. It accounts for ~7% of benign bone tumours and can affect the craniofacial region, causing complications such as severe malocclusion. **CASE REPORT(S)** A 15 year old male was referred urgently to the Paediatric Dental department at the Royal London Dental Hospital (London, United Kingdom), for the presence of a large bony swelling from the upper right first premolar (UR4) to the upper right first permanent molar (UR6); the patient had previously been unaware of this swelling. Upon his first dental assessment in July 2023, clinical examination confirmed referral findings. An orthopantomogram highlighted diffuse, altered bony trabeculation of the right maxilla in this region, alongside remodelling of the overlying maxillary sinus floor. These features were suggestive of a provisional FD diagnosis, however, potential malignancy could not be excluded. An urgent referral to the Oral and Maxillofacial Surgery (OMFS) team was actioned, with computed tomography with contrast requested; the result confirmed the diagnosis of polyostotic fibrous dysplasia and potential McCune-Albright syndrome. **FOLLOW UP** From these findings, the patient has now been referred to Opthalmology and Endocrinology specialities for further investigations that may be linked to his new diagnosis. **CONCLUSIONS** This case highlights the role of early diagnosis of bony lesions such as FD, as well as the importance of multi-disciplinary management of these cases. FD can have implications for oral treatment, and thus a holistic approach for the patients' overall health is vital.

O 9.6 **Dental case report with long-term follow-up of a boy with X Linked Hypophosphatemia**

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INTRODUCTION X-linked hypophosphatemia (XLH) is a rare genetic disorder that affects the bone and teeth. Affected individuals present with limb deformities with macroscopic and microscopic changes in all phosphate-containing structures. Dental aspects with long-term follow-up of paediatric XLH patients have not been reported previously. **CASE REPORT(S)** An eight-year-old boy was referred to the 1Department of Paediatric Dentistry in Vienna with a history of multiple dental abscesses on apparently healthy and trauma-free teeth. The medical history revealed XLH, with both mother and maternal grandmother affected. An age-appropriate dentition, apparently free of caries and abscesses, with no other pathological changes was noted on the initial clinical intra-oral examination. Radiographs showed multiple caries, abscesses, an eruption cyst, and changes in the morphology of all teeth. The initial assessment indicated the need for combined paediatric dental and surgical care. Later, orthodontists and periodontist were also involved. A preventive program was initiated to ensure the good health of the

remaining teeth. After the extraction of all primary teeth with abscesses, space maintainers were constructed as an interim measure to maintain the alignment of the existing teeth. **FOLLOW UP** Over a follow-up period of seven years, good health has been maintained, although there have been some unexpected turns in the case evolution. The long-term plan is to continue the enhanced preventive program to avoid spontaneous abscesses in the permanent dentition. **CONCLUSIONS** Altered tooth and bone morphology leading to spontaneous tooth abscess and high tooth mobility are associated with XLH and require long-term multidisciplinary care.

O 9.7 **Dental implications of Papillon-Lefèvre syndrome: A case report**

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INTRODUCTION Papillon-Lefèvre syndrome (PLS) is a rare autosomal recessive condition, with characteristic features of severe early-onset periodontitis, and palmoplantar hyperkeratosis. Dental implications are severe, with premature tooth loss in both dentitions and increased susceptibility to periodontal infections. **CASE REPORT(S)** An 11-year-old boy attended the dental department in pain with delayed presentation of PLS, with family history of consanguineous marriage and an elder sibling with PLS. The patient was dentally anxious, with history of primary dentition clearance under General Anaesthesia, aged 4. Clinical examination revealed hyperkeratosis of palms and feet, generalised severe periodontitis, hyperplastic erythematous gingivae, grade 3 mobile first permanent molars (FPMs) and periodontal abscess around LR1. Radiographs showed advanced generalised horizontal bone loss, with marked vertical and furcation defects of FPMs. Comprehensive periodontal support, with pragmatic oral hygiene advice was planned. Quadrant scaling and FMP extractions were undertaken under inhalation sedation. Metronidazole was prescribed for LR1 abscess, and dermatology referral made. Limited understanding of PLS by the family was a treatment barrier, however cooperation has gradually improved. **FOLLOW UP** Due to PLS, ongoing periodontal support will be lifelong, with 3-monthly periodontal reviews, alongside dermatology management. **CONCLUSIONS** PLS is a distressing condition, causing catastrophic tooth and bone loss in adolescence if the disease progresses without periodontal interventions. This has psychological impacts on young patients and families, therefore family engagement to manage expectations regarding future tooth loss is essential. Regular periodontal care, and early specialist multidisciplinary management are vital to delay disease sequelae and support alveolar bone retention long term.

O 9.8 **Unravelling the genetic basis of Dentinogenesis Imperfecta**

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AIM The study aimed to review the correlation between genotype and phenotype in Dentinogenesis Imperfecta (DI) cases caused by genetic variants. Additionally, it aimed to use Whole Exome Sequencing (WES) techniques to explore the genetic basis of DI in four Australian familial pedigrees. **METHODS** The systematic review was registered on the PROSPERO database

(registration number CRD42023470897). The search strategies employed the terms 'dentinogenesis imperfecta' OR 'dentine/dentin dysplasia.' Clinical and radiographic examinations were conducted for participants. Blood samples were collected for DNA extraction, followed by WES and variant annotation. The mutational analysis involved the identification of variants in participants. **RESULTS** The systematic search identified 3,475 articles, with 135 suitable for full-text review and 41 that met the inclusion criteria. Mutations within dentine sialophosphoprotein (DSPP) were most frequently reported. Four studies identified mutations in collagen type I alpha 1 chain (COL1A1) and collagen type I alpha 2 chain (COL1A2) genes, revealing non-syndromic DI cases, predominantly in individuals of Asian descent. Pathogenic variants were identified in two families, located within the apolipoprotein B mRNA-editing enzyme catalytic polypeptide (APOBEC3H) and 5-methyltetrahydrofolate-homocysteine methyltransferase reductase (MTRR) genes on chromosomes 5 and 22. These pathogenic variants are linked to an increased risk of hepatocellular carcinoma, gastric cancer, and lung cancer. **CONCLUSIONS** Mutations in DSPP, COL1A1, and COL1A2 genes have been identified and are associated with non-syndromic DI. Mutations in APOBEC3H and MTRR genes were detected within two Australian families affected by non-syndromic DI. These genes, known for their role in cancer development, were not previously associated with DI.

Session O10

O 10.1 **Comparison effectiveness of digital versus conventional impression techniques in children**

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AIM The aim of this study is to compare conventional and digital impression techniques in paediatric patients with different aspects such as comfort, preference, anxiety level, efficiency and time in paediatric patients. **METHODS** Digital impressions and conventional impressions were taken from 40 patients aged 6–10 years by the same operator. In the first session, conventional impression procedure was applied to the patients. In the second session, the digital impression procedure was applied and the efficiencies of two different impression techniques were compared. In the study, modified Wong Baker, FLACC scale, pulse oximetry, stopwatch and 8-question questionnaire were used to compare these two impression techniques. **RESULTS** FLACC scale scores and processing time were found significantly lower in digital impression group than conventional impression group (p0.01, p0.01). Wong-Baker scale scores after the impression procedure were found significantly lower in the digital impression group than in the conventional impression group (p0.01). **CONCLUSIONS** It was concluded that the digital

impression method was more comfortable and preferable by children compared to the conventional impression method, and there was a significant difference in terms of processing time.

O 10.2 **Association between dental anxiety, parents' dental anxiety, dental caries and periodontal status in children**

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AIM The aim of this study was to evaluate the relationship between dental anxiety, dental caries, periodontal health, and parental dental anxiety of in children aged 6-12 years. **METHODS** A total of 171 children and their accompanying parents/guardians participated in this study. Children had an oral examination utilizing decayed, missing, and filled teeth (DMFT) Index as well as Plaque Index (P) and Gingival Index (GI). After the oral examination, children completed the dental anxiety questionnaire Children's Fear Survey Schedule- Dental Subscale (CFSS-DS). Parents completed a socioeconomic questionnaire and modified dental anxiety scale (mdas). Multiple logistic regression analysis was conducted to identify the factors influencing dental anxiety in children. **RESULTS** The mean CFSS-DS score was 26.8 ± 8.4 points. Thirty children exhibited dental anxiety and the top 3 items with highest CFSS-DS scores were fear of needles, drilling, and dentists. When participants divided into Dental Anxiety group (DA) and non-Dental Anxiety group (non-DA), significant differences were observed in DMFT (P=0.0034), PI (0.012), GI (P=0.0001), and gingivitis rate (P=0.04). Parental dental anxiety did not differ between groups (P=0.27). According to the logistic regression analysis, dmft (OR=0.897; 95% CI=0.81-0.98) were found to be most influential factors in dental anxiety in children. **CONCLUSIONS** These findings underscore the importance of addressing dental anxiety early in childhood to promote oral health. Future research should explore additional factors contributing to dental anxiety and interventions to alleviate it in paediatric populations.

O 10.3 **Little Nirvana, a multi-sensory distraction tool to support paediatric patients**

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AIM Development of innovative digital tool (serious gaming device) designed to prevent and reduce procedural anxiety in paediatric patients undergoing dental procedures. **METHODS** Little Nirvana (https://littlenirvana.eu/) was originally developed for vaccination and blood sampling procedures and has been successfully tested in 250 patients. A significant reduction in level of procedural pain and distress (measured using FLACC scale - Face, Legs, Activity, Cry, Consolability) and high satisfaction of patients/caregivers (based on self-reported questionnaires) were observed. This report describes the development of a novel dental application for Little Nirvana. The project is led by a multidisciplinary team from the University of Leuven, consisting of

researchers and clinicians (neuropsychologist, clinical research nurse and 2 dentists), collaborating with software developers (RISE), Achilles Design (controller development) and Animation studio Aardman (overall creative design). Through regular meetings and intermediate clinical testing, a prototype multi-sensory tool was developed, now ready to be tested in paediatric dental patients. Little Nirvana Dental relies on multiple evidence-based principles. Using augmented reality (AR), a higher level of immersion is achieved than with traditional audio-visual distraction. **RESULTS** By means of AR glasses and a belly breathing-detecting controller, children engage in an interactive experience. Children (target group 6-12 years) discover a magical forest with a digital bird-buddy, named Milo. A simple dashboard allows the practitioner to guide the Little Nirvana experience according to the child's status/phases of the procedure. **CONCLUSIONS** A multisensory gaming experience was developed to distract paediatric patients during dental treatment, ready to be tested in a clinical setting.

O 10.4 **Relationship between eating disorders and dental anxiety: an experimental study**

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AIM Alimentary orality disorders are characterised by an excessive reactivity of the gustatory and olfactory organs, which can lead to reactions ranging from simple disgust for certain foods to severe food aversion. These disorders have consequences on maxillary growth, oral hygiene, and dental health. The aim of this study is to explore the relationship between alimentary orality disorders and dental anxiety. **METHODS** In the scope of this research, 30 participants were recruited from the Speech Therapy ENT Department of HUDERF. Among these participants, 14 presented alimentary orality disorders while 16 did not. Dental anxiety assessment was conducted using the Corah Self-Assessment Scale and the Frankl Hetero-Assessment Scale. Data were collected prior to a speech therapy consultation and analysed using Fisher's exact test (Rcmdr software). **RESULTS** Although the expressed dental anxiety and the presence of alimentary orality disorders did not demonstrate a significant difference between both group in the statistical analysis ($p=0.083$), a significant relationship between the presence of alimentary orality disorders and the observed dental anxiety was highlighted ($p=0.002$). **CONCLUSIONS** This study suggests the initial hypothesis that patients suffering from alimentary orality disorders are more likely to experience dental anxiety than those who do not. These results underscore the importance of considering psychological aspects in the management of alimentary orality disorders, particularly by integrating behaviour management techniques aimed at reducing dental anxiety in these patients.

O 10.5 **Evaluation of behaviour change training for Paediatric Doctoral students**

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Paediatric Dentistry Department, University of Leeds, United Kingdom

AIM To evaluate the impact of behaviour change conversation training among postgraduate paediatric dentistry students at the University of Leeds. **METHODS** Students were invited to participate. Following consent, they undertook a baseline simulated behaviour change conversation with a parent of a young child. Randomly the conversation topic was focused on either toothbrushing or diet with an actor playing the role of the parent. Students then attended a full day course on behaviour change. Following this, the students undertook a second conversation on the alternate topic. Conversations were video-recorded and assessed using the Behaviour Change Counselling Index (BECCI) and the Gap-Kalamazoo Communication Skills Assessment Form (GKCSAF), supplemented by the actor's evaluations (questionnaire). Re-evaluations were conducted after three weeks to examine reproducibility. Statistical analyses and Intraclass Correlation Coefficient (ICC) were performed using SPSS29. **RESULTS** Sixteen students participated, including 10 females and 6 males, with an average age of 29.8 years and 5.3 years of dental experience. BECCI scores significantly increased from baseline, mean of 0.54 (SD 0.27), to 1.30 (SD 0.58) post-training. Similarly, GKCSAF scores increased from 2.42 (SD 0.80) to 3.64 (SD 0.95). Actor evaluations also improved from a mean of 3.23 (SD 0.76) to 4.25 (SD 0.76) post-training. ICC results indicated excellent intra-rater reliability for BECCI (0.997) and KGCSAF (0.986). **CONCLUSIONS** Behaviour change conversations are a key skill for paediatric dentists. The training significantly enhanced the quality of behaviour change conversations and communication skills. This study supports the inclusion of this training module within a paediatric doctoral student training programme.

O 10.6 **Participants' views and experiences of genetic testing in Amelogenesis Imperfecta**

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University of Leeds, United Kingdom

AIM The NHS has recently introduced NHS-targeted gene panel test for the diagnosis of Amelogenesis Imperfecta (AI). This project aims to investigate participants' experiences and thoughts on AI gene test. **METHODS** Zoom call of semi-structured interviews for 14 participants were conducted. Participants were parents who agreed to or declined a gene test for their child. Interviews professionally transcribed, verbatim and transcriptions were analysed using reflexive thematic analysis. **RESULTS** A wide range of views noted reflected parents' insight and experience to genetic testing. Three themes captured the acceptability of the intervention to parents: "Amelogenesis Imperfecta not currently viewed as a "serious condition", "Parents did not feel "listened to" or taken seriously by their dentist", "AI diagnosis can help increase knowledge and awareness for families and their generations". Parents who declined the gene test were concerned about not adding an extra burden on their child by exposing them to a blood test. Parents mostly sought AI gene test for answers and an explanation to their child's teeth

condition after facing challenges at their family dentist. **CONCLUSIONS** Understanding how parents view genetic testing in confirming a dental diagnosis is essential to genomic research applications in dentistry. The study outcomes provides valuable contributions to genomics application and implementation. Further research is needed to evaluate the impact of genetic results on the parents and their child.

Oral Posters with Discussion Session (OPD)

Session OPD1

OPD 1.1 **Teachers´ perspective and behaviour related to oral health education in schools**

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AIM Oral health education among children is the responsibility of the family, but also of the teaching staff who after properly training become an important source of information for the schoolchildren. **METHODS** The study population is represented by 100 gymnasium teachers, with a mean of 19 years of experience in education, from the urban environment in Romania. The method used was the sociological survey based on a questionnaire recommended by the World Health Organisation and the data was analysed through a descriptive statistical method. **RESULTS** 81% of the teachers agree they should teach their schoolchildren the causes of caries and gingivitis, 18% are undecided and only 1 teacher disagree. All the teachers considered that they should teach about healthy eating and 95% also about oral hygiene. 70% discussed in classes about nutrition, sugar consumption (58%) and toothbrushing (18%). All teaching staff agreed about the usefulness of an oral health education course support. Regarding the education method, lessons in group taught by teachers accounted for 41%, 22% considered dentists should teach, 17% preferred the dental students supervised by teaching staff, and 12% selected the interpersonal method. 32% of the teachers considered children's family should be involved in the oral health education process and an equal percentage looked for national public health programs. **CONCLUSIONS** In order to be successful, oral health education must actively involve schoolchildren as beneficiaries as well as members of the community they belong such as their teachers.

OPD 1.2 **Management of black stain in a 10-year-old patient with Thrombocytopaenic Purpura: A case report**

Tabutova KD*, Shindova MP, Belcheva AB, Mileva SP
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INTRODUCTION Thrombocytopaenic purpura is a haemorrhagic disorder characterized by reduction on the number of circulating platelets associated with petechial haemorrhages or spontaneous bleeding. Black stain is an external discoloration along the gingival margin on the buccal or lingual dental surface, made of ferric sulphide, formed by the reaction between hydrogen sulphide produced by bacterial action and iron in saliva or gingival exudate. A growing body of literature suggests that there is association between the Black stain formation and iron in saliva which comes out from the spontaneous bleeding. **CASE REPORT(S)** A 10-year-old male patient was referred to the Department of Paediatric dentistry, Plovdiv, from Department of Haematology for a dental check-up and professional oral hygiene due to aesthetic complaints regarding his frontal teeth. The patient who presented to the clinic with a history of thrombocytopenia reported regular dental visits for Black stain removal every 2 months. The intraoral examination again showed black pigmentary deposition on lower frontal dental surfaces with Koch's index 3. The management consisted of the professional oral hygiene session using dry polishing with diamond-impregnated rubbers and probiotic "BioGaia Prodentis" lozenges for 1 month. **FOLLOW UP** Follow-up on the 3rd, 6th and 12th month demonstrated significant reduction in the reappearance of Black stain. **CONCLUSIONS** The aetiology of Black stain is unknown. Considering the systemic disease and collected diagnostic information, the present case identified the excessive gingival bleeding due to haemorrhagic disorder combined with specific oral microflora a risk factor for Black stain formation. Complex approach is important factor for successful management.

OPD 1.3 **Children with ADHD in Dental Care – Clinical Experiences of Swedish Dentists**

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AIM To analyse Swedish dentists' clinical experiences concerning caries, tell-show-do strategies, fillings, and extraction therapies for children with ADHD. **METHODS** 181 out of 568 dentists at the Public Dental Service in Region Västra Götaland, Sweden, responded to a digital questionnaire consisting of multiple-choice questions. The data collected pertained to dental caries, tell-show-do strategies, filling, and extraction therapies for children aged 7-13 and 14-19 years, both with and without ADHD. Additionally, the dentists assessed their knowledge of ADHD in relation to dental treatment. The study included descriptive and inferential statistical analysis. **RESULTS** 49% of the dentists perceived caries as more prevalent in children with ADHD. 41% reported difficulties during filling and extraction therapy in half or more of the 7-13-year-olds with ADHD, compared to 26% for examinations (p0.001). For children 14-19 years, the corresponding values were 30% versus 22% (p0.001). The tell-show-do strategies were utilized

by 77% versus 55% of the dentists in filling and extraction therapies for the 7-13-year-olds and 14-19-year-olds, respectively. Furthermore, 35% of dentists expressed inadequate knowledge during treatment sessions for children with ADHD. **CONCLUSIONS** Swedish dentists assessed caries as more prevalent in children with ADHD. Tell-show-do strategies were used to a great extent for this group. Operative dental treatments (fillings/extractions) were occasionally challenging, with dentists expressing insufficient knowledge regarding ADHD in several cases associated to dental treatment.

OPD 1.4 **Effects of dental sound insulation system on stress reduction and dental fear in children**

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AIM The purpose of this study is to demonstrate the effectiveness of a dental sound insulation application based on active noise cancelling (ANC) technology when used together with children's dental treatment. **METHODS** In total, 60 patients (aged 7-16 years) without hearing problems requiring dental plaque control were randomly recruited. Plaque control was performed using an ultrasonic scaler. In one arch, a dental sound insulation application was used and in the other arch, was not used. The order of the sound insulation was randomized. During and after treatment, the stress index of the patients was measured. They were asked to fill out a questionnaire about dental fear, communication between dentist-patient, and the convenience of dental treatment on a visual analysis scale. Changes in stress index were analysed through repeated-measures analysis of variance. A paired sample t-test was used to analyse differences in dental fear, communication, and convenience depending on presence or absence of ANC. Pearson's correlation analysis was performed to determine variables that are correlated with the effectiveness of ANC. **RESULTS** There was a significant difference in the stress index (p0.001) and dental fear (p0.001) according to the presence or absence of dental sound insulation system. But there was no difference in dentist-patient communication (p=0.522), and convenience of dental treatment (p=0.161). Patients with high stress index and fear score have a good stress reduction effect (p0.001). **CONCLUSIONS** Therefore, using a dental sound insulation system during dental treatment can reduce children's stress and dental fear, and do not interfere with dentist-patient communication.

OPD 1.5 **Sensors–tools for detecting young patient's stress during a dental invasive versus a non-invasive dental treatment. A pilot study.**

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AIM A tool to help the dental staff react to children's stress signs to prevent dental fear development, is needed. The aim was to evaluate the commercially available, CE marked,

Shimmer3 GSR+ unit's ability to indicate for stress as a reaction of fear or pain, comparing a non-invasive dental treatment (NI) with an invasive dental treatment (I). **METHODS** Patients 14-16 years old were invited to undergo an oral checkup (NI) or an orthodontic premolar extraction (I), respectively. Digital data, measured via electrodes, and by optical pulse probe, placed on the wrist and fingers, monitored by the Shimmer3 GSR+unit was transferred via Bluetooth to the HP-laptop. The observed digital parameters were: Heart rate based on Photoplethysmography (PPG), Galvanic Skin Response (GSR), and 3-axis gyroscope and accelerometer signals for hand movements. Protocols for self-report scales were used: Coloured Analogue Scale for pain intensity, Facial Analogue Scale for the mood, and a Dental Fear Scale. Descriptive statistics were performed. **RESULTS** The NI group: 20 patients, (14.6±0.5yrs) underwent 20 oral check-ups. The I-group: 14 patients, (15.3±0.5yrs), underwent 28 premolar extractions. All patients tolerated the Shimmer3 GSR+unit well. The GSR raised significantly, at start and during the oral injection, in the I-group. The GSR amplitudes persisted throughout and post the dental injection. No general uniform pattern or high GSR amplitudes were produced regarding NI-group. **CONCLUSIONS** The commercially available CE marked, Shimmer3 GSR+ unit showed to adequately indicate for patient stress reaction, as triggered by the invasive dental injection procedure. In contrast the non-invasive procedure reproduced general low GSR responses.

OPD 1.6 **Association between "Anxiety Scale for Children with Autism Spectrum Disorder" and behaviour during dental visits.**

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Department of Paediatric Dentistry, Academic Centre for Dentistry Amsterdam (ACTA), Amsterdam, Netherlands, Netherlands

AIM To investigate the association between the Anxiety Scale for Children with Autism Spectrum Disorder (ASC-ASD) and the behaviour of children during dental visits. **METHODS** Children (8-18 years) with ASD from one center for the treatment of patients with special needs were invited to participate. Questionnaires were filled in by children (CFSS-DS and ASC-ASD) and parents (demographic data, CFSS-DS, ASC-ASD and SCQ) before the dental visit. Immediately after the dental visit, the dentist filled in the Frankl Behaviour Rating scale. Logistic regression analysis was used for associations between child's behaviour with the questionnaires. Pearson's correlation was used to test the correlations between the questionnaires (p0.05). **RESULTS** A total of 41 children were included in this investigation. Higher scores of the ASC-ASD parent version and the CFSS-DS child version were associated with positive behaviour during dental visits (p=0.023 and p=0.007). SCQ scores were not significantly correlated with the CFSS-DS child version (r=-0.187; p=0.298; N=33), CFSS-DS parent version (r=0.094; p=0.591; N=35), ASC-ASD child version (r=-0.028; p=0.883; N=31) and ASC-ASD parent version (r=-0.063; p=0.718; N=35). The CFSS-DS, the ASC-ASD and the informants (child and parent versions) presented positive medium to strong correlation with each other (r=0.359 to 0.778). **CONCLUSIONS** Higher scores of the ASC-ASD

parent version and the CFSS-DS child version were associated with positive behaviour during dental visits

OPD 1.7 **Avulsion of tooth 12**

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INTRODUCTION A 15-year-old boy came to our clinic with a tooth hanging out of his mouth attached to an orthodontic bracket and wire. We recognized avulsion of tooth 12. As this was a dental emergency, we acted immediately. **CASE REPORT(S)** The boy was involved in a fight after a basketball game. He was hit in the mouth area. Clinically, tooth 12 was found to be knocked out, but due to the fixed orthodontic appliance, it was hanging on a loose wire outside his mouth. He immediately went to the emergency center where he was referred to our clinic. The extra oral dry time was approximately 20-30 minutes. Tooth 12 was reimplanted under local anaesthesia and fixed with the existing orthodontic wire. The crowbar on tooth 11 had come loose, so we reattached it. We prescribed antibiotic therapy and gave the boy appropriate instructions. After ten days, we started the endodontic treatment of tooth 12 and completed it 4 weeks after the injury. At the same time, we also removed the orthodontic wire. **FOLLOW UP** We performed clinical and radiographic follow-up examinations six months, one year and two years after completion of endodontic treatment. The boy has no problems and continues the orthodontic treatment. **CONCLUSIONS** In the case of tooth avulsion, it is extremely important to act as quickly as possible. In our case, the extraoral dry time was less than one hour, which significantly improved the prognosis of the tooth. The use of orthodontic wire as a fixator has proven to be very practical.

OPD 1.8 **Fragment reattachment as a treatment method for crown fractured teeth; population of patients and characteristics of treated teeth**

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AIM The aim of this retrospective study was to identify the population of patients treated with fragment reattachment (FR) after a crown fracture and evaluate certain characteristics of treated teeth. **METHODS** By reviewing the records of patients referred for treatment of traumatic dental injuries to the Department of Paediatric and Preventive Dentistry, University Medical Centre Ljubljana, Slovenia between 1999 and 2023, data on patients sustaining a crown fracture who were treated with FR were collected. Descriptive data analysis was performed. **RESULTS** The study population consisted of 137 patients (91 males, 46 females; mean age of 10.1 ± 2.3 years; range 6-18 years) with a total of 167 teeth treated with FR. Of these, there were 76 (45.5%) cases of uncomplicated crown fractures and 91 (54.5%) cases of complicated crown fractures. In 99 (59.3%) affected teeth there was a concomitant luxation injury. Upper central incisors were by

far the most frequently treated teeth with FR (N=161, 96.4%), followed by upper lateral incisors (N=4, 2.4%) and lower central incisors (N=2, 1.2%).

The number of patients treated with FR has increased over the years. Dividing the study period into parts, there were 13 such patients in 1999-2005, 16 in 2006-2011, 45 in 2012-2017 and 63 in 2018-2023. **CONCLUSIONS** FR has become a viable option for the treatment of crown fractures with or without pulp exposure and/or concomitant luxation injury, especially when upper central incisors are affected, reflecting increasing patient and dentist awareness of the IADT guidelines.

OPD 1.9 **Crown fracture of unerupted permanent incisor. A rare case report with 5 years follow up**

Kotsanos I*, Arhakis A, Kotsanos N
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INTRODUCTION A 6.5 year old boy presented with an infraoccluded left maxillary primary incisor (#61) after trauma with a physical exercise instrument. **CASE REPORT(S)** His mouth was towards a class III molar occlusal relationship with primary canines at crossbite. Patient was radiographed and monitored regularly. After 12 months the right central incisor erupted but there was no sign of eruption of the left one (#21) and the alveolar ridge appeared enlarged palatally. The periapical radiograph showed fractured incisal area of the unerupted incisor and possible root formation arrest. A CBCT clarified that several fragments lied in the palatal gingivae and monitoring went on. The #21 erupted 6 months later at age 8 years; the fragments were surgical debrided, and the crown was built with composite. After another 6 months, suppuration appeared labially at mid-root level. The follow up for the next 2.5 years showed near self-healing of this inflammation and the tooth is monitored being currently asymptomatic. Its prognosis remains dubious. There have not been any reported cases of indirect crown fracture of an unerupted permanent incisor. After another 6 months, suppuration appeared labially at mid-root level. **FOLLOW UP** The follow up for the next 2.5 years showed near self-healing of this inflammation and the tooth is monitored being currently asymptomatic. **CONCLUSIONS** Its prognosis remains dubious. There have not been any reported cases of indirect crown fracture of an unerupted permanent incisor.

OPD 1.10 **The treatment of complicated crown fracture and complicated crown-root fracture on first upper permanent incisors: Case report**

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Health Centre Brezice, Slovenia

INTRODUCTION An 11-year-old boy was hit in his face by an anchor ski lift while on skiing trip with school. The tooth fragments were not found in the snow. They sought first aid at local dental office and came to our office the next day. **CASE REPORT(S)** A panoramic and local radiograph revealed no bone injury and extensive crown fracture with pulp exposure on teeth 21 and 11. The apexes were fully developed. Clinical exam revealed laceration and abrasion of the lower lip, complicated crown fracture with mesial pulp exposure on tooth 11, almost horizontal crown-root

fracture on tooth 21. Colour of teeth was not changed, percussion on 11, 21 was sensitive, vitality test was positive. We did a vital pulpotomy on both teeth 11, 21 under local anaesthesia, a composite crown build up on tooth 11 and composite temporary restoration and temporary Maryland- like composite bridge on tooth 21, since orthodontic extrusion was planned. Four months after injury endo treatment on tooth 41 was performed due to necrosis of the pulp. Ten months after injury abscess on tooth 21 occurred. We treated the tooth 21 endodontically and did surgical extrusion 6 months later. Three months after extrusion a composite crown was made on tooth 21. **FOLLOW UP** Regular follow ups with clinical and radiograph examinations were taken. **CONCLUSIONS** A possible solution in crown root fracture extending to incisal third of the root is extrusion and crown build up. Regular clinical and radiograph examinations are needed, since neighbouring teeth may have complications due to the accident.

OPD 1.11 Knowledge of traumatic dental injuries and management among parents in Saudi Arabia

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Armed Forces Hospital, Saudi Arabia

AIM To assess the knowledge of traumatic dental injuries (TDI) and their management among parents of children attending selected dental centers in Jeddah city، Saudi Arabia, and to determine the characteristics of parents as related to their knowledge on TDI. **METHODS** A cross-sectional study was conducted among 432 parents recruited from two major dental centers in Jeddah. A self-administered questionnaire about TDI related knowledge, attitude and self-evaluation was used. A two-step cluster analysis was used to categorize the studied sample based on their characteristics. **RESULTS** The knowledge regarding TDI was generally low. The two-step cluster analysis revealed that cluster # 1 with no first aid training and low educational background had the lowest percentage of correct answers to questions related to management of avulsed teeth compared to those with first aid training and/or higher educational backgrounds (p0.05). The same cluster also included individuals with lowest self-perceived knowledge related to TDI and the least interest to learn about management of TDI in the future (p0.05). **CONCLUSIONS** Within the study limits, there was a lack of knowledge of traumatic dental injuries (TDI) and their management among parents of children attending the two selected dental centers. Clusters including parents with no first aid training and lower levels of education demonstrated lower TDI-related knowledge. oral health promotion campaigns and dental educational programs is needed to raise awareness and educate public regarding management of dental trauma.

OPD 1.12 Canine red alert: Avulsion of a permanent canine and management of a complex multi-tooth trauma

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INTRODUCTION Avulsion of the permanent canine is rare due to their position, density, and high root-crown ratio. Non-accidental injury must be dealt with sensitively and effectively by the

paediatric dentist. **CASE REPORT(S)** A medically fit 11-year-old girl was assaulted with a brick by a fellow student. She attended an Emergency Department and was cleared of other injuries. She attended the Paediatric Dental Department with the UR3 reimplanted and splinted. Trauma diagnoses included: UR3 avulsion (extra-alveolar time 180 minutes), UR2 subluxation, UR1 avulsed and lost, UL1 uncomplicated enamel-dentine fracture, and LR1 complicated enamel-dentine fracture. A clinical and radiographic assessment also revealed UL6 enamel caries, UR6 dentinal caries, LL6 caries to pulp with chronic periapical periodontitis, and generalised biofilm-induced gingivitis. Initial management included UR3 extirpation, splint removal, composite build-up UL1, partial-pulpotomy and composite build-up LR1, and a partial denture replacing the UR1. The UR2, UL1 and LR1 lost vitality over a 12-month period. These teeth were endodontically treated using a combination of bioceramic and thermoplastic GP obturation techniques. Despite oral hygiene advice, the UR6 and LL6 deteriorated and were extracted under local anaesthetic. **FOLLOW UP** After 2 years of follow-up as per IADT guidance, the patient is now dentally stable. A multi-disciplinary team assessment is planned to explore long-term treatment options. Police investigations are ongoing, and the patient is receiving counselling. **CONCLUSIONS** Avulsion of the permanent canine is rare and tends to signify significant impact of injury. Dental trauma because of violence has a major emotional and physical impact for the child.

OPD 1.13 **Spontaneous eruption of an intrusively luxated permanent incisor following orthodontic expansion: A case report.**

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INTRODUCTION The International Association of Dental Traumatology (IADT) guidelines recommend allowing for spontaneous re-eruption of intrusively luxated immature permanent teeth. However, the success of this approach can be complicated by a lack of spacing for the tooth to re-erupt into. **CASE REPORT(S)** A 7 year old boy was seen in the Princess Margaret Hospital Emergency Department following a fall from his bicycle 15 minutes prior. Clinical oral examination revealed that tooth 21 was avulsed and reimplanted by the hospital medical team, and tooth 11 was 100% intrusively luxated. Orthodontically, maxillary and mandibular crowding and maxillary transverse arch deficiency was present. Tooth 21 was repositioned, splinted, and extirpated according to IADT guidelines. Tooth 11 was determined to have an immature root and spontaneous re-eruption was attempted. **FOLLOW UP** Tooth 11 began to spontaneously re-erupt, however by four weeks it had stopped re-erupting and demonstrated a metallic sound on percussion consistent with ankylosis. The child's orthodontist completed maxillary expansion using a fixed rapid maxillary expander (RME) to create sufficient anterior space to allow for prosthetic replacement of tooth 11 following its decoronation. However, on review following the expansion, tooth 11 had re-commenced re-eruption and grew completely into the oral cavity. **CONCLUSIONS** When considering the management of intrusive luxation injuries in immature

permanent teeth, it is essential to evaluate whether sufficient space exists for the intruded tooth to spontaneously re-erupt into.

OPD 1.14 **Complexities in the management of sub-gingival crown fractures- illustrated through cases**

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INTRODUCTION Crown fractures following traumatic dental injury(TDI) are often a challenge for dentists. Efforts must be taken to avoid tooth loss and to restore form, function, and aesthetics, paying particular attention to the gingival attachment apparatus. The severity and extent of fracture sub-gingivally is an important variable in adequate isolation and treatment planning. Management often involves a multi-disciplinary approach with options for margin exposure including rigorous oral hygiene, gingival retraction, periodontal surgery, or orthodontic extrusion. Material selection for restorative rehabilitation should be considered to ensure gingival health, maintenance of long attachment, marginal integrity and colour stability of the restoration. **CASE REPORT(S)** These cases will highlight the various treatment decisions and techniques leading to successful restoration of form, function and aesthetics. Case 1: 8-year-old boy presenting with crown-root fracture on previously traumatised tooth treated with decoronation and prosthetic replacement using unique design for a growing child. Case 2: 10-year-old boy presenting with combined injury, uncomplicated crown fracture and severe intrusion, requiring interim treatment for orthodontic extrusion, root canal treatment and restorative rehabilitation. Case 3: 12-year-old boy presenting with uncomplicated crown root fracture and subsequent pulpal necrosis, managed with root canal treatment, gingival retraction, and sandwich restorative technique. **FOLLOW UP** All cases were successfully reviewed according to international dental traumatology guidelines. **CONCLUSIONS** The keys to success for teeth with sub-gingival crown fractures are accurate assessment, appropriate treatment, and reassurance and motivation of the patient throughout the course of treatment. This report highlights the various techniques available for management and provides clinical tips for all dentists managing these TDIs.

OPD 1.15 **Clinical management of avulsed permanent incisors with open apex under general anaesthesia: A case report**

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INTRODUCTION Tooth avulsion is the complete displacement of a tooth from its socket due to accidental or non-accidental injury. Avulsion of permanent teeth is observed in 0.5%–16% of all dental injuries. This case report presents the management and follow-up of a case involving avulsed permanent incisors with an open apex. **CASE REPORT(S)** A seven-year-old boy was referred to the Department of Paediatric Dentistry at Yeditepe University, Faculty of Dentistry, approximately 24 hours after a bicycle accident. Initial treatment had been provided at a private

clinic, where the upper left central incisor was avulsed during periapical radiography and immediately replanted. However, the treatment remained incomplete due to the patient's uncooperative behaviour. Upon extraoral and intraoral examination, laceration of the upper lip and malpositioning of the upper permanent incisors were observed, with mobility grade 2. Malpositioning of the upper central incisors was confirmed through periapical radiography. Since the patient continued to be uncooperative, the upper central incisors were repositioned with finger pressure under general anaesthesia. The upper central incisors were stabilized for two weeks using a semi-rigid Ni-Ti splint. After this duration, the splint was removed, and the upper permanent incisors were mobile grade 1. **FOLLOW UP** Radiographic and clinical follow-ups conducted at 2 weeks, 4 weeks, and 3 months showed continued root formation and asymptomatic, normal function, and normal mobility. **CONCLUSIONS** It is crucial to replant avulsed permanent teeth with open apex as soon as possible to preserve normal function and facilitate continued root formation.

Session OPD2

OPD 2.1 **Evaluation of the effects of untreated caries on daily performance in 11-12-year-old children**

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AIM This study aimed to evaluate the effect of untreated dental caries on daily performance (C-OIDP) in children. **METHODS** International Caries Detection and Assessment System (ICDAS) scores, PUFA index scores of children were recorded, height and weight were measured, and body mass index (BMI) was calculated (weight/height2) in 145 children aged 11-12 years applied to Marmara University Paediatric Dentistry Clinic. Children were allocated according to ICDAS scores as no caries (ICDAS=0), initial lesion (ICDAS=1,2), moderate lesion (ICDAS=3,4), and extensive lesion (ICDAS=5,6). They were also divided into three groups as BMINormal (BMI≤18.5), BMI=Normal (18.5BMI≤24.9), and BMINormal (BMI24.9). Data analysis was performed with the SPSS V.26.0 software and the significance level was accepted as p0.05. The Chi-square test and Pearson correlation were used for analysis. **RESULTS** The children 56.5% (n=82) were girls and 43.5% (n=63) were boys in the study. Gender (p=0.853) and ICDAS groups (p=0.105) didn't cause a statistically significant difference in BMI, while age (p=0.014) and caries status (p=0.024) caused a statistically significant difference. No correlation was observed between children's caries status and total and sub C-OIDP scores (p0.05) except for contact with people (p=0.048). While no correlation was observed between ICDAS scores and total C-OIDP (p=0.443), a statistically significant correlation was observed in all sub-scores (p0.05). **CONCLUSIONS** In conclusion, children's caries status affected their BMI, but not their daily performance. However, ICDAS status didn't affect their BMI but affected almost all of their daily performance.

