

12th EAPD Interim Seminar

Management of deep carious lesions
in primary teeth

Virtual

23-24
April
2021

NORWAY **OSLO**

Final Program & Book of Abstracts

Welcome Address from EAPD President

Dear Colleagues,

It is a great honour to invite you all on behalf of the EAPD Board and the Organizing Committee to the 12th EAPD Interim Seminar in Oslo, April 23rd and 24th of 2021. The main theme of the seminar will be “Management of deep carious lesions” divided into three different topics. Excellent keynote speakers have undertaken the task of presenting the three topics of “Conventional restorative management of caries- Pulpotomy/pulpectomy and conventional restorative approaches “, “Biological restorative management of caries-Minimal intervention, Indirect pulp capping, Hall technique, etc.,” and “Dental materials used in children, evidence for their use, including new biomaterials, and guidelines for their use”, as they will also prepare the new Guidelines for the Academy.

During this Interim Seminar two more groups have been assigned the task of updating the Guidelines on MIH and the Guidelines on Sedation. Besides these important scientific topics, there is a parallel program supported by important local and international speakers on related subjects thus composing a very scientifically intense and interesting event.

It is unfortunate though that we will not have the opportunity to enjoy this interesting scientific content meeting in person. COVID-19 has changed the circumstances and has made us learn to communicate with alternative ways. As such, this meeting will be the second EAPD online event. The local Organizing committee, the Future Congress and Seminar Committee and the Board are working in order to organize one more successful EAPD Event.

Looking forward to welcoming you for the 12th EAPD Interim Seminar.

Stay safe,



Dr. Elias Berdouses | EAPD President



Welcome Address from the Local Organizing Committee

Dear colleagues and friends,

On behalf of the Local organizing committee it is a great honor to welcome you all to the 12th EAPD Interim seminar and workshop. As everything else these days the seminar will be online, but we hope that one day in the future we can also welcome you “live” to wonderful Norway. We can promise you a rich scientific program with excellent keynote speakers presenting the latest research on caries management techniques. Parallel to the workshops we will have very interesting lectures from Norway and abroad. During the seminar updated guidelines on sedation and treatment of MIH will be presented.

We hope you enjoy the seminar and use all the features of our digital platform.

See you online from Oslo!

Best regards from the local organising committee

Arne Jacobsen, Maren Agdal, Anne Marit Graue, Eva Lindgren, Ingvild J Brusevold



Arne Jacobsen | NORWAY



Ingvild Brusevold | NORWAY



Eva Lindgren | NORWAY



Maren Agdal | NORWAY



Anne Marit Graue | NORWAY



Committees

Local Organizing Committee



Arne Jacobsen | NORWAY



Ingvild Brusevold | NORWAY



Eva Lindgren | NORWAY



Maren Agdal | NORWAY



Anne Marit Graue | NORWAY



EAPD Board Members



Dr Elias Berdouses | GREECE
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Galileo Project Organizer



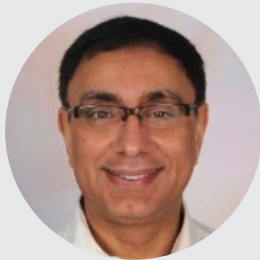
Dr Nick Lygidakis | GREECE
Journal Editor
Hermes Project Coordinator



Dr Kiki Tsinidou | GREECE
Web editor



Invited Speakers



Monty Duggal | SINGAPORE

Prof Duggal obtained his dental degree and MDS in Paediatric Dentistry from India. He then immigrated to the United Kingdom and obtained his FDSRCS from the Royal College of Surgeons of England and his PhD from University of Leeds. He was appointed Professor and Chair of Child Dental Health at Leeds Dental Institute in 1999 where he oversaw a large postgraduate programme in Paediatric Dentistry which has international acclaim.

In January 2017 he was appointed as Professor and Head of Paediatric Dentistry in Faculty of Dentistry, National University of Singapore. Currently he is the Vice Dean and Faculty Research Director of the National University Centre for Oral Health, Singapore (NUCOHS). He has served in various senior positions, and was President of the European Academy of Paediatric Dentistry from 2014-2016 and has been on the board of EAPD for last 10 years.

Professor Duggal has published over 160 research papers in international journals and is author of "Restorative Techniques in Paediatric Dentistry, which has been published in 7 languages and has sold over 16,000 copies worldwide. He is also a co-author of a textbook on Dental Traumatology and has Co-Edited "Paediatric Dentistry" by Oxford, now in its 5th edition and is the most widely followed textbook in Paediatric dentistry in the world. More recently he authored "Paediatric Dentistry at a Glance", published by Blackwell Willey.

He has administered research grants totaling over seven million pounds and is an internationally recognised researcher and clinician with main research interest is Cariology and Translation Research in Clinical Paediatric Dentistry, including dental traumatology and regenerative endodontics and auto-transplantation. Apart from Paediatric Dentistry his main interest is playing and watching cricket and any time spare from work and family is devoted to this important activity.



Sotiria Gizani | GREECE

Sotiria Gizani obtained her Dental Degree from the University of Thessaloniki and then completed her postgraduate studies at the Catholic University of Leuven (Belgium) where she successfully finished her 6-year training program in Paediatric Dentistry as well as her "Master in Dental Sciences" and her doctorate (PhD). Afterwards she returned to Greece and since then she has been working at the Department of Paediatric Dentistry in the National and Kapodistrian University of Athens, initially as a lecturer and later as an Assistant Professor. She is currently Associate Professor and Chair of the Department at the same University and also the owner of a private practice limited to Paediatric Dentistry. She has given many lectures in Greece and abroad and she has published 50 papers in peer-reviewed scientific journals, 2 book chapters, one research monograph and numerous abstracts in International and local Congresses. Her scientific work has been cited more than 800 times in Google Scholar and Scopus and has received important international and local awards. In addition, 2 of her projects on the prevention of initial carious lesions in orthodontic patients and oral health in diabetics, received funding through a scholarship in a national competition among all fields of Dentistry. In 2018, she has been elected at the post of Secretary of the European Academy of Paediatric Dentistry (EAPD) while she has been a member of the Clinical Affairs Committee of EAPD for the last six years, being actively involved in the scientific program and the organization of the 9th, 10th and 11th EAPD Interim Seminars as well as the 2nd Athena EAPD Master Class. Finally, she is a member of the Organizing Committee of the 15th EAPD Congress in Hamburg, on behalf of EAPD. Her research interests focus mainly on clinical trials regarding prevention and management of caries in young children, oral health care of patients with special needs and vulnerable children as well as communication and behavior management in the dental setting.



Invited Speakers

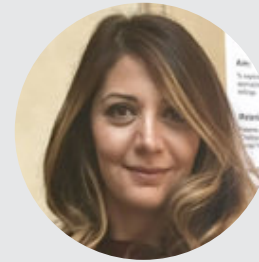


Sondos Albadri | UK

Sondos Albadri is a Professor and Honorary consultant in Paediatric Dentistry at the University of Liverpool. She is the Vice Dean for Research and postgraduate studies and the academic lead for the Unite of Oral Health. Sondos graduated from Jordan University of Science and Technology in 1997 with a BDS and completed her PhD from Queens University Belfast. After completing specialist training in Manchester, she joined the University of Liverpool in 2008 where she completed her consultant training. She was appointed as a senior lecturer and honorary consultant in 2011 and promoted to a Professor in November 2018.

Sondos's developed the Doctorate programme in paediatric dentistry, the programme follow the UK Specialist training curriculum combining research and clinical training and has unique links to Alderhay children hospital & multidisciplinary approach to treatment planning and delivery of care. Sondos's research is focused on clinical and patients reported outcomes. She has research collaborations in dental Trauma, inflammatory diseases in children, prevention and behaviour change and number of NIHR funded clinical trials. Sondos has published and co-authored over 60 peer-reviewed publications. She has been a reviewer for a number of Dental Journals. Sondos was the associate editor of the International Journal of Paediatric Dentistry from 2015 till September 2020 and she has been the chair of the British Society of Paediatric dentistry conference abstracts and prizes committee for the same period. Sondos has been providing PG CPD courses in Paediatric Dentistry and Dental trauma, to general practitioners, specialist trainees and consultants for many years. She jointly developed an international course for Endodontics in children.

Sondos is the academic representative on the Royal College of Surgeons of Edinburgh Speciality Advisory Board (SAB) in Paediatric Dentistry, and the intercollegiate body, which advise on Paediatric specialist training (Specialty Advisory Committee (SAC)). She is a member of the examiners' board for the tri-collegiate membership examination in Paediatric Dentistry. Sondos has held several external examiner positions for UG BDS, PG and PhD programmes nationally and internationally. Sondos is currently the president elect for the British Society of Paediatric Dentistry.



Alaa Bani Hani | UK

Dr Alaa Bani Hani (PhD, ORE, Clinical MSc, MFDS RCSI, BDS) obtained the Bachelor Degree in Dental Surgery in 2006. Following that she worked as a General Dental Practitioner for three years before she obtained her clinical MSc in Paediatric Dentistry in 2010. Between 2009-2011, she worked as a paediatric dentist in private practice. She was rewarded the Diploma of the Membership of the Faculty of Dental Surgeons from the Royal College of Surgeons of Ireland in 2010. In 2012, she established Save the Children Society at University of Leeds while she was doing her PhD at the School of Dentistry. In 2016, she was awarded PhD in Paediatric Dentistry from School of Dentistry, University of Leeds. For her PhD project, she evaluated the outcome, cost-effectiveness and treatment acceptance of the conventional and biological approaches for the treatment of carious primary dentition. The project was carried out in collaboration with University of Sheffield. After spending a year (2016-2017) working as a Research Fellow at School of Dentistry, University of Leeds, she was appointed as a Clinical Lecturer and Specialty Registrar in Paediatric Dentistry at University of Leeds and Leeds Dental Institute in 2017.

Alaa Bani Hani is a regular speaker at national and international conferences and is a referee for a number of international journals. She has more than 10 peer-reviewed publications mainly in the field of dental caries prevention and arrest as well as tooth wear. Alaa currently supervises undergraduate dental students' final year projects, Masters and Prof Doctorate thesis in Paediatric Dentistry. Furthermore, she is the trainees representative at the British Society of Paediatric Dentistry Ridings Branch and the Academic Early Career Researcher Representative at the Research and Innovation Committee-University of Leeds.

Alaa was awarded the first poster prize at the European Academy of Paediatric Dentistry in Turin-Italy (2017) for her PhD work and the second poster prize at the Health Education England Academic Presentation Day in York (2017) for Clinical Lecturers category for her collaborative research project "Raised in Yorkshire: Supporting School Children to Undertake Oral Health Projects". The latter won the University of Leeds Public Engagement award for doing research in partnership in 2017

Invited Speakers



Norbert Kraemer | GERMANY

Prof. Dr. Norbert Krämer obtained his PhD from the University of Erlangen in 1997. Between 2006 and 2009 he was the head of the Department of Paediatric Dentistry in Dresden. In 2009 he was appointed to the director of the Policlinic of Paediatric Dentistry at the University of Gießen.

He was elected in different positions (2000-2004 President of the German Society of Paediatric Dentistry [GSPD], Board member of the European Academy of Paediatric Dentistry [EAPD; 2008 President-elect, 2010 President, 2012 Past-President], 2015-2019 again President of the GSPD, 2017-2019 member of the Board of Directors and since July 2019 President elect of the International Association of Paediatric Dentistry [Representative of the Nations].

Prof. Krämer is Editor and Editorial Board of several international journals. He has published ca. 170 research papers/books/articles (cum IF: 152; Research Gate Score: 35.6; H-index 36). His expertise is in dental materials, dental public health and controlled clinical studies.



Dr. Maren L. Agdal | NORWAY

You harvest what you seed. With a vision to stop the vicious circle of dental fear in children.

When the fearful child comes to your office, the options of treatment are laying in front of you. Dental treatment at first visit may be the obvious choice. But what are our thoughts about the future? How will the child's compliance be tomorrow and for years to come? Making a treatment plan and addressing the child's fear is important when the outcome measure is a non-fearful adult patient.

Maren L. Agdal is a dentist since 2003. Since 2005 she has worked with dental and intra-oral injection phobia and she has a PhD in the field. In 2016 she graduated as specialist in pediatric dentistry. Today she works at the Oral Health Center of Expertise in Western Norway. Her main interest is treating children and adult with anxiety related to the dental situation



Dr. J.S.J. Veerkamp | THE NETHERLANDS

Jaap Veerkamp (ACTA 1979-2012) was head of the Amsterdam postgraduate pediatric dental program. Nowadays he works at Kindertand, a secondary dental care clinic focusing on light and deep sedation for dentally anxious children. He gives frequently international postgraduate courses in managing fearful children and lectures nationally and internationally on the subject. His research is mainly on this field including anxiety reduction and behavioural management. He wrote over 140 publications on the subject in several Dutch and international journals.



Anne Margrete Gussgard | NORWAY

Dr. Anne Margrete Gussgard is currently an associate professor at UiT The Arctic University of Norway. She graduated as a DDS from the University of Oslo in 1986 and worked for 15 years in the Norwegian public dental health services treating paediatric patients with odontophobia and geriatric patients. Following a move to Toronto, Canada in 2005, she completed specialty training in periodontics, including nitrous oxide and conscious sedation training, at the University of Toronto in 2012. At the Princess Margaret Cancer Centre, Toronto, she studied patient-reported outcomes caused by oral mucositis associated with radiotherapy of head and neck cancer, and she obtained a Ph.D. on this subject in Tromsø in 2015. Dr. Gussgard has extensive knowledge of canines, including experience in the past as a dog instructor, as a veterinary dentist practitioner for seven years and as a member of several animal-assisted therapy organizations. She and her dog Barley have completed a one-year training program in Sweden and are certified as a dog-therapy team. One ambition is to establish through cross-disciplinary research how using a therapy dog in dental clinics can benefit anxious patients and possibly reduce sedation use.

Invited Speakers



Dominique Declerck | BELGIUM

Dominique Declerck is full professor at KU Leuven (Belgium) where she is responsible for the undergraduate teaching in preventive & public health dentistry, paediatric dentistry and special care to dental trainees. She coordinates the postgraduate training program in Paediatric dentistry and Special dental care. Within the University Hospitals Leuven, she provides dental treatment to children, patients with disabilities and medically compromised patients, with main focus on preventive aspects. She is (co)-author of more than 150 peer-reviewed international papers. She is a member of EAPD since 1994 and served on several committees. She is past-president of the Belgian Academy of Paediatric Dentistry (BAPD) and president-elect of EAPD.