OPD 2.2 **Risk of severe early childhood caries over time in low-income preschoolers**

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AIM Early childhood caries (ECC), and the progression to severe ECC (SECC), is a serious oral health issue, leading to acute pain, sepsis, tooth loss, and compromised quality of life. However, longitudinal studies of low-income households providing stronger evidence of causality are lacking. We aimed to conduct a retrospective cohort study from a large-scale survey conducted from 2014 to 2019 to investigate the impact of low-income households on SECC in preschoolers aged 3 to 5 years in Taipei. **METHODS** Of the 895 participants, 179 were from low-income households. Parents completed a self-administered questionnaire, providing data on demographics, sugary beverage/snack intake, and caries-preventive behaviour. The evaluation of SECC utilized the decayed, missing, and filled teeth (dmft) index. **RESULTS** We revealed a significantly higher SECC risk (aOR 1.99; 95% confidence interval [CI] 1.25–3.17) in children from low-income households. Children who consumed sugary beverages showed elevated risks for SECC (aOR 1.66; 95% CI 1.20–2.31 for 1–3 times per week and aOR 1.89; 95% CI 1.13–3.17). Protective factors included children with mothers with college education (aOR 0.50; 95% CI 0.32–0.79) and positive maternal oral health self-rating (aOR 0.59; 95% CI 0.37–0.96). Children from low-income households have a significant risk of SECC compared with children from middle- and upper-income households. Children with lower maternal education, poor maternal self-rated oral health, and a higher frequency of sugar-sweetened beverage consumption are at risk of SECC. **CONCLUSIONS** Policymakers should develop health measures to reduce SECC in children from low-income households whose mothers have lower educational levels and poor oral health.

OPD 2.3 **Prevalence and severity of molar incisor hypomineralisation (MIH) among 8-10-year-old German schoolchildren from northern Bavaria**

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AIM To assess the prevalence and the severity of MIH among 8-10-year-old schoolchildren in northern Bavaria (Germany). **METHODS** During the period from March to July 2023, this cross-sectional study involved the examination of healthy 8-10-year-old schoolchildren from 46 randomly selected schools, all with written parental consent. Two calibrated dentists conducted dental examinations under standardized conditions and assessed MIH based on the criteria established by the European Academy of Paediatric Dentistry (EAPD). Documentation, initially paper-based, was later digitized and statistically analysed (SPSS Statistics version 29.0 (IBM, Armonk, NY, USA)). **RESULTS** The dental examinations involved 2,574 children, aged 9.8±0.7 years on average, including 50.1% boys and 49.9% girls. The prevalence of MIH was 17.1%, with 10.0% of children experiencing severe MIH. The average number of MIH-affected teeth was 0.6±1.5, with demarcated opacities being the most observed (0.4±1.1). No significant differences

regarding the MIH-prevalence were found based on geography or gender (p0.05). The prevalence of hypomineralised second primary molars (HSPM) was 7.0%. The presence of HSPM correlated with the occurrence of MIH-affected teeth (χ2 test; OR: 12.0, 95% CI [0.003, 0.074], p0.001). **CONCLUSIONS** The dental health of German schoolchildren appears to be impacted by MIH. The observed prevalence of MIH among 8-10-year-old schoolchildren in northern Bavaria aligns with figures reported in other national and international cohorts. Comparing the average number of hypomineralised teeth with that of carious teeth, MIH surpasses the caries impact, urging targeted preventive measures and nuanced care strategies. This study received funding by the Bavarian State Ministry of Health, Care and Prevention (Initiative Gesund.Leben.Bayern).

OPD 2.4 **Prevalence of dental caries among 8-10-year-old schoolchildren in southern Germany - a cross-sectional study**

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AIM This study aimed to assess the prevalence of dental caries among 8-10-year-old schoolchildren in northern Bavaria, a region located in southern Germany. **METHODS** In this cross-sectional study, healthy 8-10-year-old children were examined by two previously calibrated dentists in a school setting from March 2023 to July 2023. For standardization purposes, dried teeth were examined using a dental mirror and a blunt probe. Dental caries was scored according to the World Health Organization (WHO) criteria at tooth level (dmft/DMFT). Teeth with non-cavitated carious lesions were also recorded (it/IT). Statistical analysis (means, standard deviations, percentages) was performed using SPSS® Statistics version 29.0 (IBM®, Armonk, NY, USA). **RESULTS** A sum of 2,574 schoolchildren aged 9.8±0.7 years (50.1% males) from 46 schools were included. The mean caries prevalence was 41.8% (dmft0) for primary teeth and 13.1% (DMFT0) for permanent teeth. The mean caries experience was 1.3±2.1 (dmft) / 1.4±2.1 (idmft) and 0.3±0.8 (DMFT) / 0.6±1.2 (IDMFT), respectively. On average, children with caries experience had 2.0±1.2 carious permanent teeth and 3.2±2.2 carious primary teeth per child. **CONCLUSIONS** While carious lesions were more prevalent in primary teeth, the prevalence of dental caries in permanent teeth was low among the examined German schoolchildren. However, a polarization in terms of an unequal caries distribution in permanent teeth could be observed. Acknowledgement: This study received financial support by the Bavarian State Ministry of Health, Care and Prevention (Initiative Gesund.Leben.Bayern).

OPD 2.5 **Caries trends of 12-year-old schoolchildren in permanent dentition in Taiwan-from 1983 to 2020**

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AIM The study elves into the dynamics of the dental caries the prevalence and trends of dental caries in the permanent teeth of 12-year-old Taiwanese children, offering valuable insights for international comparative analyses. **METHODS** Data for this comprehensive analysis were obtained from consecutive national oral health surveys (1983, 1999/2001, 2005/2006, 2010/2011, 2019/2020) utilizing the MeSH term children and accessed through the Taiwan Government Research Bulletin websites. The 2019/2020 survey employed a stratified multi-stage sampling, examining 10,670 students by calibrated dentists at schools following WHO criteria, with subsequent analysis of completed questionnaires. **RESULTS** The findings reveal a noteworthy reduction in dental caries prevalence among 12-year-olds in Taiwan. Over observed period, prevalence decreased from 85.12% in 1983 to 63.1% in 2019/2020. The mean DMFT (Decayed, Missing, Filled Teeth) decreased from 3.76 in 1983 to 1.94 in 2019/2020, reflecting a significant improvement in dental health among the studies age. Notably, while the rate of fillings initially increased , from 13.99% in 1983 to 69.9% in 2010/2011, but a subsequent decrease to 66.7% in 2019/2020, warranting further investigation into the factors contributing to this shift. **CONCLUSIONS** In conclusion, this comprehensive study not only highlights a substantial decline in dental caries prevalence but also underscores evolving patterns in preventive intervention and treatment modalities among 12-year-olds in Taiwan. The observed trends contribute valuable data for international comparisons, guiding future policy decisions and interventions to enhance oral health globally.

OPD 2.6 **Dietary risk factors for dental erosion among 11–13-year-old children from Plovdiv, Bulgaria**

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AIM THE AIM of the study was to assess the relationship between the presence of erosive lesions and some dietary factors in school children from the city of Plovdiv, Bulgaria. **METHODS** An epidemiological study was conducted on 490 randomly selected 11–13-year-old students from the city of Plovdiv. To assess dental erosion the index used in the Survey of Children's Dental Health in the United Kingdom/1992-1997/ and modified by Dugmore and Rock/2003/ was used. Risk factors were studied trough questionnaire to the children. Data were processed using descriptive and non-parametric analysis. p0,05 was adopted as the level of significance. **RESULTS** The prevalence of dental erosion was 31.84% ± 2.10. The odds ratio and χ2 tests revealed that more than three times consumption per day of citrus fruits (OR 4.08; p 0.005) and citrus juices (OR: 2.92; p 0.005), daily consumption of carbonated drinks (OR: 7.32; p 0.005) and energy

drinks (OR: 3.69; p 0.005), holding the drink in the mouth (OR: 1.82; p0.005) and intake of drinks at night (OR: 5.5; p 0.005) were all risk factors for dental erosion. Although the consumption of non-carbonated soft drinks (OR: 1.20; p = 0.087), as well the frequency of consumption of milk or yogurt (OR: 0.83; p= 0.155) were not. **CONCLUSIONS** This study shows that there is a statistically significant relationship between the presence of dental erosion in school children from Plovdiv and dietary factors like frequency of consumption of some beverages and some dietary habits.

OPD 2.7 **Immigration is linked to preschool children seeking hospital care for dental caries**

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AIM To investigate whether an immigrant background among preschool children in Sweden increased the risk for hospital care because of dental caries. **METHODS** This register-based study of a Swedish national cohort of 1 621 038 children aged 1-6 years, sourced from the Patient Discharge Register, were followed up between 2001-2013. Information on to the classification of hospital care—inpatient or outpatient—and treatment codes for children primarily diagnosed with dental caries, was gathered from 2416 children. Cox regression models of person time in the study were fitted to calculate Hazard ratios (HRs) with adjustment for socioeconomic indicators. **RESULTS** Enrolment due to dental caries was observed in 1.42 per 1000 children, with the majority being outpatients. Additionally, findings of general anaesthesia was higher within the outpatient group. Parental origin in Eastern Europe presented the highest adjusted risk for hospital care (HR=5.2, 95% CI =4.2-6.5.), while an origin in Western Europe or outside of Europe had more moderately increased. Socioeconomic indicators further attenuated crude risks while the risk of hospital care decreased with duration of residence of immigrant parents. **CONCLUSIONS** Immigrant background is associated with seeking hospital care due to dental caries among preschool children in Sweden but varies with origin and duration of parental residence. Tailored interventions are necessary to promote oral health.

OPD 2.8 **Segmental odontomaxillary dysplasia: A rare diagnosis in a 4-year-old boy**

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INTRODUCTION Segmental odontomaxillary dysplasia (SOD) is a rare developmental disorder. Often diagnosed in early childhood, the aetiology is unknown. Findings are limited to posterior segment of the maxilla comprising enlargement of gingiva and alveolar process, agenesis of premolars, delayed eruption or retained teeth. Few studies have been published on the disorder. **CASE REPORT(S)** A 4-year-old boy was referred to the dental paediatric department at Västmanland´s hospital with a history of delayed eruption in the right maxilla. The patient was asymptomatic. Clinical and radiological examination showed ipsilateral gingival and bone

enlargement and altered bone pattern from the primary canine to the tuberosity. The teeth 54 and 55 were anomalous, macrodontic and retained. Both subsequent premolars were missing. Medical history revealed no relevant findings. A preventive program was provided to ensure health of the existing teeth. The main objective was to maintain asymptomatic primary teeth in the right maxilla. Surgical exposure of the primary molars to facilitate occlusion has been considered. No bone or gingival biopsy was attempted because the patient met characteristic features of SOD. **FOLLOW UP** During a two-year follow-up, tooth 54 had partially erupted. Assessment indicated need for long-term multidisciplinary care. The gingival and bone enlargement with the tooth anomalies may explain delay of further eruption. Lack of both premolars in the right maxilla may pose a clinical challenge. **CONCLUSIONS** SOD is underrecognized but has characteristic features. Due to early onset, paediatric dentists can be first to encounter the disorder.

OPD 2.10 Orofacial muscle strength and oral functions in children with different dental status

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AIM To study the effect of different dental status on orofacial muscle strength and masticatory function in healthy children. **METHODS** We recruited 115 children between the ages of 3 and 17 and divided them into six groups based on Hellman's criteria for dental stages – IIA (primary), IIC (first molar eruptive phase), IIIA (first molar erupted), IIIB (exchange of lateral teeth), IIIC (second molar eruptive phase), and IV (permanent). Maximum bite force (MBF) and tongue pressure were measured to evaluate the orofacial muscle strength. The masticatory performance was evaluated with a food comminution test and a two-colour chewing gum mixing test. The data was analysed with one-way ANOVA and post hoc analysis was done to compare two successive groups during multiple corrections. **RESULTS** Overall, the results of ANOVA showed significant main effects of dental stages on the MBF, tongue pressure, food comminution test and chewing gum mixing test (P0.001). Post hoc analysis of ANOVA showed significantly higher MBF in the IVA dental stage as compared to III C (P=0.020) and significantly higher tongue pressure between IIIA and IIIB (P0.001). However, post hoc analysis of masticatory performance in the comminution (P0.199) and mixing ability test (P0.270) showed no significant differences between two successive groups. **CONCLUSIONS** The results of the study showed a gradual increase in orofacial muscle strength and masticatory function with increasing dental status in healthy children. The most significant change occurs in the permanent dentition in MVBF, and between the early and late mixed dentition in tongue pressure.

OPD 2.11 **Management and correction of an anterior crossbite on an autistic child: A community case report**

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INTRODUCTION This case report discusses the correction of an anterior crossbite on a neurodiverse child, by using an upper removable appliance (URA) and behavioural management techniques. **CASE REPORT(S)** An 8 year-old boy, was referred to the CDS for treatment. The medical history included autism, a mild learning disability and reduced verbal capacity, therefore advanced behaviour management techniques were needed for treatment. The patient was in the early mixed dentition. Clinically, Molar Incisor Hypomineralisation was affecting all four first permanent molars, two of which were carious and there was a crossbite of the maxillary right lateral incisor (UR2). Treatment included prevention, restorative care of the carious teeth and correction of the cross bite on the UR2 by using a removable appliance. A variety of non-pharmacological behavioural management techniques was implemented, and inhalation sedation was used to manage challenging aspects of treatment. The activated URA was inserted with instructions on hygiene and fitting. **FOLLOW UP** The patient returned; in a week, then 2 weeks, and thereafter every 4 weeks to support with any issues, to activate the appliance and check on effectiveness. There was positive correction of the crossbite within two months. **CONCLUSIONS** A removable appliance for early intervention during the mixed dentition phase, can reduce the length of orthodontic treatment in the future and allow patients to acclimatise to orthodontic appliances. The management of autistic patients should be tailored to their individual needs for successful outcomes. Regular follow-ups should be considered for SEND patients to achieve compliance and appropriate treatment outcomes.

OPD 2.12 **Prevalence and changes of temporomandibular disorder in children with juvenile idiopathic arthritis – a multicenter cohort study**

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AIM To study prevalence and 2-year changes of temporomandibular disorder (TMD) in children with juvenile idiopathic arthritis (JIA) compared to controls. **METHODS** This study was part of the NorJIA-study. Participants with JIA 4 to 16-years-old and controls matched for age and gender, were consecutively recruited at the paediatric rheumatology clinics and the public dental health services in the centers Bergen, Trondheim and Tromsø and underwent a TMD examination at baseline and after two years. An adapted short version of the DC/TMD protocol was used to assess presence of local myalgia, arthralgia, TMD headache and disc displacement with reduction. **RESULTS** 224 children with JIA and 224 controls were included. 201 with JIA (60% girls, 12.6 years median age) and 189 controls (61% girls, 12.4 years median age) completed TMD examination at both visits. At baseline 23% of the children with JIA and 3% of the controls reported orofacial pain the last 30 days and respectively 21% and 5% at follow-up. Myalgia was

present in 15% among those with JIA and 1% among controls at baseline (p0.001) versus 11% and 2% at follow-up (p0.001) and arthralgia in 9% in JIA and 1% in controls at baseline (p0.001) and respectively 9% and 2% at follow-up (p=0.001). There was no significant inter-group difference according to TMD headache or disc displacement. **CONCLUSIONS** Orofacial pain, myalgia and arthralgia were significantly more prevalent in children with JIA compared to controls. There was consistent prevalence but notable fluctuations of TMD manifestations among participants during the follow-up period.

OPD 2.13 Dental offices in special schools – an effort worth making

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AIM To compare oral health of mentally challenged students from two special schools, and determine whether presence of a dental office within such institutions is significantly beneficial for students' oral health. **METHODS** Mentally challenged students aged 5 to 17 years from two special schools (one of which had its own dental office) in Romania were examined under field conditions using a dental mirror and probe. Clinical findings were individually recorded. Oral health parameters (caries prevalence index Ip, dmf-t/DMF-T and components, restoration index RI, Plaque index PI) were calculated and results were compared between the two groups. Data was processed using SPSS 20.0. **RESULTS** Group A (Bucharest, capital) n=73 (67.10% male): mean age 10.89y [SD2.85]; dmf-t=3.45 [2.49]; DMF-T=4.58[3.37]; RI=1.62[11.92]; PI=1.49[SD 0.81]. Group B (Piatra-Neamt, with an in-school dental office) n=51 (66.70% male): mean age 11.94 [SD3.30]; dmf-t=3.33[3.30]; DMF-T=5.34[3.95]; RI=6.98[12.3]; PI=1.62[0.76]. Group B had significantly higher values for RI and “F” component of DMF-T (p0.01), less gingival inflammation (p0.05) and were ss more likely to have regular dental check-ups (p0.01). Group A had ss more sealants (p0.01). For the whole lot, “D” component of DMF-T was positively correlated with PI (p0.01). **CONCLUSIONS** Regular check-ups and timely treatment provided in dental offices within special schools positively influences the oral health status of mentally challenged students. Efforts still need to be made towards early prevention of oral disease in children with special needs.

OPD 2.14 Technology-based distraction techniques in managing children with attention-deficit/hyperactivity disorder

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AIM To assess and compare the effectiveness of virtual reality (VR) and audio distraction methods to basic behaviour guidance techniques on pain perception and dental anxiety in children with attention-deficit hyperactivity disorder (ADHD). **METHODS** A total of 48 children diagnosed with ADHD with ages ranging from 7 to 10 years, requiring composite restorations under local anaesthesia were recruited for this randomized controlled clinical trial. Participants

were randomly divided into three groups: VR glasses, white noise, and the control group with no adjunctive distraction tool. The outcome measures were children's behaviour using the revised Face, Leg, Activity, Cry, Consolability scale (r-FLACC), self-reported pain using the Wong-Baker FACES rating scale, and dental anxiety using heart rate (HR). **RESULTS** The children in the VR group showed significantly better behaviour during local anaesthesia administration compared to the control group (P = 0.004). Whereas, white noise resulted in significantly better scores of (r-FLACC) and lower mean HR during caries removal and composite restoration in comparison to the control group. The overall behaviour was significantly better in the VR and white noise groups compared to the control group (P = 0.005). No significant difference was found in children's self-reported pain measures between the three groups (P = 0.13). **CONCLUSIONS** Technology-based distraction techniques are beneficial adjunctive strategies in managing dental pain and anxiety and improving the behaviour of children with ADHD. The clinician's choice to implement either VR/ audio distraction should be based on their clinical judgment, and parent/patient preferences.

OPD 2.15 **My Teeth: a general anaesthetic "passport" for paediatric patients**

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AIM To assess whether a general anaesthetic booklet "my teeth" would be beneficial for dentists to understand long-term dental care provided for children, especially those transitioning across to the Special Care Department. These children receive comprehensive treatment, which can involve complex restorative dentistry. Due to the challenges these children face, they often undergo multiple dental general anaesthetics. Difficulties can arise when these are provided by different trusts, services or teams. **METHODS** Intra-operative photographs were taken using the ENT Endoscopy Stack System for children being treated under general anaesthetic. Photographs were taken of the teeth pre- and post-caries removal. The Stack System was used as it allowed for better access and angulation of the camera in a GA setting where mouth opening is limited and oral tubes are often in situ. It also provided instant photographic printing capabilities. These photographs were collated and presented as patient case summaries, which were given to colleagues in the Special Care Department. Questionnaires were given to these dentists and used to assess whether they found the intra-operative photographs useful or not. Specifically, whether the photos were useful compared with any radiographs taken in a GA setting, and if they felt that a dental passport from childhood to adulthood including photographs and discharge summaries would be useful in oral health management. **RESULTS** All dentists agreed that a general anaesthetic booklet including photographs would be useful in oral health management. **CONCLUSIONS** A general anaesthetic booklet will be implemented for paediatric patients at the Royal London Dental Hospital.

OPD 2.16 **Use of the Hall Technique for management of an uncooperative cleft lip and palate patient with anterior crossbite: A case report**

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INTRODUCTION The Hall Technique (HT) is one of the methods to restore the carious primary molars by seating a correctly sized stainless steel crown (SSC) over the tooth with a glass ionomer luting cement. The SSC is placed without local anaesthesia, caries removal, or tooth preparation and aiming to increase children's compliance. It is expected that children will have a less traumatic dental experience in their early life. This report presents the dental management of an uncooperative cleft patient. **CASE REPORT(S)** A 6-year-old boy, with a history of cleft lip and palate, was referred to Yeditepe University, Faculty of Dentistry, Department of Paediatric Dentistry. Clinical examination revealed several caries lesions in primary molars and an anterior-cross bite. Carious teeth were not tender to percussion or palpation and there was no observable swelling or sinus tract. Due to the patient's lack of cooperation, the first primary molars were restored with HT and the teeth number 53, 55, 65, and 85 that would not require local anaesthesia were restored with composite resin restorations. Additionally increasing the occlusal vertical dimension was the first step in the correction of the anterior-cross bite. **FOLLOW UP** Over a follow-up period of 6 months, the teeth were asymptomatic and clinical examination revealed no signs or symptoms of pulpal infection. Furthermore, on radiographic evaluation no pathological changes were evident. **CONCLUSIONS** This case report shows that the Hall Technique can be an effective treatment option for the management of the carious primary molars in uncooperative patients with special needs.

OPD 2.17 **Case report of osteogeneses imperfecta with dentinogenesis imperfecta in Saudi Arabia with follow up**

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INTRODUCTION Osteogenesis imperfecta (OI, or Brittle Bone Disease) is a clinically and genetically group of heritable disorders of connective tissue. The incidence of forms recognizable at birth is 1/15-20,000. OI is characterized by bone fragility, with susceptibility to fracture from minimal trauma, as well as bone deformity and growth deficiency. About 50% of children and adults with OI have dental involvement of varying degree and severity (Santili et al., 2005). Although both dentitions may be affected, the deformity is generally more severe in the primary teeth (Waltimo et al., 1996; O'Connell and Marini, 1999). **CASE REPORT(S)** Joud is a 4 year old Saudi girl living at Riyadh capital city of Saudi Arabia. Joud was under the regular care of an 0rthopedic clinic who indicated that she is child with Osteogenesis imperfecta which require intravenous injection of pamidronate. Every 3 to 4 months she has to be admitted at the hospital, also she have experienced thirteen hip and femur fractures. She is uncooperative and fearful. **FOLLOW UP** Evaluation of restorations and Assessment of developing dentition oral hygiene reinforcement . Topical fluoride application and recall every 3 to 6 months. **CONCLUSIONS**

Precaution with such patients is recommended, as OI-affected individuals present with distinct dentoalveolar problems. Recommended treatment options for decayed primary or permanent teeth are full-coverage restorations. Other treatment options include composite restorations, veneers, endodontic treatment, overdentures and dental implants. Long-term follow-up is paramount to adjust the treatment according to the changes of dentition and occlusion and prevent further complications.

OPD 2.18 **Effect of preventive early dental visit on dental treatment in preschool children born preterm**

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AIM The objective of this study is to investigate how early dental check-ups for preterm infants affect subsequent dental treatments and whether there is a significant relationship between a reduction in treatment costs and the number of treatments. **METHODS** Big data using the Health Insurance Review and Assessment Service in Korea from January 1, 2017 to December 31, 2021 were analysed. Prescription codes related to dental treatment were collected for this study. The subjects ranged in age from 0 to 6 years and were categorized by gestational age (GA): Extremely preterm (EPT, GA28 weeks), Very preterm (VPT, 28≤GA32 weeks), and Late preterm (LPT, 32≤GA37 weeks). **RESULTS** Glass ionomer and 1-visit pulpectomy were significantly higher in the preterm group compared to the Full-term group (p0.001). The preterm group visited the dentist earlier than the Full-term group (EPT-2.84 years, VPT-2.78 years, LPT-2.52 years, FT-3.9 years). Children born preterm tended to visit the dentist at an earlier age compared to those born full-term. Only in the EPT group, the proportion of visits to general hospital is significantly higher than visits to hospital and clinic (p0.001). There was a tendency for children who had their first dental visit at a later age to receive dental treatment earlier. **CONCLUSIONS** Preterm infants require proactive early dental intervention, preventive treatments, and regular dental check-up to reduce the frequency and severity of subsequent dental treatments and ensure more efficient dental management.

Session OPD3

OPD 3.1 **Sequelae in the permanent dentition after traumatic dental injury in the primary dentition**

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AIM The aim of this study is to describe and analyse the sequelae in the permanent successor after crown fractures and root fractures, concussion, subluxation, extrusion, lateral luxation and intrusion injury in the primary dentition in relation to the child's age at the time of the injury.

METHODS The material consisted of 421 potentially damaged permanent teeth (PDPT) due to traumatic dental injury (TDI) to the predecessor, and 1057 non-injured control teeth. The sample consisted of 227 children (133 males and 94 females). The data was presented in the age groups 0-2, 3-4 and 5+ years of age. All children were clinically and radiologically examined 4 weeks, 8 weeks, 6 months, and 1 year after the trauma, and at 6 and 10 years of age. **RESULTS** In the PDPT group 46,3% were diagnosed with sequelae. The overall frequency of different types of sequelae was; Demarcated opacities (n=98) 23,3%, hypoplasia (n=54) 12,8%, diffuse opacities (n=29) 6,9% and malformations (n=14) 3,3%. The majority of malformations and hypoplasia occurred in the age group 0-2 years and were usually related to lateral luxation, intrusion and avulsion injuries in the primary dentition. Demarcated opacities occur in all age groups and are related to subluxation, extrusion, lateral luxation, intrusion and avulsion. **CONCLUSIONS** The younger the child at the time of TDI and the more extensive the TDI, the greater the risk of developing sequelae.

OPD 3.2 Down the hatch: Multidisciplinary management of accidental tooth aspiration

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INTRODUCTION A 12-year-old female, diagnosed with systemic sclerosis and scoliosis, presented with multiple primary retained teeth and an unrestorable lower left first permanent molar. She required a general anaesthetic to ensure she was dentally fit prior to spinal surgery. She is immunocompromised and had 30 mm of mouth opening. **CASE REPORT(S)** The rheumatologist requested prophylactic antibiotics and an urgent general anaesthetic was arranged to limit antibiotic doses, reduce treatment burden and ensure timely treatment. Naso-tracheal intubation was successful but unfortunately during scoping, the mobile upper right primary canine was avulsed and unable to be identified. **FOLLOW UP** The anaesthetist informed the surgical team of the loss of the upper primary canine prior to starting surgery which was confirmed by charting in theatre. The dental treatment was completed without complication; this included sealants, scaling and extractions. Following treatment, tooth counts were correct, minus the avulsed tooth. The tooth did not become apparent when removing the throat pack. Following advice from the radiology team, two chest radiographs (including a lateral view) located the missing tooth below the naso-tracheal tube with it suggesting it was most likely in the oesophagus. The on call ENT doctor was then called, who performed a scope through the airway tube, confirming it was not present in the trachea and confirmed its presence in the oesophagus. The parent was informed and reassured. **CONCLUSIONS** Multidisciplinary management, clear contemporaneous documentation and open, honest communication with the family were key to safe and calm management of this intubation complication.

OPD 3.3 **The management of a complicated crown fracture with delayed presentation in a dentally anxious paediatric patient**

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INTRODUCTION Complicated crown fractures affecting the permanent dentition have an incidence of up to 13%. This presentation outlines the management of an enamel-dentine-pulp fracture with a delayed presentation. **CASE REPORT(S)** A dentally anxious 10-year-old girl presented to the Paediatric Dentistry Department, 4 weeks following an injury in the playground at school. Her UL1 had sustained a complicated enamel-dentine-pulp fracture. The tooth fragment had been stored in milk. The patient's general dental practitioner had sealed the fracture with a glass-ionomer restoration. Clinical and radiographic examination revealed UL1 was responsive to sensibility testing and had a closed apex. A partial pulpotomy was successfully carried out under inhalation sedation using Biodentine. The retained crown fragment was re-attached using resin composite. **FOLLOW UP** At the 2-month review appointment, the UL1 was responsive to sensibility testing whilst maintaining good aesthetics and function. In line with IADT 2020 guidelines, the preferred management for mature teeth with complicated crown fractures is conservative pulp therapy. Traditionally, delayed presentation of complicated fractures in teeth with closed apices were root canal treated. It is now recommended to treat pulpal exposures conservatively to delay the restorative cycle. In this case, the pulpotomy was attempted 4 weeks post-injury, whilst the literature recommends highest success rates up to 9 days post-injury. Despite the delayed presentation, pulp vitality was maintained. **CONCLUSIONS** This case demonstrates the successful result of a partial pulpotomy and fragment re-attachment despite the delay beyond the recommended timing.

OPD 3.4 **Potential pulp revascularization following lateral luxation injury in mature permanent teeth in young adults**

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AIM Studies have shown that pulp revascularizing is possible in up to 25 % among mature laterally luxated permanent teeth. The aim of this study was to investigate the potential for pulp revascularization in relation to the patient's age at the time of injury following lateral luxation injury of mature permanent teeth. Our hypothesis is that children and adolescents will have a better healing potential than adults. **METHODS** The data material consisted of two cohorts collected in Denmark from 1972-1980 and 2014-2020. In total, 93 teeth were included. The Aalen-Johansen method was used to estimate the risks of PN. The Cox regression model was used to estimate risk of PN adjusted for cohort, age group and degree of repositioning. **RESULTS** Age group 15 years: In the 1972-80 cohort the risk of PN was 62.3 % [95% CI: 44.9;79.7] after 24 months; in the 2014-20 cohort 28.6 % [95% CI: 4.9;52.2]. Age group 15-20 years: In the 1972-80

cohort no patients were observed for 24 months; in the 2014-20 cohort the risk of PN was 43.8 % [95% CI: 4.8;82.7] after 24 months. Age group 20-25 years: In the 1972-80 cohort the risk of PN after 24 months was 77.8 % [95% CI: 50.6;100.0]; in the 2014-20 cohort 75.0 % [95% CI:50.5;99.5]. **CONCLUSIONS** There is a potential for pulp revascularization in mature teeth with lateral luxation in patients up to 25 years of age. It seems like the risk of PN increases with increasing age.

OPD 3.5 **Management of three permanent maxillary incisors, which avulsed twice on two consecutive days, in a paediatric patient with autism**

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INTRODUCTION Dental avulsion occurs due to trauma and is defined as the complete displacement of a tooth from its socket in the alveolar bone. This dental emergency requires prompt management to give the best prognosis. **CASE REPORT(S)** This case report details the successful management of three avulsed maxillary incisors (UR2, UR1, UL1). A male patient with autism, aged 14 years presented at our dental clinic a day after an accidental fall. Three maxillary incisors had been replanted and splinted by an accident and emergency department. The teeth were in an extra-oral environment for 5 hours before being replanted, although they were preserved in milk within 20 minutes of the avulsions. Arrangements were made to start root canal treatment on these teeth, but the patient re-attended 6 hours later on the same day, with the three maxillary incisors in milk as he had removed them. Resulting in a re-avulsion just over 24 hours after replantation, which was put down to patient's sensory issues. The teeth were replanted a second time within an hour of the re-avulsion and stabilised with splinting. Root canal therapy was initiated one-week post replantation. The splint was removed at three weeks post-replantation. Root canal treatment was completed five weeks after replantation. **FOLLOW UP** Follow up was completed at regular intervals of one, three, six and twelve months. The teeth showed no clinical signs, no symptoms and no resorption on radiographs. **CONCLUSIONS** Delayed replantation of an avulsed tooth can have a favourable outcome if the recommended guidelines and protocols are followed.

OPD 3.6 **A 10-year analysis of traumatic dental injuries in primary and permanent dentition at the division of paediatric dentistry - Zurich**

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AIM To analyse the occurrence, characteristics, and types of traumatic dental injuries (TDIs) in primary and permanent dentition during a period of 10 years. **METHODS** The records of all children presented with a TDI at the Clinic of Orthodontics and Paediatric Dentistry - University of Zurich (from 2010 to 2019) were retrospectively analysed. All analysed TDIs were diagnosed and treated by 18 residents under the supervision of one faculty member. The retrospective analysis was conducted by one investigator. Information was collected on sex, age, time, cause,

location, and type of each trauma. **RESULTS** A total of 1292 TDIs from 1230 children aged between 0,1 and 18 (median age: 3, 60% male) were analysed. The TDIs involved 4127 primary and 2117 permanent teeth. Most TDIs occurred during October and April among children aged two (for primary dentition) and eight (for permanent dentition). The frequency of TDIs' types in each dentition was as follows: Primary (concussion 57%, luxation 10%, subluxation 9%, intrusion 6%, avulsion 3%, enamel fracture 7%, enamel-dentin fracture with pulp 4%, enamel-dentin fracture 4%, extrusion 1%, root fracture 0%); Permanent (concussion 58%, subluxation 10%, enamel-dentin fracture 9%, enamel fracture 7%, enamel-dentin fracture with pulp 3%, luxation 6%, avulsion 3%, intrusion 2%, extrusion 1%, root fracture 1%). **CONCLUSIONS** In this study's population, concussion and subluxation are the most common TDIs in both primary and permanent dentitions. Luxation injuries seem to occur more frequently in primary than permanent dentition.

OPD 3.7 **Delayed replantation of an avulsed permanent incisor: it is worth trying!**

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INTRODUCTION Avulsion of a permanent tooth is a serious dental injury. Adequate emergency management and treatment planning are essential for optimal prognosis. Ankylosis-related replacement root resorption is a common complication after tooth replantation. Delayed replantation (60 minutes extraoral time) has poor long-term prognosis. However, according to IADT guidelines, an attempt should almost always be made. **CASE REPORT(S)** A 16 years-old girl presented with a broken arm, cerebral concussion and avulsion of the upper left central incisor after a bicycle accident. At the emergency clinic, the tooth was stored in milk, however no replantation took place. The patient underwent surgery and was referred to her own dentist after 1.5 days, who then referred her to the UZ Leuven clinic. The tooth was rinsed with saline, replanted, fixed with a flexible splint and the root canal was filled with calcium hydroxide. The need for tetanus booster was assessed and systemic antibiotics were prescribed. After 2 weeks, the splint was removed and clinical and radiological observations were made. Regular follow-ups were scheduled, including evaluation of adjacent teeth. After 8 weeks, the root canal was filled with gutta percha. **FOLLOW UP** After 2 years follow-up, there is no evidence of ankylosis-related resorption and the tooth is asymptomatic. **CONCLUSIONS** Replantation of an avulsed tooth after a prolonged extra-alveolar period is a correct approach in almost all cases. The degree of ankylosis and resorption is highly variable and unpredictable. Replantation and proper clinical and radiological monitoring keep a broad range of future options open.

OPD 3.8 **Decoronation and resin-bonded bridge replacement of a permanent incisor in an adolescent: a 3-year follow-up**

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INTRODUCTION External replacement resorption (ERR) following dental avulsion injuries in growing children can result in infraocclusion, loss of alveolar height and eventual tooth loss. For those with minimal orthodontic needs, decoronation and interim replacement (usually with a removable prostheses) is often performed, until the patient is of age to receive a dental implant. **CASE REPORT(S)** A 12-year old healthy female with a previously avulsed upper left central incisor (#21) (extra-oral dry time of 3 days) presented with the chief complaint that #21 was shorter than its contralateral. The tooth was diagnosed with ERR and it was infraoccluded by 2 millimetres, showed reduced mobility and had radiographic loss of the periodontal ligament space at its root. #21 was surgically decoronated and primary closure achieved. The decoronated crown of #21 was modified into an ovate pontic, which was secured by a composite resin wire splint for temporization and alveolar ridge moulding. Three months later, a porcelain-fused-to-metal single wing resin-bonded bridge with a modified ridge lap pontic design was then prepared and cemented. **FOLLOW UP** At the 3-year follow-up, the patient remained satisfied with both the aesthetics and function of the bridge. The bridge remained intact with no signs of debonding. Gingival and alveolar architecture of the #21 ridge was maintained. **CONCLUSIONS** Decoronation can be performed for previously traumatized teeth with ERR for alveolar ridge preservation. This case also demonstrates that fixed prostheses such as resin-bonded bridges, can be considered as viable medium to long-term replacement options post-decoronation.

OPD 3.9 **Replantation of avulsed permanent maxillary incisors with immature apex and segmental alveolar fracture: A case report**

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INTRODUCTION Appropriately managing an avulsed tooth within the first 1 hour and an organized treatment plan are essential to increase tooth survival. The purpose of this case report was to describe the healing process after placing the splint with the correct material in the correct position and follow-up. **CASE REPORT(S)** The teeth #11 and #21 of a 10-year-old girl were avulsed by an accident. Teeth stored for 20 minutes in milk were replanted in the socket within 1 hour, and a composite splint was made involving #11, #12, #21, and #22 in a private clinic. After one week, the patient was referred to Yeditepe University's Department of Paediatric Dentistry. The clinical and radiographical examination revealed that the replanted teeth were not in the correct position, and a segmental alveolar process fracture was detected on volumetric tomography. After repositioning the teeth, a semi-rigid Ni-Ti splint was placed from #16 to #26. In the 4th week, the splint was removed, a submucosal abscess in the labial sulcus of #21 and inflammation resorption on the roots of #21 and #11 was observed on the radiograph. Root canal treatment with MTA was planned for #21 and #11. **FOLLOW UP** After completing the treatment

process, the case was further followed up for two years with periapical radiographs and intra-oral photographs, which revealed no signs or symptoms of inflammation resorption. **CONCLUSIONS** Traumatic injuries leading to inflammatory resorption of immature permanent teeth require prompt intervention by paediatric dentists to contemplate the most suitable treatment plan.

OPD 3.10 **Intraalveolar transplantation of upper maxillary incisor in a 10-year-old patient: A case report**

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INTRODUCTION Intraalveolar transplantation is as a strategic intervention for managing crown-root fractures to avoid extraction of teeth in young patients. This technique involves the repositioning of the tooth within its alveolar socket, an option for achieving stability and preserving dental function. **CASE REPORT(S)** A 10-year-old patient was referred to the paediatric specialist clinic after an accident resulting in a complicated crown-root fracture with an extensive palatal fracture of tooth 21. Endodontic treatment of the tooth was performed at the emergency visit and the patient was planned for an intra-alveolar transplantation. Given the extent of the fracture, which reached below the palatal bone level the decision was made to perform intra-alveolar transplantation. The procedure was performed under midazolam sedation, where the tooth was extracted, rotated 180 degrees, and then repositioned in the alveolar socket and splinted for two weeks. The tooth was at the next follow-up visit built up with a composite crown. **FOLLOW UP** Follow-up examinations at four and twelve months post-procedure showed both clinical and radiographic stability of the tooth. **CONCLUSIONS** This case report highlights the successful application of intra-alveolar transplantation as a strategic intervention for managing extensive crown-root fractures. The clinical and radiographic stability observed during the follow-ups highlights the efficacy of this approach.

OPD 3.11 **Making it work for every child: managing a significant dental trauma in an anxious 9-year-old.**

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INTRODUCTION A 9-year-old boy with class 3 occlusion and crowding presented to a paediatric dental clinic in the U.K. in January 2021 following an electric scooter accident. His injuries included: severe palatal luxation of 12, severe extrusion of 21, severe intrusion of 41, and avulsion and concomitant dentine fracture of 42, 31 and 32. He also had an impacted UR3 with insufficient space for eruption. **CASE REPORT(S)** A General Anaesthetic was undertaken 4 hours after his accident for reimplantation and splinting which had partly debonded. He had severe dental anxiety and was unable to accept any care. A second General Anaesthetic was provided in his best interests where orthodontic brackets were placed as an alternative splint technique (to

facilitate phased removal) and root canal treatment was completed on all avulsed, extruded and luxated teeth. Fractures were repaired with composite. The boy continued to display extreme anxiety afterwards and required inhalation sedation even for replacement of a lost orthodontic module. **FOLLOW UP** Due to his malocclusion, the poor long-term prognosis due to ankylosis risk and ongoing severe dental anxiety he was reviewed with colleagues from both Orthodontics and Restorative. As of his last review in October 2023 the patient will still not consider any active intervention due to his anxiety but remains infection free and is being monitored for ankylosis progression. **CONCLUSIONS** This case highlights the impact that severe dental anxiety can have on children with dental trauma, and that alternative treatment options should be considered to support them in the best possible outcome.

OPD 3.12 The effect of an educational intervention in dental traumatology for dentists in the Public Dental Services of Western Norway

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AIM To evaluate the effect of an educational intervention in dental traumatology among general dentists in the Public Dental Services (PDS) of Vestland County in Western Norway. **METHODS** A digital questionnaire (Q1) on dental traumatology was sent electronically to all dentists working within the PDS of Vestland County (N=170). All clinics (N=50) were randomly assigned to either a control group (CC)- no intervention, a webinar group (WEB)-video lectures, and a practical group (WEB+P)- video lectures and an interactive practical course. A follow-up was made 1 year later, where the dentists answered the same digital questionnaire (Q2) (N = 176). A generalized linear proportion model was used to compare the individual proportion of correct answers in Q2 against the three groups of educational intervention. Additionally, to analyse the answers to individual case scenarios binary logistic models were used. P 0.05 was considered statistically significant. **RESULTS** The response rate for Q1 was 46 %. Complicated crown fractures, avulsion, and complications after TDI were identified as problem areas. The response rate for Q2 was 57 %. The WEB+P group had a statistically significant higher proportion of correct answers compared to the CC group (P =0.002). In the following individual cases: complicated crown fracture (P= 0.04), root fracture (P=0.002), first aid after avulsion (P=0.04), and intrusion (P=0.02), statistically significant results were recorded in the WEB+P group compared to the CC group. **CONCLUSIONS** General dentists in the PDS would benefit from an interactive course in dental traumatology with case discussions.

OPD 3.13 **Two-phase transplantation concept to replace an upper incisor lost in early childhood**

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INTRODUCTION In cases of premature tooth loss due to trauma or aplasia, a range of options are available to replace teeth like orthodontic space closure, adhesive bridge, implantation or autotransplantation (autoTX). The latter allows to preserve bone and soft tissue while achieving aesthetic rehabilitation during the critical skeletal growth phase. This case report introduces a two-phase autotransplantation approach, involving primary tooth and premolar autoTX in childhood and puberty, respectively. **CASE REPORT(S)** A nine-year-old healthy patient lost tooth 21 due to trauma. TREATMENT: Initially, primary tooth 53 was transplanted into region 21, involving careful extraction, temporary storage, neoalveolus formation through osteotomy, insertion and fixation with a cross-stitch suture, and composite adhesive aesthetic build-up of the tooth crown. After 3 years, the primary tooth transplant was electively extracted, allowing placement of the now sufficiently matured premolar 15 (open apex). The premolar, rotated by 90°, was transplanted into position 21, followed by a saliva-tight plastic coverage with surrounding marginal soft tissue through interrupted sutures. The position of the aesthetically adapted transplant was finetuned using fixed orthodontics. Complete periradicular reossification occurred within 6 months. The space in region 15 was orthodontically closed. **FOLLOW UP** Follow-up included re-evaluation at day 1 (wound control), 7 (suture removal), and 21 (definite bracket placement), continued by 3-month-intervals in the first year and then annually for now 6 years, focusing on signs of root resorptions, obliteration, apical or periradicular osteolysis. **CONCLUSIONS** Two-stage autotransplantation allows aesthetic and functional rehabilitation for the upper jaw front, preserving bone and soft tissue during growth.

OPD 3.14 **Clinical and radiographic examination to primary teeth affected by dental trauma: A 5 year follow-up case series**

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INTRODUCTION The maintenance of the primary dentition is important to ensure aesthetics and function, and also to guide the eruption of permanent teeth. Intrusive luxation has been defined as dislocation of a tooth in an axial direction into the alveolar bone. The traumatized primary teeth have potential risk for permanent teeth from a colour change to the premature loss of a tooth. The objective this case series was to clinically observe the findings in permanent teeth following primary tooth intrusive luxation injuries during the 5-year follow-ups **CASE REPORT(S)** Three patients aged between 3-4 years old were admitted Marmara University Faculty of Dentistry, Department of Paediatric Dentistry due to dental trauma. Information on the sociodemographic characteristics of the patients were collected. Intrusive luxation was detected in the patients' primary central incisors. The clinical documentation, photographs and

radiographs were obtained. In one patients affected teeth were extracted, other patients were followed for spontaneous re-eruption. In all three cases, enamel hypoplasia was diagnosed in permanent incisor clinically. According to the radiographic examination, no anomaly was observed in the roots in 5 years follow up. **FOLLOW UP** Follow-up visits occurred from the baseline and every three months over a 5 years period **CONCLUSIONS** The assessment of predicted risks of sequelae showed that teeth with hard tissue trauma tended to present colour change. Clinicians facing intrusive luxation injuries to primary dentition need to have access to useful and practice guidelines for follow up periods and treatment plans for permanent dentition as well.

OPD 3.15 **Long-term Outcomes of Premolar Autotransplantation to the Maxillary Incisor Region: A Retrospective Cohort Study.**

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AIM To assess the long-term survival and success rates of premolars with immature root development that were autotransplanted to the maxillary incisor region **METHODS** Retrospective data were gathered from dental records and x-rays in patients that underwent tooth autotransplantation at the Eastman Institute in Stockholm between January 1980 and 2018. A preformed sheet was used for data collection. Positive healing outcome was defined as: absence of pulp necrosis, inflammatory root resorption and ankylosis. Survival rate was defined as percentage of transplanted teeth present in the mouth at the last follow up. Success rate was defined as percentage of teeth with continued root development and vitality. **RESULTS** In total 54 patients (37 men and 17 females) and 62 teeth were included. The average age at the time for autotransplantation was 12 years and the degree of root development in the donor teeth that were transplanted varied between 75% and 100%. A total of six operators performed the procedure. Extraoral time of the donor tooth varied between 1 and 16 minutes. Survival rate was 95.7% and success rate 82%. The follow up time varied between 1 year and 13 years (mean 6 years) at the clinic. **CONCLUSIONS** Autotransplantation of premolars to the maxillary incisor region is an effective treatment alternative to fixed prosthodontic restorations and dental implants in children and young growing individuals

OPD 3.16 **Effect of delayed dental management on a severely intruded maxillary central incisor**

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INTRODUCTION Delayed attendance following an episode of dental trauma is associated with greater risk of healing complications. There are many reasons why patients may not attend immediately following dental trauma including: access to dental care, dental neglect or other form of child maltreatment, or associated injuries taking precedence. **CASE REPORT(S)** A male patient aged 11 attended Leeds Dental Institute (LDI) for treatment 13 days after the dental

trauma. The family were on holiday when the injury occurred, and they had accessed two other dental settings who had failed to provide appropriate trauma care. He presented with uncomplicated crown fractures to UR1 and UL1 along with severe intrusion of UL1. He was medically fit and healthy. **FOLLOW UP** Under local anaesthetic, UL1 was surgically repositioned and flexibly splinted for two weeks with a titanium trauma splint. The dentine was sealed with flowable composite on both fractured incisors. Two weeks after presentation, UL1 was extirpated and dressed with calcium hydroxide. Later, UR1 displayed signs of pulpal necrosis and was extirpated and dressed as above. Composite build ups to UR1 and UL1 were completed to improve aesthetics. Despite care provided upon presentation to LDI, this patient developed infection-related resorption and unfortunately UR1 and UL1 have poor long-term prognosis. We were unable to complete care for this patient as he left the United Kingdom. **CONCLUSIONS** This case demonstrates the importance of early management for children with traumatic dental injuries. Despite best efforts, care provided when presentation is delayed may deliver a compromised outcome.

OPD 3.17 **A 3-Year retrospective study of avulsion cases in a paediatric dentistry clinic**

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AIM Amongst the types of dental injuries, avulsion is one of the most severe and its clinical prognosis is very contingent on first-aid measures and agility to seek dental care . The success of the treatment is extremely dependent on how the avulsed teeth were managed prior to reimplantation. This retrospective study assessed the epidemiological characteristics and management of the avulsed permanent teeth **METHODS** From more than 94 trauma patients attended at the Department of Paediatric Dentistry, School of Dentistry, Marmara University from July 2019 to November 2022, a cross-sectional evaluation was conducted based on clinical data of 11 patients involving 16 avulsed teeth. Data included sex, age, trauma aetiology, number and position of avulsed teeth, and presence and type of associated traumatic lesions and periapical index(PAI) scoring system. Management of the avulsed teeth was addressed as: time elapsed until teeth were reimplanted from the accident's location; teeth's storage conditions; time elapsed until seeking treatment and reimplantation. **RESULTS** The majority of the patients were children 9-18 years old. 55% (n=6) girls were more affected than boys 45% (n=5). Bicycle accident was the main etiological factor 45% (n=5). 7 teeth (64%) were immediately reimplanted, 5 teeth (45%) were kept dry,6 teeth (55%) were immediately reimplanted at the accident's site, while 5 teeth (45%) were not reimplanted. 4(36%) teeth had a PAI score of 5. **CONCLUSIONS** Within the limits of this study, It can concluded that clinicians facing avulsion cases need to have access to useful and practice guidelines.

OPD 3.18 **Primary teeth trauma: consequences for their permanent successors**

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INTRODUCTION Dental trauma is a frequent event in children. Dental trauma guides provide protocols for follow up and treatment of primary teeth trauma. In secondary paediatric dental clinics children are frequently seen after primary teeth trauma complications arise. These complications together with the original trauma can cause serious damage to permanent successors. **CASE REPORT(S)** Four referred cases with late consequences of mis- or untreated primary teeth trauma are presented. A front trauma at 2 years of age; followed by extracted front teeth at age 5 and eruption of 4 permanent dilacered front teeth with Turners hypoplasia. A 7 year old presented with a big buccal lesion in the 21 after trauma of the 61 at 24 months. An 8 year old referred with atypical mesial cavity in the 21 after trauma of the 61 at an age of 3 years. An 8 year old with an 12 with Turner hypoplasia and mild dilaceration of the 11 after trauma at an age of 24 months . All permanent front teeth of these children were treated with composite resin material. Root development after treatment was monitored. **FOLLOW UP** All children were treated and monitored for at least 2 years. Especially root formation and aesthetics were monitored. When needed aesthetics were improved at a later age. **CONCLUSIONS** Trauma to primary teeth can have an immediate impact on the permanent successors. This unavoidable damage will need dental treatment in the future. It is very important to avoid iatrogenic damage to successors by mistreatment or no treatment of traumatized primary teeth.

Session OPD4

OPD 4.1 **Evaluation of shear bond strength and microleakage of different bioactive restorative glass ionomer materials to dentin**

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AIM The aim of this study is to evaluate shear bond strength (SBS) and microleakage of four different bioactive restorative materials (BRM) (Beautifil-II, Riva LC-HV, Nova Glass-II LC and Ketac™-Molar Easymix) on permanent dentin. **METHODS** For microleakage tests, a Black-V cavity (4x2x2 mm) was prepared on buccal surfaces of 40 human permanent third molars. Teeth were randomly divided into 4 groups (n = 10). After cavities were restored and polished with four different BRMs. They were thermally cycled 500 times to simulate oral conditions. Samples were kept in 0.5% basic fuchsin solution for 24 hours, then longitudinal sections were taken from midpoint in buccolingual direction and evaluated for microleakage under a stereomicroscope. For SBS test, 40 human third molars were randomly divided into 4 groups (n = 10). In order to expose dentin tissue, occlusal-enamel surfaces of teeth were removed with a low-speed water-cooled diamond bur. BRMs were applied to exposed dentin through 3 mm diameter vinyl tube. SBS test was applied to each sample on a universal testing machine and fracture types were evaluated with stereomicroscope. The BRM-dentin interface produced by each system was

examined using SEM. The data obtained were analysed statistically by variance analysis and Tukey test. **RESULTS** According to SBS findings Beautiful-II group was found significantly higher than other groups (p0.001). The lowest SBS value was observed in Nova Glass-II LC group. According to microleakage findings there was no significant difference between the groups (p0.001). **CONCLUSIONS** BRMs with different properties showed similar values in terms of both SBS and microleakage.

OPD 4.2 **Early management and long term follow-up of patients with anomaly of tooth structure treated using Zirconia paediatrics crowns**

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INTRODUCTION Paediatric dentists can be faced with different structural anomalies of the primary teeth. Amelogenesis Imperfect (AI) and Dentinogenesis Imperfecta (DI) impact the functions (attrition, loss of the vertical dimension…) and the aesthetics (shade anomaly, unesthetic aspect of the teeth) and could damage the primary teeth, with extensive decay. **CASE REPORT(S)** Through 4 case reports we describe the early management of patients with AI or DI using zirconia paediatric crowns. The patients were treated with or without sedation (general anaesthesia) in one or several appointments. 2 cases involve complete mouth rehabilitation with 20 zirconia crowns. **FOLLOW UP** Clinical follow-up during 6 years shows the success of the therapy: crowns retention, good gingival health, patient and parents satisfaction. Early treatments must be done to restore the functions and the aesthetics. The guidelines recommend the use of paediatric crowns in case of extensive defect and decay. Metallic paediatric crowns are still the golden standard for the posterior teeth. Zirconia paediatric crowns must be considered as a safe and efficient therapeutic option in case of structural anomalies. **CONCLUSIONS** Zirconia crowns allow a durable restoration of both aesthetics and functions in young patients with AI and DI.

OPD 4.3 **Surface protection of glass ionomer cements: A systematic review and Meta-analysis**

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AIM This systematic review evaluated the influence of surface protection of glass ionomer cements (GIC) on laboratory and clinical performance. Additionally, the difference between different materials used as protective coatings was investigated. **METHODS** Searches were performed in four electronic databases up to August 2023. Eligibility criteria included laboratory and clinical studies that reported data on treatment longevity and/or restoration failure using conventional high-viscous GIC (HVGIC) or resin-modified GIC (RMGIC). Two independent reviewers participated in all phases of the studies' screening and eligibility. Risk of bias assessment was performed for included studies. Narrative synthesis and meta-analyses were

pooled by calculating the standardized mean difference (MD). **RESULTS** A total of 39 studies (35 laboratory and 4 clinical studies) were included. Meta-analysis showed that nanofilled resin-based coating (NRC) was associated with decreased fluoride release (MD=-9.83, 95% CI: -18.94 to -0.73, p=0.03), and punch strength (MD=-7.40, 95% CI: -9.04 to -5.76, p0.001) of HVGIC at 24 hours. Similarly, Vickers hardness of RMGIC was lower in the specimens protected with NRC (MD=-20.25, 95% CI: -23.15 to -17.36, p0.001). The narrative synthesis of the clinical studies revealed that NRC improved the longevity of HVGIC in approximal restorations in primary teeth. The risk of bias of all included studies was high. **CONCLUSIONS** Clinical studies suggest surface protection improved survival of HVGIC in approximal restorations in primary teeth, while the laboratory studies showed that surface protection of GICs resulted in a reduction in fluoride release, punch strength and Vickers hardness. The level of evidence is low.

OPD 4.4 **Longevity of Class II restorations in primary molars: a 5-year study**

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AIM To evaluate, up to 5 years, longevity of Class II restorations in primary molars in patients who have undergone dental treatment in sedation at least once in the university clinic. **METHODS** From 60 children included in the study, 25 received class II restorations. Data on sex, position of tooth in the mouth, sedation method (nitrous oxide, midazolam, none), restorative material (conventional resin composite, bulk-fill composite, temporary materials – TM, or other), methods of isolation, and behaviour during treatment were gathered. Restorations (n=76) was the count variable, and time until failure was the dependent variable. Survival analyses were performed with Kaplan-Meier and log-rank tests (p 0.05) and factors associated with time until failure (p 0.25) were entered into a multivariate Cox regression model to verify association with failure. **RESULTS** A total of 76 restorations were evaluated, and 39 failures were reported with secondary caries or fracture as the main reasons. Yearly survival rates were: 78%, 62%, 44%, 35% and 29%, for 1–5 years, respectively. A greater Class II longevity was observed for conventional composite and bulk-fill, and slightly lower longevity for TM, but no significant differences were observed between these materials. When “other” materials were used, there was a higher risk of having a restoration failure (p=0.003). From the regression analyses, none of the other factors were associated with longevity of Class II restorations (p0.05). **CONCLUSIONS** Class II restorations had a low probability of surviving for 5 years, but restorations with conventional composite and bulk-fill tended towards a higher success rate.

OPD 4.5 **Use of a flowable self-adhesive composite as a pit and fissure sealant**

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INTRODUCTION Self-adhesive flowable composites (SAFC) are claimed to bond to tooth substrate without a separate adhesive based on their low viscosity and composition with self-adhesive acidic monomers. **CASE REPORT(S)** This study clinically evaluated the handling characteristics and the workflow for a SAFC, as a pit and fissure sealant for permanent first molars.SAFC tested was Vertise-Flow/Kerr. The clinical cases included sealing of all recently erupted first permanent molars of two 6 years-old patients, caries-free, from an urban location, using specific single-use packaged accessories and two light-curing settings for two different opacities of the sealant (Tr and UO). Clinical workflow steps were correlated with handling properties of the selected self-adhesive flowable composite, such as brushed injected material, adhesion, flowability, LED light-curing, some optical properties, polish ability and patient taste perception. The clinical cases developed practitioner skills for sealing permanent first molars with SAFC, reducing the types/number of dental materials and less time children patients spend in the dental chair. The brushed first layer of sealant over localized etching favoured no air bubbles and the controlled coverage of the fissure surface, with a minimal time for finishing. **FOLLOW UP** Base line high retention and complete marginal integrity confirmed its immediate clinically acceptable adhesion. **CONCLUSIONS** The clinical handling characteristics of the selected self-adhesive flowable composite and its associated sealing technique supported it's indication as an easy to use pit and fissure sealant. However, further long-term clinical studies are mandatory to confirm the outcomes of this study and to evaluate other material properties.

OPD 4.6 **A 5-year longevity study of Class I restorations in primary molars**

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AIM To evaluate up to 5 years longevity of Class I restorations on primary molars in children who have undergone dental treatment under conscious sedation at least once before at the university clinic. **METHODS** From a total of 60 children included in the study, 34 had received Class I restorations on primary molars. Data on sex, position of tooth in the mouth, sedation method (nitrous oxide, midazolam, none), restorative material (conventional resin composite, bulk-fill composite, temporary materials – GIC/IRM, other), methods of isolation (rubber dam, cotton roll, Isolite system), and behaviour during treatment were gathered. Restorations (n=51) was the count variable, and time until failure was the dependent variable. Survival analyses were performed with Kaplan-Meier and log-rank tests (p0.05). Factors with p0.250 were entered into a multivariate Cox regression model to verify association with failure. **RESULTS** A total of 51 restorations were evaluated, and 30 failures were reported. The probabilities for a restoration to survive for 1 to 5 years, respectively, were: 86%, 53%, 50%, 33% and 25%. From the regression

analyses, only sex (p=0.007) and restorative material (p=0.052) were associated with longevity of Class I restorations. Girls had higher chances of having restoration failure (p=0.014), especially when the “other” material was used (p=0.003). Higher longevity was observed for conventional and bulk-fill composites, followed by temporary materials, and then other materials, who showed the lowest success time. **CONCLUSIONS** The longevity of Class I restorations on primary molars was significantly influenced by the restorative material and sex of the child.

OPD 4.7 **Effect of lactic acid on the erosion of glass-ionomer materials**

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AIM Purpose: Exposure to acidic solutions could lead to erosion and the degradation of restorative dental materials. The aim of this study is to evaluate the effect of lactic acid exposure on the surface of a GIC. **METHODS** Forty specimens from two GIC materials ((Fuji IX (GC), and Ketac Molar (3M Espe)) were prepared. Specimens from each material were divided into 4 groups: (A)chemically setting, (B) thermo-cured setting, (C) with coat application, (D) thermo-cured+coat). Samples were immersed in lactic acid for 2 hours per day through 10 days. Control group was stored in artificial saliva. Before immersion, baseline data of microhardness and weight were recorded. Specimens were then exposed to lactic acid. Statistical analysis with one-way ANOVA and Tukey HSD Post Hoc test was performed. **RESULTS** Lactic acid did not cause a significant decrease in weight of both tested groups (p0.05). Both materials in lactic acid showed decrease in microhardness after acidic exposure (p0.05); Control group remained without significant changes of surface. Coated and thermo-cured Fuji IX showed a significant increase in surface microhardness compared to chemically cured GIC (p0.05). Similar decrease in surface microhardness were obtained for Ketac molar exposed to lactic acid.(p0.05). **CONCLUSIONS** After acidic challenges, there were no changes in weight for all tested GIC groups. Thermo-cured and coated GIC showed the better microhardness after acid challenges in lactic acid. An acidic pH did not seem to be significant factor that intensifies the surface degradation phenomena of GIC.

OPD 4.8 **Direct and indirect restorations of teeth treated with vital pulp therapy: a case series.**

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INTRODUCTION Restoration of teeth that have undergone vital pulp therapy can be challenging and may influence long-term survival of the tooth and treatment costs. Although stainless steel crowns (SSC) are the treatment of choice in most cases, with advances in adhesive materials, less invasive treatment modalities have become a viable option. The purpose of this case series is to describe different restorations in endodontically treated teeth and evaluate their clinical performance. **CASE REPORT(S)** Nine patients, 5 girls and 4 boys, with a mean chronological age

of 11.2 years and a non-contributory medical history were retrieved from the records of the Department of Paediatric Dentistry (NKUA). All patients presented with extensive carious lesions in at least one first permanent molar and had undergone pulpotomy with MTA, followed by a restoration. In all cases final restoration was placed either immediately or soon after pulpotomy. Three teeth, two upper and one lower, were restored with a SSC after coronal pulpotomy. Another two coronal and one partial pulpotomy cases, on two lower and one upper molar were restored with resin composite. For the last three teeth, two lower and one upper, an onlay composite restoration was the treatment of choice. **FOLLOW UP** 12 moths post-treatment restorations presented good marginal adaptation and no secondary caries formation, in all but one case where a composite resin restoration had to be replaced with a SSC. **CONCLUSIONS** Clinician's decision upon ideal material should be based on available evidence and clinical experience, considering patients individual needs and expectations.

OPD 4.9 Characterisation of CPP-ACP with the addition of Fluoride

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AIM The aim of the study was to; i) investigate the interaction between CPP-ACP in Tooth Mousse™ (TM) and fluoride that may have an influence on the reduced remineralisation efficacy of TMPlus and ii) investigate the kinetics of any interaction. **METHODS** TM (29g) was mixed with 0.058g of NaF to simulate GC TMPlus which contains 900ppm of fluoride. 5g of this mixture was added to 45mL of 0.5M NaOH and centrifuged. The sediments were collected and dried in an incubator. Subsequently, the powder was analysed by using 19F MAS-NMR. 19F MAS-NMR spectroscopy and X-ray diffraction was completed on five samples at times ranging from four days to seven months. This procedure was repeated using sodium monofluorophosphate (MFP) (0.221g). The fluoride concentration was measured with an ion-selective electrode (ISE) for the samples at different time points. **RESULTS** The 19F MAS-NMR spectra confirmed the absence of fluorine for the TM as expected. The spectra of the TM with added NaF showed the formation of a sharp peak in all five samples with a chemical shift at -103ppm corresponding to fluorapatite. The spectra for the samples with MFP showed a peak at about -105ppm, corresponding to a mixed fluorohydroxyapatite. The signal to noise was greater with the MFP indicating a much lower fluoride content in the sample. **CONCLUSIONS** TM took up fluoride to become a fluorapatite-like phase which has been previously described as an "ACFP complex" which may account for the reduced efficacy of TMPlus compared to TM in promoting remineralisation.

OPD 4.10 **Antibacterial activity of a bioactive restorative material versus a glass-ionomer cement on Streptococcus Mutans: In-vitro study**

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AIM Paediatric dentists can rely on many techniques and materials to restore decayed teeth: composite resins, glass ionomer-cements, composer and performed crown. More recently , there has been a significant focus on the development of new generation of biocompatible restorative materials that have therapeutic function. This new restorative bioactive materials combine the mechanical and aesthetic characteristics of resinous materials with the capability to remineralize and the antimicrobial properties of glass ionomers, thus counteracting the occurrence of secondary caries. The aim of this study was to assess the antimicrobial activity against Streptococcus mutans of a bioactive restorative material (ACTIVA™ BioActive-Restorative™ Pulpdent©) and a glass ionomer cement with silver particles added (Ketac™ Silver—3M©), using agar diffusion assay. **METHODS** Each material was formed into disks of 4 mm in diameter, and four discs of each material were placed on nine agar plates. The analysis was repeated seven times. **RESULTS** Both materials showed statistically significant growth inhibition properties against S. mutans (p 0.05). The difference in the effectiveness of the two materials was not statistically significant. **CONCLUSIONS** Both ACTIVA ™ and Ketac ™Silver can be recommended since both are similarly effective against S. mutans. However ACTIVA ™, given its bioactivity and better aesthetics and mechanical properties compared to GICs, may provide better clinical performance

OPD 4.11 **Clinical applications of Propolis in the endodontic therapy of primary and young permanent teeth: A scoping review**

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AIM The use of propolis to promote pulp wound healing or disinfect the root canal system has attracted scientific attention recently owing to propolis antimicrobial and anti-inflammatory properties. This scoping review aims to critically appraise and summarise the evidence on the clinical applications of propolis-based compounds in the endodontic therapy of primary and young permanent teeth in order to inform future research. **METHODS** The available literature was searched for relevant studies using a combination of terms in three electronic databases (Scopus, PubMed, Web of Science) up to and including October 2023. All identified studies were screened and assessed for inclusion eligibility. Only English clinical studies evaluating propolis usage in the endodontic therapy of human primary and young permanent teeth were included. **RESULTS** A total of 16 clinical trials and three prospective cohort studies published between 2011 – 2023 were identified. Overall, the studies reported promising results in terms of inflammation control, tissue repair and disinfection following the use of different propolis-based compounds

during direct pulp capping, pulpotomy and pulpectomy. However, methodological and reporting deficiencies were evident in the majority of the studies, raising concern about the reliability of their conclusions. **CONCLUSIONS** The findings of the present review, although suggest promising outcomes in relation to propolis usage in the endodontic therapy of primary and young permanent teeth, highlight the need for further high-quality research in the area and the need for more strict editorial control over publications. Furthermore, guidelines for propolis quality assurance and safe use in paediatric endodontics are required.

OPD 4.13 **Pulpectomy: a treatment option with favorable outcome in primary teeth.**

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AIM The aim of the present study was to retrospectively evaluate the radiographic success of pulpectomy in primary second molars, 12 months post-treatment and record reasons for failure. **METHODS** Radiographic dental records of the Paediatric Dentistry Department of the National and Kapodistrian University of Athens from 2018 until 2022, were retrieved and patients that had undergone pulpectomy in second primary molars with 12 months follow up, were selected. In all cases, age was recorded and treatment success was defined as the absence of any radiographic pathological findings (inflammatory root resorption, internal root resorption, any radiolucency apically or in the bifurcation area). Apical extrusion of the filling material was also recorded. **RESULTS** Seventeen patients (mean age 5.2 years, S.D. 1.34), had 19 second primary molars (17 lower and 2 upper) treated with pulpectomy. In all cases treatment was completed in two sessions using manual files for the chemomechanical root canal preparation. Canals were obturated with zinc oxide eugenol paste and the teeth were restored with stainless steel crowns (n=15) or composite resin restorations (n=4). Overall, the 12-months success was 79%. Inflammatory root resorption was the only cause of failure (n=4). Apical extrusion of root filling material was observed in three cases, one of which displayed inflammatory root resorption and another one ectopic eruption of the successor premolar. **CONCLUSIONS** Pulpectomy is a reliable method for maintaining carious primary teeth in the dental arch. However, it requires follow up for early detection of any adverse effects especially important for permanent successors.

OPD 4.14 **Accuracy of different apex locators in enlarged root canals: An in vitro study**

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AIM Accurate working length determination is one of the fundamental parameters for successful root canal treatment. The aim of this study was to evaluate the accuracy of two electronic apex locators (EAL) in normal and enlarged root canals in vitro. **METHODS** A total of 15 extracted premolar teeth were used in this study. Actual working length (AWL) was determined by direct visual technique under the microscope. The teeth were embedded in an alginate mold that was kept moist with saline solution and measurements of canal length with Propex Pixi (Dentsply

Maillefer) and Woodpex 3 (Woodpecker Medical Instrument Co) were performed. After that, teeth were instrumented using #10–35 K-files with a #35 K-file employed as the master apical file to simulate young permanent tooth with large canal. The AWL was reestablished under the microscope to verify that it has not been changed by the enlargement procedure. Then, teeth were embedded again in alginate mold and length measurements with EAL were performed. Data underwent one-way ANOVA with repeated measures and Bonferroni multiple comparison testing. **RESULTS** Prior to enlargement procedure, there was no significant difference between AWL and Propex Pixi (P=0,068) while Woodpex 3 measured shorter canal length than the actual measurement. (P=0,003) After the enlargement procedure no significant difference was determined between EALs. (P0,05) **CONCLUSIONS** Propex Pixi accurately determined working length in both normal and enlarged canals, whereas Woodpex 3 measurements were shorter in normal canals. Both EALs present viable alternatives for working length determination in enlarged canals.

Session OPD5

OPD 5.1 **The attitude and practices of paediatric dentists in Greece toward the use of Clear Aligners in treating malocclusion.**

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AIM The study aims to evaluate the use of clear aligners in adolescents and preadolescents by paediatric dentists and general dentists with special interest in order to treat malocclusion. **METHODS** Cross-sectional research performed. A questionnaire was sent to the registered members of the Hellenic Society of Paediatric Dentistry (HSPD). It was organized in three domains a) participants' demographic information b) assessment of their attitude toward the use of clear aligners and c) evaluation of their applications of aligners. **RESULTS** 100 respondents participated and 5 of them were excluded, finally 31 males and 64 females included. The overall response rate was 28,2%. 32,6 % (sample 31) of the clinicians are using aligners and 67,4% (sample 64) do not. In the non-aligner group, mainly were females where in the aligner group they were equal distributed. 16 clinicians (43.2%) in the age group 41-50 and 9 (37.5%) clinicians aged 51 years old are using aligners. The effectiveness of aligners in several types of malocclusions has been reported mainly by 90% of the clinicians to be effective for mild to moderate and class I crowding and 64.5% replied positively to Class I open bite and Class II deep bite. **CONCLUSIONS** This is primary research conducted in Greece and Europe. One out of four registered members participated and from those who replied one out of two use Aligners. Mild and moderate malocclusion can be corrected or improved, and the efficiency of the aligners has been reported. Invisible therapy is increasing among young patients due to social media.

OPD 5.2 **Impact of the palatine tonsil size on the morphology of the dental arches**

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AIM To investigate the influence of palatine tonsil size on dental arch parameters and identify potential orthodontic anomalies associated with this variation. **METHODS** 82 participants between ages of 6-12 who applied to the Department of Otorhinolaryngology of Istanbul Faculty of Medicine were divided into 5 subgroups based on their tonsil size using the Brodsky's tonsil grading scale. After measuring the casts using an electronic caliper, dental arch measurements were made. Quantitative variables was assessed by the Spearman' rank correlation coefficient. The SPSS v.22.0 software was used. The significance threshold was set at p0.05. **RESULTS** 82 patients as 43 boys (52.4%) and 39 girls (47.6%) aged between 6 and 12 years old with a mean age of 8.0±1.8 years were included in this study. The maxillary inte-rcanine, inter-premolar, and intermolar widths were significantly and negatively correlated to the grade (p0.001). A ratio of total depth of the palatal vault to maxillary inter-first molar width that was significantly and positively correlated to the grade (p0.001). There was significant relationship between the tonsil grade and the age (p=0.013). **CONCLUSIONS** Early assessment of palatine tonsil size may help prevent orthodontic abnormalities arising from upper airway obstruction. In any scenario, it is necessary for dentists to conduct a thorough evaluation in children exhibiting respiratory alterations, thereby reduce the risk of potential orthodontic abnormalities in early term.

OPD 5.3 **Analysis of resin infiltration as a treatment to manage unaesthetic white spot lesions after orthodontic treatment**

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INTRODUCTION White spot lesions (WSLs) are one of the most common adverse effects following fixed orthodontic treatment. If not treated, these white, opaque lesions can cause aesthetic concerns, symptoms and can progress to carious lesions. A new way to interceptively treat WSLs, using the minimal invasive technique, resin infiltration (RI) has been proposed. However, no studies are available assessing the objective and subjective outcome. **CASE REPORT(S)** Ten patients between 15-23 years of age with at least one non cavitated WSL on the maxillary anterior teeth following orthodontic treatment were included. The teeth with WSL were treated with RI using the protocol of the manufacturer (Icon, DMG, Hamburg). The objective outcome was assessed by measuring the tooth colour and translucency using the VITA Easy Shade V. To measure the subjective outcome, the patients fulfilled questionnaires about self-perceived oral aesthetics and symptoms as well as oral health related quality of life prior to the treatment, 2 weeks and 1 year later. During the RI treatment patients were also asked questions about the experience of the procedure. **FOLLOW UP** The follow-up time was 2 weeks and 1 year after RI treatment. RI masked the WSL to a great extent and the patient satisfaction after the treatment was high. The patients only reported a mild discomfort during the treatment. **CONCLUSIONS** RI

is a comfortable treatment, which gives satisfactory objective and subjective results in terms of aesthetic appearance of teeth with WSL after orthodontic treatment.

OPD 5.4 **A longitudinal study of maxillary incisor root resorption caused by ectopic canines**

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AIM To evaluate the long-term radiographical and clinical status of incisor root resorption caused by maxillary impacted canines (MIC). **METHODS** Subjects with MIC and resorbed incisors (RI) examined with Cone Beam Computed Tomography (CBCT) ≥ 5 years ago were recalled. The resorption grade was assessed on CBCT images at baseline (T0) and at the follow-up (T1). A clinical examination was done at T1 including probing depth, gingival retraction, mobility, ankylosis, discoloration and vitality test. In addition, the patients fulfilled a questionnaire regarding symptoms from the incisors. Fisher's exact test was used for numerical data and for differences in grade of resorption over time. **RESULTS** Forty subjects (age at T0: 13.8 years±2.1), 34 females and 6 males with 47 incisors (87% lateral incisors, 13 % central incisors) were recruited. The follow-up range was 5.5-14.6 years (9.0 years ± 2.5). At T0, the resorption was diagnosed as slight in 38%, moderate in 36% and severe in 26 % of the incisors. At T1, none of the incisors were lost or were endodontically treated. The resorption grade was unchanged in 37 teeth, improved in 7, and aggravated in 2 teeth. Incisors with severe resorption at T0 were significantly more obliterated at T1 (p 0.001). There were no significant differences between the RI and the unresorbed contralateral incisors regarding all clinical parameters. In addition, patients did not experience statistically more symptoms from the RI. **CONCLUSIONS** Resorbed incisors caused by MIC have a high survival rate in long-term.

OPD 5.5 **Orthodontic-restorative treatment of cleft lip and palate**

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INTRODUCTION In patients with cleft lip and palate (CLP) definitive orthodontic treatment is very important in achieving satisfactory function and aesthetics. These patients are also more susceptible to poor oral health, including caries which can compromise achieved aesthetic result. **CASE REPORT(S)** A 13-year-old male patient with CLP was referred to the Department of Orthodontics after surgical closing of the oronasal fistula. Following complete orthodontic diagnosis he was diagnosed with a complete unilateral (left) cleft lip and palate, bimaxillary retrognathism, skeletal class III, skeletal open bite, bilateral crossbite, severe crowding with dystopia bimaxillary. After orthodontic therapy was finished due to insufficient oral hygiene there were multiple carious lesions present and the patient was referred to the Department of Pedodontics. Orthodontic treatment began with maxillary expansion appliance (Quad helix) and

extraction of all first premolars (14, 24, 34, 44). Then fixed orthodontic appliance was applied on both jaws. Restauration of cervical carious cavities was done by direct composite restorations on 45, 43, 32, 33, 35. Additionally, direct composite restorations were done to improve the aesthetics of maxillary incisors. **FOLLOW UP** The patient is in follow-up for 26 months. He wears retainers for both jaws. Position of the teeth remained the same to this day. Aesthetics are satisfactory. **CONCLUSIONS** In patients with CLP a satisfactory function and aesthetics achieved by final orthodontic treatment can be compromised by poor oral hygiene. To avoid various restorative treatments such patients should be monitored carefully as well as instructed and motivated to maintain good oral hygiene.