Paul Ashley | UK

Professor Paul Ashley qualified from Manchester Dental School in 1991 where he eventually completed his PhD in caries diagnosis. In 1998 he moved to the UCL Eastman in London and is now Academic Head of the Paediatric Unit.

The unit runs postgraduate full time and distance learning programmes in Paediatric Dentistry. His research interests include restorative materials for primary teeth, evidence based dentistry (including sedation) and oral health in sport.



Dr. Elias Berdouses | GREECE

Dr. Berdouses received his Dental Degree from the National and Kapodistrian University of Athens, Dental School, his Certificate in Paediatric Dentistry and Master's in Oral Biology from Rutgers University, New Jersey, USA and his PhD from the National and Kapodistrian University of Athens, Dental School.

He has worked as research fellow at the Brookhaven Laboratories in New York. He works in Athens at his private practice limited to Paediatric Dentistry and Orthodontics and in a private practice in Dubai, UAE. He has worked as clinical instructor at the University of Athens, Dental School and has taken part in two European research projects funded by EU and in one National pathfinder study for oral health status and treatment needs in Greek population. He has published in National and International journals and has lectured in National and International congresses and seminars. His primary interest is dental informatics, caries diagnosis and prevention. He is also co-author in the text book "Dental Informatics, Principles, Means and Applications".

Dr. Berdouses has served as Secretary and Vice-President of the Hellenic Society of Paediatric Dentistry and as Secretary of the European Academy of Paediatric Dentistry. Currently is President Elect of the European Academy of Paediatric Dentistry.



Nick Lygidakis | GREECE
DDS, MSCM, MSCD, PHD, FICD

Nick A. Lygidakis is running a private clinic in Athens and until 2016 he has served as Senior Consultant and Director in the NHS Dental Centre for Children in Athens. He has been teaching in the postgraduate programs of the Universities of Giessen, Germany and Leeds, UK, in the latter being Honorary Reader since 2002. He qualified from the University of Athens and fulfilled his postgraduate training in Paediatric Dentistry in Athens, Oxford and London. He holds a MScM in Genetics, a MScD in Child Dental Health and a PhD. He has served as President and Secretary of the European Academy of Paediatric Dentistry and as President of the Hellenic Society of Paediatric Dentistry. He has been involved in the organization of a great number of European and Greek scientific and CPD activities, including the 'EAPD Hermes and Athena' European programs that he first introduced. He has 62 publications including book chapters, with more than 2000 citations, 250 abstracts and more than 300 invited lectures in International and Hellenic Congresses and Seminars. His research and clinical interests are in the fields of dental anomalies, paediatric dental general anaesthesia, trauma, prevention and interceptive orthodontics. He is referee in several International journals while from January 2019 he serves as Editor in Chief of the European Archives of Paediatric Dentistry, the official publication of the European Academy of Paediatric Dentistry.

Invited Speakers



Ferranti Wong | UK

PHD, MSC, BDS FDSRCSED, FHEA

Professor/Honorary Consultant of Paediatric Dentistry, Head of Paediatric Dentistry, Barts and the London School of Medicine and Dentistry, Queen Mary University of London, Turner Street, London, E1 2AD

Present responsibilities: Head of Paediatric Dentistry, Course Director of Doctorate of Clinical Dentistry (PaedDent), Member of Accreditation Committee of European Academy of Paediatric Dentistry, Chair of Specialty Advisory Board in Paediatric Dentistry, RCSEd, Council member of FDS RCSEd, Member of Tricollegiate Board of Paediatric Dentistry, Examiner of MPaedDent for Royal College of Surgeon, Edinburgh, External Examiner of BDS Sheffield University

Member Registry of the Department: Dentistry of Aristotle, University of Thessaloniki

Previous Appointments: 9/2017 – 4/2018, Interim Dean/Director for Dentistry Institute of Dentistry, Barts and the London School of Medicine, QMUL

07/2012 – 09/2017, Head of Centre for Oral Growth and Development Institute of Dentistry, Barts and the London School of Medicine and Dentistry, QMUL.

12/2008 – 9/2011, Associate Dean of Postgraduate Dentistry London Deanery, 32, Russell Square, London WC1 5DN

Research Interest: Prevention, progression and management of Dental Caries including Clinical Trials, Dental Traumatology, Dental Material, X-ray Microtomography



SCIENTIFIC PROGRAM



Scientific Program

Friday 23rd April, 2021

09:00-19:00	Exhibition Poster Viewing	
1st SESSION	Chair: Elias Berdouses	
08:30-10:00	Welcome by the organisers and the regional authorities	
	Keynote Lecture 1 Conventional restorative management of caries- Pulpotomy/pulpectomy and conventional restorative approaches Monty Duggal Sotiria Gizani	
10:00-10:30	Break	
10:30-11:30	Keynote Lecture 2 Biological restorative management of caries-Minimal intervention, Indirect pulp capping, Hall technique, etc Sondos Albadri Alaa Bani Hani	
11:30-11:45	Break	
11:45-12:45	Keynote Lecture 3 Dental materials used in children, evidence for their use, including new biomaterials, and guidelines for their use Norbert Kraemer	
12:45-13:00	Discussion	
13:00-14:00	Break	
2nd SESSION	Chair: Rita Cauwels	INVITED ONLY PARTICIPANTS/EXPERTS (Separate Seminars Rooms) Chair of CAC: Susan Parekh
14:00-14:30	Oral Sedation, the missing link. Part 1: Working mechanism Jaap Veerkamp	Workshop 1 Conservative approach Eirini Stratigaki Joana Monteiro
14:30-15:00	Oral Sedation, the missing link. Part 2: Clinical effects Jaap Veerkamp	Workshop 2 Biological approach Vuokko Anttonen Rona Leith
15:00-15:15	Break	
15:15-15:45	You harvest what you seed. With a vision to stop the vicious circle of dental fear in children Maren Agdal	Workshop 3 Restorative materials Sivaprakash Rajasekharan Michal Sobczak
15:45-16:15	Use of therapy dog in paediatric dentistry Anne Margrete Gussgard	
16:15-16:30	Open discussion – Questions	
16:30-16:45	Break	
3rd SESSION	Chair: Arne Jacobsen	INVITED ONLY PARTICIPANTS/EXPERTS (Seminars Rooms)
16:45-17:15	Keeping carious teeth vital: is it worth the effort? Dominique Declerck	Workshop 1 (cont'd)
17:15-17:45	Detection of early carious lesions on permanent teeth Elias Berdouses	Workshop 2 (cont'd)
17:45-18:00	Break	
18:00- 18:30	Restoring primary molars – choosing the perfect material in an imperfect world Paul Ashley	Workshop 3 (cont'd)
18:30-19:00	Open discussion – Questions	

All Times in CET

Scientific Program

Saturday 24th April, 2021

09:00-13:00	Exhibition Poster Viewing
4th SESSION	Chair: Dominique Declerck
09:00-09:30	Update on the guidelines on Sedation Paul Ashley
09:30-10:00	Update on the guidelines on MIH Nick Lygidakis Ferranti Wong
10:00-10:30	Open discussion – Questions
10:30-11:00	Break
5th SESSION	Chair: Ingvild Johnsen Brusevold
11:00-11:45	Oral Presentations of the six-short-listed of the EAPD Awards Posters
11.45 – 12.00	Break
6th SESSION	Chair: Susan Parekh
12.00-13.30	Presentation of the guidelines (draft papers) by the moderators of the 3 main workshops on the caries management Workshop 1: Eirini Stratigaki Joana Monteiro Workshop 2: Vuokko Anttonen Rona Leith Workshop 3: Sivaprakash Rajasekharan Michal Sobczak
13.30-14.00	Open Discussion – Questions
14.10-14.40	Closing Ceremony-Awards-Presentation of the next EAPD events

e-Posters

P1

Evaluation of Different Remineralization Agents in the Treatment of Natural Caries -Affected Dentin in Permanent Teeth

Yilmazkasapoglu Turkey E.*, **Karakas Aydinoglu A.**, **Hazar Yoruc A.**, **Kargul B.**
Marmara University Faculty of Dentistry,
Department of Pediatric Dentistry, Istanbul,
Turkey, Turkey

P2

Direct pulp capping with mineral trioxide aggregate in a permanent molar: a case report

Mandinic Z., **Ivanovic M.***, **Juloski J.**, **Matovic M.**, **Beloica M.**
Clinic for Paediatric and Preventive Dentistry
School of Dental Medicine University of Belgrade,
Serbia

P3

Association of caries experience with social and behavioral factors among schoolchildren from Iasi, Romania

Savin C.*, **Balcos C.**, **Balan A.**, **Baciu D.**, **Sirghe A.**
U.M.F., Romania

P4

Protective and Predisposing Factors Associated to Tooth Decay among Children with Pyelonephritis

Angelova St.*
Medical University-Varna, Bulgaria

P5

Prevalence and etiopathogenesis of ECC in an Italian pediatric population: epidemiological study

Caruso S.*, **Paglia L.**, **Di Giorgio S.**, **Caruso S.**, **Gato R.**
Paediatric Dentistry, Department of Clinic
Medicine, Public Health, Life and Environmental
Sciences, University of L'Aquila, Italy

P6

Treatment Need and Cost of Molar Incisor Hypomineralisation at a UK dental hospital

Carter A.*
University of Leeds, UK

P7

Case report: Two cases of Infant Oral Mutilation in Hull, UK

Talbot J., **Slater L.***, **O'Sullivan E.**
CNWL Dental Services, Central North West
London NHS Foundation Trust, United Kingdom

P8

Management of a fractured maxillary second premolar evaginated tubercle

Loo Y.*, **Ahluwalia M.**
King's College Dental Hospital, London, United
Kingdom

P9

Multidisciplinary management of a maxillary central incisor with a crown and root dilaceration

BaniHani A.*, **Bhakta S.**, **Gardener C.**
School of Dentistry, University of Leeds, United
Kingdom

P10

Morphological, histological, and chemical analysis of first permanent molars with Molar Incisor Malformation

Charisi C.*, **Kodonas K.**, **Arhakis A.**, **Arapostathis K.**, **Kotsanos N.**
Aristotle University of Thessaloniki, Greece

P11

Enamel hypoplasia and hypomineralization with a history of respiratory defects and low birth weight: two case reports

Ninou C.*, **Liatsi A.**, **Marina P.**, **Agouropoulos A.**, **Gizani S.**
Postgraduate Student, Department of Paediatric
Dentistry, National and Kapodistrian University of
Athens, Greece

P12

Dens-in-dente with expanding cyst

Jajeh N.*, **Kelly R.**, **Petersen H.**
University Dental Hospital Manchester, United
Kingdom

P13

What are the research priorities for children with type II Dentinogenesis Imperfecta? A PPI Consultation

Ahmad AJ.*, **Wright H.**, **Balasubramanian M.**, **Lewis C.**, **Parekh S.**
Eastman Dental Institute, UCL, United Kingdom

e-Posters

P14 Misdiagnosed tooth agenesis and delayed development of second premolar. Need for more intensive follow ups.

Taoufik K., Lyros I.*
Department of Orthodontics, School of Dentistry, National and Kapodistrian University of Athens, Greece, Greece

P15 A case of newborn with neonatal teeth

Yilmaz D.O.*, Tabakcilar D., Ustun N.
Beykent University Faculty of Dentistry, Turkey

P16 Comparison of remineralization capacity and microleakage of tricalcium silicate and glass ionomer cement on demineralised dentin in-vitro

Kuru E.*, Eronat N.
Ege University, Faculty of Dentistry, Department of Pediatric Dentistry, Turkey

P17 Investigation of bond strength between adhesive systems and hard dental tissues of deciduous and permanent dentition

Beloica MD, Mandinic Z.*, Ivanovic M., Juloski J., Radovic I.
Dental School of Medicine, University of Belgrade, Serbia

P18 Retention and caries preventive effect of resin-based and glass-ionomer dental sealants- 18 months results

Muntean A.*, Simu M.R., Lupse I., Voina L.L., Jiman P.A.
Department of Paediatric Dentistry, Iuliu Hatieganu University of Medicine and Pharmacy, 31 A. Iancu Street, 400083, Cluj-Napoca, Romania

P19 Bioactive restorative materials: mechanical properties and μ -tensile bond strength

Marzell F.*, Boutsiouki C., Niem T., Luecker S., Kraemer N.
German, Germany

P20 Flow bulk composite in pediatric dentistry: long term survival in posterior restorations

Lucchi P.*, Gatto R.
Private practitioner, Trenton, Italy

P21 Audit reviewing correspondence with GDPs for patients discharged from Paediatric trauma clinic

Hamid A.*, Carter A., Kindelan S.
Leeds Dental Institute, United Kingdom

P22 Outcomes of Traumatic Dental Injuries in 0 to 16-year-old Children

Soh Y.*, Tan W.
Ministry of Health Holdings, Singapore, Singapore

P23 Repeated permanent tooth replantation: an 8 year follow up case report.

Tzika E.*, Economides N., Kotsanos N.
Department of Pediatric Dentistry, Dental School, Aristotle University of Thessaloniki, Greece, Greece

P24 Management of extrusive luxation in an immature central incisor of an 8-year-old boy with 1 year follow-up. Case report

Katsouli K.*, Vatsolaki E., Chatzidimitriou K., Agouropoulos A., Gizani S.
Paediatric Dentistry Department, National and Kapodistrian University of Athens, Dental School, Greece

P25 Beware the Second Trauma!

Schofield C.*, Patel M.
Department of Paediatric Dentistry, King's College Hospital, United Kingdom

P26 Delayed treatment of avulsed permanent central incisors with different outcome. Presentation of two cases

Chatzimarkou S.*, Vatsolaki E., Kretsi M., Agouropoulos A., Gizani S.
Department of Paediatric Dentistry, Athens School of Dentistry, National and Kapodistrian University of Athens, Greece

e-Posters

P27

Self reported knowledge and attitude of parents and training coaches in relation to dental trauma management of children

Tian J.*, Lim J.J., Moh F.K., Zafar S., Zachar J.
University of Queensland, Australia

P28

Continued Root Development Following Trauma in a 7 Year Old Boy

Neo B.*, Djemal S.
King's College Dental Institute, United Kingdom

P29

Management of a Horizontal Root Fracture with Apical Surgery: 2-year follow-up

Ozdogru H.*, Keskin G., Ucar Gundogar Z., Birbiri E.
Gaziantep University, Turkey

P30

Management of an Immature Apex in a Traumatized Central Incisor: A Case Report

Kashif M.*, Siobhan B.
University Dental Hospital of Manchester, United Kingdom

P31

Multiple Traumatic Dental Injuries To Maxillary Permanent Incisors: A Case Report

Russ J.R.*, McClean L.
University Dental Hospital Manchester, Manchester University NHS Foundation Trust, United Kingdom

P32

Continued Root Development With Negative Sensibility Testing And History Of Infection

Davidson L.*, Thakrar J., Monaghan U.
Special Care Dental Service, Hertfordshire Community NHS Trust, United Kingdom

P33

A long-term follow-up of Cvek pulpotomies on anterior teeth with pulp exposure of Children after trauma

Gyftodimou A.*, Vouta D., Kotantoula G., Berdouses E.
Private Practice, Athens, Greece

P34

Investigation Of Contributing Factors For The Success Of Primary Molar Pulpotomies

Ildes G.*, Sezgin B., Menten A.
Marmara University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey

P35

Vital Pulp Therapy in Young First Permanent Molars with reversible pulpitis. Retrospective study of 6-months radiographic outcomes.