OPD 5.6 **Ectopic eruption of lateral incisors: Two cases reports**

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INTRODUCTION Ectopic eruption refers to the eruption of a tooth in a position that is abnormal in the dental arch. Some of the reasons are the lack of space in general, the early loss, trauma and ankylosis of a primary tooth. Correction of ectopically erupting permanent teeth is critical for the development of a stable occlusion and is an important component of interceptive orthodontic treatment. **CASE REPORT(S)** The first case is a Caucasian female 11 years old with free medical history and with palatine eruption of #12, 22, crossbite on both sides and severe crowding. The Hyrax appliance was the treatment of choice. The second case also a Caucasian female 9 years old with free medical history and with palatine eruption of #12,22 and crowding. For this case it was decided the placement of a Hawley expander with springs for the incisors. The choice for the devices was made based on our patients age and their cooperation. **FOLLOW UP** Follow-up at six months and a year for the first case and at six months for the second shown satisfactory results. **CONCLUSIONS** Ectopic eruptions are not a rare occurrence. Paediatric dentists must learn to diagnose and treat these conditions early to prevent the development of future malocclusions. There is a variety of corrective options available for the successful treatment of ectopic eruptions. The choice is individualized based on the patient's needs, their cooperation, and their age. A monthly follow-up after the placement of any expander is advised.

OPD 5.7 **Management of impacted permanent maxillary anterior teeth in children: two case reports**

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INTRODUCTION Conditions such as trauma, odontoma, lack of space, and the presence of supernumerary teeth can cause impacted maxillary anterior teeth. This circumstance may lead to challenges related to function, aesthetics, and speech. This case report describes the management of impacted maxillary anterior teeth. **CASE REPORT(S)** A 10-year-old male patient without any systemic illness presented to our clinic with unerupted permanent maxillary left

central and lateral incisors, and crossbite observed of the permanent maxillary right central incisor. Clinical and radiographic examinations revealed no pathology. In the second case, a 9-year-old male patient without any medical conditions visited our clinic with the complaint of unerupted permanent maxillary central incisors. Anamnesis revealed a history of trauma to the maxillary anterior region during the deciduous dentition. Clinical and radiographic examinations showed no pathology. In Case 1, following the surgical exposure of the teeth, the patient was provided with a screwed removable appliance and instructed to turn the screw a quarter turn twice a week. After 4-month, it was observed that the impacted teeth had fully erupted, resolving the crossbite. In Case 2, the teeth were also surgically exposed, and follow-up examinations were conducted every 3 months. After 9 months, it was noted that root development had occurred, and the teeth had erupted. **FOLLOW UP** The eruption pathways, clinical and radiographic features of the teeth were evaluated through follow-up examinations in both cases. **CONCLUSIONS** In the treatment of impacted maxillary anterior teeth, a multidisciplinary treatment approach can lead to successful outcomes in terms of both aesthetics and functionality.

OPD 5.8 **A case of maxillary anterior teeth traction after extraction of compound odontoma with digital guide plate**

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INTRODUCTION A ten-year-old girl complained of years of unreplaced anterior teeth. In this case, the digital surgical guide plate was used to achieve the minimum bone loss during the operation and the treatment process of traction of 11 teeth. **CASE REPORT(S)** This was a 10 year old female patient with a chief complaint that the upper anterior teeth had not been replaced for many years. Clinical intraoral examination revealed that tooth 51 had not fallen out, tooth 11 were not seen in the mouth, and the remaining permanent teeth had erupted except for the retained 51. Imaging examination: CBCT shows tooth 11 high impactions, located near the nasal base, on the labial side of tooth 21, with the long axis of the teeth close to parallel to the ground. There is a high-density mass between 11 and 51, and when enlarged, a large amount of tooth-like elements can be seen, with varying sizes. Due to the large extent of the odontoma and its proximity to the crest of the alveolar ridge, the high position of the tooth 11, and the large amount of buccal cortical bone that needed to be removed, it was decided to use a digital guide plate to assist in determining the extent of bone removal. This case describes the surgical procedure and the treatment of 11 teeth with traction. **FOLLOW UP** The day after surgery, the parents said that the child did not experience any discomfort. One week after surgery, the stitches were taken out, traction was started. After 7 months of treatment, the treatment was completed. Everything is good in the six months after the end of orthodontic treatment. **CONCLUSIONS** The digital guide plate can be applied to the extraction of supernumerary teeth,

odontoma, apical surgery, etc. Reducing the operation time and bone loss can help to reduce the probability of postoperative swelling and discomfort.

OPD 5.9 **Space loss following early loss of primary second molars: Alternative active space maintainer applications**

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INTRODUCTION Early loss of primary second molars before their natural exfoliation time is caused high probability of space loss, with greater loss of arch length in dental arches. Premature loss of primary second molars clearly requires space maintenance. This situation can increase need for orthodontic treatment since also caused problems such as crowding, ectopic eruption, tooth impaction and poor molar relationship. Under the umbrella of preventive and therapeutic orthodontic interventions in paediatric dentistry, alternative active space maintainer applications can be used in case of space loss. **CASE REPORT(S)** A healthy 12-year-old female and 10 year-old male presented to our clinic for their routine controls. Intraoral and radiological examination revealed that space loss occurred due to the early loss of primary second molar numbered 65 and 75. In both cases space loss and mesializes first molar was identified due to the absence of early orthodontic space maintenance procedures. In order to maintain the existing mesiodistal space to restore lost space in the second premolar tooth and correct the position of mesialized permanent first molars modified space maintainer in first case. In the second case fixed braces and molar tube applied segmentally. **FOLLOW UP** In both cases, it has been observed that teeth erupted once lost space was regained for first premolars. In both of cases, teeth erupted four months later. **CONCLUSIONS** Paediatric dentists must maintain dental occlusion. In this context, routine examinations and necessary preventive treatments for child patients are crucial. These cases emphasize importance of early intervention and preventive measures through alternative active space maintainer applications by paediatric dentists.

OPD 5.10 **Anterior tooth crossbite correction with different treatment techniques**

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INTRODUCTION Anterior crossbite is a very common problem in children. There are different methods developed to solve this problem. The aim of this case series was to compare different anterior crossbite correction treatment techniques and evaluate the effects of these. **CASE REPORT(S)** All cases were evaluated individually and different crossbite treatment techniques were applied to 3 child patients aged 8, 9 and 9 years old. Case 1: Our 8-year-old patient's tooth number 11 was in crossbite. By making a bite-ramp with composite resin on tooth number 41, the occlusion was increased and sliding surface was created for tooth number 11. Case 2: A removable anterior spring appliance was applied to our 9-year-old patient, whose tooth number 21 had a crossbite. Case 3: A removable anterior screw appliance was applied to our 9-year-old

patient and had tooth number 21 and 11 was a crossbite. **FOLLOW UP** Case 1: Patient's tooth number 11 returned to its normal position in just 2 weeks. Case 2: Patient's tooth number 21 returned to its normal position in 3 months. Case 3: Patient's tooth number 11 and 21 returned to its normal positions in 7 months because of her cooperation problem. **CONCLUSIONS** There are different treatment techniques for correcting anterior crossbite. While removable ones require patient cooperation, fixed ones do not. It is also important to catch the tooth during its eruption period.

OPD 5.11 **Perplexing Palates: Two cases of foreign bodies mimicking palatal oral lesions**

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INTRODUCTION Foreign body impaction in the hard palate is reported in the literature. Such cases provide diagnostic challenges to clinicians and stress to parents. We have presented two cases of paediatric patients with unknown palatal lesions, later found to be foreign bodies. **CASE REPORT(S)** Two healthy children, aged 6 and 14 months, were referred to the Oral and Maxillofacial Surgery department for unknown palatal lesions noticed by their parents. The 14-month-old had a two day history of reduced oral intake and halitosis. Examination revealed a fixed, yellowish-brownish 2cm midline palatal swelling. The 6-month-old hadn't displayed any behavioural changes. A 1.5cm circular lesion, surrounded by granulation tissue, was observed palatally. Differential diagnoses were a tumour or arteriovenous malformation for the 14-month-old, and oro-antral fistula for the 6-month-old. Foreign bodies were also considered. A CT scan on the 6-month-old suggested the lesion was unlikely metallic and likely a foreign body. A skull X-ray and MRI scan in the 14-month-old ruled out metallic origin and suggested a developmental cystic/soft tissue lesion, unlikely to be a foreign body. Examination under anaesthesia (EUA) revealed foreign bodies in both the 6-month-old and 14-month-old; a sequin and pistachio shell respectively. **FOLLOW UP** Neither patient required follow up. **CONCLUSIONS** Foreign bodies should be a differential diagnosis for palatal oral lesions in young children, and can be misdiagnosed after challenging examinations and even after imaging. Behavioural changes may indicate foreign body impaction. Timely management is crucial to reduce aspiration risk. EUA alongside diagnostic imaging to avoid repeat general anaesthesia should be considered.

OPD 5.12 **Treatment of Dentigerous Cyst with a custom made appliance: A case series**

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INTRODUCTION Dentigerous cysts are benign lesions of the jaw, often asymptomatic and found incidentally on dental radiographs, usually showing radiolucency with sclerotic margins. This case report presents 3 cases of dentigerous cysts, including treatment and follow-up for at least 6 months each. **CASE REPORT(S)** Three cases of dentigerous cysts are reported. Patients aged 9 to 12 were referred to Marmara University Department of Paediatric Dentistry alongside their

parents, where panoramic radiographs followed by CBCT scans revealed dentigerous cysts. Decompression of the cyst was aimed by using custom made appliance. At the first visit, an intraoral impression of the patient was taken and a custom made appliance was designed for each patient. After tooth extraction, individually prepared appliances were fitted and the patient started using them at the same appointment. The patient's parents were shown how and how often to irrigate with saline through the device. The cyst was rinsed by saline on a daily basis by parents of the patient through the device with a saline solution. Appliance obturation was under control at regular visits. The cysts were observed to shrink. **FOLLOW UP** Follow ups were at 1,3 and 6 months for each patient. Patients remain under surveillance. **CONCLUSIONS** As a conclusion, decompression of the cyst by using a special appliance might be a successful way of dentigerous cysts treatment.

OPD 5.13 Service evaluation on utilisation of clinics at Chapel Allerton paediatric dental unit

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AIM To understand clinic utilisation, identify and understand reasons for under utilisation and explore impact of patient choice. **METHODS** Patients treated between December 2021 to May 2022 were included. Data was anonymised and included clinic slot utilisation by day and staff group (Consultant, postgraduate, specialty Dentist or Hygiene therapist), patient cancellations and patient Did Not Attend. Slots were considered in terms of total slots and available slots (including cancellations due to leave) The data were extracted and Microsoft Excel was used to perform simple descriptive analyses. **RESULTS** The total number of available slots was 1952 and 1393 was unavailable due to leave. The percentage of available slots used was 73% (1424). Available slots were utilised least by postgraduates (67%). The percentage of utilisation of slots by day shows that Tuesday and Thursday were the most utilised (83% and 80%, respectively). However Tuesdays and Thursdays had the least number of slots (418 and 269 respectively) and Mondays and Wednesdays the highest number of slots (629 and 636 respectively). The percentage of DNA was 13% (253). Patients who had appointment choice were twice as likely to attend as those who did not. **CONCLUSIONS** Clinics were utilised best by consultants, specialty dentists and least by postgraduates. The best utilised days were Tuesdays and Thursdays. Mondays and Wednesdays however had the greatest capacity and still utilised the highest number of slots. The DNA rate was higher than expected. Patient choice had a positive impact on attendance.

OPD 5.14 **Endodontically Treated Permanent Molars Restored with CAD-CAM Hybrid Composite Resin Overlays in Children: A Report of 3 Cases**

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INTRODUCTION This case report describes the step-by-step procedure of computer-aided design/computer-aided manufacture(CAD/CAM)-generated composite overlays in permanent molars with severe coronal destruction. **CASE REPORT(S)** In case 1, 13 years-old girl had a severely damaged #37 with complaints of pain during chewing and tooth sensitivity to cold drinks, In case 2, 13 years-old girl had exhibited sensitivity to cold drinks in#26, In case 3, a 10 years-old boy had presented with severe coronal destruction in #46. Three permanent molars with carious pulpal exposure and clinical diagnosis of symptomatic irreversible pulpitis were treated with MTA (NuSmile) and restored using a base of glass ionomer followed by composite restoration in the first session. In all cases, the computer-aided design and assisted manufacture CAD/CAM-generated hybrid composite overlays (VOCO Grandio blocs) were fabricated. The internal surfaces of the overlays were sandblasted and silanated. Teeth preparations were etched with phosphoric acid before cementation. The dual-curing universal composite-based luting system(VOCO Bifix-QM) was used for cementation. **FOLLOW UP** Clinical and radiographic outcome measures were collected at baseline and then during the 6,9 and 12 months follow-ups. The use of hybrid composite overlays was effective in maintaining colour stability, marginal integrity and damaged tooth structure in total pulpotomised molars and have remarkable clinical, radiographic and patient-reported outcomes after 6 months in function. **CONCLUSIONS** These cases demonstrate the viability of CAD/CAM to restore endodontically treated teeth, and this technology can be an option for dentists interested in using a digital workflow. However, clinical trials of longer duration are required for further validation

OPD 5.15 **A re-audit of the documentation of parental responsibility and consent for paediatric dental patients.**

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AIM To re-audit whether consent had been documented correctly for paediatric dental patients having treatment under conscious sedation (CS) and general anaesthetic (GA) at a paediatric dentistry unit and whether all people with parental responsibility (PR) for the child were identified at the initial visit. **METHODS** For this fourth audit cycle a list of CS and GA clinical sessions were generated for a five-month period using the hospital patient management system. Cases were selected in chronological order until 80 were obtained. Clinical records were analysed retrospectively to determine whether consent was documented correctly: either provided by the patient if deemed Gillick competent, provided by a person with PR or treatment carried out in an emergency in the best interest of the child if parental consent could not be sought. **RESULTS** Previous audit cycle results showed that consent was documented correctly in 78% of cases (cycle

1), 96% of cases (cycle 2), 95% of cases (cycle 3). All people with PR for the patient were identified at the initial visit in 38% of cases (cycle 1), 86% of cases (cycle 2), 95% of cases (cycle 3). This fourth cycle showed that consent was documented correctly for 99% of cases and all people with PR were identified at the initial visit in 95% of cases. **CONCLUSIONS** A PR form was implemented following the initial cycle to help identify who had PR for a patient. Clinician training followed all cycles. Results indicate sustained improvement in child consent documentation due to these changes.

OPD 5.16 Quality improvement project: redefining emergency triage service in a Paediatric Dental Department

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AIM Since 2020, waiting times for hospital based dental services in the UK have increased. Concurrently, access to publicly funded NHS primary dental care has decreased. Newcastle Dental Hospital historically operates an emergency dental service. Increasing numbers of self-referrals were noted from patients in pain, unable to access other services, and patients on waiting lists experiencing new problems, putting strain on services and resources. This project aims to: • Develop a flexible service delivering appropriate, timely, urgent, specialist dental assessment and treatment, with equity of access. • Formalise a pathway for re-grading referrals for patients awaiting assessment, experiencing new acute dental pain. • Update and streamline the triage assessment process based on clinician feedback. **METHODS** Data relating to referral source and treatment 'pathway' were recorded retrospectively and inputted into Microsoft Excel. Simple descriptive statistical analysis was applied. User feedback (clinicians) was sought through a survey. **RESULTS** 508 patients were triaged over a six-month period. 471 (93%) were given appropriate phone advice and/or seen on an urgent clinic within one week. 37 (7%) were triaged to a more routine assessment. Most had been unable to access a GDP. 100% of users (n=7) felt the process was easy to follow. Over two rounds (1st cycle, n=7; 2nd, n=6) of feedback, all (100%) clinicians felt each version of the triage process was an improvement. **CONCLUSIONS** The reconfigured service is responsive and equitable. Patients in acute pain are re-prioritised where appropriate and seen sooner. Utilising a range of clinics has increased access. The triage process continues to evolve.

OPD 5.17 Factors associated with referral of children for dental treatment under general anaesthesia: A structured literature review

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AIM To identify and evaluate factors associated with the referral of children for dental general anaesthetics (DGA) and develop a model to understand the interaction of these factors. **METHODS** Three electronic databases (Medline, Scopus, Web of Science) were searched. Studies with participants aged under 18 years living in the UK or Ireland and identifying factors

associated with the referral of children for dental treatment under general anaesthetic due to dental caries were included. Quality of included studies was assessed using the 16-item Quality Assessment Tool for Studies of Diverse Design (QATSDD). **RESULTS** Eight studies were included in the review, which identified ten factors associated with the referral of a child for a DGA. The factors identified were split into four groups. Firstly, Parent and Child factors including parent preference, emergency attendance, complex medical history, learning disability and special needs; secondly, General Dental Practitioner (GDP) and Healthcare System factors including treatment complexity, referral process and availability of alternatives; thirdly, Characteristics and Sociodemographic factors including age, gender, ethnicity, and socioeconomic status; and finally, Psychosocial factors, including dental anxiety. **CONCLUSIONS** The links between parent-child, GDPs and healthcare system, characteristics and sociodemographic and psychosocial factors are complex and overlapping. The Structured Literature Review proposes a unifying model of these factors to show a child carrying the burden of many factors is at higher risk of poor oral health and referral for a DGA. The proposed model highlights the need for an integrated approach to address oral health inequality and the number of children referred for DGA.

OPD 5.18 **Evaluation of maxillary sinus pathologies in children and adolescents with cleft lip and palate using CBCT: A retrospective study**

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AIM The aim of this study is to retrospectively evaluate maxillary sinus (MS) pathologies in children and adolescents with cleft lip and palate (CLP) and compare them with those of a sex- and age-matched control group using Cone-Beam Computed Tomography (CBCT). **METHODS** Total of 130 CBCT images of 7-18 aged patients between the years 2014 and 2022, from the archives of the Yeditepe University, Faculty of Dentistry were considered eligible for this study. Groups were designed and matched according to sex and age. Findings of the MS were categorized as: (1) healthy, (2) mucosal thickening 3 mm, (3) polypoidal mucosal thickening, (4) partial opacification, and (5) complete opacification. **RESULTS** Among 130 patients, polypoidal mucosal thickening was found to be the most frequent sinus pathology, while total opacification was found to be the least frequent. The comparison of the presence and absence of the pathologies, the comparison of the sides of the pathologies, and the comparison of the groups resulted only in the number of sinuses with mucosal thickening greater than 3 mm was significantly higher in the CLP than that of the control group (p0.05). Comparing the frequency of pathology based on the sinuses according to cleft types and cleft sides showed no significant difference in any of the pathology groups (p 0.05). **CONCLUSIONS** CBCT plays a very important role in detecting incidental findings in the oral and maxillofacial region. For children with CLP, it's absolutely essential to get an early diagnosis of maxillary sinusitis.

Session OPD6

OPD 6.1 **Lingual lymphatic malformations: A report of two cases**

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INTRODUCTION Lymphatic malformations are a form of benign hamartoma which commonly occur in the head and neck region. Whilst rare in the oral cavity, these most frequently affect the tongue. Most lymphatic malformations occur during infancy and early childhood. Lingual lymphatic malformations can enlarge causing pain and swelling. This may be secondary to haemorrhage, infection, or upper respiratory tract infection. The resultant macroglossia can cause malocclusion, impaired speech, difficulty swallowing and airway obstruction. **CASE REPORT(S)** Two cases of lingual lymphatic malformations in a 14-year-old female and a 12-year-old male are presented. Both patients were medically fit with no known allergies, and reported a history of persistent lesions on the tongue with intermittent pain and swelling. One had presented to an emergency department with acute tongue swelling and was managed as a case of anaphylaxis. Clinical examination of these patients revealed a granular appearance with multiple fluid filled erythematous cysts on the dorsal and ventral surfaces of the tongue in keeping with a lymphatic malformation. The clinical presentation, diagnosis, classification and management of this condition will be discussed. **FOLLOW UP** Both patients were referred to the local vascular anomalies service and are currently awaiting laser ablation treatment. **CONCLUSIONS** Lingual lymphatic malformations may go misdiagnosed for a prolonged period of time with patients being seen by a number of medical specialists. The length of time taken for a definitive diagnosis in these cases would suggest that children presenting with oral lesions should be assessed by specialists, who have knowledge and experience of oral medicine and oral pathology.

OPD 6.2 **Laser surgical therapy for early treatment of oral mucocele in a newborn patient: A case report**

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INTRODUCTION Mucocele is a benign lesion of oral cavity , but it could potentially interfere with respiration and feeding, creating anxiety and apprehension in parents. **CASE REPORT(S)** A baby female, aged 4 months, was referred to our Orthodontics and Paediatric Dentistry Unit. Her parents reported, during the first months of life, the spontaneous formation of a pink oblong vesicle in the left internal part of lower lip. Colour, localization, and shape have been considered coherent with a mucocele lesion. As spontaneous regression of these oral lesions has been reported, it was decided to wait few weeks. After a month, the lesion had a significant growth with a shape modification and appeared as a more regular bulla. Surgical intervention was planned. Topic anaesthesia with lidocaine gel was performed. A diode laser (□ 810nm, CW mode, power output 3 watt, 320□m fiber optic) was set for excising the lesion. The procedure was

completed in 3 minutes. The diode laser provided: tissutal clean cutting and hemostasis. No sutures were needed. Postoperative instructions were given for maintenance of good oral hygiene. No additional analgesic or antibiotic was recommended. **FOLLOW UP** The patient was visited with a follow-up of 2 weeks ,4 months, 1 year after excision. The intraoral wound healed without complications, no signs of infection or mass recurrence were noted. The histopathological examination confirmed the diagnosis of mucocele. **CONCLUSIONS** The use of diode laser can be easily performed also in a noncompliant newborn patient for successful excision of mucocele lesions. This procedure is particularly safe and effective.

OPD 6.3 **Dental manifestation and management of X-linked hypophosphatemia**

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INTRODUCTION X-linked hypophosphatemia (XLH) is the most common genetic form of rickets and osteomalacia characterised by grow retardation, deformities of the lower limbs and spontaneous dental abscesses caused due to dentine dysplasia. **CASE REPORT(S)** We present the case of two siblings referred to the Dept. of Paediatrics due to growth failure. XLH was diagnosed in both of them based on clinical and laboratory findings. Dental and radiographic examination was performed later. Older boy had mixed dentition, permanent teeth were intact. Younger boy had carious primary dentition. TREATMENT: Both of them received the conventional treatment but with poor tolerance of phosphate medication. Systemic medication was changed to humanized monoclonal antibody for FGF23 (burosumab). Laboratory findings started to improve. In older boy no dental intervention was necessary at the moment. Younger boy underwent dental treatment under GA. Regular dental examination was performed every 6 months in both of them. Last examination 11/2023 revealed mixed, caries free dentition in younger boy, intact permanent dentition in older boy but with extensive periapical finding of lower incisors on X-ray. **FOLLOW UP** Root canal treatment of all lower permanent incisors were performed to minimise the risk of early loss of lower frontal teeth. No complications were found at the last visit. Both children will be monitored regularly. **CONCLUSIONS** The FGF23 is a promising new treatment for XLH; however, the effect on dental manifestation remain to be elucidated. Early diagnosis of systemic and dental pathology, effective therapy and regular observation are essential for both general and oral health. Acknowledgement: COOPERATIO and Swixx BioPharma.

OPD 6.4 **Case report of A 12-years male patient with sever aplastic anemia treated for Noma**

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INTRODUCTION Background: Noma, or cancrum oris, is a rare, multistage, and rapidly progressive multi-bacterial disease that occurs mainly in children with malnutrition, poor oral hygiene, and immunosuppression. Noma starts as a gingivitis, develops as gingival necrosis and spreads to underlying tissue and bone. We present here a case report of an immunocompromised patient diagnosed with Noma. **CASE REPORT(S)** Noma occurred in an immunocompromised 12 year old boy with severe aplastic anaemia. The patient was on chemotherapy and had multiple caries lesions. The initial lesion was presented around a decayed root fragment of the lower left first primary molar as an acute necrotizing ulcerative gingivitis. One week after dental treatment was performed, in relation to the patients stem cell transplantation, the patient was diagnosed with an extraoral swelling, extra oral erythematous area, and a swelling of the lower lip. Furthermore, the lesion spread to the soft tissues and the buccal mucosa of the lower left second primary molar and developed later to Noma. **FOLLOW UP** Treatment: Extraction of the root fragment under general anaesthesia and surgical treatment of gingival hyperplasia contributed to arrest the progression of Noma. Follow up: As the general health was getting progressive better, regular controls and cleaning with chlorhexidine was conducted. The remaining bone necrosis was treated surgically two years later, and the periodontal status was improved. **CONCLUSIONS** Full dental treatment before starting chemotherapy is essential to avoid serious complications.

OPD 6.5 **Dental management of late sequales in a child with Rhabdomyosarcoma therapy**

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INTRODUCTION Rhabdomyosarcoma is a malignant neoplasm with skeletal muscle differentiation and it is the most common soft tissue sarcoma of childhood and adolescents which is usually observed in the head and neck region. The treatment of this sarcoma includes chemotherapy, radiotherapy, and surgical resection. In this report, dental management of a paediatric patient who had late sequelae as a result of rhabdomyosarcoma treatment is presented. **CASE REPORT(S)** An 8-year-old boy who was diagnosed with rhabdomyosarcoma in the upper lip maxillary region at the age of 1, admitted to Istanbul University, Department of Pedodontics with complaints of dental pain. He received chemotherapy combination with localized radiotherapy (maxilla, mandibula, neck region) and surgical excision until 3 years old. Intraoral and radiographic examinations revealed multiple carious teeth, root agenesis, microdontia, mobility and severe oligodontia in permanent dentition. Other symptoms caused by the received treatment are xerostomia, trismus and jaw hypoplasia. Composite resin restorations, root canal fillings and pulp therapies were completed under local anaesthesia in

multiple sessions. **FOLLOW UP** Follow-ups were performed on a 3-months basis for a years after treatment. Pain and discomfort was reduced and oral hygiene was improved. **CONCLUSIONS** The severity of late dental sequales after radiation therapy vary depending on the location of radiation field and age. Unfortunately, medicals are unaware of these severe dental consequences, with great impact on quality of life. Paediatric dentists should be the part of multidisciplinary team approach while planning the radiation therapy limiting the oral sequales, providing better orodental health and managing late dental sequales.

OPD 6.6 **A traumatic bone cyst case affecting two mandibular molars' vitality in a female adolescent**

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INTRODUCTION A traumatic bone cyst (TBC) is a non-neoplastic lesion that is most commonly found in the mandible. Due to its asymptomatic nature, it is usually discovered during routine radiographic examinations as a unilocular radiolucency with scalloped borders in the posterior mandibular region. The etiopathogenesis of TBC remains uncertain; however, a widely considered cause is a hematoma forming intraosseously due to trauma. In this case report, the treatment and follow-up of an adolescent patient with TBC are presented. **CASE REPORT(S)** A routine radiographic examination revealed a radiolucent, unilocular, and asymptomatic lesion with a scalloped lining in the right posterior mandible of a 13-year-old female adolescent. Cold tests and an electrical pulp tester confirmed devitalization of the associated teeth 46 and 47. After obtaining the medical history, it was found that the patient had no predisposing factors aside from practicing karate professionally, with possible past traumas to the mandibular region. The patient underwent a cone beam computed tomography (CBCT) scan and then underwent surgery. The lesion was diagnosed as a traumatic bone cyst during the operation. In the course of follow-up period, the surgical site was advised to be kept clean, and root canal treatments were administered due to the development of symptoms in teeth numbers 46 and 47, which were diagnosed as devital. **FOLLOW UP** The patient was followed for 15 months with panoramic and periapical radiographs. **CONCLUSIONS** Traumatic bone cysts may be more common in adolescents who participate in martial arts, with possible traumas to the maxillofacial region.

OPD 6.7 **Oro-dental Burden of Teenage Patients Undertaken Chemotherapy with or without Radiotherapy During Childhood**

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AIM The objective of this study was to conduct clinical/radiographic evaluation of oro-dental abnormalities in the permanent dentition of a group of teenage patients who underwent chemotherapy with or without radiotherapy during childhood. **METHODS** Children who underwent chemotherapy at the Paediatric Haematology and Oncology Department of Marmara

University between the ages of 1 and 6 with or without radiotherapy were subsequently referred to the Department of Paediatric Dentistry at Marmara University after completing their treatment and reaching the age of permanent dentition. Intraoral examinations, encompassing assessments for tooth shape anomalies, DMFT index, DDE index, and radiographic evaluations for hypodontia, hyperdontia, and root anomalies, were conducted. Data were statistically analysed using SPSS program. **RESULTS** A total of 26 patients (11 females and 15 males) were included in the study, with a mean age of 13.96±1.51. All patients had received chemotherapy, with the mean age at the time of chemotherapy being 3.65±1.69. Only 30.8% of them had received additional radiotherapy, with the mean age being 5.00±1.07. Intraoral findings of children revealed a mean DMFT of 6.73±4.25, and 61.5% had enamel hypoplasia. Radiographic findings showed that 30.8% had hypodontia, 3.8% taurodontism, 19.2% unerupted teeth, and 29.1% root anomalies. Children who had received both treatments exhibited more oro-dental anomalies. **CONCLUSIONS** Chemotherapy and/or radiotherapy during childhood can impact oro-dental development, manifesting later in life. Therefore, it's essential to periodically monitor these patients, establish suitable protocols with an interdisciplinary approach which will enhance oral care after treatment and ultimately increase the quality of life of these patients.

OPD 6.8 **Changes in the oral microbiome in subjects affected by caries and general diseases**

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AIM A shift in the oral microflora can lead to caries. In comparison with healthy children, children with general diseases often show a higher caries risk and prevalence. Is there any evidence of oral microbiome profiles that can be considered indicators of not only caries but also general health conditions? **METHODS** 77 children (2-18 years of age) were recruited, and divided into three groups according to their medical history and dental status: completely healthy (group 1, n=40), healthy plus caries (group 2, n=18) and general disease plus caries (group 3, n=19). All children with caries needed a dental rehabilitation under general anaesthesia. Using a cheek swab, saliva samples were taken from each subject and stored frozen (-80 °C). A DNA isolation and a short read next-generation sequencing (Illumina) followed. For statistical group comparisons, the linear discriminant analysis effect size (LEfSe) method was used (p0.05). **RESULTS** At the descriptive level, a higher amount of Streptococcus species (Lactobacillales) was detected for group 1, while the amount of Haemophilus and Veillonella species was higher for group 2/3. Regarding inductive statistics, there were operational taxonomic units (OTUs) with significantly different frequencies (p0.05). At the genus level, the following species occurred characteristically: Burkholderiales, Rothia and Neisseria (group 1); Alloprevotella, Bacteroidales, Lactobacillales, Veillonella, Porphyromonas, Prevotella, and Weeksellaceae (group 2/3); Fusobacterium and Leptotrichia (group 3). **CONCLUSIONS** Obviously, children with general

diseases and caries, with Fusobacterium and Leptotrichia as characteristic species, show different oral microbiome profiles than healthy children. Since these are preliminary data, further research is necessary to validate the findings.

OPD 6.9 **Giant cell fibroma in a 5-year-old – A case report**

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INTRODUCTION Giant cell fibroma (GCF) is a rare non-neoplastic fibrous tumour of the oral mucosa. GCF usually affects patients between 10 and 30 years of age. Few GCF cases have been reported in children under the age of 10. **CASE REPORT(S)** A 5-year-old healthy Caucasian boy was referred to Western Uusimaa Unit of Specialised Oral Care in May 2023 due to a painless mass in the mandibular gingiva which had been present for several months. Two years earlier the child had been treated for ECC under general anaesthesia. The pre-operative visit was in May 2023. The pedunculated tumour was situated in the interdental attached gingiva between d81 and d82. It reached farther down to the lingual side but was also visible on the labial side of the papilla. The surface of the 10mm diameter mass was papillated. The x-ray showed no sign of bone or tooth resorption, but tooth d82 seemed to be dislocated distally. A treatment plan was made to excise the mass under oral sedative and local anaesthesia. The procedure was carried out in August 2023. The mass originated from the gingival pocket of d81 and was excised by using an ophthalmic surgical knife. Haemostasis was adequate and no stiches were needed. The histopathological diagnosis was giant cell fibroma. **FOLLOW UP** The post-operative control was done three months post operation. The area was fully healed with no sign of recurrence. **CONCLUSIONS** Dentists should consider GCF as a possible diagnosis when encountering a young child with an oral tumour.

OPD 6.11 **Effects of Covid-19 pandemic on nutritional habits, lifestyle changes and trauma frequency of children with autism**

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AIM The aim of this study is to evaluate the susceptibility of children with autism spectrum disorder (ASD) to orofacial trauma during the pandemic period and compare it with the pre-pandemic period and the healthy group, as well as to question lifestyle, eating habits and oral health behaviors that may be related to the risk of trauma. **METHODS** Orofacial trauma history, nutritional habits and lifestyle changes of children between the ages of 3-14 who were diagnosed with ASD at Istanbul University, Department of Child Psychiatry, and healthy children who applied to Istanbul University, Faculty of Dentistry, Department of Pedodontics, were evaluated through a survey directed to their families. The sociodemographic profile (13 items), the child's medical

history, oral hygiene habits and oral health status (10 items), dietary habits (12 items), the child's lifestyle and psychological changes due to the Covid-19 pandemic (6 items), the trauma story (20 items) were questioned, and DMFT/dmft status were recorded. Mann Whitney U test was used for analysis using SPSS. **RESULTS** 165 children diagnosed with ASD (mean age 7.9±2.7 years) and 165 healthy controls (mean age 8.8±2.8 years) were included. There is no statistically significant difference between the two groups in the frequency of dental trauma. The rate of postponing going to the dentist was higher in the ASD group than in the control group (p=0.001). **CONCLUSIONS** The risk of trauma in ASD during the pandemic period was found to be similar to normal healthy controls. However, the rate of postponement of dental treatments was higher.

OPD 6.12 Consequences of infant oral mutilation (IOM): two case reports

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INTRODUCTION Infant oral mutilation (IOM) is a form of traditional practice mostly performed in East Africa, where a traditional healer enucleates deciduous canine tooth germs in infants. It is believed that these germs are associated with teething-related illnesses, such as diarrhea, fever and vomiting. The procedure, carried out without anaesthesia and using non-sterile instruments, is often complicated by potentially fatal infections or haemorrhage. Long-term effects are missing permanent canines, enamel hypoplasia, malformations, abnormal eruption, … **CASE REPORT(S)** At the University Hospitals Leuven, two patients from Somali origin showed abnormal findings during regular check-up. The first patient, a 10 years-old healthy boy, was missing both lower primary canines, with mesialisation of the first premolar in the third quadrant. Radiographic evaluation showed absence of both permanent canines and an odontoma locus 42. The second patient, a healthy 8 years-old girl, presented without tooth 83 and hypoplasia of tooth 73. Four years later, radiographic evidence revealed horizontal impaction of element 33 and incisal enamel defects on teeth 42 and 43. **FOLLOW UP** In the first patient, the odontoma was surgically removed under general anaesthesia. In the second patient, tooth 33 was removed. In both cases orthodontic alignment was needed; in the first case supplemented with an adhesive bridge to replace the missing lateral incisor. **CONCLUSIONS** With increasing immigration, IOM and its effects will be seen more often in Europe. Dentists must be aware of this traditional practice and plan radiographic examination early enough in order to deal with the consequences.

OPD 6.13 Antimicrobial effect of platelet-poor plasma on bacteria associated with pulp infection for endodontic regeneration purposes

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AIM Enterococcus faecalis and Fusobacterium nucleatum are associated with endodontic infections, leading to treatment failure in young adults. Hence, the aim of this study was to

compare the antimicrobial abilities of autologous blood derivatives, such as platelet-poor plasma (PPP), with standard antibiotic treatments against bacterial strains involved in endodontic infections. **METHODS** PPP was obtained from blood donated by healthy donors and was generated using standardised blood centrifugation protocols. Brain heart infusion broth (BHI) culture assays were used to assess the antimicrobial abilities of PPP against E. faecalis and F. nucleatum compared to a double antibiotic solution (amoxicillin and ciprofloxacin) at a concentration of 1 mg/ml, similar to DAP. Bacterial populations of 5x10-5 CFU/ml were cultured for 24 h (37°C) in BHI with 30% PPP (v/v) prior to determining their viable count. Enumeration of bacteria on blood agar was used to calculate CFU/ml and compare the effects of PPP and DAP solutions. **RESULTS** PPP count was 6.025E+11 CFU/ml (SE= 9.23E+10), which was not significantly different from the positive growth control (5.675E+11, SE= 9.57E+09). However, DAP showed no bacterial growth. **CONCLUSIONS** Here, we observed no evidence of antibacterial effects produced by PPP. Nevertheless, further research on the use of other autologous blood derivative products (eg. CGF) may identify the potential of enhanced endodontic regeneration therapies.

OPD 6.14 **Natal factors influencing newborn's oral microbiome diversity: beyond mother-to-infant microbial transmission**

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AIM The aim of this study was to examine prospectively and retrospectively the pattern of microbial transmission from mothers to infants and to identify factors that influence the diversity of the neonatal oral microbiome. **METHODS** In a prospective study, 82 mothers and 98 neonates were recruited and samples were collected from the maternal cervix, neonatal gastric, bronchial and oral cavity and analysed by culture-based methods and 16S rRNA sequencing for oral swab samples. In a retrospective study, 991 mothers and 1121 neonates admitted to Severance Hospital between 2016 and 2022 were included. Culture-based results of the maternal cervix, neonatal gastric, bronchial, and oral microbiomes were compared. **RESULTS** As a result of comparing the microbial detections by site in the retrospective study, similar genera were detected in the neonatal gastric, bronchial and oral, with the neonatal gastric culture being the most similar to the maternal cervix culture. As a result of microbial diversity analysis by 16s rRNA sequencing, gestational age, birth weight, and the presence of microbes in other sites of neonates are factors that influence the diversity of the neonatal oral microbiome. **CONCLUSIONS** In addition to mother-to-infant transmission of microbes, various natal factors influence the diversity of the neonatal oral microbiome.

Session OPD7

OPD 7.1 **A case report of comprehensive care for a paediatric patient with Hypoplastic-Hypocalcified Amelogenesis Imperfecta**

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INTRODUCTION 14-year-old female patient was referred to the Paediatric Dental Department at the Royal ENT and Eastman Dental Hospitals due to a suspected inherited enamel defect. There was a positive family history with two affected siblings also treated within the Paediatric Dental Department. Her main complaint about her teeth was the aesthetics, she was teased at school and this affected her self-esteem. She reported sensitivity and pain from the posterior teeth, this did not affect her daily life. **CASE REPORT(S)** She presented with post-eruptive breakdown of the first permanent molars, generalised hypoplasia and hypocalcification. For occlusion, she has class II division 2 incisal relationship with a deep overbite. The diagnosis given was Amelogenesis Imperfecta (Hypoplastic and Hypocalcified); genetic testing to identify the expressed gene is planned. Treatment of the posterior dentition aimed to prevent further breakdown, this was a combination of pre-formed metal crowns and direct occlusal composite restorations providing cuspal coverage. Premolar protection was with flowable composite fissure sealants. Finally, to restore and improve the aesthetics of the anterior teeth, a combination of vital bleaching and direct composite veneers was completed. **FOLLOW UP** Review is planned at 6-monthly intervals, to assess stability of the restorations. Long term, if posterior composite restorations fail consideration is for provision of gold onlays to maintain tooth tissue. Monitoring of the overbite and any orthodontic intervention may be considered. **CONCLUSIONS** With this treatment we were able to restore the aesthetics, improving the teenager's relationship with her teeth and prevent further breakdown of the teeth for long-term comfort and function.

OPD 7.2 **Enhancing the shear bond strength of composite restorations in defective enamel of MIH using self-assembling peptide P11-4**

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AIM This research investigates whether pre-treatment of MIH teeth with Curodont Repair Self-Assembling Peptide (SAPs) P11-4 improves bond strength of resin composite restorations. **METHODS** : Enamel specimens were collected from 25 sound and 50 MIH teeth. Baseline analysis consisted of digital Photography and DIAGNOdent were used to divide the sample into two distinct severity groups (Moderate and severe), enamel specimens were placed in resin blocks. With even severity, group Sound (SE), hypomineralised enamel(MIH), and SAPs-pre-treated enamel (MIH+T) specimens were included (25 each). Samples were initially etched with 37% phosphoric acid, P11-4 for followed by application of Optibond Solo (Kerr Corporation) and light cured. Resin composite cylinder (Filtek Supreme Universal by 3M Oral Care ESPE) was then attached to each enamel specimen. Samples were stored in PBS storage media for 24 hours in

37° incubators. Each group underwent ISO29022-compliant notch-shear bond strength (SBS) testing using Instron machine. SPSS was used to analyse the data **RESULTS** : The mean SBS for sound teeth was (15.87 N/cm +/-12.87), and for MIH teeth it was (1.69 N/cm +/-.81). SAPSs improved this to (4.5 N/cm +/- 1.45). There was a significant difference between the three groups (SE), (MIH) and (MIH +T) when compared together and each 2 groups with each other. **CONCLUSIONS** SAPs enhanced the SBS in MIH teeth in vitro compared with MIH teeth without pre-treatment but still did not reach the SBS of sound teeth.

OPD 7.3 A rare case report: Dens Invaginatus in the primary dentition.

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INTRODUCTION Dens Invaginatus (DI) is a developmental anomaly resulting in an infolding of the enamel organ into the dental papilla before calcification of the dental tissues. DI has a prevalence between 0.3% and 10% in the permanent dentition, however, in the primary dentition there are only five case reports published. This case report, aside from being rare, highlights the need to include DI as a potential diagnosis particularly in a non-carious/ non-traumatised dentition. **CASE REPORT(S)** A 6-year-old male was referred urgently regarding a recent history of facial swelling and pyrexia, with no obvious dental caries or history of trauma. On examination, an intra-oral erythemic mucosal swelling was visible apical to the mobile ULC with tenderness on palpation. Radiographs revealed unusual root canal morphology and vertical bone loss associated with ULC, in a caries-free dentition. Provisional diagnosis of DI was made, judging ULC to be non-vital with a potential communication between the pulp chamber and oral environment. Upper primary canines and incisors were extracted under general anaesthetic after inhalation sedation treatment was unsuccessful. DI of both canines was confirmed by histopathology. **FOLLOW UP** During 15month follow-up, bony infill ULC region has occurred and an anterior crossbite has been corrected. There is a suggestion that the partially erupted permanent lateral incisors may also be affected by DI. **CONCLUSIONS** This case highlights the unusual presentation of a facial swelling with odontogenic origin which the paediatric dentist should be aware of, whilst adding to the dental literature of this rare finding in the primary dentition.

OPD 7.4 Management of a trio of triple teeth in the primary dentition

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INTRODUCTION Triple teeth (TT) are a rare dental anomaly in which three teeth are joined together with an estimated prevalence of 1 in 5000 and an unknown aetiology. As of 2024, 29 case reports of TT have been published with all but one involving primary central and lateral incisors with a supernumerary tooth. Due to the rare presentation of TT little is known of the management of this anomaly and potential influence on the developing permanent dentition. **CASE REPORT(S)** This case series includes two three-year-old females with TT 71-71S-72 and a one-year-old male with TT 51-51S-52, all patients with non-contributing medical histories.

Patient one attended due to a dentoalveolar abscess and associated dental pain from their TT while patients two and three had their respective asymptomatic TT discovered upon routine clinical examination. Radiographic examination revealed patient one with fusion of 71-71S-72; patient two with fusion of 71 to geminated 72-72S; and patient three with fusion of 52 to geminated 51-51S. Following comprehensive assessment, patients one and two had the extraction of their respective TT under general anaesthetic with patient three having the placement of a fissure sealant. **FOLLOW UP** At the one-year follow-up each of the three patients presented with no reported dental pain or clinical signs of infection. Radiographic examination did not detect any additional dental anomalies. **CONCLUSIONS** This case series and one-year follow-up of three children with TT demonstrates different treatment approaches with no identified effect on the permanent dentition, continuous follow-up is required for further evaluation.

OPD 7.5 **Management of non-syndromic bilateral fusion and gemination of permanent maxillary central incisors: a case report**

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INTRODUCTION Gemination refers to one tooth bud's attempt to make two teeth while fusion is two tooth buds merging together. With a prevalence of 0, 02%, the phenomenon of bilateral double teeth is rare. The literature mainly describes four modalities of treatment of double teeth; restorative treatment, hemisection, no treatment and extraction, mentioned in descending order of most common to least common with subgroups for each category. **CASE REPORT(S)** This case report presents bilateral gemination and fusion of permanent maxillary central incisors in a nine-year old Swedish boy. On examination, 11 showed delayed eruption and for 21 anomalies of its crown morphology and crossbite of its distal part. Intraoral periapical radiographs could not reveal whether the pulps were separate or not, however they confirmed the presence of both maxillary lateral incisors. Cone beam computed tomography (CBCT) revealed separate pulp chambers in two widely divergent root axes in 11 while one large pulp complex with a single root in 21. Hemisection of 11 was performed with extraction of its lateral part followed by closed exposure with orthodontic traction. 21 was orthodontically aligned and for improved aesthetics both teeth were treated restoratively with composite. **FOLLOW UP** The patient is under orthodontic treatment but will be regularly followed to ensure the absence of caries, periodontal disease, malocclusions and endontical complications with the aim of maintaining aesthetic, function and alveolar bone until reached adulthood. **CONCLUSIONS** A multidisciplinary approach is key to management of permanent maxillary central incisors affected by the anomalies fusion and gemination.

OPD 7.6 **Management of a permanent fused maxillary lateral incisor with supernumerary tooth: A case report**

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INTRODUCTION Double teeth are rare dental anomalies. At any stage of development, two adjacent tooth germs merge with the influence of environmental factors such as autosomal inheritance or local trauma. Double teeth often lead to aesthetic, periodontal, and endodontic problems. **CASE REPORT(S)** A 13-year-old systemically healthy boy was referred with aesthetic concerns about double teeth to the Marmara University Paediatric Dentistry Clinic. The double teeth were asymptomatic. Clinical and radiographic examinations revealed a fusion between the left lateral incisor in the maxilla and a supplemental tooth, which had two separate roots with interconnected pulp chambers in the middle third of the roots. CBCT confirmed the junction between two teeth by cementum and no connection by enamel. Endodontic treatment was performed in two sessions for the left lateral incisor, and calcium hydroxide medicament was used for dressing. The canal was shaped according to the step-back technique. After cleansing and irrigation of the canal, root canal sealer and gutta-percha were used to fill the canal. Composite resin was placed on the tooth. The fused teeth were tried to separate using a fine needle diamond bur. However, since the complete separation of the left fused incisor could not be achieved, the tooth was surgically extracted atraumatically. Orthodontic alignment was planned. **FOLLOW UP** Maxillary lateral incisors remained asymptomatic. Periapical tissue was intact and periodontal health of the surgical site was maintained after a six-month follow-up period. **CONCLUSIONS** Unerring CBCT-based diagnosis and multidisciplinary treatment planning is of vital importance in overcoming problems caused by fusion.

OPD 7.7 **Multiple hyperdontia: report of a rare case.**

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INTRODUCTION Supernumerary teeth are a dental anomaly characterized by the formation of extra teeth, in excess of the normal dental formula. The prevalence has been reported between 0,2 to 3%, varied among populations, and is more frequent in males. Multiple hyperdontia is a rare condition, diagnosed because of the presence of five or more supernumerary teeth. **CASE REPORT(S)** A 13 years-old girl, Caucasian patient, referred to our service because of severe dental crowding, impacting her quality of life. The intraoral examination revealed the presence of 1 supernumerary tooth in the maxillary anterior region and the absence of mandibular right and left second permanent premolar and a crowding amount of 15mm. Radiographs revealed the presence of 6 unerupted supernumerary teeth bilaterally in both jaws; impacted upper right central incisor and the mandibular right and left second primary molar unerupted too. There was no evidence of systemic disease. The supernumerary teeth were: two upper mesiodens, one upper right paramolar in the interproximal space between second premolar and first molar; one

upper left paramolar between the second and the third molar; two lower parapremolar in the interproximal space between the canine and first premolar bilaterally. **FOLLOW UP** Treatment was done in two-stages consisting of extraction of the supernumerary teeth and surgical exposure of the impacted tooth followed by fixed orthodontic treatment. Surgical extraction of supernumerary teeth was made without any damage to adjacent teeth. **CONCLUSIONS** Bilateral occurrence of supernumerary teeth is rare. Often they never erupt, but they may delay eruption of nearby teeth or cause other dental problems.

OPD 7.8 **Case report: Management of a supplemental tooth fused to a permanent lateral incisor**

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INTRODUCTION: Fusion of permanent and supernumerary teeth is uncommon. It may cause aesthetic concerns and crowding. Management options include sectioning and extraction of the supernumerary tooth, modification of crown shape by contouring and restoration, or extraction of the fused tooth. This report outlines a case where the fused tooth was sectioned and the supplemental element removed. **CASE REPORT(S)**: A fit and well 10-year-old child was assessed in the paediatric hospital service following referral by hospital orthodontic services. The patient was concerned about the size and shape of a front tooth. Clinical examination revealed a mixed dentition with a fused upper right lateral incisor. Radiographic examination showed a supplemental tooth fused to the lateral incisor with two distinct roots. **TREATMENT**: Following discussion with the orthodontist, sectioning of the fused tooth and extraction of the supplemental tooth was completed to improve aesthetics. The procedure was completed under General Anaesthetic due to patient anxiety. Sectioning was completed following surgical exposure and the supplemental portion delivered with forceps. The distal surface of the lateral incisor was smoothed and restored with composite resin. There was no communication between the root canal systems of the two teeth. **FOLLOW UP**: Clinical and radiographic assessment has been completed. The lateral incisor remains vital. Orthodontic treatment is planned to close remaining space created by removal of the fused supplemental tooth. **CONCLUSIONS**: Fusion of permanent and supplemental teeth is rare. Its management may require multidisciplinary care and the use of both surgical and restorative skills.

OPD 7.9 **Hidden in the history: Dentigerous cyst masquerading as chronic sinusitis**

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INTRODUCTION Dentigerous cysts are relatively rare in the paediatric population. They can cause infection, destruction of surrounding bone, displacement of teeth, and impact growth and development. They most commonly affect mandibular third molars and maxillary canines and often necessitate surgical intervention. **CASE REPORT(S)** A 14-year-old patient was referred by her dentist with concerns about her discoloured teeth. On presentation, she reported an odd 18-

month history of left nasal congestion treated with multiple courses of antibiotics without resolution. On examination, there was poorly formed enamel and an unerupted LR3. Panoramic imaging incidentally revealed a large radiolucency associated with an unerupted UL8. CBCT imaging confirmed the presence of a lesion elevating the floor of the left maxillary antrum and resorbing the roots of the UL5,6 and 7. Enucleation of the cyst and UL8 extraction was performed by the Oral and Maxillofacial team under general anaesthetic. Histopathology confirmed that the cyst was a heavily inflamed and ulcerated dentigerous cyst. **FOLLOW UP** Initial post-operative review has shown promising signs of resolution. The patient is due to be followed up for 12 months postoperatively. A positive outcome would encompass the resolution of the sinusitis symptoms and the cessation of further root resorption. **CONCLUSIONS** This unusual case should serve as a reminder that some cases of maxillary sinusitis can be odontogenic in origin. Early detection and intervention can contribute to successful management and optimal outcomes. Early secondary care referral should be considered where routine interventions fail to resolve symptoms.

OPD 7.10 **CAD-CAM technologies used to restore severely destroyed molars in children with MIH**

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INTRODUCTION MIH is an enamel developmental disorder affecting the first permanent molars. Clinical manifestations and severity of involvement are different and this requires an individual approach in each clinical case. The application of CAD-CAM technology is a very good choice for final restoration in the complex treatment of a severe form of MIH. **CASE REPORT(S)** 16 years old patient, with a diagnosis of MIH and a history of multiple GIC restorations on the molars and the presence of new defects. After analysing the condition of teeth 16 and 26, a decision was made to fabricate full-contour crowns based on zirconium dioxide, using CAD-CAM System for accurate and precise preparation of the crowns. A sparing preparation was performed and the preparation margin was moved supragingivally. The impression was taken digitally with an intraoral scanner. **FOLLOW UP** The patient was followed for a period of one year. **CONCLUSIONS** MIH is often associated with rapid lesion progression and treatment is a challenge. Zirconium crowns can be a good alternative to Stainless-steel crowns, providing more aesthetics and accuracy.

OPD 7.11 **Clinical characteristics and clinical problems in Hypomineralised Second Primary Molars (HSPM): a systematic review**

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AIM The aim of this systematic review (SR) was to appraise the available literature on the clinical characteristics and clinical problems in Hypomineralised Second Primary Molars (HSPM). **METHODS** A systematic search was conducted through MEDLINE/ PubMed, Scopus, and Web of Science databases up to June 2023. Observational studies that examined the clinical characteristics and/or clinical problems related to HSPM were included. The risk of bias among eligible studies was assessed using the Modified Newcastle-Ottawa Quality Assessment Scale (NOS). **RESULTS** Out of 520 identified studies, a total of 33 studies underwent full-text evaluation, resulting in the exclusion of 6 studies. Twenty-seven studies were included in the SR providing data from 21,553 children and 62,853 primary teeth. Demarcated opacities, atypical restorations, and creamy-white lesions were the most frequently observed clinical characteristics of HSPM. The buccal and occlusal surfaces were most affected. Yellow-brown opacities were more often reported in case of more extensive lesions and higher number of affected teeth. Regarding the clinical problems, HSPM was found to be linked with the presence dental caries, post-eruptive breakdown (PEB), hypersensitivity, and higher risk of molar incisor hypomineralisation (MIH). Most studies (n=21) showed a low-to-moderate risk of bias, while six studies presented a high risk of bias. **CONCLUSIONS** The findings of this SR highlight the diverse range of presentation patterns and degrees of severity observed in cases of HSPM. These include demarcated opacities, variations in lesion colour, atypical restorations, as well as the presence of PEB and dental caries.

OPD 7.12 **Management of a patient with hypomineralized molar teeth treated with indirect composite resin restorations: A case report**

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INTRODUCTION An extensive full crown preparation is a treatment option in immature permanent molars with severe hypomineralization. Indirect composite resin restorations alternative to full crown preparations offer a minimally invasive treatment option with predictable and successful outcomes in these teeth. This report presents the dental management of severely hypomineralized permanent first molars using indirect composite restorations. **CASE REPORT(S)** A 7-year-old girl, with no remarkable medical history, was referred to the Yeditepe University, Faculty of Dentistry, Department of Paediatric Dentistry. Her chief complaint was hypersensitivity in her posterior teeth. Clinical examination revealed several caries lesions in primary molars and severe hypomineralization with discoloration associated with teeth numbers: #16, #26, and #46. Fissure sealant was applied to tooth #36 by another dentist. Before any dental intervention, impressions of both arches taken for occlusal adjustments. All dental treatments

including indirect restoration preparations and impressions of hypomineralized teeth, were completed under general anaesthesia to prevent hypersensitivity by patients' preference. Cementation of the indirect restorations was performed on the 1st week control appointment. There was no need for occlusal reduction after cementation as the occlusal records were taken before general anaesthesia and the indirect composite resin restorations were prepared on the articulator accordingly. **FOLLOW UP** Over a follow-up period of 6 months, the teeth were asymptomatic and clinical examination revealed no signs or symptoms of pulpal infection. Furthermore, on radiographic evaluation no pathological changes were evident. **CONCLUSIONS** Indirect composite restorations are an aesthetic and conservative option for the successful and long-term management of permanent molars affected with severe hypomineralization.

OPD 7.13 **MIH-affected teeth in a Greek paediatric population: clinical features and treatment.**

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AIM Report clinical features and treatment of patients with molar-incisor hypomineralization (MIH) and correlate findings with patient and teeth-specific characteristics. **METHODS** A retrospective study on patients diagnosed with MIH (European Academy of Paediatric Dentistry, 2021) that have attended the Department of Paediatric Dentistry, NKUA after 2016. Demographics, oral hygiene habits, dental caries and characteristics of MIH-affected teeth (number, type, severity, hypersensitivity, treatment) were recorded. Data were presented in frequency tables and significant correlations were evaluated using chi-square and Fisher's exact test. **RESULTS** The sample consisted of 40 patients with mean chronological age of 8.7 years. The majority brushed alone, once daily with manual toothbrush and fluoridated toothpaste. Thirty eight percent were in late mixed dentition, 80% at high caries risk and 53% reported hypersensitivity. In total 141 molars and 57 incisors were affected, with 73% exhibiting lesions in both. Four molars and two incisors were the most frequent combination. More than one type of lesions presented in 38%, 50% were severely affected and 96% of affected molars had enamel breakdown. Treatment undertaken in most posterior teeth was stainless steel crowns, with pulp therapy in 16 cases. The only factor correlated to the type of treatment undertaken was lesion severity, with none of the other factors playing a significant role. **CONCLUSIONS** Treatment of MIH-affected teeth remains a challenge to the clinician as severity of signs and symptoms vary widely even within the same patient. The study highlights the need for individualized adapted treatment protocols.

OPD 7.14 **Non-invasive treatment approuch of paediatric patient with MIH: a case report**

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INTRODUCTION Nowadays the prevalence of MIH in children is increasing. It affects enamel and dentin especially the first molars and permanent incisors, causing aesthetic and functional problems. The purpose of this case report is to present the non-invasive treatment of two hypomineralized maxillary incisors. **CASE REPORT(S)** A 13-year-old girl with hypomineralized lesions on central and lateral incisors. The patient is concerned with the lesions and poor aesthetic. The anamnesis revealed that she was born with low birth weight in 36 gestational weeks. During clinical examination, white-creamy and yellow opacities on the buccal surfaces of the maxillary laterals and central incisors were observed. Treatment: In order to avoid restorative treatment, we used micro-invasive with resin-infiltration technique (ICON). Rubber dam isolation (Optradam, Ivoclar Vivadent) was used in order to get a clear and dry work field. A micro-abrasion technique (Opalustre, Ultradent) was performed three times to remove the affected surface layer of enamel. Then caries infiltration technique was applied according to the manufacturer's instructions. After infiltration, a significant masking was apparent, deemed highly satisfactory by the patient. **FOLLOW UP** Lesions appearance was revised after 3-, 6- and 12-months. **CONCLUSIONS** Aesthetic management of hypomineralized incisors should be as conservative as possible. The combination of microabrasion and resin infiltration techniques is a good conservative approach in managing MIH.

OPD 7.15 **Oligodontia - dental management in children, literature recommendations**

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AIM Oligodontia is a non-syndromic or syndromic rare genetic developmental anomaly characterised by absence of 6 permanent teeth, with a functional, psycho-emotional, and aesthetic impact and high treatment need. We conducted a systematic review to deduce treatment recommendations for this condition, targeting children aged 12 years, to support a guideline development process (no. 083-048 AWMF; GBA funding no. 01VSF21007). **METHODS** A systematic search of PubMed and Embase was conducted including case-reports of dental treatment in patients with non-syndromic or syndromic oligodontia published between 2000-2022. After exclusion of non-specific literature, n=97 case reports were identified; n=54 provided an observational period 12 months for further analysis. Quality of the literature was evaluated by a customised evaluation sheet after Moga et al. 2012 (http://www.ihe.ca.). **RESULTS** In the age group of 0-6 years, composite remodelling of incisors and removable dental (paediatric) prostheses were the main treatment options. Treatment intensity in this age group peaked at age 3 years, followed mainly by maintenance treatment. Children 6 to 12 years were provided with more advanced prosthetic solutions also starting orthodontic treatment. Interforaminal

implant-supported dentures were used mainly for edentulous lower jaws. **CONCLUSIONS** 1) Paediatric prostheses are common treatments for oligodontia; regular adaption to growth and aesthetics should be considered. 2) Associated microdontia can be managed using direct composite restorations. 3) Implant placement may be considered in the growing lower edentulous jaw.

OPD 7.16 Odontomas and disturbances of eruption: case report and literature review.

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INTRODUCTION Odontomas are benign developmental malformations of dental hard tissues. They are usually asymptomatic and often diagnosed after routine radiographic examination. In some cases, they are associated to retention of primary and delayed eruption of permanent teeth. The aim of this report is to describe diagnosis and treatment of odontomas associated to disturbances in tooth eruption. **CASE REPORT(S)** Five patients, three girls and two boys, aged 8 to 12 years, with a non-contributory medical history treated at the Department of Paediatric dentistry, NKUA. At initial clinical examination retention of primary teeth and eruption disturbances of permanent teeth were recorded in all cases. Patients were further referred for radiographic examination, which revealed presence of multiple small opaque tooth-like structures under the retained primary teeth. Primary teeth were extracted initially and the odontomas were surgically removal, under local anaesthesia, the area was sutured, instructions were given and antibiotics were prescribed. Specimens were sent for biopsy and the final diagnosis was set as odontomas. **FOLLOW UP** Patients were followed up to 6 months post treatment. Spontaneous or guided (with orthodontic appliances) eruption of impacted permanent teeth was recorded clinically and radiographically in most cases. **CONCLUSIONS** Early diagnosis based on clinical and radiographic examination and prompt therapeutic approach should be performed to avoid disturbances of tooth eruption and allow for physiological development of the occlusion.

OPD 7.17 Managing a case of Polynesian Amelogenesis Imperfecta

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INTRODUCTION: Polynesian Amelogenesis Imperfecta (Poly AI) describes a pattern of enamel dysplasia unlike any other condition exemplified by enamel defects. The unique presentation of Poly AI is enamel dysplasia of increasing severity from the anterior to posterior, typically in the permanent dentition. Tooth sensitivity is also characteristic of this condition, similar to the known types of amelogenesis imperfecta. Poly AI affects about 1% of the New Zealand Māori population, but has not been further researched in the last 25 years. **CASE REPORT(S)**: This case illustrates comprehensive oral rehabilitation for a 12-year-old Polynesian girl, who was diagnosed with Poly AI after referral to the Oral Health Centre of Western Australia for management of enamel

hypoplasia. Clinical examination showed marked gingival inflammation and poor plaque-control, secondary to significant generalised sensitivity. Multiple teeth were affected by carious and/or non-carious breakdown, and there was moderate-severe crowding of both arches. TREATMENT: Treatment was performed under general anaesthesia. Full-coverage restorations were placed posteriorly, to maintain vertical dimension and preserve coronal tooth integrity, while adhesive restorations were employed anteriorly to balance aesthetics of the smile-zone. Treatment was carried out with interdisciplinary input, including interceptive orthodontics to resolve crowding and improve accessibility for plaque-control. **FOLLOW UP**: At the post-operative review, the patient reported significant improvement in oral health-related quality of life, assessed via the Child Oral Health Impact Profile. **CONCLUSIONS**: This case report illustrates the successful comprehensive management of a 12-year-old child with Poly AI under general anaesthesia, spotlighting this unique condition that merits further investigation into its aetiology.

Session OPD8

OPD 8.1 **Prevalence and risk indicators of severe early childhood caries of 5 year-old immigrant children residing in Greece:**

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AIM of this study was to investigate prevalence and severe early childhood caries risk indicators of 5 year-old immigrant children residing in Greece. **METHODS** A total of 239 five-year-old immigrant children were selected randomly (15 rural, 9 urban regions) for this national, cross-sectional survey and examined by calibrated examiners (intra-examiner reliability: 87 %, inter-examiner reliability: 85 %). Caries prevalence was registered with the visual ICDAS = d0-6 criteria and caries experience with the mft/s component of WHO and both were expressed with a combined index d3-6mft/s and S-ECC was defined as d3-6mfs C6. Information on children's gender, parental educational level, residence area, tooth brushing habits, sugary snacks consumption, infant-feeding practices was obtained via a structured questionnaire. Data were analysed with STATA and risk factors associated with S-ECC were evaluated using logistic regression analysis. **RESULTS** Of the sample 59.4% (142 children) presented with ECC and 31.4 % (75 children) with S-ECC, while 52.8 % of children with caries presented with S-ECC. The risk indicators for S-ECC were the parents perception of child's OH (poor perception oh child's OH, Odds ratio = 20.02, p = 0.000), fathers' and mothers' educational level (high level less likely than low, Odds ratio = 0.51 and 0.44, p = 0027 and 0.007. **CONCLUSIONS** No relationship of diet or oral hygiene habits with s-ECC were established while promoting good oral hygiene practices and enhancing parent's knowledge of oral health may help reduce further, the risk for Severe ECC in the preschool population.

OPD 8.2 **Dental caries in children from the Western Region of Ukraine**

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AIM To determine the prevalence and intensity of dental caries in children from the western region of Ukraine and to assess the risk factors contributing to its development. **METHODS** Clinical – to assess the state of hard dental tissues in children and cariogenic factors, epidemiological – to establish the prevalence and intensity of diseases; atomic absorption – to determine the microelement composition of hair; statistical - for processing research results. **RESULTS** The prevalence of dental caries in children aged up to 3 years was 46.90%, at the age of 3-6 years – 64.15% and at the age of 6 years it reached 91.83%. The intensity of caries was represented by (3.03±0.10) affected teeth in children under 3 years old, (3.92±0.10) affected teeth in the age group of 3-6 years, and (5.09±0.23) affected teeth at the age of 6 years. Several factors contributing to the pathology were identified, with the most significant being the local microbial factor acting against the background of disturbances in the mineralization processes of the hard tissues of the teeth due to macro- and microelement imbalance. **CONCLUSIONS** The research results demonstrated a high prevalence of dental caries in children from the western region of Ukraine, associated with both local and general factors. These findings should be considered when planning regional preventive programs.

OPD 8.3 **Social factors associated to caries in preschool children exposed to social adversity**

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AIM Investigate resilience factors among caries-free preschool children exposed to social factors associated with caries. **METHODS** Data on the prevalence of caries from 667 six-year-old children was obtained from dental records, with caries prevalence categorized as deft=0 or deft0. Additionally, retrospective data on social factors from the 3-year-old children were collected from Statistic Sweden (SCB). Eight previously identified Social Factors Associated to Caries (SFAC) were analysed including the number of siblings (≥3), parents' age (23or39) when children were born, parents' low education level, foreign background (non-Nordic country), single-parent family, and low disposable economy level. Responses were noted as yes or no. Two subgroups were established: Subgroup A, with deft=0 and ≥3 SFAC, and Subgroup B, with deft0 and ≥3 SFAC. SFAC at 3 years of age and caries prevalence in primary dentition at 6 years of age were analysed regarding different SFAC using Chi-2 test for statistical analyses. **RESULTS** From original group of 667 children 80 children were identified as having ≥3 SFAC, with Subgroup A comprising 36 children and Subgroup B 44 children. Subgroup A showed a lower prevalence of low disposable economic level in comparison to Subgroup B, with p0.05. No other SFAC differed between the

groups. **CONCLUSIONS** Higher disposable income is a resilience factor for oral health of the children growing up amidst adversity.

OPD 8.4 **Level of infiltration of newly synthesized fluorinated self-assembling peptides in incipient carious lesions**

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AIM The aim of this study was to compare the lesion depth and level of penetration of CPP-ACFP, SAP P11-4 and 2 newly synthesized self-assembling peptides by measuring the linear depth of fluorescence. **METHODS** A total of 30 enamel samples were prepared from orthodontically extracted permanent premolars. Three zones were provided - a healthy enamel surface (SC), a demineralization zone (DC) and a remineralization zone (TA). The samples were randomly divided into five groups (n=6): group 1 - Gr V (MI Varnish); group 2 - Gr CR (Curodont Repair); group 3 – IU1; group 4 -IU2; group 5-Gr NT - control group, no treatment. Lesion depth was assessed by measuring the linear penetration depth of the fluorescent dye by laser confocal microscopy. **RESULTS** A statistically significant reduction in the depth of the lesion was found in the experimental groups compared to the control group, which remained without treatment (p=0.000). The depth of the lesion reveals the degree of mineralization and the cariostatic effect in the experimental groups. When measuring the confocal images, the result showed that there was a similar degree of remineralization for CPP-ACFP and for SAP P11-4, IU1 and IU2 for the two time points DC and TA, but without statistical significance between them (p= 1.00/p0.005). The samples treated with IU2 showed highest degree of remineralization, followed by CPP-ACFP, SAP P11-4 and IU1. **CONCLUSIONS** The self-assembling peptides have significant level of infiltration and potential for remineralization of artificial carious lesions in permanent teeth. Combination of SAP with fluoride has additive effect.

OPD 8.5 **Study on different approach and treatment of carious lesions for anxious children**

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AIM Anxiety during dental treatments is common, especially in children. Our study aims to quantify the approaches preferred by anxious children other than the classic rotary instrument approach. **METHODS** 120 children with different ages between 3 and 15 years old, patients from a pedodontic practice, were randomly selected and different methods of treatment approach were tried: with manual techniques, LASER techniques or with a rotary instrument. Patients were divided into 4 age groups. They were followed over the course of three sessions. **RESULTS** After the first session, some of the very anxious patients did not stay for the treatment at all, especially those aged between 3-6 years. Part of the group between 6-9 years were attracted by the LASER technology . Older patients mainly opted for rotary instrument treatment only. For the 2nd

session, patients gained more courage and trust in the dentist. In the 2nd session, it was also possible to work with those who did not attend the first session at all, accepting the rotary instruments ot LASER and some of the children who did not sit with the rotary instruments from the first session accepted that the obturation should be finished with a rotary instrument. From the 3rd session, most of the patients accepted the treatment. 4 children refused always the treatment. **CONCLUSIONS** Sometimes it is necessary to use other methods than the classic rotary instrument approach for anxious children.

OPD 8.6 **Effect of bioactive restorative materials on bovine dentine under demineralising and remineralising conditions.**

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AIM To investigate and compare the effects of bioactive dental restorative materials on bovine dentine with spatial separation under de- and re-mineralisation conditions. **METHODS** Four restorative materials (Activa Presto™, Cention® Forte, Regen™, and GC Fuji VII GIC), that claim to be bioactive, and inert composite (Herculite™) were selected for this study. A 2 mm-thick bovine dentine slice was placed adjacent to the test material separated by a stepped cellulose spacer at 250 µm gradation. The specimen was stabilised in silicon putty and encased in a 30ml plastic container. The container underwent X-ray scanning using MuCAT2 at three time points. T0 = original scan stored in deionized water. T1 = after 6-week immersion in demineralisation solution (pH4). T2 = after 6-week immersion in remineralisation solution (pH7) after T1. After reconstruction, images underwent alignment for analysis. **RESULTS** After demineralisation, along the 500 µm gap, the dentine mineral concentration dropped by 14%, 50%, 14%, 25% and 0% for Cention, Presto, Fuji VII, Herculite and Regen respectively. After remineralisation, the surface of dentine near all the materials had a slight increase in mineral concentration. The space between Regen and the dentine was greatly reduced indicating mineral deposit on their surfaces. **CONCLUSIONS** Regen bioactivity protects dentine from demineralisation; and induces mineral deposition in remineralisation.

OPD 8.7 **Demineralization inhibition by short chain length glutamic acid polypeptides under caries simulating conditions**

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AIM We [Prattia et al.:Polymers 2022;14:2937] have previously demonstrated that polyglutamic acid can inhibit the demineralization of permeable hydroxyapatite discs at pH4 (as model systems for enamel demineralization), similar to the function of statherin. These polypeptide chains are of the order of 1000s of monomers of glutamic acid. Exposure times of 2 and 5 minutes were used. The aim was to investigate if shorter chain length glutamic acid polypeptides could similarly inhibit demineralization under identical conditions at similar exposure times. Real-Time Ion Selective Electrodes (RTISEs) is used to measure calcium ion release as a proxy for

demineralization. **METHODS** 15-mer polypeptides of α-glutamic acid (Protein Peptide Research, UK) were dissolved in phosphate buffer so that the concentration of peptide was 30 micromol/L (similar concentration of statherin in saliva). HAP discs (20% porosity) were then immersed in 20mL polypeptide solution for either 1, 5 or 10 minutes. Each disc was then treated in 50mL of 0.1 M acetic acid (pH4.0) for 1h at 37°C. Ca RTISEs were used to measure calcium ion release every 60s for and the data plotted as a function of time to obtain the kinetics of demineralization. Each condition was repeated 5 times. The percentage demineralization inhibition was calculated for each exposure time. **RESULTS** The percentage inhibition of the 10-mer polyglutamic acid was 36 (14), 21 (10) and 0 (10) , for 10, 5 and 1 minute exposure times. **CONCLUSIONS** Short chain polyglutamic acid polypeptides inhibit demineralization. Increasing exposure time does increase demineralization inhibition ability. 1 minute is insufficient.

OPD 8.8 **Comparative evaluation of the effectiveness of Tooth Mousse in the treatment of Severe Early Childhood Caries using ICDAS**

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AIM The aim of the present study was to assess the remineralizing effect of the Tooth Mousse topical paste containing Recaldent® (CPP-ACP technology) compared to standard brushing with 400ppm fluoride paste on Severe Early Childhood Caries (S-ECC) lesions diagnosed using ICDAS (International Caries Detection and Assessment System). **METHODS** The oral dental status of 124 children aged 3-5 years was assessed by using ICDAS stage 0-6 (enamel opacity stage 1 to cavitated stage 6) by two trained dentists who evaluated each dental surface. The subjects presenting ICDAS stage 1-5 were divided into two study groups, a group who applied Tooth Mousse according to the manufacturer's recommendations and another group who only performed standard tooth brushing with 400ppm fluoride pasta and after 4-6 month both groups were reevaluated. For ICDAS d6 lesions treatment and restoration was recommended. **RESULTS** The proportion of the subjects according to ICDAS were as follows: d0-38,4 %, d1-12,4 % d2-13,7% d3-8,2 d4-7,2% d5-10,3 d6-9,8%. After re-evaluation the data showed an increase in the percentage of d1, a decrease in the percentage of d2 and a stabilization in the percentage of d3 in group which applied Tooth Mousse compared to the group that applied standard tooth brushing where it was observed a slight increase in the percentage of d4, a decrease in d3 and a stabilization in d5 stage. **CONCLUSIONS** The periodic application of Tooth Mousse has proven its effectiveness in the early stages of S-ECC and the association with tooth brushing could avoid progression and reduce significantly the need for complex treatments.

OPD 8.9 **The influence of caries resistance on the fillings condition in treating caries of children's permanent teeth**

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AIM Studying marginal fit of filling materials (composite and compomeric) in permanent teeth of children with different degrees of caries resistance. **METHODS** Clinical and laboratory examinations and treatment of 103 children (167 teeth) at the age of 6 to 15 years were carried out. All children were given dentine caries treatment (K02.1) in permanent teeth. Filling children's carious cavities was performed using compomeric and composite materials. All patients were given clinical assessment of marginal integrity of the fillings depending on intensity of carious process by G.Ryge (1998) and using laser fluorescence 1 and 2 years after the cavities filling. **RESULTS** In children with average degree of carious process intensity, frequency occurrence of fillings with signs of secondary caries was detected in 72% of cases, when compomeric restorations were used, while in high caries process intensity this indica-tor was 32%. Composite material being applied in group of children with average carious process intensity 2 years later, no restorations with secondary caries signs were detected; in group with high carious process intensity unsatisfactory indicators of marginal integrity of fillings were detected in 41% of cases. **CONCLUSIONS** Treating caries in children's permanent teeth with high carious process intensity, application of compomeric material is advisable; in children with average carious process intensity - composite material. Laser fluorescence makes it possible to determine diagnostically reliable data detecting loss of a significant amount of filling material to the level of enamel - dentine compound.