Chatzidimitriou K.*, Katechi V., Balta M., Gizani S.
Department of Paediatric Dentistry, School of Dentistry, National and Kapodistrian University of Athens, Greece, Greece

P36

Correction of anterior crossbite as part of comprehensive treatment plan in early permanent dentition

Kociubinska J.M.*
North Cumbria Integrated Care NHS Foundation Trust, United Kingdom

P37

Failure of tooth eruption in an adolescent previously on pamidronate

Saber K.*, Cameron S.
St. George's University Hospital, London, United Kingdom

P38

Mucocele of the Glands of Blandin-Nuhn: A Case Report

McGuckin B.*, Williams J.
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ABSTRACTS



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Evaluation of Different Remineralization Agents in the Treatment of Natural Caries -Affected Dentin in Permanent Teeth

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AIM: The purpose of this study was to investigate the effect of remineralization agents on Natural Caries-Affected Dentin (NCAD). **METHODS:** Forty caries dentin slices (5x5x4) were prepared from permanent molars diagnosed with International Caries Detection and Assessment System (ICDASII) scores 3 or 4. Subsequently, all specimens were embedded in epoxyresin (StruersEpoFixKit). The interventions before 8 days pHcycling were as follows: Deionized water, negative control (G1); 5% Sodium Fluoride (NaF)Varnish, positive control (G2); CPP-ACFP gel, 10% CPP-ACP+900ppmF gel (G3); CaGP+Mg+Xylitol gel (G4). Surface Microhardness (SMH), DIAGNOdent (LF) and X-ray Fluorescence (XRF) Spectroscopy measurements were performed and differences calculated between the values before and those after pHcycling. Data were analyzed with SPSS software (SPSS22 package program). All tests were performed at a 5% level of significance. **RESULTS:** The greatest decrease in the LF values was observed in the CaGP group. There were significant differences in decrease of LF values between NaF (8.33, 4.31), CCP-ACFP (5.20, 4.8) and CaGP (9.46, 4.31)(p0.01). In all groups, the final hardness was significantly higher than the baseline hardness (P 0.001). NCAD treated with NaF (2,12, 1,57), CaGP (0,95, 1,97) and CCP-ACFP (1,65, 1,85) exhibited statistically higher hardness compared to the control group (0,27, 1,18)(P 0.01). Following remineralization, the microhardness values in the NaF group was significantly higher than in the other groups (P 0.05). There was no statistically significant difference between the baseline surface hardness of the control group to the value obtained after pHcycling (p0.05). After pHcycling, XRF showed that the concentrations of Ca and P increased in all treatment groups. **CONCLUSIONS:** The use of remineralization agents in this study improved mechanical properties of NCAD. The results indicate that the agents could be recommended and promoted as a treatment option for caries dentin to that of the conventional management of caries (ERASMU-OSCAR/2019-1-RO01-KA202-063820).

P2

Direct pulp capping with mineral trioxide aggregate in a permanent molar: a case report

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INTRODUCTION: After pulp exposure, direct pulp capping can help preserve pulp vitality. The biocompatibility of MTA, together with its good sealing properties when infected dentine has been removed, could play an important role in the pulpal health after the direct capping procedure **CASE REPORT(S):** A female patient of 11 years, with a non-contributory medical history, presented clinically with deep caries lesion on tooth number 16 which is also confirmed by X-ray. The patient denied any previous history of lingering pain to external stimuli and spontaneous pain from that region. Tooth 16 responded with normal limits to cold, percussion and electro tests. The clinical pulpal diagnosis is reversible pulpitis. Treatment was performed by conventional caries excavation under local anesthesia. During caries removal, accidental pulp horn exposure occurred and no haemorrhage was observed. White ProRoot MTA (Dentsply Tulsa)® was applied as a thin layer and ten minutes later a provisional restoration was placed with a glass ionomer based cement. **FOLLOW UP:** In the following appointment, after seven months later, another X-ray has been performed and cold, percussion and electro tests were still within normal limits and final bonded composite restoration was placed. Until the recall appointment 2 years and 3 months later, the tooth remained asymptomatic and cold, percussion and electro tests were within normal limits together with an X-ray examination. **CONCLUSIONS:** Direct pulp capping after pulp exposure during deep caries removal could be an alternative option to maintain the pulp vitality in permanent teeth.

P3

Association of caries experience with social and behavioral factors among schoolchildren from Iasi, Romania

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AIM: To explore the relationship between socio-demographic and oral health behavioral factors with dental caries experience in 6-8 and 11-13-year-old schoolchildren from Iasi. **METHODS:** A cross-sectional study of 306 first grade and 278 sixth grade children was conducted in Iasi in 2019. Information on child socio-demographic characteristics and

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dental behaviors was collected through questionnaires. Clinical examinations were performed by one trained dentist using the ICDAS II system and caries experience was expressed using dmfs/DMFS index. Oral hygiene status was assessed using the Silness and Loe plaque index. **RESULTS:** For 6-8 years old children, socio-economical position, sugary food consumption between meals, treatment and dental pain as reason for the last dental visit and oral hygiene status were found to be significantly associated with dental caries experience in both unadjusted and adjusted models. For 11-13 years old children, oral health status and supervision by relatives when child not at school were strongly associated with high levels of caries experience. **CONCLUSIONS:** Socio-demographic and behavioral variables and oral hygiene status were found to be risk factors for caries experience in 6-8-year-old children, while the first two indicators were not significantly associated in 11-13-year-old children.

P4

Protective and Predisposing Factors Associated to Tooth Decay among Children with Pyelonephritis

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AIM: Evaluation of protective and predisposing factors related to tooth decay among children with pyelonephritis. **METHODS:** Two groups of children with primary dentition took part in the study: 27 patients and 14 healthy controls. In the research is implemented a combination of various methods. A clinical method is applied for the recording of the cavitated carious lesions. A documentary method of an enquiry is used for obtaining information about parameters of participants' behavioral patterns. The statistical method of a descriptive analysis is also utilized. **RESULTS:** The maximal value of the cavitated carious lesions among the patients equals to the number of 20. In comparison, the maximal number of the same variable in the healthy children amounts to 11. A rate of 85,71% of the controls in comparison to 66,67% of the patients apply exogenous fluoride prophylaxis. A ratio of 71,43% of the healthy children and only 18,52% of these with pyelonephritis brush their teeth twice per day. Regular dental visits twice per year perform 57,14% of the controls. Simultaneously, a ratio of 70,37% of the patients have never visited a dentist till the time of the investigation. More than a half, namely 57,14 %, of the parents of the controls visit a dentist minimum once per year. The predominant rate of the parents of the patients, 70,37% of them, visit a dentist only in emergency. **CONCLUSIONS:** The distribution of tooth decay in both of the groups correlates to explicit levels of behavioral indicators.

P5

Prevalence and etiopathogenesis of ECC in an Italian pediatric population: epidemiological study

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AIM: Early Childhood Caries (ECC) is an early manifestation caries disease that develops in children under 6 year of age. The present work aims to evaluate, through an epidemiological study, the prevalence of ECC in an Italian pediatric population, aged up to 71 months. **METHODS:** 76 children aged up to 71 months were examined at the University of L'Aquila. The children's parents were subject to a standard questionnaire by the Italian Society of Child Dentistry (SIOI). The questionnaire, divided into two parts, made it possible to acquire information regarding the characteristics of the population. First part: general data of the child and the medical history of the mother and father ; Second part: the age and sex of the child , the type and duration of the breastfeeding , the use of sugary pacifiers, oral hygiene and the frequency of consumption of sugars drinks and food, identifying the starting age. **RESULTS:** Evaluating the dmft of each child, 40,79% of our sample population is affected by ECC. 57,89% of the children used the pacifier and 13,16% of them have or have used honey above with a p value of 0,001, therefore this parameter was statistically significant, together with the intake of candies , chocolates and sugar drinks. **CONCLUSIONS:** ECC is a multifactorial pathology in which eating habits play a very important role. A diet that from childhood is characterized by a high consumption of sugar -rich food and drinks is highly associated with the incidence of ECC in later years.

P6

Treatment Need and Cost of Molar Incisor Hypomineralisation at a UK dental hospital

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AIM: Understand treatment needs and cost implications for paediatric patients referred to a tertiary care National Health Service (NHS) hospital setting at Leeds Dental Institute (LDI) with a diagnosis of Molar Incisor Hypomineralisation (MIH). **METHODS:** Retrospective case note analysis of 33 patients who had been discharged from the LDI with completed courses of treatment for MIH between September 2019 and January 2020. The following data sets were recorded: patient demographics, number of appointments, treatment provided. Treatment costs were estimated for the care delivered and

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included all consumables, dental materials, sterilisation costs and NHS staff costs. Any costs borne to the patient were not included. **RESULTS:** The mean age of the patients was 9 years 2 months. On average, 3 posterior teeth and 2 anterior teeth were affected. 58% of the patients complained of sensitivity, 18% had aesthetic concerns. The mean treatment period was 12 months, with a mean of 4 appointments. 33% required multidisciplinary team input for treatment planning. Modality of treatment: 30% Local anaesthetic (LA), 9% Sedation and LA, 42% General Anaesthetic, 19% combination of modalities. Treatment provided varied and included: extractions, restorations, fissure sealants, micro-abrasion, ICON resin infiltration, composite veneers. The mean cost per completed treatment plan was £824.24 (range £331.54-1,286.16). **CONCLUSIONS:** MIH is a costly, common and variable condition, affecting 1 in 8 UK children. Treatment planning can be complex and may need specialist multidisciplinary team input for optimal long term outcomes, especially considering these patients are young with limited treatment experience. This project highlights the expense of treating this unpreventable condition.

P7

Case report: Two cases of Infant Oral Mutilation in Hull, UK

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INTRODUCTION: Infant oral mutilation (IOM) is a primitive, traditional healing practice in Eastern Africa where the primary canine tooth bud is 'gouged out' using crude instruments to prevent and cure systemic illnesses. IOM can cause damage to the permanent successor, septicaemia, transmission of blood-borne viruses and death. We present two cases with premature loss of deciduous canines and history of IOM. **CASE REPORT(S):** A 5-year-old Kenyan female presented following removal of her unerupted lower canines at 2 months old. Clinical and radiographic assessment confirmed missing LRC and LLC but presence of the permanent successors. Management involved family education through safeguarding consultation and investigation of FGM risk. Secondly, a 11-year-old Somali female presented with a hypoplastic LR3, lower centreline asymmetry, lower premolar space loss, multiple carious primary and secondary molars and a Class II div I malocclusion. Dental history confirmed the LRC was removed age 1 to prevent vomiting and fever. Assessments indicated need for safeguarding advice, joint orthodontic-paediatric care, caries management and direct composite restoration of the LR3. **FOLLOW UP:** Both patients have annual clinical and radiographic reviews to monitor permanent successor eruption and regular therapist-led prevention within the specialist paediatric service. The LR3 has a good prognosis with continued root development and sound enamel margins. **CONCLUSIONS:** These cases highlight the

importance of careful and sensitive history taking, investigations and radiographs. It is sometimes difficult to ascertain all details at a first visit so building rapport, sensitively raising concerns and recognising the link to increased risk of FGM are important considerations.

P8

Management of a fractured maxillary second premolar evaginated tubercle

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INTRODUCTION: Evaginated tubercles of premolar teeth more commonly present on occlusal surfaces. These can be managed by selective reduction techniques or pulpotomy. This case presents the presence of a buccal accessory cusp which was mistaken as a supernumerary and subsequent management of the fractured tubercle following attempted extraction. **CASE REPORT(S):** A 13 year old boy was referred to King's College Dental Hospital following failed extraction of what was thought to be a supernumerary adjacent to the left maxillary second premolar. Clinical and radiographic examination suggested that the coronal tooth tissue that had been removed, was a thin buccal tubercle. Further CBCT imaging confirmed a subgingival communication into the pulp following the loss of coronal tissue. A Cvek pulpotomy was completed using MTA. The CBCT also confirmed the tooth had three roots. **FOLLOW UP:** The patient was reviewed clinically and radiographically over a period of two years. The tooth remained asymptomatic and maintained vitality. The patient was informed of the potential for the loss of vitality of this tooth and the additional complexity associated with the unusual root morphology if root canal treatment became necessary. **CONCLUSIONS:** Prior to removal of any anomalous tooth tissue, a radiographic examination should be used to assist determination of the morphology of the tooth. Should the pulp become exposed a Cvek pulpotomy can be used to try to prevent loss of vitality. The unusual coronal appearance may also indicate anomalous root morphology.

P9

Multidisciplinary management of a maxillary central incisor with a crown and root dilaceration

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INTRODUCTION: Trauma to primary teeth can lead to devastating sequelae in development of permanent successors. The disturbance may range from enamel hypoplasia to arrest of tooth development. Dilaceration of permanent teeth is one



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of the consequences mainly due to intrusion or avulsion, and its management can be complicated for dentists and often involves multidisciplinary care. This case report describes the clinical management of dilacerated maxillary central incisor.

CASE REPORT(S): A healthy 8-year-old girl presented to the Paediatric Dentistry department at Leeds Dental Institute, UK, complaining of brown discolouration and pitting in the upper left central incisor. Dental examination revealed hypoplastic, discoloured and dilacerated incisors crown with dilacerated root. The tooth was associated with asymptomatic periapical periodontitis. Past history revealed severe intrusion of the primary predecessor at 18-months of age. The patient had caries free mixed dentition with class I occlusion. CBCT revealed grossly malformed crown with single large malformed root canal and rarefying osteitis. Following patients assessment on the multidisciplinary clinic (Restorative-Ortho-Paeds), the dilacerated tooth was endodontically treated under the microscope and obturated with bioceramic plug followed by electrosurgery to seal the enamel defect caused by hypoplasia and resin composite restoration to mimic the contralateral central incisor.