OPD 8.10 **The severity of early childhood caries in correlation with parents' education level**

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AIM Early childhood caries (ECC) is an acute and rapidly progressing caries, with an unusual pattern, affecting several dental surfaces on any temporary tooth of young children aged under 71 months. The aim of the study was to assess the parents' education level of patients with ECC and to establish a correlation between this criterion and the severity of the patients' caries disease (ECC). **METHODS** The study group consisted of 205 children (mean age 4.70±0.10 years), of both sexes, selected from an initial group of 986 children who were consulted and treated in the Clinic Paediatric Department, over a 10-month period. The assessment of the parents' level of education was obtained by using an appropriately developed questionnaire and completed voluntarily by the participants. **RESULTS** The most common clinical form of ECC was of medium severity (60.2%), followed by the severe form of disease (33.9%), with a significant correlation with a lower education level of the parents (30%, p=0.033). The very mild form of CPC was recorded only in children whose parents had a high level of education (5.9%). **CONCLUSIONS** ECC prevention remains a current, serious problem of paediatric dentistry, requiring oral health

programs to inform, raise awareness and educate parents, regardless of their education level, on the correct methods of dental hygiene and healthy eating.

OPD 8.11 **The effects of divalent metal ions on demineralisation: A real-time ISE study**

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AIM To investigate the effect of three divalent cations, Zn2+, Cu2+and Sr2+, on demineralisation. **METHODS** HAp discs (n=27) as model systems for enamel were demineralised in 50ml 0.1M acetic acid solution pH 4.0 for 1 hour at 37oC. Subsequently, the discs were washed, dried allocated into 3 groups (n=9 each). The discs from each group were immersed into their corresponding solution (Group I: 0.02M Zn(CH3CO2)2, Group II: 0.02M Cu(C2H3O2)2, Group III: 0.02M Sr(CH3COO)2) for either 1 minute, 3 minutes or 15 minutes. Thereafter, the discs were removed, washed, and dried, and further demineralized in 50 ml acetic acid solution for 1 hour at 37C. Throughout the experiment Ca2+ release was measured in real-time using Ca2+ Ion Selective Electrodes (ISEs) as a proxy for demineralisation The change in Ca2+ release-rate before and after treatment was recorded to calculate the percentage inhibition in calcium release. **RESULTS** All metal ions inhibited the rate of release of Ca2+ ions from HAp discs. Cu2+ ions showed the greatest inhibition (60.0□0.1%) at 15-minute treatment duration. For Cu2+ and Zn2+ increasing the percentage inhibition was directly proportional to the treatment. Whereas, for Sr2+ ions, the opposite effect was noted. **CONCLUSIONS** Divalent metal ions decrease the rate of demineralisation of HAp. The efficacy of inhibition is related to the exposure time but is ion dependent.

Session OPD9

OPD 9.1 **The need for orthognathic surgery in children with repaired unilateral CLP in Latvia**

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AIM To determine the percentage of patients with unilateral CLP treated at Riga Cleft Lip and Palate centre since birth who would benefit from orthognathic surgery. **METHODS** A retrospective study was done. Information was selected from the Riga Cleft Centre database outpatient charts of patients born between 1990 and 2005 with congenital, non-syndromic, unilateral CLP. Data were collected on the patient's year of birth; sex; cleft side; method by which palatoplasty was performed ('one-stage'/'two-stage'); whether orthognathic surgery is planned, under way or already performed. The data were analysed using IBM SPSS Statistics. **RESULTS** Of all patients with unilateral CLP 13% required/have required orthognathic surgery. Of the patients who underwent one-stage cleft palate closure 10% required/have required orthognathic surgery. Of the patients who underwent two-stage cleft palate closure 15% required/have required orthognathic surgery. 16% of all men and 9% of all women required orthognathic surgery.

CONCLUSIONS Of all patients with congenital, unilateral CLP orthognathic surgery was/is required in 13% of patients. There is no statistically significant association between the need for orthognathic surgery and sex. There is no statistically significant association between the need for orthognathic surgery and the type of palatal closure.

OPD 9.2 **A service evaluation exploring the provision of oral health advice to medically complex patients**

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AIM To evaluate the provision of oral health advice to patients with complex care needs by allied health professionals (AHPs) or members of the medical team. **METHODS** A service evaluation was carried out among parents and carers of paediatric patients who were regularly attending the non-dental outpatient clinics at Alder Hey Children's Hospital. This evaluation was carried out after receiving consent from the clinical governance committee at Alder Hey. Data was collected prospectively from May 2023 to August 2023 through the use of a prototype questionnaire containing fourteen questions. The questionnaire investigated whether patients were seen by an AHP/medical team, whether dental advice was provided, and whether their oral health was addressed. The preliminary questionnaire was piloted with parents/carers, and their input was carefully considered. Descriptive statistics were used to analyse the data. **RESULTS** A total of 63 responses were obtained. The data showed that 82% of patients were seen by medical physicians, mainly in general paediatric clinics. The majority did not receive dental advice (80%) or dietary advice (82%), and 81% of parents/carers were not asked about their child's oral health. Furthermore, 84% of respondents were not asked whether they are seeing their dentists regularly, although 81% reported that they were registered with a dentist. **CONCLUSIONS** The study results highlighted that improving oral health advice provision to medically complex patients is essential for enhancing their overall quality of life. Emphasising such importance requires raising awareness amongst all healthcare teams through a multidisciplinary approach to address the current lack in providing oral health advice.

OPD 9.3 **Case report of a 10-year-old boy with a non-syndromic hypoplastic mandible**

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INTRODUCTION Mandibular hypoplasia is a rare craniofacial anomaly, in which the mandible is abnormally small and located behind the maxillary arch. It can be congenital, developmental, or acquired deformity, with congenital mandibular hypoplasia being associated with syndromic conditions in most cases. The purpose of this case report is to describe the dental treatment of a patient with non-syndromic hypoplastic mandible. **CASE REPORT(S)** A 10 year old boy presented at the Paediatric Dentistry Department, NKUA after trauma to the upper central permanent incisor. Initial clinical and radiographic examination showed enamel-dentin fracture with pulp exposure in #11 and carious lesions on both primary and permanent teeth, crowding in the upper

and lower arch and limited mouth opening. Immediate treatment involved handling of the traumatized tooth, performing partial pulpotomy and composite resin restoration. An individualized preventive program, conservative treatment of the carious teeth, including composite resin restorations on permanent teeth followed. Initial orthodontic evaluation was performed after and the patient was put in 3-month recall regime. **FOLLOW UP** During the follow-ups, the patient was maintaining good oral hygiene and no pathological findings were observed. Orthodontic treatment initiated 6 months after the initial visit. **CONCLUSIONS** Treatment of patients with mandibular hypoplasia may be challenging due to the limited mouth opening, thus, the cooperation with other specialists, combined with an early orthodontic evaluation, is necessary in order to improve patients' quality of life.

OPD 9.4 **Utilization and perspectives of the Hall technique by paediatric dentists in Turkey: A questionnaire-based survey**

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AIM To investigate the opinions and uses of paediatric dentists in Turkey regarding the Hall Technique (HT). **METHODS** This was a prospective questionnaire-based cross-sectional study. The questionnaire consisting of 18 questions was sent to paediatric dentists in Turkey via Google Forms. **RESULTS** A total of 120 paediatric dentists participated in this study. Among them, 70.2% were working in public hospitals and 29.7% were working in private dental clinics. 43.2% of participants used HT. 53.4% of paediatric dentists stated that they used HT when they could not provide conventional restoration, 33.2% used HT as an alternative approach to conventional treatment, and 6% stated that they did not use HT at all. In cavitated occlusal caries, 48.3% stated that they sometimes used HT, and 16.1% stated that they never used it. For cavitated interproximal caries, 52.5% stated that they sometimes used HT, and 13.6% stated that they never used it. As the reason for not using HT, 49.2% stated that they did not have sufficient experience, and 33.9% stated that there was not yet sufficient evidence regarding the prognosis of the tooth after HT application. **CONCLUSIONS** The HT is known by most paediatric dentists in Turkey. However, lack of training and lack of evidence have reduced the use of HT among this group of dentists.

OPD 9.5 **Pain-free dental treatments for children via PaFein+ curriculum development project**

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AIM Globally, an estimated 514 million children suffer from caries in primary teeth. Dental caries can lead to pain, infection, malnutrition, and disturbed growth if left untreated. Whereas treatment referrals due to dental anxiety and injection phobia exacerbate these consequences. Therefore, successful management of anxiety, pain, and caries is essential in paediatric dental

treatment to foster cooperation in children. PaFein+ Project aims to develop a holistic curriculum to teach anxiety reduction and pain-free treatment concepts to undergraduate and postgraduate students in order to cultivate a generation without dental fear, possessing positive attitudes toward dental health. **METHODS** The PaFein+ Project has been developed with this responsibility in mind and has been awarded 400K € funding from Erasmus+ (Project no: 2023-1-TR01-KA220-HED-000155608) to create a holistic curriculum focusing on dental anxiety, caries, and pain management in children. Participating trans-disciplinary specialists from dental cariology, behavioural, and educational sciences included clinical research findings which report anxiety and pain reductions during dental treatments to the curriculum. Courses and workshops, aligned with the improved PaFein+ curriculum, will be organized to train undergraduate and/or postgraduate students, dental practitioners, and teaching staff in providing/teaching pain-free dental treatment for children. **RESULTS** In this context, a preliminary PaFein+ Curriculum has been developed, encompassing three main topics: i) Traditional and contemporary behaviour management techniques, ii) Minimally Invasive Treatment Concept, and iii) Clinical techniques of Pain-Free Dental Injection. **CONCLUSIONS** The preliminary PaFein+ curriculum is ready for sharing and discussion with colleagues to obtain feedbacks and improve further in alignment with the profession's needs.

OPD 9.6 **Review of the undergraduate (UG) paediatric assessment clinic pathway at Dundee Dental Hospital and Research School**

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AIM The aim of this service evaluation is to assess the utilisation of the clinics and translation of that into clinical experience for 3rd and 4th year BDS students at Dundee Dental Hospital and Research School (DDHRS). **METHODS** Data was collected retrospectively reviewing records of 95 patients over 1 academic year. Data collection involved recording of age, gender, dental diagnosis, treatment plan, treatment completed, correspondence with referrers and 'Was not brought' (WNB) rates. Data analysed to assess suitability of the treatment cases for undergraduate students. **RESULTS** Of the 95 cases analysed, the most common treatments being carried out on the UG dental clinics included preventive treatments such as fluoride varnish application and fissure sealants. Stainless steel crowns accounted for 12% of cases. Sodium Diamine Fluoride (SDF) placement (3%) and dental extractions (1%). Detailed results to follow. **CONCLUSIONS** Dental access is currently a national issue, which has only been compounded by COVID-19. The student dental clinics seek to increase the undergraduate student's exposure to paediatric patients as well as improve access to families struggling to register with a general dental practitioner.

OPD 9.8 **Exploring organic markers in human enamel affected by Molar-Incisor Hypomineralization through energy dispersive X-ray spectroscopy**

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AIM During amelogenesis in mature human dental enamel, residual organic remnants are left behind as a result of protein degradation. Methods such as liquid chromatography-mass spectrometry (LC-MS) and sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDS-PAGE) have shown that the organic content of enamel affected by molar-incisor hypomineralization (MIH), primarily proteins, is higher than in normal enamel. Here, for the first time, we examine the chemical composition, focusing on the organic markers, in MIH-affected permanent human dental enamel in comparison to healthy and unaffected adjacent enamel of the same tooth, using energy dispersive X-ray spectroscopy (EDX). **METHODS** MIH-affected areas were identified on the occlusal enamel of nine permanent, MIH-affected molars, collected from nine children (aged between 6-13 years). Backscattered electron scanning electron microscopy (BSE-SEM) and elemental analysis for carbon (C), calcium (Ca), phosphorus (P), and oxygen (O) was performed in a Quanta 200 environmental scanning electron microscope (ESEM, FEI Company, Netherlands) equipped with an INCA EDX system (Oxford Instruments GmbH, Wiesbaden, Germany), operated at 1 Torr water vapor pressure, 20 kV accelerating voltage, 0–10 keV spectral energy range. Ca/P and C/Ca ratios (atomic %) were calculated and statistically analysed using paired t-test. **RESULTS** BSE-SEM revealed qualitative differences between MIH and healthy enamel. EDX showed a higher C content, as interpreted from the C/Ca ratios, in MIH-affected enamel compared to healthy enamel. **CONCLUSIONS** This work confirms a higher organic content in MIH-affected enamel compared to adjacent healthy enamel on the same tooth.

OPD 9.9 **Local anaesthesia for children undergoing tooth extractions under general anaesthesia.**

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AIM To evaluate the need for added analgesics and fluctuations in vital signs (blood pressure and heart rate) during tooth extraction in children treated under general anaesthesia (GA) with or without local anaesthesia (LA). **METHODS** 83 children aged 5 + 1.95 were included in the research. Children classified as ASA 1 or 2 were included. The decision whether to use LA or not was of the senior clinician who performed the treatment. Record of vital signs was performed continuously; blood pressure and heart rate were recorded 30 seconds after LA application and 30 seconds after extraction. The total amount of analgesics was calculated per body weight. **RESULTS** Increase in blood pressure measurements after tooth extraction in comparison to base line, was higher for children who did not receive LA in comparison to children who received LA ($p \leq 0.001$). Heart rate in children who received LA was slower after tooth extraction while for

children who did not receive LA was higher in comparison to base line (p≤0.005). The need for added analgesics was higher for children who did not receive LA but was not statistically significant. **CONCLUSIONS** Application of LA to children undergoing primary tooth extraction under GA yielded stability in blood pressure and heart rate in comparison to children who did not receive LA. There was slightly more need for added analgesics for those who did not receive LA but with no statistical significance. No post operative local anaesthetics side effects, were reported, No significant difference in recovery course, was reported between two groups.

OPD 9.10 **Sustainability considerations for prescribing to the paediatric dental patient: Assessing attitudes of the dental prescriber**

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AIM 25% of NHS carbon footprint estimated related to medications, with liquids higher than tablets. This project aims to assess dental prescriber attitudes and changes when provided with information on sustainability and tablet tolerance. **METHODS** • Questionnaires based on sustainability and tablet tolerance recommendations. • Baseline questionnaire disseminated to clinician populations within Dundee School of Dentistry likely to encounter Paediatric patients. • Intervention delivered providing advantages of tablets. • Post-intervention questionnaire disseminated. • Data analysed. • Recommendations drafted. **RESULTS** 20 respondents. 17 completing post-intervention questionnaire. • 45% routinely asked if a child can tolerate tablets. Post intervention 63% will routinely ask. • 20% stated knowing carbon footprint difference between tablets and liquids, changing to 94% post-intervention. • 68% estimated tablets having lower carbon footprint, changing to 94% • 25% stating knowing a difference in cost, changing to 82% • 85% estimated tablets cheaper, changing to 100% • 45% stated carbon footprint difference would affect decision making, changing to 47% • 25% stated cost would affect prescribing practice, changing to 29% • 47%% stated little/no confidence providing advice on transitioning to tablet medication, and 5.9% very confident. **CONCLUSIONS** This project identified a knowledge gap within dental prescribers. The intervention demonstrated a clear knowledge gain for participants. The Dental practitioner is ideally positioned to provide advice and behaviour change across a multitude of domains. 47% having little to no confidence in providing advice for transitioning to tablets warrants further exploration with regards to practitioner training. Review of initiatives in medicine can provide a framework for this.

OPD 9.11 **Evaluation of psychological trauma-informed care awareness in paediatric dental staff before and after training: a pilot study.**

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AIM Psychological trauma refers to experiences that cause intense physical and psychological stress that have lasting adverse effects on the individual. Psychological trauma can have a significant impact on a patient's ability to attend dental appointments and, consequently, their

dental health. The Scottish government aims for workplaces to be 'trauma informed', which means appreciating the prevalence of trauma, understanding its impact, and recognising when a person might be affected by trauma. The aim of this pilot project is to assess the effect of a trauma-informed care (TIC) training session on the levels of self-assessed TIC knowledge in the paediatric dental department in Glasgow Dental Hospital. **METHODS** An in-person teaching session was delivered through problem-based learning and case-based discussion which specifically focussed on the use of TIC within dental practice. The Trauma Training Questionnaire V2 was used to evaluate the training program via a ten-point scale. **RESULTS** 19 paediatric dental team members attended the 3-hour pilot training session. The average score before receiving training was below 5/10 for understanding of and ability to apply principles of TIC, identifying signs of and discussing trauma, and ability to signpost patients. The average score for understanding the concept and impact of TIC was 5.1/10. After receiving training, the average score was greater than 7/10 for all questions. The overall average rating for the training was 9.2/10. **CONCLUSIONS** The training was successful in improving the participants' understanding of the principles and application of TIC.

OPD 9.12 **Unintentional removal of the developing premolar tooth germ during a deciduous tooth extraction – a case report**

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INTRODUCTION A 4-year-old girl with a grossly carious dentition presented with a history of recurrent pain and abscesses from the lower right second deciduous molar (LRE). After being successfully extracted under local anaesthetic, a rare complication occurred: the follicle of the developing successor was adhered to the bifurcation area of the extracted LRE, resulting in iatrogenic loss of the respective premolar. **CASE REPORT(S)** A healthy 4-year-old girl presented with many carious lesions and a buccal abscess on the LRE. Her upper canines and all second deciduous molars were moderately hypomineralised. Bitewing radiographs showed that the developing tooth germs were unusually close to the bifurcation of the deciduous molars, perhaps suggesting a genetic predisposition. The parents wished to attempt removal of the problematic LRE under local anaesthetic due to long waiting lists for general anaesthesia. The LRE was extracted under local anaesthetic with the use of paediatric molar forceps using a standard extraction technique. The successor was adhered to the furcation via granulation tissue, likely present because of the chronic infection. Cooperation was lost and reimplantation was not possible. The parent was informed as per the duty of candour. The extraction resolved all symptoms. **FOLLOW UP** 8 months later, the patient underwent general anaesthesia to manage the remaining dentition, which included further extractions. There were no complications. **CONCLUSIONS** This case demonstrates the rare complication of successor tooth loss during deciduous tooth extraction, prompting discussions around the following: the consent process,

the factors influencing tooth germ position, and the lack of guidelines to suggest when reimplantation is appropriate.

OPD 9.13 Two-colour chewing gum mixing ability test for evaluating masticatory performance in schoolchildren

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AIM Mastication plays a major role in a person's life. and affects a huge part of their quality of life. Therefore, investigating masticatory performance (MP) during the crucial growth years of a child is essential. Aim: Descriptive analysis of the MP in school children between the ages of 11–19 years old. **METHODS** This is an observational cross-sectional study aimed to analyse MP of children in a paediatric population. Children (ages 11-19 years-old) were examined in schools in the city of Greifswald, Germany, during the school year 2020/2021, and took part in a two-colour chewing gum mixing ability test (Hue-Check-Gum®). Evaluating MP visually (SA-scale; range 1-5) and digitally using Viewgum® (VOH; range: 0-1). Ethical approval Nr. BB129/20 University of Greifswald. **RESULTS** 265 participants (mean age 13.4±1.9 years; 48.3 % females). 15.47% of the study population had a low MP (SA-scale; 1-2), which predicts difficulties in chewing, that may affect their day-to-day life. MP is seen increasing with age (VoH; ranging from 0.28 to 0.17), supporting that superior masticatory efficiency is associated with a higher body mass that comes through growth among children. In the age group 11 to 13 MP was at its lowest due to the loss of the deciduous teeth. **CONCLUSIONS** This easily applied and evaluated mixing ability test found a clear increase of masticatory performance with age which is biologically plausible.

OPD 9.14 Rewarding children: A sticky situation

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AIM Positive reinforcement involves rewarding or praising a behaviour to encourage its repetition, it can involve verbal praise, social rewards and/or tangible rewards e.g. stickers/toys. Stickers are used within Glasgow Dental Hospital (GDH), as a reward for paediatric patients, however, some children have expressed dissatisfaction with the options of stickers available. This project aimed to explore the level of patient satisfactory with stickers as a reward following a dental visit. **METHODS** Patients aged 4-16 years, who attended an appointment within the paediatric department of GDH were asked to complete a questionnaire which explored the following: a) Patient demographics (age/gender) b) Interest in receiving a sticker as a reward c) Patient rating (on a scale of 1-5) of stickers currently available d) Suggestions for a favourite sticker character e) Suggestions for an alternative reward **RESULTS** A total of 100 questionnaires were completed. Participants had an average age of 8.9 years with 58% being male. The majority of participants (81%) expressed interest in receiving a sticker as a reward. Star Wars was the highest and Frozen the lowest rated of the 6 options available. Popular suggestions for stickers included Marvel (n=14) and Star Wars (12). Alternative rewards suggested by participants

included food, toys, and stationery. **CONCLUSIONS** This project highlights that children continue to view stickers as a suitable reward for seeing the dentist. Updating and increasing the variety and choice of stickers available within the department is necessary as well as providing alternative rewards for those patients that are not interested in stickers.

OPD 9.15 **A pilot study in the adaptation of Child Perceptions Questionnaires and Parental Perception Questionnaires Latvian versions**

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AIM To evaluate validity and reliability of preliminary CPQ11-14 and PPQ Latvian versions **METHODS** Questionnaires were translated from English to Latvian and backwards by two independent interpreters. RSU Ethical permission was obtained. Thirty-one pair of questionnaires were filled and returned in RSU Institute of Stomatology, ten pairs were excluded due to incomplete answers. Pilot sample consisted from 11 girls (37%) and 20 boys, aged 11 to 14 years (M=12.5; SD=1.025), and one of their parents (93.5% mothers). Respondents answered 37 questions evaluating child's oral health-related quality of life in Likert scale. The internal consistency was tested with Cronbach's α. To measure the agreement between child and parent, as well as to conduct a test-retest reliability the weighted Cohen's kappa was used **RESULTS** CPQ11-14 and PPQ showed high internal consistency (0.883 and 0.868, respectively). Interrater (child-parent) reliability showed moderate agreement (M=0.48; min 0.15; max 0.95). Due to a lack of variation in responses, the data from two pairs were excluded from the analysis. Test-retest reliability showed substantial agreement (M=0.75; min 0.62; max 0.87). **CONCLUSIONS** Results of internal consistency and test-retest reliability revealed high reliability and validity of the CPQ11-14 and PPQ Latvian versions, whereas results of interrater reliability showed discrepancies in how parents and children rated oral health-related quality of life suggesting a need for further exploration of the factors influencing parents' and children's perceptions of dental health. A sample of 150 – 200 respondents must be analysed to assess the quality of adapted CPQ11-14 and PPQ Latvian versions.

OPD 9.16 **Overprotective parenting in relation to children's behaviour during dental treatment and oral health: a cross-sectional study.**

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AIM Overprotective parenting has a negative impact on children's behaviour and psychological development, and perhaps oral health. We aimed to explore the association between overprotective parenting and 1) behaviour in the dental chair, 2) dental caries experience, and 3) toothbrushing behaviour of children treated in both general and paediatric dental settings in Netherlands. **METHODS** Caregivers of children of 5 to 6-years old children who visited selected

dental practices for treatment, were invited to participate in this cross-sectional study. They completed questionnaires about overprotective parenting, the Parental Overprotection Measure, and children's tooth brushing behaviour. The Venham score was used to score children's behaviour during dental treatment and the number of decayed, missing and filled teeth (dmft) was collected. Spearman correlation, regression analysis and independent sample t-test were performed for analysis. **RESULTS** 120 children were included (65 girls, 54.2%). Higher levels of overprotective parenting were significantly associated with higher dmft (r=0.251, p=0.006) and more disruptive behaviour during dental treatment (r=0.510, p0.001). More overprotective parenting was also associated with toothbrushing behaviour, including a lower frequency of daily toothbrushing (p=0.027), lower frequency of re-brushing by parents (p=0.029), more experienced problems with toothbrushing (p=0.037) and lower parental self-efficacy (p=0.006). No associations with skipping toothbrushing were found. Stronger associations were found in general dental practices compared to paediatric dental practices. **CONCLUSIONS** Results indicate that overprotective parenting may negatively affect children's oral health. More overprotective parenting was significantly associated with lower cooperation during dental treatment, higher caries levels and more difficult tooth brushing behaviour in children.

OPD 9.17 Dental health and dental care in children placed in out-of-home care

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AIM This registry-based cohort study compares the dental health and dental care needs of children placed in out-of-home care (OHC) with other children in Sweden, by linking data from different registries. **METHODS** We identified an exposed cohort of Swedish children, 0–19 years, who had been placed in OHC at some point during the years 2010-2018 (N=59,348), and a five-times larger unexposed cohort, matched for age, sex, and municipality (N=296,730). Registry data on dental status, dental care, socio-economic background and medical diagnoses were obtained from the National Board of Health and Welfare, Statistics Sweden and the Swedish Quality Registry for caries and periodontal disease (SKaPa). **RESULTS** During the study period, children placed in OHC had fewer regular dental check-ups than their controls. Further, the children in OHC had more caries, more extracted teeth and more emergency visits to the dentist than children who had never been placed in OHC. **CONCLUSIONS** Children placed in OHC not only have poorer dental health than other children, they also receive less support from dental care. It seems that society has failed in its mission to ensure that children placed in OHC are not disadvantaged in terms of their dental health and access to dental care. Children who are placed in OHC should be considered to be at high risk of future dental health problems. There is therefore an urgent need for an effective legislation and organisational models for providing dental care to children in foster care.

OPD 9.18 **Assessment of parents' knowledge about the first permanent molar**

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AIM To assess parents' knowledge regarding the eruption age and arch position of the first permanent molar (FPM) and the importance of sealing in caries prevention on this tooth. **METHODS** Retrospective cross-sectional study using a Google forms questionnaire with 3 sections: socio-demographic data, parents' knowledge regarding FPM's arch position and age of eruption, data about FPM sealing in their children. Data were analysed according to parents' education level. Statistical analysis was performed using SPPS 20.0 (p0.05). **RESULTS** a) 211 parents (mean age=36.06±4.62 years) answered the questionnaire; b) parents' education level: 2.84% - primary school, 26.06% - high school, 71.09% - university degree; c) 60.66% of parents knew the age of FPM eruption and 63.98% correctly indicated the arch position, percentage of respondents with university degree being statistically significant higher (p=0.001); d) 61.61% of subjects mentioned sealing as a caries preventive method, parents with academic education being statistically significant more than others (p=0.001); e) 44.07% of the respondents' children had at least one FPM sealed; f) Most children (51.65%) received sealing on FPM at the age of 7; g) Dentist was main source for parental knowledge about oral health (77.25%). **CONCLUSIONS** 1. Although more than half of interviewed parents have knowledge about FPM's age and place of eruption and about effectiveness of dental sealants in preventing FPM's decay, the percentage of children with sealed FPM is rather low. 2. Greater efforts should be made to encourage the parents to support the placement of fissure sealants in permanent molars of their children.

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OPD 10.2 **Amelogenesis imperfecta: management of two severe cases.**

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INTRODUCTION Amelogenesis imperfecta (AI) is a rare condition causing developmental defects in the absence of systemic disorder. The aim of this report is to describe oral manifestations and dental management of two severe cases. **CASE REPORT(S)** An 11-year old boy, attended the Paediatric Dentistry Department NKUA, complaining of pain and sensitivity to cold. Initial clinical examination revealed poor oral hygiene, yellow/brown discoloration of primary and permanent teeth and anterior open bite. A 13-year old boy with aesthetic concerns, presented with calculus and gingival inflammation, yellow/brown discoloration of all teeth, carious lesions on the upper second permanent molars and existing restorations in the other posterior teeth. Retention of primary canines and anterior open bite were also observed. Diagnosis was AI of hypocalcified type in both cases. Treatment: In both cases stainless steel crowns for involved posterior teeth and composite resins for the upper incisors (and premolars in the second case) were performed. White varnish (3M™, Clinpro™) was applied in office on the erupting second molars and

premolars for desensitization and tooth mousse (MI Paste®, GC) was recommended for home use. **FOLLOW UP** Twelve months post treatment oral hygiene was slightly improved, no new carious lesions were detected and patients were satisfied. In the first case, patient reported improvement of the sensitivity, mainly after the in office application of the varnish. **CONCLUSIONS** Treating AI is challenging as it involves handling young children with need for extensive treatment and multiple visits which result in difficulties in compliance with home based preventive program.

OPD 10.3 **Molar-incisor hypomineralisation (MIH): a retrospective cohort study on clinical characteristics and treatment strategies**

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AIM To evaluate clinical characteristics and treatment strategies of MIH-affected teeth among children treated at the Department of Paediatric Dentistry, Justus-Liebig-University Giessen (Germany). **METHODS** Dental records were screened for patients meeting the eligibility criteria (2010-2023), and demographic characteristics, caries experience (dmft/DMFT; World Health Organization criteria), MIH (number, type, severity; European Academy of Paediatric Dentistry criteria), hypersensitivity, and treatment strategy for MIH-affected teeth were recorded. Data were summarized in contingency tables, and analysed by chi-square test, Fisher's exact test, and correlation coefficients (SPSS® Statistics 26.0, IBM® Statistics, Armonk, NY, USA). The significance level was set at α=0.05. **RESULTS** Forty-six patients aged 8.1±1.7 years (52.2% males) were included. The mean caries experience was 1.5±2.3 (dmft), respectively 1.1±1.3 (DMFT). A sum of 221 teeth were affected by MIH, among them 143 first permanent molars (FPMs; 70 mild MIH, 73 severe MIH) and 78 permanent incisors (PI; 76 mild MIH, 2 severe MIH). Most children had severe phenotypes of MIH (82.6%). On average, children had 3.1±1.0 FPMs and 1.7±1.8 PI affected by MIH. Hypersensitivities were observed in 56.5% of cases. Mildly affected FPMs were mainly treated with sealants (45.7%), non-invasive glass-ionomer cement (GIC) coverage (15.7%), and composite resin (CR) restorations (15.7%). For severe cases, non-invasive GIC coverage (27.4%), GIC restorations (13.7%), and CR restorations (43.8%) were favoured for FPMs, with a significant correlation between MIH-severity and treatment strategy (p0.05). **CONCLUSIONS** Given the various phenotypes of MIH presented within each patient, individualized treatment strategies based on the MIH-severity and the caries experience are indicated.

OPD 10.4 **Green pigmentation of primary and permanent teeth as a result of cholestasis in early life: report of three cases**

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INTRODUCTION Green pigmentation of teeth is rare and is caused by cholestasis, which can arise from liver disease or complications of prematurity. It is caused by elevated blood levels of bilirubin (hyperbilirubinemia). **CASE REPORT(S)** A 7-year-old boy with Alagille syndrome was clinically examined and presented mild green pigmentation in both permanent and primary teeth due to the chronic cholestasis that is characteristic of the syndrome. The other two cases are about two 2-year-old boys who were hospitalized in the Neonatal Intensive Care Unit due to premature birth and developed cholestasis. They both presented severe green pigmentation on their primary teeth, particularly in the incisal and middle thirds of the primary incisors and first molars.The first patient was placed on a schedule of 6-months follow-ups examinations. The second and the third patient were placed on a schedule of 3-months follow-ups examinations due to weighty medical history, inability to cooperate well and difficulty in maintaining good oral hygiene. **FOLLOW UP** After 2-years follow ups, the first patient did not present any changes in the dentition. In the second case, the primary canines and second molars did not present green pigmentation, while in the third case, the primary upper canines and the primary lower second molars showed mild green pigmentation. **CONCLUSIONS** Both primary and permanent teeth may be affected by accumulated bilirubin, which results in dentin and/or enamel pigmentation. In cases of green pigmentation, a detailed medical history is required to determine the cause and the stage of dental development affected.

OPD 10.6 **Digital flow and printed crowns as a rehabilitation option for teeth with severe Molar Incisor Hypomineralisation – Report of cases**

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INTRODUCTION Hypomineralizations are enamel defects that affects enamel's quality. Clinical characteristics of the severe form are demarcated opacities with post-eruptive breakdown. Digital workflow allows treatment options with lower cost after initial investment. The aim was to report a rehabilitation option for first molars with Molar Incisor Hypomineralization (MIH) and post-eruptive breakdown with digital workflow, lower cost and greater longevity. **CASE REPORT(S)** Three 15-year-old Brazilian female patients from University of São Paulo, without systemic impairment, diagnosed with MIH and post-eruptive breakdown in first permanent molars. Numerous restorations had been performed and failed after a short period of time. The treatment of choice was 3D printed inlays/onlays using digital workflow. The procedure was performed as follows: i) intraoral scanning using Trios 4 (3shape), ii) digital planning using Trios Design Studio software, iii) printer parameters stablished, iv) inlays/onlays were printed in resin for definitive work (PriZma 3D BioCrown), v) inlays/onlays post-print processing (washed with

isopropyl alcohol, cured (5 minutes), removal of supports, polishing, glaze application and final cure (10 minutes), vi) tooth acid conditioning, vii) wash and dry, viii) single bond universal 3M, ix) cementation with Relyx U200 resin cement (3M), x) occlusal adjustments, xi) final polishing. **FOLLOW UP** Follow-up: 18 months follow-up with evaluations every 4 months, there were no adhesion failures or fractures in this period. Patients reported sensitivity after cementation treated with laser and desensitizing pastes. **CONCLUSIONS** Digital dentistry and printed resin inlays/onlays can be a long-lasting treatment option with lower cost after initial investment for the rehabilitation of teeth with severe MIH with post-eruptive breakdown.

OPD 10.7 Microscopic Examination of a Molar Incisor Malformation(MIM): A case report

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INTRODUCTION MIM is a dental developmental anomaly associated with factors such as infections, systemic disorders and radiation exposure affecting tooth development. Primary second molars, permanent first molars and permanent incisors are primarily affected. Radiographically, distinct cervical constriction and short or completely resorbed roots are observed, while clinically, molars may exhibit mobility, and incisors may display coronal dilacerations. **CASE REPORT(S)** A 12-year-old male patient referred to our clinic with complaints of abscess and abnormal crown morphology related to maxillary central incisors. No history of decay or trauma was reported. The medical history revealed antibiotic treatment in the intensive care unit after a severe asphyxia episode following premature birth, along with frequent MRI examinations. Intraoral examination revealed dilaceration of teeth 11 and 21. Periapical radiographs indicated central incisors with open apices, periapical lesions and pulp stones. All first permanent molars demonstrated root resorption in panoramic radiography. Clinically, mild mobility was observed in maxillary molars. Complete blood count and biochemical parameters found to be within normal limits. Molars were extracted following orthodontic consultation. After the extraction, tissue follow-up protocol was implemented. Teeth were sectioned and stained with hematoxylineosin. Microscopic examination revealed a thin lamellar of cervical dentin layer. The coronal and radicular pulp showed multipleoval irregular dentin islets interrupting the pulp within loose connective tissue stroma. In the tooth root section, the pulp was narrow and irregular. **FOLLOW UP** Orthodontic treatment was planned after the extraction of the first permanent molars. **CONCLUSIONS** This report demonstrated differences not only in the clinical and radiographic findings but also in the histological findings of MIM.

OPD 10.8 Double impacted front teeth: a report of two cases

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INTRODUCTION Impaction of incisors is a rare finding; both incisors being affected is unusual. **CASE REPORT(S)** A Caucasian boy of 8.5 years was seen at the paediatric dentistry department of the University Hospitals Leuven because of unrelated dental pain, the treating dentist noticed delayed shedding of upper central incisors, while permanent lateral incisors already emerged. Clinical and radiological examination revealed the presence of 2 supernumerary incisors positioned palatally of the central incisors and interfering with the eruption pathway of these teeth. A similar situation was seen in a 9 years old boy, presenting at own initiative. Parents were concerned about non-exfoliation of all upper incisors, while lower incisors shedded 2 years earlier. Radiological examination revealed the presence of two supernumerary teeth in palatal position, blocking eruption of the permanent incisors. CBCT imaging was used to determine the exact position of the supernumerary elements. Persisting primary incisors and supernumerary teeth were removed surgically under GA. Wounds were primary closed with dissolvable sutures, without placing ligatures allowing spontaneous eruption of the incisors. **FOLLOW UP** The youngest child was treated in October 2023, follow-up is scheduled. In the second case, the lateral incisors emerged 10 months after the procedure. The central incisors showing radiological signs of further eruption but no clinical emergence occurred 1.5 years after the intervention. Further interventions need to be considered, watchful waiting being a possible option. **CONCLUSIONS** Delayed shedding of incisors might be associated with impacted supernumerary teeth. This condition needs timely clinical and radiological exploration. The outcome after removal of impacted teeth is unpredictable.

OPD 10.9 Improving Dental Confidence in Child with Incontinentia Pigmenti

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INTRODUCTION Incontinentia pigmenti (IP) is a rare type of ectodermal dysplasia with X-linked dominant inheritance. Clinical manifestations include skin lesions, classified as IP major, such as erythema, hyperpigmented streaks and whorls, and pale atrophic / linear patches. The severity of the disease is related to the presence of neurological and/or ocular impairment. Dental manifestations occur in 30% to 92% of cases and include delayed eruption, tooth shape anomalies, hypodontia, cleft palate and high-arched palate. **CASE REPORT(S)** An eight-year-old female, diagnosed with IP due to persistent rash at four-months-old, was referred to the local dental hospital due to sensitivity and irritation from a sharp incisor. Her medical history included learning disability, severe anxiety, and monitoring for development of growth of blood vessels in the right retina. Examination identified morphological abnormalities including conical shaped and sharp teeth, and hypodontia of three premolars/molars. Treatment included enhanced

caries prevention including fissure sealants of first permanent molars, direct composite build ups of the lower incisors and upper central incisors to improve aesthetics and patient confidence, and gradual enameloplasty of lower lateral incisors to reduce trauma / irritation to soft tissues **FOLLOW UP** Follow up will include maintenance of composite build-ups and additional aesthetic management of newly erupted permanent teeth. Orthodontic opinion will be considered regarding management of hypodontia and possible fixed appliances in the future. **CONCLUSIONS** This case considers the dental management of IP. With simple treatment, improvements to sensitivity and aesthetics were made, improving the patient's confidence and quality of life.

OPD 10.10 Prophylactic Hall crowns in child with osteogenesis and dentinogenesis imperfecta: 6-years follow-up

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INTRODUCTION Dentinogenesis imperfecta (DI) is a common manifestation of Osteogenesis imperfecta (OI). Post-eruptive breakdown of DI-affected molars may potentially result in caries development, early loss of molar and space for permanent successors. Hall technique is a viable option that requires minimal compliance from young children and involves no tooth preparation. **CASE REPORT(S)** A 4-year-old Chinese girl with OI visited the University of Hong Kong's dental clinic for chipped incisors. The patient had undergone three femur fracture surgeries under general anaesthesia and received biannual intravenous pamidronate. Despite being restricted to a minced diet, the upper central incisors had fractured and been repaired twice. Her weight and height measurements were below the 10th percentile. Primary dentition showed Type I DI with a distinctive opalescent yellowish hue. Teeth 51 and 61 had uncomplicated enamel-dentine fractures. Parents declined comprehensive operative treatment under general anaesthesia and preferred less invasive procedures. Chipped incisors were temporarily stabilised with direct composite restorations then with composite strip crowns under local anaesthesia. Separators were placed for one week to create space. All eight primary molars were protected with stainless-steel crowns using Hall technique. Occlusion was settled when reviewed one month postoperatively. With an improved diet, the patient's weight significantly increased to the 25th percentile. The patient showed significant improvement in growth and quality of life. **FOLLOW UP** Separators were used to eliminate any potential ectopic eruption of the permanent first molars. Primary teeth exfoliated in sequence and were replaced by successors uneventfully. **CONCLUSIONS** This case demonstrates the success of prophylactic Hall crowns in managing DI.

OPD 10.11 **Pre-eruptive intracoronal resorption (PEIR) of a second mandibular molar in a 14-year old child: a case report**

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INTRODUCTION PEIR is a rare anomaly that presents as a well-circumscribed radiolucent lesion in the dentin of an unerupted tooth, most often closely associated with the dentino-enamel junction. It is usually found incidentally on dental radiographs. The aetiology of this condition remains unclear, but some theories describe the involvement of resorptive cells. Treatment options depend on the progression and extent of the lesion, the eruptive stage of the tooth and the degree of pulpal involvement. **CASE REPORT(S)** A girl, with a medical history of factor V Leiden thrombophilia, was seen at the dental emergency department of the University Hospitals Leuven at the age of 14 years because of nocturnal pain in the left mandible. Clinical examination showed an opaque crown of tooth 37 partially covered by gingival tissue. Radiological examination revealed an extensive intracoronal radiolucent lesion, suggesting pulpal involvement. Given the clinical symptoms of infection (nocturnal pain) and the size of the lesion on dental radiographs, it was decided to extract tooth 37 allowing the adjacent tooth, the developing third molar, to move mesially. **FOLLOW UP** The patient reported no complaints post-extraction and the result after 16 months is positive. A periapical radiograph was taken 5 months after the intervention to evaluate the contralateral tooth, number 47, in order to confirm absence of abnormalities. Further follow-up is planned. **CONCLUSIONS** Dentists need to be aware of possible pre-eruptive intracoronal resorption. Early detection provides the opportunity to monitor progression of the lesion and allows prompt intervention when needed.

OPD 10.12 **Familial non syndromic oligodontia of permanent dentition: A case report.**

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INTRODUCTION Hypodontia is considered one of the most common dental developmental anomalies in human and it is defined as congenital absence of less than six permanent teeth with prevalence of 3.5 to 6.5 % in the permanent dentition. Oligodontia is defined as congenital absence of more than six permanent teeth excluding third molars. It can occur alone (isolated) or as a part of syndrome **CASE REPORT(S)** A case of familial non-syndromic oligodontia involving congenital absence of 9 permanent teeth in 6 years old female patient. The patient has positive family history of oligodontia from her mother. physical examination of the patient did not reveal any other systemic abnormalities. Functional dentition was established through full dental rehabilitation under general anaesthesia. **FOLLOW UP** At one week, 3 months and 6 months follow up visits after full dental rehabilitation under general anaesthesia, oral hygiene instructions, oral prophylactic, diet instructions were given to the patient, topical fluoride was applied, restorations and crowns were in a good condition, teeth number #41 and #31 has been

erupted. **CONCLUSIONS** Careful treatment planning and current understanding of rare conditions like congenital teeth absence is important, because there is a need to deal with not only the immediate, but also the long-term adverse effects. Hence, multidisciplinary treatment approaches must be taken into consideration.

OPD 10.13 The challenge of providing treatment for the pre-cooperative, symptomatic child presenting with Dentinogenesis Imperfecta.

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INTRODUCTION Dentinogenesis Imperfecta (DI) has significant impact on oral health and quality of life of affected children. It presents as severely hypomineralised teeth which wear rapidly. Primary teeth are often more severely affected which presents a challenge in treating this very young cohort of patients. **CASE REPORT(S)** A 3-year-old boy attended with pain from his teeth, causing him distress, frequent use of analgesia and antibiotics. His father was known to have DI. Medical history was unremarkable except for bilateral wrist fractures as a toddler from a low-impact fall. Clinical examination was difficult due to the patient's pre-cooperative, anxious demeanour. Radiographic examination was un-diagnostic. We identified yellowish-grey opalescent teeth which were smooth, severely worn, appearing short and spaced, with 3 discharging sinuses in the lower right quadrant. This confirmed the suspected diagnosis of DI. He had treatment under general anaesthesia for removal of 6 teeth. Stainless steel crowns were placed on 55 and 65. This resolved his pain and symptoms. **FOLLOW UP** Months later, he presented with further pain. His primary canines were severely worn with an abscess from 63. He had further anaesthetic to remove the primary canines and seal the newly erupting first permanent molars. These molars provided him with much-needed posterior support to distribute occlusal forces more evenly and slow the rate of tooth-wear. **CONCLUSIONS** Treatment for pre-school children who have symptoms from this condition is a challenge. Care should be given to minimise future sequelae and to protect the remaining dentition from rapid tooth-wear when occlusal forces become concentrated on fewer occluding teeth.

OPD 10.14 Are developmentally missing teeth a predictive risk marker of malignant diseases in non-syndromic individuals? A systematic review

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AIM To assess the link between non-syndromic developmental tooth agenesis (TA) and the causation pathway in the development of tumours including breast cancer (BC), epithelial ovarian cancer (EOC), colorectal cancer (CRC), and lung cancer (LC). **METHODS** A comprehensive search of electronic databases, supplemented by manual, grey literature, and reference lists search. There was no restriction in terms of date of publication, gender, race, or type of hypodontia. The primary outcome was the relationship between TA and cancer. The secondary outcome was to identify the genetic correlation between TA and cancer. **RESULTS** Eight studies with a moderate-

high risk of bias were included in the final review, with a total of 5821 participants. Due to the heterogeneity among the included studies, the data were presented narratively. Limited studies reported a high prevalence of EOC (19.2%-20%) and CRC (82%-100%) in individuals with TA (depending on the study) compared to those without TA (3% for EOC and 0% for CRC). While others reported a weak correlation between EOC and CRC, and TA (P 0.05). Weak evidence suggested a strong correlation between breast, cervical uterine and prostate cancers, and TA (P 0.05). **CONCLUSIONS** Though low-quality evidence suggests a link between TA and cancer, it was not possible to verify that TA can hold a predictive value as a marker for cancers. Further research is needed to confirm the association.

Session OPD11

OPD 11.1 **Orofacial manifestations in children with Mucopolysaccharidosis: Three cases report**

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INTRODUCTION Mucopolysaccharidosis (MPS) is an autosomal recessive lysosomal storage disorder characterized by the accumulation of glycosaminoglycans, leading to several organ dysfunctions. The aim is to present orofacial and dental abnormalities of three MPS patients: a 7-year-old boy with MPS-I, an 8-year-old boy with MPS-VI, and a 9-year-old girl with MPS-VII which may have a major impact on quality of life. **CASE REPORT(S)** The patients, attended to Pedodontics clinics at Istanbul University due to dental caries or routine examination, exhibited characteristic features of MPS including short stature, skeletal abnormalities, coarse facies, flattened nasal bridge, flared nose, thick lips, thick earlobes, and short neck. Cloudy cornea and claw hand were observed only in male patients with MPS type I and VI. Intraoral and radiographic examinations revealed anterior open bite, macroglossia with tongue protruding, high arched palate, gingival hyperplasia, and limited mouth opening due to short mandibular ramus. Prominent cusps, wide root canal spaces and hyperplastic dental follicles were observed only in patient with MPS-VII. Despite encountering cooperation problems, possibly attributed to hearing loss and mental retardation, composite restorations and/or extractions were performed following medical consultation. Preventive measures were applied and oral hygiene along with dietary advice were provided. **FOLLOW UP** Patients are scheduled for follow-up appointments at three-month intervals. **CONCLUSIONS** Given the increased occurrence of orofacial abnormalities in MPS patients, regular dental counselling, appropriate and timely management of dental problems and preventive applications are essential for enhancing oral health and reducing the need for advanced behaviour management techniques, which are considered risky.

OPD 11.2 **Hypodontia in a child with the keratitis-ichthyosis-deafness syndrome, classified as an ectodermal dysplasia.**

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INTRODUCTION keratitis- ichthyosis - deafness syndrome (KIDS) is a rare condition, caused by loss of function in the GJB2 gene at chromosome 13, and classified as an ectodermal dysplasia (ED). Oral manifestations are common, but in only two publications, congenital hypodontia was mentioned. In a newly updated classification of EDs, hypodontia is not yet registered as a part of KIDS. **CASE REPORT(S)** a 6-year-old girl, with confirmed diagnosis of KIDS, was referred due to oral complaints. Her oral mucosa was erythematous, hyperaemic with granulomatous surfaces, seemed dry and was sensitive. Also easily bleeding gingiva. Radiographs showed carious lesions as well as absence of six permanent teeth. TREATMENT: to comfort the oral mucosa oral moisturizing gel (Proxident®) was introduced, as well as optimizing the oral hygiene. Under general anaesthesia a full dental examination was done, as well as necessary treatment. Biopsies, bacterial and fungal samples were taken, and showed no deviations. **FOLLOW UP** after two years of meticulous surveillance, the oral condition has improved, as well as her overall health condition. The replacement for the 6 congenitally missing teeth will be followed and treated by an interdisciplinary group of dental specialists. **CONCLUSIONS** as KIDS is classified as an ED, this case will contribute to further knowledge what characterizes KIDS from dental point of view. We will also emphasize the importance of including dental competence when examining patients with KIDS.

OPD 11.3 **A case of unilateral facial infiltrating lipomatosis: summary of dental findings**

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INTRODUCTION Facial infiltrating lipomatosis (FIL) is a rare benign pathology, resulting from mature nonencapsulated adipocytes penetrating into neighbouring structures. Affected individuals present with unilateral facial hemihypertrophy, craniofacial hemihypertrophy and often epidermal naevus. The condition is usually observed at birth and grows with age. This case reports the associated dental findings of a child with FIL. **CASE REPORT(S)** A 12 month-old male was referred to Paediatric Dentistry from Plastic Surgery. The child had a medical diagnosis of unilateral right sided FIL. Genetic testing confirmed somatic mutation to PIK3CA, resulting in cell hyperproliferation, often identified in FIL cases. Extra-oral assessment showed right sided facial hemihypertrophy involving the buccal, preauricular and submandibular regions. Intra-oral assessment showed premature eruption of teeth 53, 54 and 84 and hyperplasia of the upper right alveolar arch. Caries was absent and oral hygiene was good. At 5 years-old, the child presented with an increased right facial asymmetry; premature exfoliation of primary teeth and premature eruption of permanent teeth: 14, 16, 41, 42 and 46. A midline discrepancy, right sided buccal crossbite and left sided lingual crossbite was also noted. **FOLLOW UP** Over 4.5 years, a

prevention regime was implemented with fissure sealants of the premature permanent dentition. No active dental treatment has been required as the child remains caries free. Long-term follow-up is required to monitor the developing dentition as FIL may also be associated with unerupted teeth and hypodontia with consideration of orthodontic management. **CONCLUSIONS** FIL is associated with dental developmental anomalies and discrepancies, requiring multidisciplinary care.

OPD 11.4 **Case report: The multidisciplinary management of dentoalveolar challenges in a paediatric patient with cleidocranial dysplasia**

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INTRODUCTION Paediatric patients with cleidocranial dysplasia (CD) can present with numerous dental challenges and optimal management of their malocclusion frequently benefits from a specialist multidisciplinary approach involving the dental, orthodontic and oral surgical teams. This case report demonstrates the multidisciplinary management of a patient with multiple supernumerary teeth, dental pathology and retained deciduous teeth, and discusses the approaches in management. **CASE REPORT(S)** A 12-year-old female patient with CD presented for review of her malocclusion following previous surgical intervention. CD is a rare genetic condition caused by a heterozygous mutation in the RUNX2 gene. It affects the teeth and bones, most notably the skull, face, vertebrae, clavicles and legs. Of relevance to this dental report, the patient had multiple retained deciduous teeth, impacted permanent teeth and numerous supernumerary teeth. TREATMENT: Surgical treatment under general anaesthesia included the removal of the retained deciduous teeth, surgical removal of seven supernumerary teeth and the extraction of the lower first permanent molars with enucleation of a suspected bifurcation cyst. **FOLLOW UP** The patient requires a transpalatal arch to be fitted two weeks post surgically to maintain space for eruption of the maxillary permanent teeth. In the longer term, fixed appliances will be employed to align and coordinate the dental arches together with long term retention. **CONCLUSIONS** Patients with CD require specialist multidisciplinary care. A more radical treatment approach may be advisable to reduce the frequency of surgical interventions and the inherent risks of multiple episodes of general anaesthesia.

OPD 11.5 **17-year-old female with Bardet-Biedl syndrome treated for periodontitis stage III, grade C**

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INTRODUCTION Bardet-Biedl syndrome is a genetic condition affecting the extracellular ciliary processes sprouting from the membranes of living cells, resulting in deficiencies on several targeted organs. The cardinal symptoms are retinitis pigmentosa, obesity, polydactyly, neuropsychiatric disorders, renal defects and hypogonadism. Earlier findings describe

characteristic oral clinical traits such as microdontia, shortened roots, hypodontia and a broaden mandibular body in distal regions of the jaw. Reports on Bardet-Biedl syndrome associated to periodontitis are scarce. **CASE REPORT(S)** A 17-year-old female with Bardet-Biedl syndrome presented with periodontitis. The patient reported vision loss corresponding to 90% of full capacity due to retinitis pigmentosa as well as obesity and autism. Medical follow-ups are monitored regularly. Based on earlier and current anamnestic history and clinical examination, early onset bone loss with rapid progression was detected in intraoral radiographs spanning over five years. Clinical attachment loss, bleeding on probing, plaque accumulation, increased tooth mobility and furcation involvement were other findings attributed to the periodontal ligament. **FOLLOW UP** Non-surgical periodontal treatment including supra- and subgingival scaling combined with close monitoring of oral hygiene. Periodontal evaluation was done one year after treatment. Teeth 17 and 26 were extracted due to worsened long term prognosis. Microbiological cultures were taken from periodontal pockets to evaluate treatment results. Patient is planned to undergo another round of non-surgical periodontal treatment. **CONCLUSIONS** The main concluding remark is the clinical finding of periodontitis in a patient with Bardet-Biedl syndrome, which might indicate further research to determine if these patients are prone to periodontal disease.

OPD 11.6 **Craniosynostosis in paediatric patients: clinical assessment of oral features**

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AIM Craniosynostosis (CS) is defined as the premature fusion of one or more cranial sutures. Children born with CS may present facial anatomical alterations and limb dysmorphisms that often impact patient's quality of life. Anomalies include cleft palate, hypodontia or hyperdontia, delayed tooth eruption, taurodontism or microdontia, and malocclusions. Aim of the study was to evaluate the oral features observed in paediatric subjects suffering from craniosynostosis. **METHODS** All patients followed at the Paediatric Dentistry service of the Dental School of Turin (January 2021-March 2023), suffering from syndromic (SCS) and non-syndromic craniosynostosis (NSCS) aged between 4 and 17 years were underwent a oral clinical examination analysing the following parameters: decayed, missing and filled teeth (dmft/DMFT), plaque index and the possible presence of dental malocclusions (overjet, overbite, crossbite and molar class). **RESULTS** Study group consisted of 18 patients, 5 NSCS patients, 12 SCS patients and 1 child waiting for a genetic diagnosis. 5/18 (28%) patients presented syndactyly, 4/18 (22%) presented poor oral hygiene, 12/18 (66%) presented at least one carious lesion (dmft/dmft 1) and among these, 4/ 12 (22%) had a high level of caries with dmft/DMFT 5. 9/18 and periodontal disease, 11/18 (61%) had anterior open bite and 14/18 (78%) posterior cross bite. **CONCLUSIONS** Children affected by craniosynostosis showed susceptibility to carious pathology and malocclusions (in particular

dental crowding, class III, posterior crossbite and anterior open bite) and they require early dental assessments to intercept any oral and occlusal problems.

OPD 11.7 Case- report of a 9-year-old with KBG syndrome

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INTRODUCTION KBG syndrome was first discovered in 1975 and named after the initials of the original families with the condition. It's a rare genetic disorder and only around 150 cases are reported so far. The syndrome presents with distinctive facial features, craniofacial anomalies, neurobehavioral problems, and delayed psychomotor development. The syndrome is characterized by macrodontia of the permanent incisors, enamel hypoplasia, high arch palate, hypodontia, dental crowding and supernumerary mamelons. **CASE REPORT(S)** 9-year-old girl was diagnosed with KBG syndrome at the age of 6. Patient was referred to us due to dental cavities, pain and behaviour management problems and dental fear. Dental fear and lack of cooperation to treatment led to her being treated under general anaesthesia at the age of 5. Patient was later diagnosed with the syndrome and macrodontia of the lower incisors were present. The permanent maxillary incisors are under eruption and the estimated width is approximately 10mm. **FOLLOW UP** Due to the syndrome characteristics of macrodontia the patient is being followed on a regular basis. Crowding of the teeth is inevitable and needs to be followed to plan the need for orthodontic treatment and minimize the risk for dental cavities. **CONCLUSIONS** It is important to recognize the oral and clinical presentation of this rare syndrome. As far as we know this is the only syndrome that presents with macrodontia and many patients only get the syndrome confirmed after the eruption of the permanent incisors. Knowledge of the oral manifestations of the syndrome facilitates an appropriate management

OPD 11.8 OFCD syndrome. Combined surgical and prosthetic treatment of the dental anomalies in an adult patient.

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INTRODUCTION Background: Oculo-facio-cardio-dental (OFCD) syndrome is a rare X-linked dominant disorder associated with mutations in the BCOR gene. The phenotype is characterized by anomalies of eyes, face, heart and teeth. Dental anomalies include agenesis, radiculomegaly, root dilacerations, delayed eruption and malocclusion. This study reports dental problems observed in a patient diagnosed with OFCD syndrome at adult age and their treatment. **CASE REPORT(S)** Case report: A 36-year-old woman with a recent diagnosis of OFCD syndrome was referred for oral rehabilitation. She had a history of markedly delayed tooth eruption and extraction of several teeth. Her dento-facial status was complex; characterized by pronounced tooth loss, ectopic eruption, retention, radiculomegaly, malocclusion and an extremely increased

vertical jaw relationship. In addition, she had compromised oral hygiene and dental anxiety. Treatment: The treatment included combined surgical reduction of the alveolar process, multiple extractions and a prosthodontic implant restoration with two implant-supported bridges in the upper jaw and a removable hybrid telescopic bridge construction in the lower jaw. **FOLLOW UP** Follow-up: Over a follow-up period of five years, sufficient oral hygiene was difficult to maintain, and she presented with several caries lesions and periodontal problems. The long-term plan will focus on oral health issues. **CONCLUSIONS** Conclusion: In this adult patient with OFCD syndrome with complex dental problems and dental anxiety, we chose radical surgical and prosthetic treatment with a simple prosthetic solution due to difficulties in maintaining a sufficient oral hygiene. The oral hygiene problems were probably related to factors associated with OFCD syndrome such as reduced vision and psychological challenges.

OPD 11.9 **Oral disease risk and dental prevention challenges in a boy diagnosed with Avoidant Restrictive Food Intake Disorder (ARFID)**

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INTRODUCTION Avoidant restrictive food intake disorder (ARFID) has been classified within the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) and the International Classification of Diseases (ICD-11). ARFID does not stem from self-image concerns but from sensory sensitivity, fear of eating complications such as choking, or indifference to food. **CASE REPORT(S)** A 3-year-old boy with Early Childhood Caries (ECC) was referred by his dentist to an NHS Community Dental Service (CDS). Medical history revealed a diagnosis of limited diet variety ARFID, consisting primarily of breadsticks, Walker's ready salted baked crisps, biscuits, chocolate and Nutramigen 2 milk. Food colour, temperature, texture and shape influenced whether even these foods were accepted. The family and child's Feeding and Eating Disorder Team expressed concern that dental teams fail to understand and appropriately support patients with ARFID. The treating CDS liaised with the family and specialist medical team to understand ARFID and support the family. Dental general anaesthesia (DGA) was required for extractions (54, 52, 62, 64, 71, 74, 75, 81, 85) and fillings (55, 61, 65, 72, 82, 83, 84). **FOLLOW UP** Over a follow-up period of 4 years the child's relationship with food has not changed. He is seen for 3 monthly dental review and prevention. To date he has not required further restorative treatment. His specialist team continue to stress that encouragement to try new food, whilst well intentioned, can worsen a child with ARFIDS's relationship with food. **CONCLUSIONS** Dental teams involved in delivering care to patients diagnosed with ARFID should work closely with parents and specialist teams to develop targeted dental advice and support.

OPD 11.10 **A mixed methods evaluation of the pilot Leeds City Council's 'Choose the Cup' intervention**

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AIM Exploring acceptability of Choose the Cup (CtC) intervention and its impact on infant drinking and oral health habits. **METHODS** Implemented in collaboration with Leeds City Council, CtC was an oral health intervention, delivered by trained children centres' staff, aiming to encourage parents with infants, six months or older, to use an open cup without teats or non-spill valves lids, called Babycup. To explore drinking habits, parents of infants aged 4-11 months completed questionnaires at baseline, which were analysed using descriptive statistics. Semi-structured qualitative interviews were carried out six months after the CtC intervention. Interviews were carried out by phone, recorded, transcribed verbatim and analysed through thematic analysis using NVIVo software. The University of Leeds Research Ethics Committee approved the study. **RESULTS** Eighteen parents at two children centres were recruited. At baseline, 60% (9/15) of parents had not received any formal oral health or diet advice, 88.9% (16/18) and 66.7% (12/18) of infants had not visited the dentist and use traditional baby bottles, respectively. Qualitative interviews (n=4) found two main themes: acceptability and awareness. All parents recommended the open cup and most infants adopted using the cup. Parents were aware of some oral health messages through the internet or previous experiences with older children, however, they appreciated reassurance and information delivered. Feedback included improving the consistency of advice messages. **CONCLUSIONS** The CtC intervention was accepted by parents and improved infant drinking and oral health habits through introducing an open cup. Further training to staff is recommended to ensure consistent messages.

OPD 11.11 **Regionally conditioned preventive dental program for children in the western region of Ukraine**

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AIM To enhance the effectiveness of dental caries prevention in children based on the study of macro- and microelement provision of the child's body and adaptive-defence mechanisms through the development and implementation of a comprehensive set of preventive measures. **METHODS** Clinical methods were used to assess the condition of tooth hard tissues in children, study the effectiveness of the proposed preventive complex; biochemical methods were employed to determine the content of calcium, phosphate ions, alkaline phosphatase activity, and acidity of oral fluid; atomic absorption methods were applied to determine the microelement provision of the child's body; statistical methods were used for processing research results. **RESULTS** A preventive complex for dental caries in children during the formation of temporary bite has been developed and tested. It includes, in addition to generally accepted measures, correction of macro- and microelement provision of the body at the systemic level and local

impact on the oral cavity microflora. The effectiveness of the proposed method is clinically confirmed by the improvement of oral hygiene and the condition of tooth hard tissues. Normalization of the investigated laboratory indicators of oral fluid is observed, including the restoration of mineral metabolism indicators. **CONCLUSIONS** The long-term results of the study have demonstrated the high clinical effectiveness of our proposed preventive complex for dental caries, as evidenced by a reduction in the increase of caries intensity within the range of 50.29%.

OPD 11.12 Evaluation of an early childhood caries preventive programme starting during pregnancy—Results after three and six years

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AIM The purpose was to study the effect after three and six years of an ECC prevention programme developed to reduce socioeconomic-related disparities in caries prevalence in children **METHODS** A prospective controlled intervention cohort study was performed in a total population of pregnant women and their children in a low-socioeconomic area in Sweden. In interdisciplinary collaboration the intervention group received an individual ECC prevention programme starting pre-birth with an ECC-risk assessment. The program consisted of supportive oral health promoting talks using motivational interviewing techniques and individual preventive actions. A control group, consisting of pregnant women living in a comparable area, received ordinary routines. Records of manifest caries for the children was retrieved from Region Östergötland, and categorized into: dmft=0, dmft=1–5 and dmft 5. **RESULTS** Of 336 pregnant women, a total of 64 mothers (with 64 children) completed the programme, and 394 children were born in the control group. At the six-year examination, the proportion of caries-free children was similar between the groups (53% resp. 52%, p =0.976), while the proportion with dmft =1–5 was slightly lower (23% resp. 36%, p =0.063), and the proportion with dmft 5 was higher (p =0.013) in the intervention group (25%) than in the control group (12%). **CONCLUSIONS** No preventive effect regarding caries can be demonstrated at six years of age. Maternal behavioural change in dental care was not sufficient to even out inequalities in oral health in children, eventually due to difficulties in reaching the target group and the lack of effects among the reached families.

OPD 11.13 Barriers to access dental care for schoolchildren at Princess Irene school in The Hague (NL). A participatory action research.

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AIM To explore and identify possible barriers related to access to oral health services for children in a primary school, located in a low SEP neighbourhood, in The Hague. **METHODS** A community-based participatory action research (PAR) approach used focus groups (n=7) and work sessions

(n=2) with children, alongside of interviews (n=15) with different stakeholders (local dentists, teachers at school and parents). The interview topics varied from questions regarding general knowledge, access to information and experiences, eating habits and accessibility to dental care. During data collection, the findings were returned to the community to establish direction and next steps. Data was analysed together with children by ranking subjects for relevancy (from 1-10) during work sessions. The most important subjects became main themes. Afterwards a thematic analysis was applied by the authors using Google Jam board. **RESULTS** The most identified themes were poverty and language barriers. Language barriers limit access to information and hinder the accessibility to dental care. To be able to provide, parents work long hours and consequently children are given many responsibilities. Children as young as four years who go to a dentist appointment by themselves with the school bus are no exception. This research process led to the co-creation of two tools made by the children to the community: an oral health instruction video and an instruction folder about oral health education. **CONCLUSIONS** The main barriers to access dental care for children in this neighbourhood are poverty and language barriers.

OPD 11.14 **Oral health status of children from different socio-economic backgrounds.**

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AIM To record the oral health of children from different socioeconomic status(SES) and correlate findings with parental-associated factors. **METHODS** A cross-sectional study on healthy children, aged 6-12 years, attending either the Reception and Solidarity Center of the Municipality of Athens or the Paediatric Dentistry Department, NKUA, for dental treatment. It included: a) completion of a questionnaire collecting data regarding demographic characteristics, frequency of tooth brushing, use of additional oral health aids and dietary habits and b) a thorough clinical examination evaluating oral hygiene and caries experience. Data were analysed according to the SES based on the total family income with the cut of point set at 1400euros. Chi-square and paired sample t-tests were used to compare clinical values. Multivariate analysis was performed to detect positive correlations with parental-associated factors. **RESULTS** The sample consisted of 216 children, 146 from a low SES and 70 from a medium, with a mean chronological age of 9.19 years (SD=0.19). Most of the children brushed alone, once daily with fluoridated toothpaste. Children from low SES visited the dentist less frequently (p=0.01), had more meals (p=0.02), consumed more sugary snacks (p=0.03) and had significantly worse oral hygiene (p0.01) and higher DMFT (p=0.02) and dmft values (p0.01) compared to children from medium SES. None of the parental-associated factors seemed to significantly affect the probability of having poor oral hygiene and dental caries. **CONCLUSIONS** Low SES is associated with poor oral health and therefore targeted preventive programs should be applied for families from vulnerable social groups.

OPD 11.15 Dental and periodontal diseases among teenagers using oral narcotics

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AIM In many countries, including Romania, drug addiction among teenagers is increasingly common and more powerful drugs are being taken. The study investigated a possible association between the oral health status and oral consumption of prohibited substances in a Romanian group of teenagers who use recreational drugs, chronically or incidentally. **METHODS** The study was performed in July 2023 in Bucharest. Subjects consisted of twenty adolescents (mean age of 15 years). The oral examination included periodontal probing and assessing enamel wear. A questionnaire was used to gain information on the patient's awareness of bruxism, method and duration of consumption. Clinical findings were compared to observations made upon non-consumer adolescents. Parental consent and ethical agreement were obtained. **RESULTS** An increased prevalence of dental and periodontal diseases was noted to a greater extent than in non-users. Oral examination revealed advanced caries predominantly cervical in 20% of cases. Due to the lack of interest in oral hygiene, marginal gingivitis was generalized affecting 45% of the group, with bleeding when probing. Awareness of painful spasms of the masticatory muscles, involuntary teeth grinding and jaw clenching was reported by 35% of patients. Bruxism-related teeth damage were progressive enamel wear and fractured teeth, which can lead to their premature loss. Teenagers presented xerostomia, halitosis and reported high consumption of sugar. **CONCLUSIONS** We consider that the oral consumption of prohibited substances negatively influences oral health of adolescent drug users . These particularities might be clues towards identification, because failure to recognize drug addicts may results in a wide range of repercussions, some life threatening.

OPD 11.16 Risk assessment and evaluation of retention of resin-based sealant on first permanent molars in 7-8 year old children.

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AIM The aim of this study was to assess the risk of caries development and monitor the retention of resin-based sealant on fully erupted first permanent molars in children aged 7-8 years for one year. **METHODS** Evaluation of the risk of caries development as well as OHI and DMFT+dft indexes were assessed. Prior to sealant application, all first permanent molars included in the study were subjected to visual diagnostics using the ICDAS II system and diagnostics with VistaCamiX Macro using the same system. The follow-up checks of the sealed teeth were performed at 3, 6, and 12 months in accordance with the accepted methodology. **RESULTS** Risk assessment was performed on 148 children, 53 (with 152 fully erupted molars) of them belonged to the high risk group with average OHI- 1,185 and DMFT=+dft index-3,98. At the end of the first year, completely lost sealant was reported in approximately 8%-9% of the monitored surfaces using various diagnostic methods. **CONCLUSIONS** Resin-based sealants are suitable for

application on occlusal surfaces of teeth in high risk paediatric patients. They provide very good retention and excellent caries-preventive effect.

OPD 11.17 **Exploring the caries risk factor immigrant background focusing on country of origin**

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AIM To explore the caries risk factor immigrant background with focus on country of origin **METHODS** The study population consisted of 1-3 year-old-children (n=3402) living in multicultural low socioeconomic areas. They had participated in a longitudinal prospective field trial from 2011 to 2013 in Stockholm, revealing that biannual fluoride varnish application had no additional impact on dental caries development. Longitudinal data collected through a questionnaire and clinical examination at 1-, 2-, and 3-year was used for the analysis. Outcome measure was the number of tooth surfaces with dental caries (ICDAS1), The main exposure variable was a country of origin category derived from data about language spoken at home. Each country was classified according the World Bank Country and Lending Group. As most of the young children had no caries a zero-inflated negative binomial model was used in the statistical analysis. The model also handled dependence and was adjusted for potential confounding factors. **RESULTS** The largest group was Middle income non-European country, with 35% of the subjects, the Sweden group had 21 %. High income non-European Country had the highest caries counts at time point 1 year and 2 years, while middle-income European country had the highest caries count at time point 3 years. The Sweden group had the lowest caries count for all time points and the flattest increase (p0.001). **CONCLUSIONS** Dental caries is influenced by multiple factors, and the country of origin serves as a mediating factor, necessitating consideration in preventive strategy design.

OPD 11.18 **Beyond belief: assessing what parents believe about oral health in their children.**

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AIM To develop an easy Parental Locus of Control – Oral Health (PLoC-OH) scale to assess what parents believe about oral health in their children. **METHODS** The PLoC-OH scale was developed in English and translated into German, French and Italian. It includes 1 item on parental guilt and 17 on locus of control (5 items on internal – parental – LoC; 12 on external LoC – dental professional, child, fate, genetics and divine influence). Thirty-eight parents answered the PLoC-OH scale (n=23 German and n=15 French versions). Descriptive statistics and Fischer's exact test were used. **RESULTS** All parents provided strong positive answers (~80%) for an internal LoC, but they also have (~20%) an external LoC. Parents believe that the cause of caries (or its prevention) lies on the dental professional (11%), on the child itself (21%), on genetics (26%), or

on chance (15%). None of parents believed on the influence of Divine Intervention. A total of 21% of parents always/often felt guilty for the oral problems in their children, but guilt was not associated to locus of control in this population (p0.05). **CONCLUSIONS** These parents have, on average, an 80% internal locus of control, believing that they are themselves responsible for preventing caries in their children, but they still have a 20% external locus of control, believing that caries in their children (or its prevention) is related to visits to the dental professional, behaviour of the child itself, genetics or fate. Also, one fifth of them felt guilty for any oral problems in their children.

Session OPD12

OPD 12.1 **Successful treatment of a non-vital immature lower incisor following a displacement injury and incomplete vertical crown fracture**

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INTRODUCTION Endodontic treatment in immature teeth is often challenging and with an uncertain prognosis. This case report describes the success of endodontic treatment following a delayed presentation of a concurrent displacement and incomplete vertical crown fracture in a lower incisor (LL1). **BACKGROUND CASE REPORT(S)** A 9-year-old girl was seen in the clinic with a history of dental trauma. The main complaint was pain on chewing and localised swelling in relation to LL1. There was no relevant medical history. Clinically, LL1 presented with an incomplete vertical crown fracture, associated with a flaccid labial swelling. No mobility was detected, and a negative response was elicited from the cold thermal test. Radiographs confirmed ceased root development in LL1 along with a large periapical radiolucency; also confirmed the incomplete vertical crown fracture extending to the cervical gingival margin. A diagnosis of combined crown fracture and displacement injury leading to pulp necrosis was made. The further assessment indicated the need for joint Paediatric and Orthodontic Specialist care. The tooth was treated with Calcium Hydroxide till the apical barrier was confirmed and the final obturation was performed. **FOLLOW UP** Follow-up over 2 years, showed radiographic periapical healing and the tooth has been clinically asymptomatic. **CONCLUSIONS** This case highlights that successful outcomes can be achieved in cases of poor prognosis and conservative endodontic treatment should be attempted to minimise emotional and psychological disturbances from loss of a tooth. It also highlights that coronal protection of the pulp is a key prognostic factor.

OPD 12.2 **The loss of two unerupted permanent premolars in a child – an unusual consequence of a radicular cyst.**

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INTRODUCTION Radicular cyst is the most common presentation of inflammatory odontogenic cyst. However, it is considered rare in the primary dentition, representing only 0.5 – 3.3% of all radicular cysts. This case highlights an unusual presentation of a radicular cyst. **BACKGROUND CASE REPORT(S)** A 12-year-old boy was referred urgently regarding an asymptomatic lesion in the left body of mandible. On examination, there was a bony swelling with buccal expansion that was firm to palpate, and multiple mobile carious primary teeth. Plain film radiography showed an expansive radiolucent lesion, resorbed roots of primary teeth, and displacement of unerupted LL3, LL4 and LL5. Cone-beam computed tomography (CBCT) confirmed a unilocular radiolucent lesion consistent with a benign odontogenic cyst. Patient was referred to the maxillofacial team for enucleation and extraction of primary teeth under general anaesthetic. During the procedure, the unerupted LL4 and LL5 were found floating free and were removed. **FOLLOW UP** Histopathological analysis confirmed a radicular cyst. One-year follow-up revealed good bony infiltration at the surgical site and LL3 has erupted. **CONCLUSIONS** Differential diagnoses include dentigerous cyst and keratocyst. Histopathological investigation excluded keratocyst which otherwise would be aggressive and highly recurring. The use of CBCT is important in identifying the position of the cyst and its relation to the inferior alveolar canal. In conclusion, the morbidity associated with a radicular cyst should not be underestimated. Prompt management is crucial to minimise harm to underlying permanent successors and vital structures. This case highlights the role of multidisciplinary team approach in diagnosis, short and long-term management including future prosthetic rehabilitation.

OPD 12.3 **Regenerative therapies with bioactive materials in immature permanent molars with Molar-Incisor Hypomineralization: A case report**

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INTRODUCTION Molar-Incisor Hypomineralization (MIH) is a demarcated qualitative defect of the enamel affecting the first permanent molars and often the permanent incisors. Mineral deficiency can accelerate the breakdown of enamel, putting the pulp vitality at risk. Immature, non-vital teeth are treated using regenerative endodontic therapy (RET). MTA is a bioactive calcium-silicate-based cement (CSC) used in RET. Biodentine is also a CSC that can be utilized as a bioactive material. The clinical success of RET in a patient with MIH using MTA (Angelus, Brazil) and Biodentine (Septodont, France) has been demonstrated in a case report. **BACKGROUND CASE REPORT(S)** A systemically healthy 9-year-old girl came to our with spontaneous pain in #36 and #46. Intraoral examination showed both teeth had extensive caries and whitish-yellow opacities in the tubers, as well as percussion sensitivity (PS) and no response to vitality. Also,

radiolucency was identified in the bifurcation and periapex while both teeth had immature apices. After MIH diagnosis, we decided to use RET with bioactive materials on #36 (MTA) and #46 (Biodentine), with a one-year follow-up with regular clinical and radiographic evaluations. **FOLLOW UP** The patient was asymptomatic on subsequent visits, #46 and #36 showed periapical healing and apexogenesis within 12 months. **CONCLUSIONS** Regenerative endodontic treatment with bioactive calcium silicate cement may significantly reduce the symptoms and induce the apical growth in devital MIH-affected young permanent teeth.

OPD 12.4 Effect of Stevia on Streptococcus mutans biofilm in vitro.