FOLLOW UP: Clinical and radiographic follow up was conducted as appropriate for 2.5 years.

CONCLUSIONS: With the use of CBCT scanning and multidisciplinary approach, the dilacerated incisor crown and root combination was successfully managed to restore function and aesthetic in the medium term and in turn maintain alveolar bone if an aesthetic option was sought in the long term.

P10

Morphological, histological, and chemical analysis of first permanent molars with Molar Incisor Malformation

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AIM: Molar Incisor Malformation (MIM) is a recently described dental anomaly affecting first permanent molars and possibly permanent incisors and primary second molars. A cervical mineralized diaphragm (CMD) formation is an 'identity hard tissue' of this disorder. This study was set to investigate the anatomy and histology of MIM dysplastic teeth.

METHODS: Five MIM permanent molars were examined for 3D morphology with micro-Computed Tomography (micro-CT), for microanatomy with scanning electron microscopy (SEM), chemical composition with Energy Dispersive X-ray Spectrometer (EDS) and histology with optical microscopy.

RESULTS: Micro-CT explored the anomalous roots and canal pathways and the higher radiodensity of CMD together with its association with cervical enamel constriction, fiords and projections in the CMD. SEM images suggested a mixture of hard tissues in the CMD, shown by EDS to be more calcified, with CMD Ca being higher than in dentin ($p=0.034$). The

histological examination verified the osteodentin-like hard tissue in the CMD. Towards the root, more denticle-like structures were seen simulating pulp stones.

CONCLUSIONS: The dysplastic nature of MIM molar teeth includes the cervical enamel and points out the futility of endodontic approaches for survival once, as is the rule, these become inflamed/necrotic.

P11

Enamel hypoplasia and hypomineralization with a history of respiratory defects and low birth weight: two case reports

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INTRODUCTION: Respiratory diseases and low birth weight are risk factors that affect amelogenesis causing developmental enamel defects. This study describes the dental management of two such cases.

CASE REPORT(S): A 10-year-old girl and an 8,5-year-old boy presented to our clinic with the mutual chief complaint of discolored and broken teeth. In their medical history, respiratory disease soon after birth and low birthweight combined with episodes of apnea were reported. In the first case, intra-oral examination revealed enamel hypoplasia of #11, #21, #31, #32, #33, #41, #42, #43 and enamel hypoplasia and dental caries of #16, #26, #36, #46. In the second case, enamel hypoplasia, post-eruptive breakdown and caries of #16, #26, #36, #46 was found. Treatment plan included aesthetic rehabilitation of anterior teeth with composite resin while for the first permanent molars, extraction, pulpotomy, stainless steel crowns and composite resin built-up with were performed, according to individual needs. An intensive preventive program was also applied to both cases.

FOLLOW UP: In the first case, ten months later, all restorations were intact, #13 and #23 erupted with hypoplastic defects while #14 and #15 showed demarcated opacities on the cusp tips. In the second case, nine months after completion of treatment, restorations were intact and #45, #34, #35 erupted with hypoplastic defects as well as #14 and #24 with white opacities.

CONCLUSIONS: Perinatal oxygen deprivation and low birth weight might affect not only teeth that begin calcification at that time, but also teeth that form later, therefore close follow up is necessary.

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P12

Dens-in-dente with expanding cyst

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INTRODUCTION: Dens-in-dente is a developmental defect where enamel and dentine fold within the tooth forming invaginations. The most commonly affected tooth is the maxillary lateral incisor. Varying severity of the defect can result in a multitude of management options, the most severe being loss of the affected tooth and in both cases discussed, the need for surgery under general anaesthesia. Early identification and appropriate management can prevent complications from untreated dens-in-dente.

CASE REPORT(S): Two unrelated Caucasian patients presented to the Paediatric and Oral Surgery Departments with cysts associated with maxillary lateral incisors affected by dens-in-dente. Patient 1: 15-year old male presenting with dens-in-dente of the maxillary left lateral incisor which clinically, was larger in appearance to the right lateral incisor. Patient 2: 11-year old female presenting with dens-in-dente of the maxillary right lateral incisor which had a diminutive appearance. Both patients had palpable buccal expansion and reported pain and swelling which had been treated with multiple courses of antibiotics in primary care. Radiological examinations including CBCT revealed extensive radiolucent lesions with perforations through the cortical bone. Treatment planning included the extraction of the affected lateral incisor and cyst enucleation under general anaesthesia. **FOLLOW UP:** Patient 1: Histological features of the enucleated lesion were consistent with a radicular cyst. Follow-up at 6 months revealed good bony infill with no signs of cyst recurrence. Patient 2: Currently awaiting extraction of the maxillary right lateral incisor and cyst enucleation under general anaesthesia. **CONCLUSIONS:** Dens-in-dente defects vary in severity according to Oehler's classification. Early identification can reduce the need for surgery and associated complications.

P13

What are the research priorities for children with type II Dentinogenesis Imperfecta? A PPI Consultation

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AIM: To co-design a research project with parents and children diagnosed with Type II Dentinogenesis Imperfecta (DI-II) to investigate the usefulness of genetic testing and assess if DI-II has extra-dental associations. **METHODS:** The first and second author (parents of two children with DI-II, presenting hypermobility and a family history of late onset hearing loss) co-

produced a research proposal and conducted two online focus groups with seven children with DI-II aged 10 to 14 years (FG1) and five of their parents (FG2) to refine the research questions and study plan. **RESULTS:** All participants agreed that a research project assessing the usefulness of genetic testing to confirm a DI-II diagnosis would be beneficial. The research priorities identified were to assess: the patient and parent perspective of genetic testing (FG1, FG2), the lived experience of parents and children with DI-II (FG1, FG2), in particular in relation to how different groups of people treated them (FG1), the burden of care (FG1) and difficulty accessing specialist care (FG2), the judgements people make about people who have DI (FG1) and the possibility of non-dental effects of DI-II (FG2). Concerns that information explaining the risk of an unexpected OI diagnosis or extra-dental associations of DI-II could cause anxiety were raised and ways to address these were discussed (FG2). **CONCLUSIONS:** Children with DI-II wanted research outcomes to be shared with their peers, schools and general dentists. Some parents felt the extent of information given to child participants should be chosen by their parents on an individual basis.

P14

Misdiagnosed tooth agenesis and delayed development of second premolar. Need for more intensive follow ups

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INTRODUCTION: Congenitally tooth absence describes the failure of one or more permanent teeth to form. Mandibular second premolars and maxillary lateral incisors are the most frequently observed missing teeth, while ankylosed primary molars are often encountered. Rarely, initially diagnosis of tooth agenesis turns up to be a marked delayed development of the permanent tooth, which requires alterations in the original treatment plan and/or more intensive follow ups. **CASE REPORT(S):** A 17-year-old girl visited our dental office for orthodontic reasons, as she was not pleased with her smile. She informed us that a permanent premolar was congenitally missing, diagnosed with a panoramic x-ray 21/2 years ago by her general dentist, while the second primary molar 85 remained in the oral cavity. Another panoramic x-ray was asked, and the crown of a developing malpositioned second premolar was revealed. Extraction of the primary molar and the premolar was conducted and orthodontic movement to close the space was decided, while before the panoramic x-ray, there was a consideration of maintaining the primary molar, as no mobility existed. **FOLLOW UP:** After the end of the orthodontic treatment, the panoramic x-ray revealed that no damage occurred on the roots of 44 46. **CONCLUSIONS:**



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Tooth agenesis should not be diagnosed at an early age, as late tooth development might occur. Follow up with radiographic examinations at regular intervals is mandatory, as early diagnosis of delayed development might help in tooth maintenance, even in cases where the tooth eruption path is not ideal, and protect other teeth by proper treatment plan alterations.

P15

A case of newborn with neonatal teeth

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INTRODUCTION: Tooth eruption is a unique developmental process. The calcification of deciduous teeth begins during the intrauterine life. Also, the eruption time of teeth depends on genetic and various factors, the first tooth usually appears at about 6 months of age. If the teeth are observed at birth or appear during the first 30 days of life, they are known as neonatal teeth.

CASE REPORT(S): A female newborn baby was thoroughly examined in the hospital after birth, revealing the presence of two structures underlying the oral mucosa of the lower jaw. After 9 days, her parents attended the paediatric dental clinic and oral examination revealed a structure in the mandibular anterior right region, whitish opaque in color and exhibiting grade-III mobility. One week later, it was observed that the mucous membrane covering the other structure disappeared and the left incisor erupted. Both crown size and gingiva were normal. No ulcers were observed on the tongue, lips, and ventral surface of the mother's breast. The structures were diagnosed as neonatal teeth. It was confirmed that 1 ml of vitamin K was administered intramuscularly postpartum by the patient's pediatrician. The neonatal teeth were extracted at 1-week intervals without local anesthesia and a tampon was applied for hemostasis. **FOLLOW UP:** Postoperatively, healing was uneventful after one week. The patient was recalled after a month, no complication was reported.

CONCLUSIONS: Extraction of natal teeth is indicated when they are interfering with feeding, highly mobile, or associated with soft-tissue growth.

P16

Comparison of remineralization capacity and microleakage of tricalcium silicate and glass ionomer cement on demineralised dentin in-vitro

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AIM: To evaluate the remineralisation capacity and microleakage of calcium silicate-based cement and glass ionomer cement (GIC) on artificially demineralised dentine

in-vitro. **METHODS:** In the remineralization study, dentine cavities were prepared in thirty-four sound human third molars (four in each tooth). One of the cavities was covered by acid-resistant varnish before demineralization (Gr 1). Specimens were soaked in the chemical demineralization solution for 96 hours to induce artificial caries lesions. Two of the cavities were filled with either calcium silicate-based cement (Biodentine™) (Gr 2) or GIC (Fuji IX) (Gr 3) while one cavity received no filling (Gr 4). Specimens were immersed in the simulated body fluid for 21 days. The specimens were cross-sectioned; and in each specimen, Ca/P ratio was calculated using SEM-EDX. In the microleakage study, thirty-nine occlusal dentin cavities were prepared and randomly assigned to three groups (each 13): GrA (Biodentin), GrB (GIC), GrC (Composite). After thermocycling, they were stained with basic fuchsin solution, sectioned buccolingually and assessed for microleakage. Data were analysed using Bonferroni and Kruskal-wallis test.

RESULTS: Both cements induced dentin remineralization. The difference of the Ca/P ratio values was statistically significant and higher in Gr 2 compared to Gr 3 and Gr 4 (p<0.001). No statistical difference in microleakage was found between Gr A and Gr C, while Gr B exhibited higher microleakage than Gr C.

CONCLUSIONS: Within the limitations of this study, higher ability of remineralization and lower microleakage were found for Biodentine compared to GIC on dentin lesions. Results may be beneficial for deep dentin caries management.

P17

Investigation of bond strength between adhesive systems and hard dental tissues of deciduous and permanent dentition

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AIM: Bond strength investigation of different adhesive systems on dentin and enamel of deciduous and permanent teeth by microtensile bond strength **METHODS:** 161 extracted human teeth were divided in subgroups according to the adhesive approach. 1. Total etch - a. Opti Bond FL; b. Opti Bond Solo Plus; c. Adhese Universal; d. Single Bond Universal; e. Single Bonding; 2. selfetch - a. Opti Bond XTR; b. Opti Bond All-in-one; c. Adhese Universal; d. Evetric Bond; e. Single Bond Universal; 3. selective etch - a. Opti Bond All-in-one; b. OptiBond XTR; c. Adhese Universal; d. Evetric Bond; e. Single Bond Universal. Gel etchant and SonicFill by KERR were used.

RESULTS: Results range from 7.1 MPa (Opti Bond All-In-One) to 24.14 MPa (OptiBond XTR) on enamel of permanent, 9.36 MPa (Opti Bond All-In-One) to 25.98 MPa (OptiBond FL) on enamel of deciduous, 10.53 MPa (Opti Bond All-In-One) to 29.77 MPa (OptiBond XTR) on dentin of permanent and 9.9 MPa (Opti Bond All-In-One) to 29.95 MPa (OptiBond

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XTR) on dentin of deciduous. **CONCLUSIONS:** 1. Total etch systems achieved higher bond strength values in primary enamel 2. OptiBond XTR achieved highest bond strength values in primary and permanent dentition 3. Selective etching may improve bond strength values between tested adhesive systems and permanent teeth enamel; 4. Acid etching on primary teeth enamel has not influenced bond strength values of any tested adhesive systems.

P18 Retention and caries preventive effect of resin-based and glass-ionomer dental sealants- 18 months results

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AIM: Particular context attendant SARS-CoV-2 pandemic, prioritise and emphasise all oral health preventive measures, especially for children. In this study, the effectiveness of two dental sealants applied under the standard conditions of a paediatric dental office was performed in order to encourage specific prevention. **METHODS:** The occlusal surfaces of the first permanent molars, sealed with different dental sealants (Fotoseal®-filled resin-based sealant and FujiGC Triage®-resin modified glass ionomer sealant) were monitored for 100 patients for 18 months. Retention over time was assessed based on the first permanent molar topography, patient gender and material used. The evolution of the occlusal surfaces from which sealant was lost was assessed related with decay occurrence. **RESULTS:** At the initiation of the study, a number of first permanent molars were incompletely erupted, decayed, restored or even extracted, which is why sealing materials were applied to a smaller number of teeth. Retention values dependent on the topography of the first permanent molar, reveal no significant differences. The gender of the patients shows significant retention differences for the mandibular molars, in favour of male gender (p<0.05). The partial or total dislocation of the sealant did not cause immediate dental decay commencement. Filled resin-based sealant performed comparably with resin modified glass-ionomer cement. Ensuring an adequate efficiency in caries control requires also active involvement in equilibrate diet and adequate oral hygiene. **CONCLUSIONS:** In conclusion, pit and fissure sealants, regardless of the class of dental materials they come from, can prevent occlusal decay. Patient-centred prevention plans must be more effective in this particular period.

P19 Bioactive restorative materials: mechanical properties and μ -tensile bond strength

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AIM: To compare the flexural strength, E-modulus, modulus of resilience, modulus of toughness (MOT), Vickers hardness and μ -tensile bond strength of bioactive filling materials ACTIVA BioACTIVE-RESTORATIVE (Acti, Pulpdent) and Cention N (Cent, Ivoclar Vivadent) to the established reference materials Filtek Z250 (FZ250, 3M Oral Care) and Fuji Triage pink (FTp, GC). **METHODS:** Specimens (n=20) were made according to ISO 4049 and subjected to four-point bending test (Z2.5 Zwick/Roell) and to Vickers hardness test (ZHU 0.2 Zwick/Roell) after 4-week storage in water. Dentine-material sticks (n=120) were produced with an adhesive surface of 0.36mm² (1mm² for FTp) and were tested for μ -tensile bond strength (Syndicat TC-550) after 24h storage in water. Fracture modes (adhesive, cohesive, mixed) were evaluated. The internal structure of the materials was qualitatively examined by SEM. Statistical analysis followed with ANOVA. Post-hoc comparisons were performed with Bonferroni. **RESULTS:** In majority bioactive materials showed better material-related behaviour than FTp and worse than FZ250. FZ250 showed significantly higher results compared to the bioactive materials (p<0.05) except for MOT. Differences between Acti and Cent were just determined for E-modulus, MOT and Vickers hardness (p<0.05). The bioactive materials tended to show a higher percentage of adhesive fractures in SEM. Additionally, it was possible to document that Acti and Cent had more air inclusions. **CONCLUSIONS:** Acti and Cent showed comparable mechanical properties and μ -tensile bond strength compared to the established restorative materials. These results should be correlated with future clinical studies.

P20 Flow bulk composite in pediatric dentistry: long term survival in posterior restorations

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AIM: The aim of this study is to evaluate the long term failure rate of fillings made on primary teeth using bulk-fill flow resins, in a group of patients aged between 0 and 12 years **METHODS:** During the years 2015-2015, 198 patients (88 male – 110 female) aged between 0 and 12 years, treated with 673 restorations were observed (387 first primary molars, 286 second primary molars). After 5 years, 177 patients were re-analysed (21 dropouts) and a USPHS modified



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analysis was conducted by the same clinician. Only retention, marginal discoloration and secondary caries were considered. **RESULTS:** After 5 years from the first observation, out of the 611 restorations, 47 first primary molars and 27 second primary molars were replaced, respectively 39 and 32 for secondary caries. The mean survival rate at 5 years was 17,4% for first molars and 10,8% for second molars. **CONCLUSIONS:** Bulk resin is a good material

P21

Audit reviewing correspondence with GDPs for patients discharged from Paediatric trauma clinic

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AIM: Aim Determine if clinicians at LDI are communicating efficiently with GDPs on patient discharge, following treatment completion after dental trauma. **METHODS:** Three cycle retrospective audit reviewing correspondence for patients discharged from trauma clinic over a 3 year period. A second cycle was completed after introducing a discharge letter proforma. A third cycle was conducted six months afterwards, to check compliance. Standards 100% patients discharged from the department should have a discharge letter. 100% of discharge letters should contain information on: • Diagnoses • Treatment provided • Recommendations for follow up **RESULTS:** Cycle 1 (March 2017- March 2018) o 72% of patients had a discharge letter with 58% containing the relevant information Cycle 2 (February 2019- April 2019) o 100% of patients had a discharge letter with 97% containing the relevant information Cycle 3 (October 2019 – January 2020) o 78% of the patients had a discharge letter with 87% containing the relevant information **CONCLUSIONS:** Following the initial action plan and recommendations, it was encouraging to see 100% of standards met at the re-audit. The third cycle revealed a drop in standards, however there was still an improvement from the initial audit. These findings will be presented at the next departmental meeting and further training will be given using the pro-forma, ensuring new staff receive this too.

P22

Outcomes of Traumatic Dental Injuries in 0 to 16-year-old Children

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AIM: To investigate the outcomes of dental trauma seen at a tertiary dental centre in Singapore **METHODS:** Patient records from 2013-2019, with diagnosis code, Dental Trauma, were retrieved from the Centre's database. Age, gender, cause

of trauma, overjet, time taken to see a dentist, teeth involved, type of injury (Andreasen's Classification, 1981), treatment and outcomes were inputted into a structured form and analyzed using descriptive statistics, chi-square test and Fisher Exact test. **RESULTS:** This study includes 443 primary teeth and 262 permanent teeth, in 395 patients. Overall, primary teeth had fewer interventions, but more extractions (20.6% vs 0%) than permanent teeth. 56% of patients aged below 3 underwent general anesthesia for trauma management. Patients with primary tooth injuries displayed higher tendencies to fail follow-ups (p.05) than permanent teeth. Out of 278 patients eligible for a 2-year follow-up, 105 patients defaulted follow-up, among which, 82% started doing so at the 6-month review. 98% of patients who missed the 6-month review never returned for future follow-ups. Unfavorable outcomes presented later among primary teeth (48% after 1-year, 23% after 2-years) than permanent teeth (18% after 1-year, 12% after 2-years). By injury type, intruded or subluxated primary teeth were more likely to have delayed unfavorable outcomes, whereas in permanent teeth, this was true for intrusion, avulsion or complicated crown fractures **CONCLUSIONS:** High failure to follow-up, particularly among patients with primary tooth injuries, warrants future studies aimed at behavioral change. Late (2 years) presentation of unfavorable outcomes, necessitates follow-up of certain traumatized teeth beyond recommended timelines.

P23

Repeated permanent tooth replantation: an 8 year follow up case report.

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INTRODUCTION: Replantation of avulsed permanent teeth is the treatment of choice, provided extra-socket conditions have been favorable. Ankylosis and cervical root resorption are among tooth survival complications. **CASE REPORT(S):** A 9 year and six months old boy presented with an avulsed maxillary permanent central incisor with immature root development following a fall at school. The tooth was found and immersed in milk 15-20 min after avulsion. Replantation was performed 60 min after the accident, a non-rigid splint placed for two weeks and the tooth was followed-up regularly. **FOLLOW UP:** After an evident apical radiolucency and repeated negative pulp tests at 8 months follow-up, endodontic treatment with Portland cement apical plug was performed combined with gutta percha obturation. Two years later, and despite the near normal mobility of the tooth, ankylosis and infraocclusion were evident while, 4 years after the accident, a large external cervical root resorption appeared radiographically. After intentional extraction, debridement of resorptive tissue and cavity restoration, the tooth was replanted at a slightly over-

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extruded position to compensate for future possible ankylosis. The avulsed tooth remained asymptomatic, non-ankylosed and functional for a further 4 years. Minimal periodontal damage causing ankylosis may have merely been in the cervical periphery of the resorptive area being treated either with debridement or with the over-extruded position after the second replantation. **CONCLUSIONS:** Over 8 years follow-up of this twice replanted incisor shows that the early detection and appropriate treatment of all complications prolong its retention at least until craniofacial growth and development are completed.

P24

Management of extrusive luxation in an immature central incisor of an 8-year-old boy with 1 year follow-up. Case report

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INTRODUCTION: Extrusion is a form of luxation injury where the tooth is partially displaced from the socket in an axial direction. Extrusive luxations should be treated as soon as possible after trauma to obtain optimal tooth position.

CASE REPORT(S): An 8-year-old healthy boy, visited the Postgraduate Clinic of Paediatric Dentistry (Dental School of Athens, Greece) 3 hours after trauma accident in anterior teeth. Initial clinical examination revealed extruded #21 with 3rd degree tooth mobility, concussion in #11 with 1st degree mobility and subluxated #62. Radiographic examination showed widened PDL space of #21 and incomplete root formation of #11 and #21. Treatment plan involved extraction of #62 and reposition of extruded #21 by gently pushing it back into the socket under local anesthesia. After the normal position was verified, a flexible and passive splint was used for 2 weeks for stabilization. **FOLLOW UP:** Clinical and radiographical examinations after 2, 4, 8, 12 weeks, 6 months and 1 year included monitoring of pulp condition for the presence of any sign/symptom of necrotic and infected pulp. No pathological findings were revealed and root formation of maxillary central incisors continued normally. **CONCLUSIONS:** The pulp of luxated immature teeth may survive and heal, or there may be spontaneous pulp revascularization following luxation. Thus, root canal treatment should be avoided unless there is evidence of pulp necrosis or infection on follow-up examinations. Regular follow-ups are mandatory so that endodontic treatment appropriate to the stage of root development can be commenced as soon as a pathological finding is detected.

P25

Beware the Second Trauma!

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INTRODUCTION Traumatized teeth undergoing endodontic treatment are at risk of fracture if they incur further trauma. COVID19 has led to delays in dental treatment, including commencing endodontics of traumatized non-vital teeth, as well as obturation of those teeth which are mid-treatment. This report details the long-term management of trauma to immature permanent incisors and the subsequent management following a second trauma. Paediatric dentists should be aware of the possibility of further trauma when reviewing patients post-pandemic and be able to adapt their treatment plans accordingly.

BACKGROUND CASE REPORT(S) An 8-year-old boy with hypodontia sustained enamel dentine fractures (UR1, UL1) and an extrusive luxation injury (UR1). Treatment involved restoration of crowns, splinting and monitoring. The UR1 devitalised 24 months later and endodontic treatment was instigated. Treatment was subsequently delayed due to COVID19. At review the UR1 had sustained a root fracture and the UL1 had devitalised. Root canal treatment was initiated on the UL1 and the anterior teeth were splinted for four weeks. **FOLLOW UP** Following the most recent trauma, the UR1 will be maintained in the medium term to preserve bone levels, and ongoing care will be planned in conjunction with the multidisciplinary hypodontia team. **CONCLUSIONS** Traumatized immature teeth requiring endodontics are weakened and susceptible to further trauma. Studies show that long term calcium hydroxide dressings can also increase the risk of root fracture. Delay in treatment caused by the COVID19 pandemic could lead to a number of patients experiencing this additional complication of further trauma.

P26

Delayed treatment of avulsed permanent central incisors with different outcome. Presentation of two cases

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INTRODUCTION: Avulsion of permanent teeth is the most severe traumatic dental injury and prognosis depends on immediate care. We report the treatment of two cases of avulsed permanent incisors with delayed replantation and compare the outcome. **CASE REPORT(S):** Two children, 8 and 14 years old, having free medical history, presented with dental trauma. In the first case, the child arrived two days



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later with avulsion of #21, #22, #24 and #63, lateral luxation of #11 and alveolar bone fracture of the region. Teeth #21 and #63 were stored in milk, while the teeth #22 and #24 were not found. The permanent teeth had open apices. In the second case, the patient arrived 5 hours after the accident with avulsion of #11 and #21 which were stored in milk. In the former case endodontic treatment of #21 was performed before repositioning the two incisors while in the latter 1 week later. **FOLLOW UP:** In the first case, initiation of external root resorption was seen after 8 weeks and progressed until 12 months later. In the second case due to fast and extensive root resorption, decoronation of the #11 and #21 was performed 3 months after replantation. **CONCLUSIONS:** The outcome of delayed replantation of avulsed permanent teeth may be not similar even when guidelines are followed. Differences in the age of the patients and the time when endodontic treatment was performed, were possibly involved in the outcome in both cases. The rate of resorption varied considerably highlighting the need for proper follow up.

P27 Self reported knowledge and attitude of parents and training coaches in relation to dental trauma management of children

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AIM: Traumatic dental injuries (TDI) is one of the challenging oral health problems in children with implications affecting their overall quality of life. The aim of this study was to evaluate parental and training coaches knowledge and attitude towards TDI management in children **METHODS:** A 31-item questionnaire was distributed to the parents and training coaches attending local sporting clubs in Brisbane region, Australia. The questionnaire consisted of five parts (1) demographic and professional information; (2) TDI in primary dentition; (3) fractures and subluxation to permanent teeth (4) avulsion to permanent teeth, and (5) information and knowledge related to the management of traumatised teeth. The jamovi (Version 1.6.3) and GraphPad Prism were used for data analysis and creation of graphs. **RESULTS:** A total of 233 participants were surveyed, 211 parents and 22 coaches. Of all types of injuries, parental knowledge of managing avulsion to permanent teeth was poorest (9.5%), followed by management of primary tooth (17.5%) and management of fractures and subluxation to permanent tooth (29.4%). Parents in healthcare occupations had higher satisfaction on self-knowledge in managing TDI however there is no significant difference in knowledge levels between healthcare personnel and other professions ($p=0.128$). Both parental and coaches had moderate TDI management knowledge level.

Independent sample t-test was performed to confirm that there were no significant differences in knowledge among parents and coaches. **CONCLUSIONS:** The study showed a gap in parents' and training coaches' knowledge regarding TDI management in children

P28 Continued Root Development Following Trauma in a 7 Year Old Boy

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INTRODUCTION: The management of a non-vital tooth with an immature apex can be challenging. Various forms of apexification or regenerative endodontic procedures have been cited in the literature as possible approaches in managing these cases. This case is interesting because a calcified barrier established 12mm from the apex and the tooth demonstrated continued root formation without utilising regenerative techniques. **CASE REPORT(S):** This case report describes the management of a 7-year-old male with a non-vital upper left central incisor associated with an immature apex. The patient had sustained a complicated crown fracture. He presented to King's College Hospital 3 months after the injury, complaining of pain associated with the upper left central incisor. A diagnosis of chronic apical periodontitis with a necrotic pulp and suppuration was confirmed. Endodontic treatment commenced on the initial visit with use of calcium hydroxide as the intracanal medicament with the view to obturate with mineral trioxide aggregate. However, a three-month clinical and radiographic review indicated the formation of a calcified barrier in the mid-third of the root. The canal was obturated to this barrier with intermediate restorative material and glass ionomer cement. **FOLLOW UP:** The patient had regular reviews up to four years post injury demonstrating an absence of symptoms or signs of infection. The patient's final review demonstrated completed root development and a positive clinical outcome. **CONCLUSIONS:** This case highlights the role residual stem cells may play in regenerative endodontics and the need for further research into the mechanisms that are involved in achieving root development following traumatic injury.

P29 Management of a Horizontal Root Fracture with Apical Surgery: 2-year follow-up

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INTRODUCTION: Horizontal root fracture accounting for 0.5–7% of all dental injuries, is a condition defined by an oblique or perpendicular fracture line to the long axis of the

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root. The report aimed to present the management and follow-up of a tooth with horizontal root fracture in the apical third of the root. **CASE REPORT(S):** A 10-year-old male patient who experienced a dental trauma 72 hours earlier presented to the Department of Pediatric Dentistry at the Faculty of Dentistry of Gaziantep University. Extrusion of the tooth crown, lateral luxation, increased mobility, and a fracture in the apical third of the root of the maxillary left incisor tooth were recorded following clinical and radiographic examinations. The tooth was gently repositioned with finger pressure and stabilized with a flexible splint. Abscess formation was observed on the 7th day and as a result of persistent infection for 2 weeks, the apical part of the tooth was removed with apical surgery and the remaining tissue was plugged with MTA (NeoMTA Plus). The splint was removed at 4 weeks. **FOLLOW UP:** Successful management was demonstrated at the two-year follow-up. At the follow-up, calcified tissue deposition was observed in the apical surgery area and there was no pain, tenderness to percussion, crown discoloration or symptoms related to inflammation. **CONCLUSIONS:** Management of a tooth with horizontal root fracture with apical surgery and retrograde MTA obturation could be recommended as a successful procedure since healing was obtained with calcified tissue and maintaining the tooth asymptotically.