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AIM To evaluate the effects of commercially available Stevia based products on existing biofilm of S. mutans in vitro and to compare them to other sweeteners. **METHODS** S. mutans (ATCC 27351) biofilms were grown in 96 well plates (BHI solution enriched with 2% sucrose, 48 h, 37o C, anaerobic conditions). Following growth, the biofilms were washed and added with 2% sucrose, 2% glucose, Aspartame and Stevia (equivalent to 2% sucrose) or saline. The biofilms were incubated a second time. Succeeding the incubation biofilms were examined for biomass using Crystal Violet assay and quantified for exopolysaccharides (EPS) using Congo Red assay. Results were compared using ANOVA. **RESULTS** Incubation of the S. mutans biofilms with Stevia resulted in 50% reduction of biomass and 70% reduction in EPS content in comparison to sucrose. Aspartame and saline reduced biomass and EPS levels to a lesser extent and did not differ significantly from one another. **CONCLUSIONS** The present study suggests that Stevia may have the potential to reduce EPS content in S. mutans biofilms leading to biomass reduction.

OPD 12.5 Treatment of severe pre-eruptive intracoronal resorption of a permanent second molar

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INTRODUCTION Pre-eruptive intracoronal resorption is a caries-like lesion frequently located in dentin-enamel junction in the occlusal face of the tooth crown. **BACKGROUND CASE REPORT(S)** A 15-year-old girl was referred to our Paediatric dentistry office because of »unusual occlusal caries« in not fully erupted tooth 37. Until she was 4 months old, she was in hospital several times due to malnutrition. A girl had scoliosis and mild development delay. A panoramic radiograph revealed an extensive radiolucent lesion in occlusal dentin underneath the enamel-dentin junction in tooth 37 and agenesis of the second upper premolars and the third left molar. The apexes of the 37 were not fully developed. Clinical exam revealed normal colour and texture of alveolar mucosa around the tooth 37. Occlusal enamel of the tooth was fractured and coronal dentine was resorbed and replaced with connective tissue-like lesion. We did a vital pulpotomy under local anaesthesia and closed the cavity with glass-ionomer. The plan was to obtain

apexogenesis of the tooth 37. **FOLLOW UP** We made 3, 6, 12, 18 months and 4 years follow-up with radiographs and clinical examination. During all examinations the oral mucosa around the tooth 37 was normal colour and condure, the tooth was vital, physiologically mobile and not sensitive to percussion. Radiographs revealed continuing apexogenesis and development of dentin bridge between medicament and pulp. **CONCLUSIONS** The pre-eruptive intracoronal resorption is a rare condition and dental radiographs should be examined carefully since early diagnosis is of utmost importance for determination of the treatment plan and prognosis.

OPD 12.6 **A new regenerative pulpotomy medicament: Hyaluronic acid gel**

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AIM This randomized clinical trial aimed to evaluate the success of 0.5% Hyaluronic acid gel(HA) as a pulpotomy medicament in primary molars in comparison to Formocresol (FC) and Ferric sulphate(FS) pulpotomies. **METHODS** 130 primary molars from 44 healthy children(aged 5-to-9) were randomly divided into FC, FS and HA (Gengigel Teething) groups. Children were followed-up clinically and radiographically up to 30 months. **RESULTS** At the end of 30th month, exfoliation rates of FC, FS and HA groups were 52.5%, 53.8%, 50.9% respectively and the clinical success rates of the remaining FC, FS and HA groups were 89.5%, 94.4%, 96.2% respectively. One tooth from HA was extracted due to abscess at 1st month, otherwise no spontaneous pain, fistula, abscess, palpation were observed clinically in any tooth in all the treatment groups. Mobility was observed in two teeth(10.5%) in FC and one tooth(5.6%) in FS and tenderness to percussion in one tooth(5.6%) in FS at 30th month. The radiographic success rates of FC, FS and HA groups were 82.6%, 77.8%, 83.3%, respectively. The periapical root resorptions of the primary molars(FC-73.9%, FS-83.3%, HA-86.6%) were higher but not considered as failure because of the resorptive nature of these teeth. Pulp canal obliteration was not seen up to one year follow-up, but was the most common radiographic finding(FC-17.4%, FS-33.3%, HA-20.0%) at the end of 30th month. The second common feature was internal root resorption(FC-17.3%, FS-11.1%, HA-10.0%). **CONCLUSIONS** Hyaluronic acid gel demonstrated comparable success rates both clinically and radiographically to Ferric sulphate and Formocresol for the pulpotomy medicament in primary molars.

OPD 12.7 **A comparison of the outcomes of one-stage and two-stage approaches to hall crown placement**

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AIM To determine whether the success of hall crowns is affected by using a one-stage approach, where separator and crown are placed in one visit. **METHODS** Data was collected retrospectively including all patients treated within the predetermined time frame. October-December 2019 denoted a two-stage approach within the local protocol and October-December 2021 one-stage.

A predesigned proforma was used to extract data from patient notes, identified from day lists. This included patient characteristics, number of crowns required, number of crowns fully seated, distress of the patient and post-operative failure. Data was collated into an Excel spreadsheet. Results were combined and split into two groups: one-stage or two-stage approach. Descriptive analysis was then undertaken. **RESULTS** 110 notes were accessed, with a total of 212 crowns placed. The one-stage group had a median age of 7 years (IQR 3). A total of 100% (n=116) crowns were attempted with 22%(n=25) crowns refused. Of the 83%(n=91) of crowns cemented 11%(n=10) were not fully seated, 52%(n=47) of patient's experienced distress but allowed treatment and 10%(n=9) of crowns placed resulted in post-operative failure. The two-stage group had a median age of 6 years (IQR 2). A total of 100% (n=120) crowns were attempted with 3%(n=4) crowns refused. Of the 97% (n=116) of crowns cemented all were fully seated, 3%(n=4) of patients experienced distress but allowed treatment and 3%(n=4) of crowns placed resulted in post-operative failure. **CONCLUSIONS** Children with hall crowns placed using a one-stage approach were more likely to refuse treatment and experience distress and post-operative failure.

OPD 12.8 **Assessment of biochemical markers in young human dental pulp**

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AIM This was to evaluate the concentration of biomarkers of inflammation (TNF-α), oxidative stress (SOD-3), extracellular matrix degradation (MMP-7) and mineralization (Osteocalcin) mechanisms, which have a strong interconnection, in human dental pulp. **METHODS** 42 healthy, cooperative children and adolescents, aged 6-18 yrs old who sought treatment at Pedodontics clinic of Carol Davila University, were included (one tooth/patient). 23 symptomatic irreversibly inflamed dental pulps were obtained by vital pulpectomy from permanent teeth (PT) during emergency treatment (experimental grp), while 19 healthy dental pulps were collected from PT extracted for orthodontic reasons (control grp). Levels of TNF-α, SOD-3, osteocalcin and MMP-7 were analysed in pulp lysates using ELISA technique. BM SPSS Statistics 25 and Microsoft Office Excel 2013 were used for the statistical analysis, p0.05 was considered statistically significant (SS). **RESULTS** Mean age ± SD: all patients 10.98±3.65 yrs old, experimental grp 10.91±3.18 yrs old, control grp 11.06±4.25 yrs old. SS higher levels of TNF-α, SOD-3 and osteocalcin were found in the experimental group compared to the control group (p0.001). Although MMP-7 presented elevated concentration in the experimental group, this difference was not SS. **CONCLUSIONS** Up-regulation of TNF-α, SOD-3 and osteocalcin was observed in the experimental group. Quantification of these biomarkers, using molecular procedures, associated with the patient's clinical signs may be useful for the accurate evaluation of the inflammation status of the dental pulp, especially in young PT when differential diagnosis between reversible and irreversible

pulpitis is mandatory. Early and precise diagnosis will guide clinicians to choose less invasive treatments in order to preserve dental pulp vitality.

OPD 12.10 Evaluation of two different treatment methods in children with deep carious lesions in primary molars: a 1-year follow-up study

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AIM The aim of the study was to investigate the sustainability of restorations and tooth survival, one year after partial versus complete excavation of deep caries lesions in primary molars in a randomized controlled trial **METHODS** Children in the age of 3-8 years, with one or more primary molar in need of a restoration due to a deep carious lesion were invited to the study. The intervention group received partial removal of the carious tissue where peripheral carious tissue was removed until hard dentin remained, while in proximity to the pulp, leathery dentin was left. The control group received total removal of the carious tissue. The total caries removal was ensured with hardness on probing and by visual examination by the operator. All statistical analyses were conducted in STATA 14 for Windows. For association analyses Chi-square test was used. The level of significance was set at p 0.05 **RESULTS** A total of 261 restorations were performed. Totally, 5,5% had their restorations lost and 2,0% of the teeth needed to be extracted after 1 year. In the intervention group the prevalence of loss of restoration was 5,7% and in the control group 5,3%. Furthermore, in the intervention group the results showed that teeth that had their adjacent surface restored at the same time exhibited a higher proportion of lost restorations (p=0,015) **CONCLUSIONS** After 1 year, the two methods; partial excavation and complete excavation showed similiar success rate for managing deep carious lesions in primary molars

OPD 12.11 Silver diamine fluoride (SDF) effectiveness in caries control and its acceptance among parents of children with ECC

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AIM To determine effectiveness of SDF for caries-control and its acceptance among parents of children with ECC. **METHODS** Children (n=157) aged 3-5 years from different cities across Jordan with at least 1 active carious lesion in anterior and/or posterior teeth were enrolled in this clinical trial. The sample was divided into two groups; study group (N=102) who received a single application of 38% SDF, and control group (N=55) children (due parental refusal of SDF). Parents'acceptance of SDF was measured through a questionnaire. The subjects were re-examined 1-year after to record data on SDF effectiveness: caries arrest (cavities' color and texture) and prevention (carious activity and number of new decayed surfaces). Data were entered into Excel spreadsheets and analysed using SPSS statistical software (Version 18.0. Chicago SPSS).A P≤0.05 was considered significant. **RESULTS** Response rate was 94.6%(157/166), mean age was 4.8±0.85years. A total of 102/157(65%) parents accepted SDF application and

55/157(35%) refused. Main reasons behind parental refusal were: lacking sufficient knowledge (70.9%) and believing SDF was harmful (49%). At 1-year, n=111/157(71%) were available for follow-up; N=67 and 44 in the study and control group, respectively. Significant arrest of active carious lesions at baseline occurred in study group (77%) vs control group (13%), P 0.05. The prevention fraction of SDF was 66.7%. Significant increase in mean of new decayed surfaces was in control 2.7(60%) vs study group 0.9(43%); P 0.05. **CONCLUSIONS** SDF was effective in caries arrest and prevention at 1-year follow-up. The majority of parents accepted SDF application on their children's teeth.

OPD 12.12 Fractional urinary fluoride excretion in 4-6-year-old children under conditions of varying total daily F intake

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AIM Currently, due to the lack of data a unified fractional urinary F excretion (FUFE) of 45% is used for all children under the age of 7 to assess F intake based on urinary fluoride excretion; the study aimed to investigate FUFE in young children under conditions of varying total daily F intake (TDFI). **METHODS** The study recruited 24 children residing in an institution aged 4,0-6.0 years. The material was collected during six two-week periods with different TDFIs: regular and supplemented with table salt with [F] = 150, 200, 250, 300 or 350 mg/kg (in compliance with local regulations). TDFI was assessed through the calculation method of ingested water, food, F-salt and F-toothpaste; the data was obtained through observation. Daily urinary F excretion (DUFE) was assessed through F analysis of 24-hour urine samples using a F-ion-selective electrode. The data were classified into three groups according to children's TDFI level: 1) 0.050-0.100 mgF/kg; 2) 0.101-0.150 mgF/kg; 3) 0.151-0.200 mgF/kg. FUFE was calculated as the ratio between DUFE and TDFI. For statistical analysis, Wilcoxon's t-test was used. **RESULTS** In group 1, children had DUFE±SD = 328±139 µgF, in group 2 – 540±232 µgF, in group 3 – 512±204 µgF. FUFE was 0.25±0.02; 0.17±0.04 and 0.15±0.14, respectively (p12 0,01; p23 0,01; p23 0,001). **CONCLUSIONS** In 4-6-year-old children FUFE approaches 25% with a TDFI close to optimal and decreases with a higher TDFI. This is important to consider when calculating TDFI based on FUFE to avoid underestimating the risk of iatrogenic fluorosis.

OPD 12.13 Caries prevention guidelines for children and adolescents in Czech Republic.

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AIM The evidence-based scheme of decision-making process and forms of preventive approach of dental caries in children and adolescents. **METHODS** A systematic research by Medline® online database was performed using all terms relevant for prevention and prophylaxis of dental caries in children. Relevant papers were studied for formulating the evidence-based recommendations. **RESULTS** Of 556 references initially found, 201 were included for review. The

selected papers covered all forms of caries prevention in children (fluorides, dietary counselling, oral hygiene, education, caries risk assessment). Final caries prevention guidelines are the unified material to be shared with all dentists, dental hygienists, parents and care-givers and paediatric practitioners in Czech Republic. **CONCLUSIONS** Caries preventive recommendations are frequently inconsistent, simplified and individually formulated. The evidence-based preventive guidelines on national and global platform are necessary for the improvement of oral health and quality of life of children and adolescents. Supported by the grant Progress Q29, Czech Society of Paediatric Dentistry, CEE-ACFF, Colgate-Palmolive, Czech Republic.

OPD 12.14 Dietary assessment and analysis tools for caries in children and adolescents: a systematic review

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AIM To evaluate the ability of various dietary assessment tools to assess the cariogenicity of children's diet. **METHODS** A literature search, with no date, publication, or language restriction applied, was conducted on a database search up to October 2021, followed by a manual search. Cross-sectional and cohort studies correlating dietary sugar intake with children's dental status were retrieved/included for qualitative review. The quality of eligible studies was evaluated with the Newcastle-Ottawa Scale. **RESULTS** 35 papers of 8 cohort and 24 cross-sectional studies fulfilled the inclusion criteria. The majority (34.4%) used a 24-Hour Recall, 31.3% used a 3 to 7 days Food Diary, 21.9% used a food frequency questionnaire (FFQ), and 12.5% used more than one methods to evaluate dietary habits. Regarding dietary analysis assessment, Healthy Eating Index and Dietary Guideline Index were used in 5 studies, while 12 studies used a score based on sugars consumption. The rest have analysed cariogenic diet based on the weight, calories, or frequency of sugars consumption. The majority of the studies (55.6%) were of moderate quality based on the risk of bias criteria. A statistically significant correlation (p0.05) between caries and consumption of sugars was found in the majority (77.1%) of the studies reviewed. **CONCLUSIONS** Inconsistency exists between the different studies on diet data collection and analysis from a caries risk perspective. The 24-Hour Recall is the most commonly used method to collect dietary data for caries risk assessment. A standardized method for dietary analysis needs to be determined.

OPD 12.15 Microbiological characteristics of oral microbiocenosis in children and correction with probiotics based on salivary streptococci

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AIM Negative factors affecting children's health make changes in the oral microbiome causing caries. There is a need in regulating safely the microbial component with probiotics. Aim: to study possible correction of identified changes with probiotics based on the strains of salivary

streptococci. **METHODS** 15 children (3-6 years old) having caries of primary teeth were under study. The plaque was taken before and after a 3-month course of DentoBliss Medico Domus (Serbia) – a dissolving probiotic product contacting the probiotic strain of S. Salivairus M 18 for further lab study. The biofilm microbiocenosis was analysed through the bacteriological method. Culture media from Himedia Labs (India) were used including 5% bloody agar with hemin and menadione, chromogenic mitis-salivarius agar, a different diagnostic chromogenic medium for the isolation of yeasts (Candida) and anaerostat. **RESULTS** Before the treatment: the main acid-containing species S. sanguis and S.mutans were found out in 100%, the average number was 7,01±0,13 and 6,40±0,11 Ig CFU/ml, actinomycetes - in 50% children, S. salivarius - in 70%, i.e. 5,67±0,30 Ig CFU/ml. After the treatment: S. mutans became significantly lower (to 70%), i.e. 4,92±0,17 Ig CFU/ml (p0,05), S. sanguis got back to normal, the actinomycetes went down to 20%, the isolation of S. salivarius increased to 90%, the contamination of P. gingivalis and P. intermedia decreased significantly. **CONCLUSIONS** The probiotic product based on the strains of S. salivairus M 18 is very promising to correct and stabilize oral microbiocenosis. The antimicrobial activity of the stain against cariogenic and periodontal pathogenic species is proved.

OPD 12.16 **Dental complaints of pregnant women and access to care during the first waves of Covid-19 pandemic in Hungary.**

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AIM To evaluate the dental complaints of pregnant women during pandemic. **METHODS** An online questionnaire related to dental complaints of pregnant women was shared through Facebook®. It was available for voluntary participation from 20 March 2021 till 5 June 2021. **RESULTS** Three hundred and eight expectants completed our questionnaire from every county in Hungary. (More than 70% of the participants lived in urban areas, whereas the remaining were rural residents. The average age of the participants was 29±5 years,) 45% had tertiary-, 51% secondary- and 4% primary level of education. Twenty-seven percent of the responders were primipara, meanwhile 73% have already given birth to a child. Fifty percent did not report any dental complaint during pregnancy. The most common complaint reported was gingival bleeding (105 cases) followed by dental pain (74) and gingival swelling (53). Sixty-one percent reported changes in eating habit during pregnancy, from whom 28% indicated higher sugar intake. Thirty percent reported less than favourable oral hygiene routine and 55% had dental visit only in case of severe complaint or never. Twenty-eight percent reported deteriorated dental status during pregnancy. Thirty-three percent found dental visits and treatment to be less available during the pandemic. **CONCLUSIONS** The pandemic might have worsened the already inadequate habits of Hungarian expectants; an educational (possibly online) training to improve the oral hygiene could be beneficial for this high risk group.

OPD 12.17 Effectiveness in vitro of porphine molecules and Tea Tree Oil in preventing dental caries.

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AIM To evaluate the efficacy of porphine molecules and Tea tree oil (TTO) against Streptococcus mutans and Streptococcus sobrinus. **METHODS** The activity of a porphine and TTO on the growth of S.mutans and S.sobrinus was evaluated by the broth microdilution method. Furthermore, a biofilm formation assay was conducted for each strain, to assess the ability of TTO and porphine, alone and in combination, to eliminate biofilm formation. Chlorhexidine served as a positive control. The effect on bacterial adhesion on extracted human teeth was also assessed. Biofilm formation was quantified by measuring OD600nm with a spectrophotometer, while bacterial growth was quantified by either OD600nm measurement or the spread-plate method and colony count. Spread plating and colony count were also performed for estimating bacterial adhesion. **RESULTS** Concentrations of porphine and Chlorhexidine were 0.3μM-312.5μM and 0.1μM-100μM, respectively, while TTO concentration was 0.05%-50%. When combined, the concentration range of porphine and TTO was 0.15μM-156.26μM and 0.195%-25%, respectively. After 24 hours, Chlorhexidine, TTO and porphine effectively eliminated planktonic growth of S.mutans and S.sobrinus. Additionally, all products inhibited biofilm formation for both strains. Biofilm inhibition was also observed for the combination of TTO and porphine, which acted synergistically. No bacteria were detected at the surface of teeth exposed to the treatments. **CONCLUSIONS** Porphine and TTO, either individually or as a combination, can effectively inhibit growth and biofilm formation of S.mutans and S.sobrinus, and their adhesion on tooth surfaces. The combination of TTO and porphine allows using lower concentrations which may in the long term prevent cytotoxicity.

OPD 12.18 The preventive care received by children and caregivers referred due to caries to a Hospital Paediatric Dental Service

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AIM This service evaluation, reports on the preventive care received by children prior to referral at specialist paediatric dental hospital at St Thomas' Hospital, London. **METHODS** Data were collected retrospectively from the computerized referral records for children referred to specialist paediatric dental service at St Thomas' Hospital London between December 2019 to July 2020. Data were manually processed into an electronic database. Patient demographics, reason for referral, dental history and prevention advice were recorded. Data was analysed using descriptive statistics. **RESULTS** One hundred and twelve referral forms were reviewed. There were 46 girls and 66 boys. Fifty-eight children (52%) were referred due to dental caries; of which 23 (40%) of children were regular attendees and 35 (60%) were occasional or never attended. Thirty-two (55%) children brush their own teeth and 25 (43%) caregivers supervised

toothbrushing. Twenty-three (55%) had sweet drink before bedtime. Preventive advice and dietary advice each was given to 58 (100%) prior to referral. **CONCLUSIONS** Prevention measures are essential to ensure families the effectiveness of home care liaising with the local dentist's preventive care to reduce future incidence of caries as the vast majority were referred due to dental caries. The importance of shared care between practitioners and specialist in hospital providing multidisciplinary care for the child's quality of life.

Posters No Discussion (PND) Session

Session PND1

PND 1.1 **Chanting as a behavioural control strategy: Report of a case of complicated crown fracture in an uncooperative patient.**

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INTRODUCTION Dental trauma, often resulting from accidents and falls, can cause pain, anxiety and fear in patients, especially children. The traumatic experience can affect the child's cooperation during dental treatment, making it essential to search for effective behavioural control strategies. The present case explores the influence of singing, in the treatment of a complicated crown fracture of the right upper central incisor (11) with incomplete rhizogenesis, using mineral trioxide aggregate. **CASE REPORT(S)** Patient R.V., an 8-year-old girl, uncooperative, attended an emergency paediatric dentistry appointment, after suffering a complicated fracture of the #11 tooth crown. The trauma occurred during a game, six hours before the appointment. The fragment was recovered and kept immersed in a saline solution. The periapical x-ray of the traumatized tooth revealed a tooth with incomplete rhizogenesis and a crown horizontal fracture. After absolute isolation, a complete coronal pulpotomy was performed with white mineral trioxide aggregate (Proclinic Expert MTA; Hl Medical Solutions), with subsequent gluing of the tooth fragment. During the procedure, popular Portuguese children's songs were sung as a distraction technique. **FOLLOW UP** Controls were carried out over a period of four years, where it was found that the tooth was asymptomatic and without evidence of radiolucent lesions. **CONCLUSIONS** Studies have shown that music can play a significant role in reducing anxiety. Music is a simple and low-cost resource that can generate great benefits for paediatric dentistry treatment. In the context of dental trauma, the integration of music as part of the care protocol, can contribute to a more holistic and patient-centered approach.

PND 1.2 **Recruiting practices to a trial on silver diamine fluoride in primary dental care, is it feasible?**

Timms L*, Rodd H, Brocklehurst P, Deery C, Marshman Z
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AIM Assess the ability to recruit UK publicly-funded primary dental services (NHS) to conduct oral health research, specifically a trial on the use of silver diamine fluoride (SDF) to manage caries in young children. **METHODS** Dental services in England were recruited through email invitations to 17 local dental committees, two research primary care networks, regional educational supervisors and direct enquiry. The study was discussed with interested services, which demonstrated heterogeneity, and feedback recorded. **RESULTS** Following discussion, 22 primary care sites expressed an interest. The eight sites ultimately selected had the following characteristics: nine dentists and three therapists were involved; the majority of practices were in areas of high social deprivation; three practices had previous experience of research, and three had previous experience using SDF. Cited barriers to participation included: concern over randomisation; challenges with approval at national corporate level; existing commitment to other research; pragmatic reasons (staffing/timelines); lack of interest, and not seeing sufficient eligible participants. Reasons why sites did take part included: interest in SDF; interest in research and feeling the study was of value for their patient cohort. Site initiation visits took place over two months. Mean time from site initiation visit to greenlight for recruitment was 12 days (range=1-28). Subsequent mean time to first participant recruitment was 45 days (range=11-77). One site has not recruited. **CONCLUSIONS** Recruitment of NHS primary care dental services to carry out research is feasible, but must meet the needs of the patient and staff group and be implementable alongside current clinical practice.

PND 1.3 **Multiple caries. Problem- oriented approach in diagnosis and treatment**

Veleganova V*
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AIM Multiple caries is in acute caries, covering a large number of temporary teeth in the order of their eruption. With large diffuse lesions, not only in in the typical areas. Heavily infected, quickly reaching the pulp. The purpose of the individual program for the treatment of multiple caries is to evaluate how effective prevention and treatment measures are. **CONCLUSIONS** Clinical finding are dominated by simultaneous involvement of several teeth and acute course.

PND 1.4 **The influence of ceramic crowns as an aesthetic alternative on the child's quality of life**

Youssef B*
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INTRODUCTION This case demonstrates an effective alternative treatment approach for molars and anterior primary teeth afflicted with extensive caries. Ceramic crown restoration offers not only superior aesthetics but also high functionality and optimal oral hygiene, thereby positively

impacting the child's quality of life. **CASE REPORT(S)** Clinical Problem and Objective: A 4-year-old child presented with Early Childhood Caries (ECC) affecting both anterior and posterior teeth, with deep carious lesions. The DMF-t index was D(11) + M(0) + F(2) = 13, and the ICDAS classes for deciduous teeth were 5-6. The child exhibited poor oral hygiene, with an Approximal Plaque Index (API) of 80%. This condition significantly impaired the child's ability to eat, play, sleep, and speak, leading to negative effects on their quality of life. The objective was to improve home hygiene, chewing function, and aesthetics under general anaesthesia. Treatment: Endodontic therapy was performed on anterior teeth 52,51,62,61, followed by restoration with crowns. Posterior teeth 54,64,65,75,74 underwent pulpotomy due to nerve involvement, followed by crown restoration. Insufficiently filled posterior teeth 84,85 were restored with crowns without pulpotomy due to the child's high caries risk. Ceramic crowns were chosen for their high success rate and ability to prevent secondary caries. Following successful treatment, the child experienced improved chewing function, speech, sleep, pain relief, and increased self-esteem. Moreover, they achieved adequate oral hygiene **FOLLOW UP** A 2-year follow-up in May 2024 **CONCLUSIONS** Ceramic crowns offer an alternative and reliable treatment modality for primary teeth, enhancing aesthetics and positively impacting the child's quality of life

PND 1.5 **Direct composite restoration in a 14-year-old patient with aplasia: A case report**

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INTRODUCTION Dental aplasia is a congenital anomaly characterised by the absence of one or more permanent teeth, which affects patients in terms of functionality and aesthetics. Treatment approaches often involve complex, invasive, and interdisciplinary procedures. **CASE REPORT(S)** A 14-year-old boy was referred to the Department of Pedodontics and Orthodontics of Semmelweis University with multiple permanent tooth aplasia: both upper canines, upper right lateral incisor, lower central and lateral incisors and second molars were missing. This case report presents the use of direct composite restorations as a non-invasive and aesthetic solution. A digital wax-up was made by the dental laboratory on a plaster cast based on the impression to visualise the teeth involved. Two different shades of composite were used during the non-invasive technique to replicate the adjacent tooth colour. To reproduce natural form and texture, the initial contouring was performed with a series of finishing burs and discs. **FOLLOW UP** The patient was satisfied with the aesthetic outcome and due to his good oral hygiene, there was no sign of gingivitis or discolouration at the follow-up appointments. **CONCLUSIONS** The positive results suggest that direct composite restorations are a viable alternative for patients with hypodontia, especially during mixed dentition period, when dental implants are contraindicated or must be postponed.

PND 1.6 **Diagnosis of a radiolucent mandibular lesion of uncertain origin: a case report**

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INTRODUCTION Differential diagnosis of a radiolucent mandibular lesion includes an inflammatory odontogenic cyst (radicular cyst), odontogenic keratocyst, ameloblastoma, non-ossifying fibroma, giant cell granuloma and eosinophilic granuloma. **CASE REPORT(S)** A healthy 13-year-old boy presented at the Paediatric Dentistry unit of the University Hospitals Leuven with a pronounced painful swelling of his chin, palpable in the mucobuccal fold with accompanying pus evacuation. A panoramic radiograph showed the presence of a prominent radiolucent area, +/- 17mm in diameter. Cone-beam computed tomography revealed a well-defined osteolytic lesion, with cortical interruption and periosteal reaction. There was a history of traumatic insult to the chin by a drinking can, two weeks before. Sensitivity tests performed on teeth 32, 31, 41 were negative. Endodontic treatment on teeth 32, 31, 41 was performed, in two sessions while using the continuous wave compaction technique with gutta-percha and AH-plus. After initial resolution, there was recurrent swelling after one month. After incision and drainage of the abscess, a biopsy was taken and the lesion was enucleated in combination with apical resection on teeth 32, 31, 41. The lesion did not show obvious cystic walls, which was clinically interpreted as indicative for an odontogenic tumour. However, anatomopathological results were suggestive for a radicular cyst with reactive bone formation. **FOLLOW UP** Controls showed good healing, further follow-up is ongoing. **CONCLUSIONS** Minor trauma can have major consequences, especially in areas where the alveolar ridge is thin. As a result, the clinical picture may be misleading. A biopsy is needed for confirmation of the diagnosis.

PND 1.7 **Management of a 9-year-old patient with totally luxated permanent incisor: A case report**

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INTRODUCTION Avulsion of permanent teeth is one of the most serious traumatic dental injuries (TDIs), with a prevalence of 0.5-16%. Seeking immediate dental care is essential, as the elapsed time and storage conditions of the affected teeth may affect the future treatment outcome. **CASE REPORT(S)** A 9-year-old girl was referred to the Department of Pedodontics and Orthodontics of Semmelweis University suffering avulsion of upper left central permanent incisor. The totally luxated tooth was kept in a sterile container filled with saline. Intraoral examination showed an uncomplicated crown fracture and minimal mobility of the right upper central incisor. After removing the blood clot from the socket, the tooth was repositioned under local anaesthesia and stabilised with a passive flexible splint. As the tooth was completely developed with closed apex, root canal treatment was performed 2 weeks after. **FOLLOW UP** During the intraoral and radiographic examination at the follow-up appointment the right upper

central incisor was non-vital and diagnosed with periapical lesion, so root canal treatment was also required. **CONCLUSIONS** Immediate professional dental treatment is crucial in traumatic dental injuries, especially for permanent tooth avulsion. The future prognosis depends mainly on the measures taken at the injury site and the further treatment plan.

PND 1.8 Impact of congenital hypotonia on the treatment strategy for the craniofacial deformity in infants with the Pierre Robin Sequence

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INTRODUCTION The three traditional characteristics of Pierre Robin sequence (PRS) are micrognathia, glossoptosis, and airway blockage; the cleft palate is typically linked to PRS as well. PRS is not a syndrome in and of itself; rather, it is a series of illnesses that progress from one abnormality to the next. **CASE REPORT(S)** When a 2-week-old male infant was brought to our care, we suspected that he had the Pierre Robin sequence. Upon examination, we found severe mandibular hypoplasia with retrognathia, glossoptosis, and a disorder related to a lack of sucking and swallowing abilities. In addition, we observe a specific gait: tremor of the head, lower limbs, and affirmatively, undulating evolution without diurnal variability; dysmorphic features of the face secondary to muscle weakness, linked to an arched palate; hypotonia of the facial muscles, diagnosed as a “myopathic facies” in response to muscle testing, inconsistent, characterized by a frog-like posture, difficulty sucking, and respiratory difficulties. We also discuss the multigenerational inheritance of a positive family tremor history on the paternal line. **FOLLOW UP** Over the course of the 18-month monitoring period, the goals of the therapy shifted. Initially, it was crucial to use orthopaedic devices to stimulate the mandible's development. Later, the therapy was centered on ensuring that the temporary dentition erupted normally; in the final period, prosthetic treatments were used to treat teeth that presented dystrophies. **CONCLUSIONS** To achieve a favourable result, a multidisciplinary team must prioritize the therapeutic goals for infants with PRS and manage feeding and airway issues.

PND 1.9 We can’t provide care if the child isn’t there

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AIM To establish and evaluate a Was Not Brought (WNB) standard operating procedure (SOP) in the Paediatric Dentistry Department at Dundee Dental Hospital and Research School (DDHRS) **METHODS** A 3-cycle audit was conducted. For each cycle, children who were not brought to an appointment at DDHRS were identified from the electronic booking system and their casenotes retrospectively reviewed. After the first cycle a SOP was created and disseminated to all staff. The second cycle showed failure to meet the standards so further education of staff was conducted and standard letter templates were introduced prior to a third cycle of data collection. The standards for the third cycle were: • After a first WNB telephone contact with the

parent/carer should be attempted: 100% • After a first WNB a letter should be sent to the parent/carer: 100% • After a second WNB the case should be discussed with senior clinical staff: 100% **RESULTS** In the third cycle (n=41) telephone contact was attempted in 90% of patients after the first WNB (first cycle: 40% second cycle: 50%). A letter was sent to the parents after the first WNB in 57% of patients (first cycle: 8% second cycle: 12%). After a second WNB 46% were discussed with senior clinical staff (first/second cycle: NA). **CONCLUSIONS** A child-centred approach to managing missed appointments is essential. In this paediatric department the introduction of a SOP, standard letters and staff education resulted in improved compliance with WNB protocols with further room for improvement.

PND 1.10 An unusual oral/facial presentation of disseminated Burkitts lymphoma in an adolescent

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INTRODUCTION Burkitt's lymphoma is a rare, highly aggressive haematological malignancy. Variants include sporadic, endemic and immunodeficiency related. Oral presentations are reported as initial clinical complaints. The dental team is important in early identification and ongoing management of this condition. **CASE REPORT(S)** A 12 year old patient was referred to the haematology service of a tertiary care paediatric hospital from a regional paediatric hospital. They complained of headaches, lethargy, paraesthesia in the distribution of the right mental nerve, and loosening of teeth with adjacent gingival swelling. Laboratory investigations were abnormal. The paediatric dental team gave input into the diagnosis and management of the condition. At initial presentation, decisions were taken around biopsy, retention vs extraction of teeth, and oral care/hygiene. As the diagnosis became apparent and treatment progressed, the dental team were required to help with supportive care for severe mucositis. Panoramic radiographs [IMAGES AVAILABLE AND OF EXCELLENT QUALITY] taken pre- and post-treatment show dramatic bony destruction initially, but with a very satisfactory outcome and no apparent deficiencies in bone at the completion of treatment. The patient will be followed up by both hospital-based and primary care dental services. Relapse is very unlikely with this type of malignancy. **FOLLOW UP** Ongoing **CONCLUSIONS** This case highlights a) the value of the dental team at various stages of the patient's journey through cancer care; b) the importance of MDT liaison and close communication to develop and evaluate treatment plans; and c) the dramatic improvement seen for the aggressive bony disease found in this malignancy.

PND 1.11 A qualitative study to inform the development of a board game for kindergarten caries prevention

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AIM To create a board game that boosts caries risk assessment understanding in kindergartens. **METHODS** A board game was crafted, integrating caries risk assessment with a scoring system

derived from evidence-based literature on quality of evidence and prevention fraction. Flow theory and scaffolding were also used to change toddlers' behaviour. Collaboration with kindergarten teachers was sought to tailor the game to young children's needs. **RESULTS** Interviews with teachers, rather than direct feedback from toddlers, provided insights into the game's impact in kindergartens. Piloted in 25 kindergartens, the game showed that toddlers could recognize high-scoring cards (representing strong evidence-based interventions) within three rounds, though they may not understand what those interventions are. Toddlers understanding still depended on teachers' instructions rather than their age. Continuous teacher guidance was necessary for toddlers to grasp the real-life applications of these interventions. The game proved to be a valuable educational tool to ensure the teachers teach the correct and updated dental knowledge. **CONCLUSIONS** The board game, designed to enhance oral health knowledge through caries risk assessment shows promise as an educational resource. Future research should focus on strategies for effectively engaging and training kindergarten teachers to utilize the game.

PND 1.12 Case report of a 9 year old girl with Retts syndrome and autism

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INTRODUCTION Retts syndrome (RS) is caused by a mutation on the X-chromosome and in Sweden approximately 300 girls have this diagnosis. The mutation affects the brain development, and the first signs are seen between 6-18 months of age and with increasing age the patient develop severe functional impairment such as motor difficulties, growth retardation, reduced communication and impaired social skills and cognitive behaviour. **CASE REPORT(S)** A 9-year-old girl with RS, mental retardation and autism was referred for oral examination. She has parenteral nutrition but tastes portions of food and beverages. To examine her we used 1000-learning for autistic patients. She had a mixed dentition with permanent first molars and maxillary and mandibular central incisors. She had persistent primary maxillary laterals, and the permanent laterals were erupting palatally. There was dental calculus and severe gingivitis on all teeth. Treatment: Under sedation with Midazolam, extraction of 52 and 62 and scaling was performed. **FOLLOW UP** Seven months after extraction of 52, 62, 12 and 22 have erupted into position and the gingivitis has healed. At the age of 10, a new panoramic x-ray is taken due to maxillary crowding, and it is decided to wait for all permanent teeth to erupt before deciding on orthodontic treatment. At the follow-up visits scaling and preventive treatment is done under sedation with Midazolam. **CONCLUSIONS** With behaviour management in combination with sedation with Midazolam dental treatments can be done in patients with RS. Furthermore, regular preventive treatment is essential to maintain a good oral health.

PND 1.13 **Developmental defects of enamel in children born preterm**

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AIM To investigate manifestations of developmental defects of enamel (DDE) in children born preterm (PT) and to explore possible neonatal morbidities related to DDE manifestation and severity. **METHODS** A cohort study of 52 children born before gestational week 32 and treated in the neonatal intensive care unit; and 55 children born at full term (FT) as a control. All the children had a dental examination at ages 1-4 years by a paediatric dentist. DDE was defined as an alteration in the enamel surface. **RESULTS** DDE were observed in 23 (44%) and 6 (11%) children, in the PT and FT groups, respectively, OR=6.47. The OR for damaged anterior teeth was 12.87 times higher in the PT group. DDE of molars was diagnosed in 19% and 11% of the respective groups. In the PT group, the OR of DDE was 4.1 higher among those with than without respiratory distress. The risk for DDE was 5.7 higher in those who received surfactant than in those who did not. Ventilation length was significantly related to DEE. **CONCLUSIONS** DDE was higher in children born PT than FT. The DDE rate was lower than expected based on current literature, and considering the overall increase in survival; this suggests improvement in treatments affecting DEE. Respiratory distress syndrome, surfactant administration, longer ventilation, and local oral trauma were risk factors for DDE. We recommend routine dental examinations in the follow-up of children born PT, particularly those exposed to assisted ventilation.

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