P30

Management of an Immature Apex in a Traumatized Central Incisor: A Case Report

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INTRODUCTION: Maxillary central incisors are the most common teeth to undergo dental trauma, often at a young age when root formation is incomplete. Although teeth with open apices generally have favourable outcomes due to their ability to revascularize, they can pose further clinical challenges should they undergo pulpal necrosis, which happens in 2% of cases. In such scenarios, secondary care is often needed for management of the apex prior to completing endodontic treatment. **CASE REPORT(S):** An 11 year old patient presented to her GDP with an uncomplicated enamel-dentine fracture of the UL1 following a fall. This was restored with composite and kept under review, however developed an abscess shortly after. Radiographs showed an immature apex with periapical pathology. Trauma checks revealed that the UL1 was also tender to percussion and unresponsive to sensibility testing, hence was deemed non-vital. An MTA plug and thermoplasticized obturation was completed on the UL1, following which it has been under regular review. **FOLLOW UP:** IADT guidelines recommend follow-up of 6-8 weeks followed by annual review. However, this patient was monitored with shorter review intervals in month 1, 3 and 6 after

treatment, and is now under annual review. **CONCLUSIONS:** The response of teeth with uncomplicated crown fractures depends on a variety of factors including tooth maturity, the time between initial presentation and treatment and proximity to the pulp. Despite not seeming severe at first glance, they can often undergo bacterial invasion via the exposed dentinal tubules, leading to pulpal necrosis. It Hence, imperative to conduct regular clinical and radiographic reviews.

P31

Multiple Traumatic Dental Injuries To Maxillary Permanent Incisors: A Case Report

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INTRODUCTION: Traumatic dental injuries most commonly occur in children or young adults, with maxillary central incisors most frequently affected. Management of any dental trauma is specific to the injury type and therefore comprehensive assessment and diagnosis is key to ensure best outcomes. **CASE REPORT(S):** A 15-year-old male was referred to the University Dental Hospital Manchester (UDHM) following trauma to the upper permanent incisors. Through injury the UL1 was displaced. This was immediately repositioned by the patient's mother and an emergency dentist placed a wire splint for two weeks. On initial presentation to UDHM clinical and radiographic assessment revealed palatal luxation UL1, concussion injury UR1 and apical third root fracture UR2 with enamel infarctions UR1 and UL1. Medically there was nothing of note. Continued clinical and radiographic monitoring was carried out. UR2 maintained vitality with no signs of periapical change. Unfortunately both UR1 and UL1 remained unresponsive to sensibility testing over 12 months post-injury and showed signs of root resorption radiographically. Root canal treatment (RCT) was immediately commenced and completed using MTA apexification. The patient was awaiting orthodontic treatment which had to be delayed until completion of RCT. **FOLLOW UP:** Regular review is essential following any traumatic dental injury. In this case, due to closure of clinical services during the COVID-19 pandemic, the interval between reviews was extended which prolonged the wait to commence orthodontic treatment. **CONCLUSIONS:** Traumatic dental injuries require extensive follow-up and initiation of RCT should not solely be based on negative sensibility test results.



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P32

Continued Root Development With Negative Sensibility Testing And History Of Infection**Davidson L.*, Thakrar J., Monaghan U.**Special Care Dental Service, Hertfordshire
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INTRODUCTION: An adult upper central incisor presented post trauma necrosis infection and swelling. A delay of treatment for a root filling revealed altered clinical scenario and treatment

CASE REPORT(S): An eight year old patient was referred for a root filling on an upper incisor after concussion trauma and swelling. The crown had an oblique fracture. Radiographs showed a root half formed and wide open apex indicative of suspended root growth. Initial assessments confirmed diagnosis; negative sensibility indicated a non-vital incisor needing root treatment. Clinically, the tooth was a healthy white colour, non-mobile, tender to percussion and well aligned. A coronal filling was done under inhalation sedation and antibiotics prescribed for a labial swelling. The patient was not seen for more than six months due to COVID restrictions. Radiographic follow up showed the root had continued development, albeit the apex had not fully closed. Thus treatment planning revision took a non-intervention approach, monitoring for continued root development and apical closure. If this is achieved a permanent root filling is planned. If the apex remains open an MTA root filling is planned. **FOLLOW UP:** The tooth is continued to be monitored, assessing for at least two signs of non-vitality. If this occurs it will be assessed if decoronation to maintain bone levels for optimal restoration after completed growth. **CONCLUSIONS:** This case indicates continued root development despite loss of vitality, with trauma causing irreversible nerve damage whilst vascular supply maintains intact. Further research could assess each of these parameters individually for vitality to aid definitive treatment planning.

P33

A long-term follow-up of Cvek pulpotomies on anterior teeth with pulp exposure of Children after trauma**Gyftodimou A.*, Vouta D., Kontantoula G., Berdouses E.**

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AIM: The aim of this prospective clinical study was to evaluate clinically and radiographically the rate of success of Cvek pulpotomy on traumatized permanent teeth of children with pulp exposure, after a period of twenty years. **METHODS:** Thirty (30) anterior permanent teeth from patients 7-19 years old (15 boys, 16 girls), with extensive pulp exposure and time interval for treatment with calcium hydroxide, ranging from 1 hour up to 5 weeks after trauma. The teeth were followed clinically and radiographically for a period of 1 up to 20 years

after trauma. In most cases, the teeth were with immature root formation with the exception of 6 cases. The teeth were followed clinically and radiographically for dentinal bridge formation, root formation, inflammatory root resorption from 1 to 20 years. **RESULTS:** Out of the 26 teeth treated within 48 hrs, only two failed (92,30%) and out of five teeth treated in more than 48 hrs up to 7 days, four failed (80%) and all of them were with closed apex at the time of treatment, while two of them had undergone complicated trauma with vertical fracture and an intrusive luxation. In all unsuccessful cases, the vitality test had shown negative results. **CONCLUSIONS:** Partial pulpotomy was a very successful treatment showing high percentage of success, especially in cases of immature teeth with crown fractures, irrespective of the size of pulp exposure or the time of treatment up to 24 hrs and the vitality tests seem to be predictive of the outcome of the therapy

P34

Investigation Of Contributing Factors For The Success Of Primary Molar Pulpotomies**Ildes G.*, Sezgin B., Menten A.**Marmara University, Faculty of Dentistry,
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AIM: This clinical trial aimed to evaluate whether the age, gender, tooth type or dental arch would affect the success of the pulpotomy treatments of the primary molars after 12 months. **METHODS:** This study was conducted with 130 primary molars of 5-to-9 year-old healthy children. Ethical approval was obtained from Marmara University (No:2019/288) and registered to clinicaltrials.gov (No:NCT04115358). Formocresol, ferric sulphate or hyaluronic acid gel pulpotomies were applied randomly to the primary molars. Children were recalled at 1-, 3-, 6- and 12-month intervals. Teeth were evaluated according to (1) Clinical criteria: Pain, tenderness to percussion or palpation, pathological mobility, abscess or fistula; (2) Radiographic criteria: Periapical or furcal radiolucency, internal or external root resorption, loss of lamina dura, canal obliteration. Statistical analyzes were done using chi-square tests at the significance level of $p < 0,05$. **RESULTS:** No gender differences were seen clinically and radiographically at any time. A difference was found only at 1st-month in the older age to be clinically higher than the younger age ($p=0,008$). No differences were found between upper and lower jaw at any time period except for 6th-month clinically ($p=0,018$). First primary molars had significantly higher radiographic findings at 1st- ($p=0,004$), 3rd- ($p=0,001$), 6th- ($p=0,008$) and 12th-month ($p=0,042$) than the 2nd primary molars; but no such differences were seen clinically. **CONCLUSIONS:** Our results showed that the radiographic success of the pulpotomy treatment was better in second primary molars whereas clinical success was not dependent on the age, gender, primary molar type or dental arch of the child after 12 months.

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P35

Vital Pulp Therapy in Young First Permanent Molars with reversible pulpitis. Retrospective study of 6-months radiographic outcomes.

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AIM: To evaluate the radiographic outcomes of vital pulp therapy (VPT) in carious young first permanent molars with reversible pulpitis. **METHODS:** Study group consisted of patients from the PG clinic of Paediatric Dentistry NKUA, who received Indirect and Direct Pulp Capping (IPC, DPC), Partial and Full Pulpotomy (PP, FP), during 2015-2020. Data including age, gender, tooth type, root development, method, material and restoration were collected. At 6-months follow-up, widened periodontal ligament, loss of lamina dura, root resorption, radiolucency, pulp canal obliteration were considered as failure. Apexogenesis formation and root length increase were also evaluated. Chi-squared and Fisher's exact tests were applied with a p-value of 0.05 to determine statistical significance. **RESULTS:** Twenty-nine patients (15 girls, 14 boys) with mean age 9.2 years and 36 teeth were treated. IPC, DPC, PP and FP were performed in 2, 6, 12 and 16 molars respectively. Biodentine (11 teeth) and MTA-like materials (25 teeth) were used as capping agents, while 27/36 teeth were restored with SSC. After 6 months follow-up, VPT revealed 88,9% success rate. No significant differences were found in failure rates and root length increase associated with gender, age, tooth type, root development, techniques and materials used. However, teeth restored with SSC had statistically significant higher success rate comparing to composite resin ($p=0.04$). **CONCLUSIONS:** VPT seems to be a successful method for the treatment of young first permanent molars with reversible pulpitis, based on the 6 months radiographic findings. Teeth restored with SSC restorations showed a significantly higher success rate comparing to composite resin.

P36

Correction of anterior crossbite as part of comprehensive treatment plan in early permanent dentition

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INTRODUCTION: Managing developing malocclusion at an early stage may simplify later orthodontic treatment or make such intervention unnecessary. Routine implementation

of simple interceptive measures can ease the pressure on the National Health Service, particularly as demand for orthodontic treatment exceeds the ability to provide timely treatment in many parts of the UK. Primary care dentists are perfectly placed to identify and correct simple developing occlusal problems with either undergraduate knowledge or with help of local Specialist or Consultant Orthodontist. **CASE REPORT(S):** A 10 year old anxious girl, conscious of her front teeth was referred to the Community Dental Centre for caries management. Clinical examination revealed carious molars with anterior crossbite involving tooth 21 on the class I skeletal base. During the treatment planning stage, advice was sought from a community Specialist Orthodontist. The crossbite management was incorporated into the comprehensive treatment plan and managed with simple URA. This interceptive approach could easily be implemented by community dental practitioner. With support from dental team, the patient had the crossbite corrected in 6 months. **FOLLOW UP:** The patient continued to wear her appliance at night time only to retain treatment results. Patient was discharged to her own GDP who will continue to monitor patient's occlusion as part of routine care and refer further if necessary. **CONCLUSIONS:** Correction of an obvious anterior misalignment as part of a comprehensive paediatric dental treatment plan, not only improves young patients' self-esteem but often saves the need of further orthodontic intervention, thus reducing the pressure on National Health Service. Simple interceptive orthodontic treatment can easily be implemented by primary dental practitioner.

P37

Failure of tooth eruption in an adolescent previously on pamidronate

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INTRODUCTION: To the best of our knowledge, we report the first case of inhibition of tooth eruption in a human secondary to pamidronate. **CASE REPORT(S):** We report a case of a 16-year-old female with co-morbidities including juvenile systemic lupus erythematosus (SLE) with cerebral involvement. She was treated for SLE associated osteoporosis with intravenous pamidronate between December 2013 to March 2015 with her first dose administered at the age of 11. She presented to the oral surgery clinic for extractions to aid orthodontic treatment. Clinical examination found the maxillary primary canines to be retained and the permanent second molars were not present. The orthopantomograph showed the permanent maxillary canines and four permanent second molars to be impacted. Her dentition is in keeping with the age at which she began pamidronate. Inhibition of tooth eruption following pamidronate administration has previously

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been reported in an in-vivo rat study with the mechanism thought to be due to pamidronate increasing the size of the osteoclasts (1). This is, to our knowledge, the first human case of failure of tooth eruption secondary to pamidronate. **FOLLOW UP:** Given the risk of osteonecrosis with bisphosphonates, such as pamidronate (2), it was decided not to proceed with the extractions and to monitor the impacted teeth. **CONCLUSIONS:** Pamidronate is widely used in children to treat various conditions such as osteoporosis and heritable skeletal disorders. Clinicians should consider the risk of failure of tooth eruption prior to initiating pamidronate in paediatric patients. Further research is warranted to better understand the effects of bisphosphonates on developing dentition.

P38

Mucocele of the Glands of Blandin-Nuhn: A Case Report

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INTRODUCTION: A mucocele is a benign, common, mucus-containing cystic lesion of the minor salivary glands in the oral cavity. They are known to occur in varying locations, most frequently located on the lower lip. Blandin-Nuhn mucoceles, which develop at the ventral side of the tongue, have been reported as unusual; according to Harrison in a review of 400 mucoceles of the oral cavity only nine originated in the tongue, constituting 2.3%. **CASE REPORT(S):** A five-year-old girl presented to Paediatrics Casualty at Newcastle Dental Hospital complaining of a swelling under the tongue. The swelling had continued to enlarge over the previous two months, with the patient experiencing difficulty eating and being limited to a soft diet. There was no clear history of previous trauma. The patient's general dental practitioner had attempted to decompress the swelling under inhalation sedation without local anaesthesia, without success. The oral examination revealed a sessile, 15×20mm lesion of firm consistency arising from the right ventral surface of the tongue, with a slight blue colouration. Based on the history and clinical examination, a provisional diagnosis of mucocele was made. An excisional biopsy was performed under general anaesthesia and sent for histopathological examination. This report suggested the lesion was in keeping with a mucocele. **FOLLOW UP:** The patient was reviewed at regular intervals for one year without any sign of recurrence. **CONCLUSIONS:** As Blandin-Nuhn mucoceles are uncommon and their clinical appearance could be similar to other lesions, it is important that healthcare professionals are aware of their clinical and histopathological features to ensure correct management.

P39

Bilateral Dentigerous Cysts of the Mandible in a Non-Syndromic Child With Subsequent Successful Orthodontic Alignment

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INTRODUCTION: Bilateral dentigerous cysts of the mandible are extremely rare in non-syndromic patients with 30 cases reported in the literature of which only 9 presentations occurred in 16-year-olds and only 1 involved successful orthodontic alignment of the affected teeth. **CASE REPORT(S):** A 12-year-old boy was referred to the paediatric dental department at the Edinburgh Dental Institute regarding partially erupted mandibular first permanent molars with suppuration and periodontal pocketing of 12mm. Radiographic examination revealed bilateral unilocular radiolucencies of the mandible associated with the partially erupted first and unerupted second permanent molars. The treatment to date includes oral hygiene advice, bilateral incisive biopsies and marsupialisation of the lesions under general anaesthetic, expose and bond procedures of the impacted mandibular second permanent molars and maxillary and mandibular fixed appliances. Both the first and second lower permanent molars have been successfully aligned within the arch. Histological analysis has confirmed the diagnosis of bilateral dentigerous cysts of the mandible although provisional diagnosis included bilateral keratocysts of the mandible. **FOLLOW UP:** Follow-Up: This patient has had both clinical and radiographic follow-up in the paediatric dental, oral surgery and orthodontic departments over a 4-year period. **CONCLUSIONS:** This is a highly unusual presentation of bilateral mandibular dentigerous cysts in a non-syndromic child. Successful multidisciplinary care between the paediatric, oral surgery and orthodontic departments yielded an extremely favourable outcome for this challenging case. Paediatric dentists should be aware of this unusual presentation, the subsequent appropriate referral pathway and the promising feasibility of successful orthodontic alignment of the affected teeth.

P40

An unusual case of facial asymmetry secondary to an extensive odontogenic keratocyst during the Covid-19 pandemic

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INTRODUCTION: Odontogenic keratocysts are uncommon in children. They are developmental cysts that have previously been classified as tumours due to their locally aggressive nature and high recurrence rates. Whilst their classification remains a subject of debate, optimal patient outcomes rely on accurate

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diagnosis and prompt management. **CASE REPORT(S):** An 11-year-old girl attended the Child Dental Health Department following remote triage during the Covid-19 pandemic regarding an uneven smile. Her mother reported that her nose had started moving to one side when smiling. Extra-oral examination revealed slight deviation of tip of nose to the left without any paraesthesia or nasal obstruction. Intra-oral examination revealed a near permanent dentition with a large swelling adjacent to retained UR3. Radiographic examination confirmed a unilocular radiolucent lesion extending from the lateral nasal wall to floor of maxillary sinus and ectopic UR3. Differential diagnoses included a dentigerous cyst, odontogenic keratocyst and ameloblastoma. Following a cone-beam CT scan, the cyst was enucleated and UR3 was removed under general anaesthetic by an oral surgeon. Histopathological analysis confirmed definitive diagnosis of odontogenic keratocyst right maxilla. **FOLLOW UP:** Initial follow-up at 1, 3 and 6 months confirmed soft tissue and bony healing without any evidence of recurrence. The patient remains under long-term follow-up and future management will include orthodontic assessment and replacement of missing UR3. **CONCLUSIONS:** This case highlights the importance of prompt diagnosis and patient prioritisation. The patient's asymptomatic state may have been incorrectly dismissed during remote triage and we therefore recommend additional vigilance during remote patient consultations.

P41 An Unusual Presentation of an Odontogenic Keratocyst Presenting as Cardiac Palpitations in a Paediatric Patient

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INTRODUCTION: Odontogenic keratocysts are uncommon, particularly in paediatric patients. Presentation is varied but can involve pain, swelling, paraesthesia and dental displacement. Cardiac manifestations are not normally reported in the absence of associated syndromes. This report describes an unusual case of an odontogenic keratocyst, presenting as cardiac palpitations stimulated by the trigemino-vagal reflex. **CASE REPORT(S):** A 15-year-old male was referred to the paediatric dental department with a history of pain, swelling, epistaxis and cardiac palpitations. Extraoral examination was unremarkable. Intra-orally, a swelling extended palatal of the unerupted 17. Further investigations included review of a recent Electrocardiogram and orthopantomogram. A cone beam computed tomography was then taken which revealed a corticated soft tissue mass in the right maxillary sinus extending from the dentoalveolar tissues to the nasal cavity, ethmoid sinuses, infratemporal fossa and pterygopalatine space. Treatment included enucleation and biopsy under

general anaesthetic, resulting in a diagnosis of right maxillary odontogenic keratocyst. Follow up at 1 month showed complete resolution of symptoms. **FOLLOW UP:** Clinical and radiographic annual review is recommended for a period of 5 years. **CONCLUSIONS:** This report documents an unusual presentation of a large odontogenic keratocyst in a paediatric patient extending within the right maxilla. Initial symptoms included cardiac palpitations, explained by trigemino-vagal reflex initiating a parasympathetic response. Awareness of this phenomenon is important when considering similar lesions and should be explored by taking a detailed patient history.

P42 Excision of lower lip mucocele using injection of hydrocolloid dental impression material in a paediatric patient

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INTRODUCTION: Oral mucocele is a benign cystic exophytic lesion in pediatric patients (3% under 14 years). It is characterized by extravasation or retention of fluid or mucus in the submucosal tissue of the minor salivary glands. Clinically it presents as a single or multiple, asymptomatic, pink or bluish nodule, with a soft consistency and fluctuating on palpation. It is mainly localized in the lower lip (80% of the total). Etiologically, mucocele is secondary to traumatic or obstructive disorders of the mainly minor salivary glands. Histologically it is classified in the extravasation and retention variant. **CASE REPORT(S):** The combined clinical approach between the combination of the Shira technique and surgical excision of the cystic lesion results in a conservative surgical removal of the lesion. The initial phase of Shira is to inject a hydrocolloid impression material (alginate) into the lumen of the lesion prior to the surgical incision to access the site. The alginate, by hardening, prevents the collapse of the cystic wall during the incision, allowing the total removal of the intramucosal lesion, preventing future relapses of the primary lesion caused by the permanence in the surgical site of epithelial fragments of the lining wall. **FOLLOW UP:** At 12 and 24 month follow-up the patient shows complete healing of the surgical site, showing a pinkish lip lining mucosa without scarring or recurrence of the primary lesion. **CONCLUSIONS:** The combined therapeutic approach between the Shira technique and surgical excision allows safe and predictable excision of the lesion, minimizing the risk of recurrence.



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P43

Orthodontic treatment of Class III malocclusion with modified Frankel-III functional regulator: a case report**Hocevar M.*, Ovsenik M., Ovsenik R.**

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INTRODUCTION: Although Class III malocclusion is very well studied it still remains one of the most difficult to treat. Furthermore, if left untreated, Class III malocclusion may worsen and ultimately requires orthognathic surgery in adults. The aim of this case report is to present a functional treatment method for Class III malocclusion in the primary dentition period with the modified Frankel-III functional regulator.

CASE REPORT(S): A 5-year-old girl was referred to the Orthodontics Department of University Medical Centre Ljubljana because of Angle Class III malocclusion. Facial evaluation revealed a concave profile, facial asymmetry and longer lower third of the face. Intraoral examination revealed Angle Class III malocclusion and a reverse overjet of -0,5 mm and 0 mm overbite. The assessment of the orofacial functions revealed open mouth posture, mouth breathing and improper tongue position on the mouth floor. The aim of treatment was to correct orofacial functions in order to achieve normal orofacial growth and to correct Class III malocclusion. Myofunctional exercises for establishing correct orofacial functions were followed by the Frankel-III functional regulator. With this early treatment the orofacial functions normalized and the patient developed healthy dentition with Class I occlusion. **FOLLOW UP:** At 2-years follow-up a more favorable occlusion and an improved facial profile demonstrated the effectiveness of the treatment undertaken. **CONCLUSIONS:** It is recommended that irregular orofacial functions in Class III malocclusion are treated as early as possible. If left untreated, they may have deleterious effects on the future development of jaws and dentition and may also lead to a relapse.

P44

Management of ectopically erupting first permanent molars**Kotsanti M.*, Gatzogianni M., Agouropoulos A., Gizani S.**

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INTRODUCTION: Ectopic eruption of the first permanent molar commonly occurs in the developing dentition and a range of treatment options are available depending on the severity of the problem. The management of four different cases of ectopic eruption of first permanent molars is presented and discussed. **CASE REPORT(S):** 1. A 6-year-old girl presented with Grade 2 ectopic eruption of #16, #26 which were treated

with elastic separators to distalize the molars 2. A 9-year-old girl presented with Grade 3 ectopic eruption of #16. Active distal tipping of the permanent molar was achieved using a Halterman appliance, followed by space maintenance. 3. An 8-year-old girl presented with advanced root and crown resorption of #55, Grade 4 ectopic eruption of #16 and Grade 3 of #26. The treatment included extraction of #55, correction of tipping of #26 with brass wire, space regaining and maintenance of the tooth position. 4. A 9-year-old boy presented because #16 had not erupted yet. Intraoral and radiographic examination revealed Grade 4 ectopic eruption. Treatment included extraction of #55, monitoring of eruption of #16 and use of a modified Nance fixed appliance for space regaining and maintenance. **FOLLOW UP:** The first two cases were followed for 9 months and the third and fourth for 2 years because they were more complex. These cases required more appointments to correct the problem. **CONCLUSIONS:** Treatment of ectopic eruption of first permanent molars depends on the early detection and the severity of the problem, with more severe cases needing more complex and lengthy interventions.

P45

Hereditary Gingival Fibromatosis: an orthodontic conundrum?**Dhadwal A.*, Higgins S., Kotecha S., Casaus A.**

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INTRODUCTION: Hereditary Gingival Fibromatosis (HGF) is a rare, slowly progressive condition characterised by gingival overgrowth. It results in compromised aesthetics, function and can affect tooth eruption making treatment planning complex. This poster aims to raise awareness of the importance of a multidisciplinary approach in obtaining successful outcomes. **CASE REPORT(S):** A 12-year-old female, referred by her dentist for gingival overgrowth, was concerned about crowding, the extent of overgrowth and willing to undergo orthodontic treatment. Medical history revealed sickle cell trait but otherwise fit and well. Clinical examination included marked physiological pigmentation, generalised gingival overgrowth and suboptimal oral hygiene. Orthodontic assessment revealed a Class II, division 1 malocclusion and skeletal II base complicated by moderate upper and lower arch crowding, an anterior open bite, multiple impacted teeth, retained deciduous teeth and macrodontia. After excluding other causes of gingival enlargement, HGF was provisionally diagnosed. Following multidisciplinary assessment, treatment included oral hygiene instruction, incisional biopsies, removal and exposure of multiple teeth, full mouth gingival debulking and upper and lower fixed appliances and retention. **FOLLOW**

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UP: Ongoing review during treatment permitted continued monitoring of periodontal health and its impact on orthodontic treatment delivery. Slow space closure could be attributed to fibrous enlargement re-establishing, which may have been exacerbated by local irritation of fixed appliances. Regular post-orthodontics review will be required with potential future surgical input. **CONCLUSIONS:** Treatment planning for this case was challenging and highlights the importance of early diagnosis and management of HGF in facilitating subsequent orthodontic treatment. It recognises the importance of a multidisciplinary and holistic approach to treatment delivery.

P46

Anterior cross bite correction with composite slopes: Report of representative cases

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INTRODUCTION: Anterior crossbite is a type of malocclusion where one or more maxillary teeth occlude lingually of the mandibular ones. This misalignment can lead to a host of problems if left untreated. In the following report we will present three cases of successful correction of anterior crossbite with the alternative method of composite slopes. **CASE REPORT(S):** Three children between 8 and 10-year-olds visited the paediatric dental clinic for dental assessment. Intraoral examination revealed an incisor in crossbite. After discussing all the possible treatment methods with the parents, it was decided that the optimal and less invasive treatment was the use of a composite slope. After careful isolation, the labial surface of the occluding incisors were etched, rinsed and dried. Adhesive system was applied and light cured. Composite resin built up to the labial surface of the incisor to create a slope of 3–4 mm in thickness at a 45° angle to the longitudinal axis of the tooth. **FOLLOW UP:** First follow up was done one week later. After two weeks in treatment a second follow up was done to check slope stability. Approximate treatment time was 6–8 months with monthly follow ups to assess the progress. All cases were treated satisfactorily without any complications **CONCLUSIONS:** A bonded-resin composite slope is a simple, quick and effective method for treating anterior dental crossbites in children. Early treatment is important since it can prevent future skeletal problems.

P47

Impact of cancelled General Anaesthetic dental extraction appointments on children due to the Covid-19 pandemic

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AIM: The COVID-19 pandemic resulted in the cancellation of many hospital appointments, including General Anaesthetic dental extractions (GAX) for children. GAX services were already facing competing pressures from other services for limited theatre space and the pandemic has exacerbated the situation. The services have restarted but at much reduced capacity. We aimed to identify the impact of, and possible mitigations for, cancelled child GAX appointments in the South East of England. **METHODS:** Data was collected from local service providers on numbers of children who had their appointments cancelled. Staff from service providers contributed views on the likely impact of these cancellations; and a literature review was undertaken to identify the characteristics of children most likely to be affected. **RESULTS:** 1,456 children had their appointments cancelled between 20th March and 30th June 2020. The key themes identified from providers included the negative impact of lengthening waiting lists on children, challenge of swab testing and self-isolation on children and the need to re-orientate NHS dental services with a priority on prevention. There is robust evidence of the disproportionate impact of dental caries on children from more deprived and some minority ethnic backgrounds, which implies that these are the children most likely to be affected by reduced access to GAX services. **CONCLUSIONS:** COVID-19 seems to have exacerbated existing health inequalities within our communities. Different parts of the health system must work together to ensure that all children have access to services to treat and improve oral health, as part of their overall health.

P48

Improving Children's Oral Health in Haematology Patients

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AIM: To improve the oral health knowledge of the paediatric haemophilia nursing team. Objectives:1. Assess the oral health knowledge of the nursing team in line with international and national guidance: Delivering Better Oral Health Toolkit (Department of Health) and the World Federation of Haemophilia Guidelines 2. Evaluate the effectiveness of oral health advice teaching. **METHODS:** A baseline analysis of the oral health knowledge of the paediatric haemophilia nursing team was conducted using an online platform. A teaching webinar was delivered and their oral health knowledge was then reassessed using the original platform. A virtual feedback form



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was completed to evaluate the effectiveness of the teaching. **RESULTS:** The baseline assessment identified deficiencies in oral health knowledge with regard to the appropriate use of fluoride toothpaste, mouthwash and shortcomings in how often oral health advice is delivered. The post-teaching feedback identified improvements in the oral health knowledge and increased levels of confidence in delivering dental advice. **CONCLUSIONS:** The Paediatric Haemophilia Team plays an integral role in oral health prevention. This may be optimized through regular update seminars and the use of oral health resources. Following suggestions obtained from the feedback an information leaflet was designed for paediatric haemophilia patients on oral hygiene and prevention. A further teaching seminar shall be delivered to the haemophilia team covering the topic of dental treatments and haemophilia.

P49 Improving the quality of paediatric and adult medical emergency aide-memoires at a UK dental hospital

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AIM: Medical emergencies occur frequently in the dental setting. A dental hospital-based study assessing dentist's confidence in managing paediatric dental emergencies showed only 34% of clinicians could correctly identify emergency drug doses (1). Current medical emergency aide-memoires were reviewed, and it was noted that information available was limited. This project aims to improve the quality of medical emergency aide-memoires and improve staff confidence. **METHODS:** A site survey was carried out to assess the presence of existing medical emergency materials. A series of flashcards were designed with each colour-coded flashcard relating to a particular medical emergency. Separate sets of flashcards were developed for use in either paediatric or adult medical emergencies. The cards provide a step-by-step approach to identifying and managing each emergency including drugs and doses, with weighted breakdowns for paediatric patients. A detailed questionnaire was produced including questions related to quantitative and qualitative information to facilitate a breadth of answers from participants regarding their awareness of existing prompts and preferences in relation to the introduction of a new flash card approach. **RESULTS:** 50 responses were gathered across departments and staff grades. 95% favoured the new flashcard approach and felt they would be more helpful in managing a medical emergency. Feedback collected was used to improve the flashcards. **CONCLUSIONS:** The flashcards have been placed on all medical emergency trolleys within the dental hospital and in the ExCel vaccination centre in London due to their benefit in this large patient-facing centre. The cards will be incorporated into future medical emergency training within our hospital.

P50 Parental Acceptance: A barrier to SD₁ treatment

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P51 Health-related quality of life of childhood cancer survivors: a pilot study.

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AIM: The aim of this pilot study was to assess health-related quality of life of childhood cancer survivors, using structured questionnaires. Further objective was to assess specific disease and treatment characteristics that may influence specific domains of survivors' well-being. **METHODS:** Thirty childhood cancer survivors aged 8-15 years of age, were included in the study. The sample derived from the patients of the Post-graduate Paediatric Dental Clinic, NKUA. Disease and treatment details were collected from the patients' medical records. Participants and their legal guardians were asked to complete the cancer core scale of the PedsQL. The overall score was obtained for survivors and their parents, while the separate scores of each domain were calculated. Assessment of the effect of disease and treatment characteristics on HRQoL was performed using paired sample t-test. **RESULTS:** Survivors' mean HRQoL score was 82.29 with mean scores in the different domains ranging from 69.5 to 90.9. The worst scores were obtained for physical and psychosocial domains. Corresponding mean values for parents' proxy-report was 71.94 ranging between 66.9 and 71.9. Parents tended to rate HRQoL of their children worse in a statistically significant way. The main variables affecting HRQoL were female gender, combination treatment modalities and shorter post-treatment periods. **CONCLUSIONS:** There is a high tendency for survivors to be affected by the disease and its treatment to some extent but do well overall. Therefore, research should focus on improving patients' well-being by focusing on the domains mainly affected.

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Dental Age estimation in childhood cancer survivors.

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AIM: The aim of this case-control study was to estimate dental age (DA) in a population of childhood cancer survivors with three different methods and compare it with the estimates from healthy subjects. **METHODS:** Seventy-three oncology patients that have undergone antineoplastic treatment before the age of 10 years and 73 healthy subjects matched by age and gender were selected from the Pediatric Dentistry Department (NKUA). Dental age was estimated by two separate well-calibrated and blinded examiners using different methods (Demirjian's, Willem's, The London Atlas). Comparison between chronological age (CA) and DA and calculation of significant differences were established using standard Factorial ANOVA paradigm. Intra- and inter-examiner reliability was assessed using ICC and Concordance Coefficient respectively. **RESULTS:** Intra- and inter-examiner reliability was excellent, exceeding 0.9 for all methods. Since all DA estimates were in almost total agreement between the two assessors an average DA estimate for each method was used. Mean CA was 11 years, with minimum age being 5.5 years and maximum 15.8 years. Mean DA ranged between 11.1 and 11.5 years, with Willem's method showing the smallest deviations. There was no statistically significant differences in the estimated DA by all three methods and between the two groups, i.e. control and survivors. The marginally higher values calculated in females, were not considered significant. **CONCLUSIONS:** Despite alterations in root growth of childhood cancer survivors, reported in the literature, estimated dental age did not differ significantly from chronological age.

P53

Paediatric Dental Training: How Confident are Dental Students?

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AIM: To investigate final year dental students' knowledge upon graduation towards their paediatric dentistry training and their confidence in working with paediatric patients. **METHODS:** A 55-item online questionnaire was distributed to the final year BDS (Hons) students at The University of Queensland. The questionnaire consisted of five parts (1) demographic information; (2) theoretical knowledge; (3) paediatric observational experience; (4) preclinical and (5) clinical

knowledge and skills related to paediatric dentistry. The jamovi (Version 1.6.3) and GraphPad Prism were used for data analysis and creation of graphs. **RESULTS:** A total of 47 students (77% response rate) completed the questionnaire. Thirty-three (70%) participants reported that they had paediatric dentistry observational experience. The most observed procedures were fissure sealants (75.8%), restorations (72.7%), behaviour management techniques (66.7%) and extractions (60.6%). Strip crowns (12.1%) and pulp therapy (12.1%) were the least observed. Almost 70% reported that observations helped them feel more confident treating paediatric patients. Students reported the least confidence in pulp therapy procedures and the most confidence in behaviour management and local anaesthesia administration techniques. Greater confidence was reported from preclinical training than from theoretical classes and clinical training sessions in all categories except for pulp therapy. **CONCLUSIONS:** The study showed that final year dental students reported developing greater confidence in undertaking paediatric dentistry procedures following observational and preclinical training sessions when compared to theoretical classes and clinical training sessions.

P54

Dental status of Greek children with caries treated under General Anaesthesia. Presentation of two cases

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AIM: The aim of the present study is to report data on the long term dental condition and oral hygiene of healthy young uncooperative (HC) and special need children (SNP), at least 3 years after their dental rehabilitation under General Anaesthesia (GA). **METHODS:** The study sample consisted of 69 patients (25 HC, 44 SNP) of the Postgraduate clinic of Paediatric Dentistry, NKUA, which were treated under GA. Data about dental attendance were collected via questionnaire. Oral hygiene was registered using the Oral Hygiene Index (OHI) (Lindhe 1982) while caries were recorded using ICDAS II. The score DMFS/dmfs was calculated for every person. **RESULTS:** The mean value of OHI was 32.93% and the picture was similar for both groups. The mean DMFS score of HC was 6.38 (SD: 4.80) and SNP 12.95 (SD: 12.98) with SNP having significantly more filled teeth surfaces than HC (mean: 6.18, SD:6.17 vs mean: 1.54, SD:3.27, $p=0.004$). The DMFS score was statistically significant higher in children which received GA longer than 5 years ago. Regarding primary teeth, HC had higher dmfs (mean: 34.75) when compared with SNP (mean: 22.1). Two children (1 SNP, 1 HC) treated under GA (6 and 4 years ago) are presented. Their dental attendance during time elapsed between GA and our examination as well



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as OHI and DMFS are discussed. **CONCLUSIONS:** Oral hygiene and high caries risk remain a challenge for both groups in permanent and primary dentition. The need for long term personalized follow-ups must be stressed.

P55

Knowledge and attitudes of dental students toward obesity in Lebanon: a pilot study

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AIM: The aim of this pilot study is to assess the knowledge and attitude of dental students at Saint Joseph University of Beirut Lebanon-Faculty of dentistry toward obesity and oral health.

METHODS: In order to clarify this issue, we have conducted a 14-question survey (13 closed and one open question) with 50 fourth and fifth year dental students at St Joseph University, to assess their knowledge related to the subject. The questionnaires were corrected and the answers were classified in 3 categories (0-2 incorrect answers, 3-5 incorrect answers, 6 and plus incorrect answers). **RESULTS:** 32% (16 students) had 0-2 incorrect answers, 60 % (30 students) had 3-5 incorrect answers, and 28% (14 students) had 6 or more incorrect answers. The rate of incorrect answers in the sample is relatively high especially that the sample is collected from the 4th and 5th year of their curriculum. **CONCLUSIONS:** Additional courses in the dental curriculum on obesity and its oral implications are to be included in the dental training program.

P56

The relationship of parental oral health literacy with child's oral health.

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AIM: To investigate the relationship of parental oral health literacy with child's oral health. **METHODS:** One hundred seventy-seven mothers with adequate knowledge of the Greek language, were recruited from two private dental offices in Athens, Greece. All data were collected by a structured questionnaire via in-person interviews, which included items regarding socio-demographic characteristics, health status and behaviors, dental knowledge (DK) and oral health literacy (OHL). Additional parental reports were collected regarding children's oral health and oral health-related quality of life (Gr-ECOHIS). Objective measures of children's oral health (e.g., oral hygiene, caries experience, restorative treatment

needs) were collected via clinical examinations. Analyses relied on bivariate correlations and statistical tests (Student's t test, ANOVA, linear regression, Spearman rank correlation).

RESULTS: Participating mothers had a mean age of 38 yrs. Half of the children were caries free, and most of them had poor oral hygiene (73% had visible plaque on anterior teeth). OHL was positively associated with DK ($p=0.00005$) and educational level ($p=0.0004$). Lower OHL was associated with more than daily juice consumption (daily: OHL score=7.2 vs daily=11.5 and daily=11.2, $p=0.02$). OHL was also positively associated with reported child oral health, but no important associations were found with clinical measures of oral health and quality of life. **CONCLUSIONS:** The examination of the relationship of parental OHL and child's oral health, revealed several parameters that have significant influence, while where no associations were found, further testing is required.

P57

Digital Interventions in improving knowledge in children's oral health for non-dental healthcare professionals: Pilot Study

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AIM: To develop and evaluate a digital eLearning package, to improve oral health knowledge of non-dental healthcare professionals. **METHODS:** A convenience sample of non-dental healthcare professionals was piloted in Greater Manchester UK. Ethical approval was obtained from the University of Manchester. An eLearning framework was designed including key messages from Delivering Better Oral Health. A short animation was designed using behavioural change theory to promote viewers to download the Brush DJ app and promote effective oral hygiene behaviours. Pre- and post-questionnaires were completed to explore barriers to oral health, knowledge gain and feedback for eLearning development. **RESULTS :** 76 participants completed the pilot study. Only 43% of participants felt confident prior to training when discussing oral health with families, with reported barriers such as language, culture, time constraints of appointments and perceived value of baby teeth. 52% of participants were unsure of where to refer if a child had an obvious dental problem. In the pre course evaluation 82.9% key oral health questions were answered correctly. Following the e-learning this was recorded at 98%. 94% of participants felt more confident in providing oral health advice following training. Participants were positive about socially prescribing the animation and free Brush DJ app to support positive behavioural changes in oral health. **CONCLUSIONS:** E-learning is a simple tool to support oral health dissemination for non-dental healthcare professionals. Social prescribing can provide staff with additional tools to support positive behavioural changes and increase opportunities to influence the oral health of children, thus making every contact count.

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P58

Are video and story board resources useful in improving children's general anaesthetic experiences

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AIM: To evaluate effectiveness of current preparatory material available for paediatric dental treatment under general anaesthetic. **METHODS:** A preliminary questionnaire evaluating the preparation for GA treatment was given to parents of children undergoing a dental GA. Findings were used to inform the development and implementation of appropriate resources. A secondary questionnaire was conducted via an online survey tool to gain feedback on the new resources. **RESULTS:** Preliminary: Several parents reported seeking additional information from the internet with 24% reporting they felt they could have been better equipped to prepare their child. 88% thought a video resource would be useful to help their child prepare and 47% thought a story resource would be useful. A video and social story resource were created to address the gap in preparatory material available. Secondary: The video was watched by 50% of respondents with 94% of those who did reporting that they found it useful. In addition, 15% found the story resource helpful. Feedback was largely positive regarding the resources. The video was utilised more than the story and is likely to appeal to a wider audience. The feedback suggests the story is of particular benefit to children with autism. Facilitating a positive experience will hopefully improve patient attitudes to future treatment. **CONCLUSIONS:** The video and social stories have been found to be effective tools in facilitating a positive patient experience.

P59

"To Splint or not to splint? An Ethical dilemma for paediatric dentists"

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P60

Dentists' perception and attitude regarding clinical management of patients with special oral care needs

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AIM: To assess dentists' perception and attitudes towards providing dental treatment to patients with special oral care needs (SOCN). **METHODS:** 102 dentists from Romania, Turkey and Italy completed a questionnaire on their training,

previous experience in SOC and self-perceived need for further training in the field. Data was processed using Microsoft Excel Software. **RESULTS:** 54.9% of the subjects were in their first 5 years of practice, 28.4% had over 10 years professional experience; 30.4% had completed postgraduate studies in various specialties. The majority (82.2%) had already seen SOCN patients in their office (95.8% of the Turkish vs 75.4% of the Romanians, $p=0.035$). Residents in pediatric dentistry ($n=44$) were more exposed to working with SOCN patients than other dentists (88.6% vs 77.6%, $p=0.05$). Almost half (45%) of the subjects had ever referred/refused to treat SOCN patients for various reasons. Regarding clinical approach, 58.8% felt confident treating SOCN patients with non-pharmacological methods (Italians more confident than Turkish and Romanian dentists, $p=0.019$), while 67.7% were confident/very confident in using pharmacological means, yet 47.5% would refer all patients needing sedation and 69.7% would not work under GA. One fifth (20.6%) reported they had never got any training in treating patients with SOC. Most of the dentists (93.9%) were open to working with SOCN people and 96.1% were interested in improving their practical skills and knowledge in the field. **CONCLUSIONS:** Need is felt among dentists from different countries for practical information on special oral care. Structured, easily accessible information could help improve access of patients with special needs to oral care. (Erasmus+ Project 2019-1-RO01-KA202-063820)

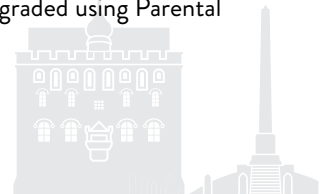
P61

Oral midazolam versus rectal diazepam as premedication for intravenous sedation in uncooperative pediatric dental patients

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AIM: The aim of the present study was to compare the effects of oral midazolam and rectal diazepam as premedication agents in uncooperative children who underwent dental procedures under intravenous sedation with Propofol. Effects of premedication were assessed with regard to level of sedation obtained and response to parental separation. **METHODS:** 104 children (64 males and 40 females; 44 five-eight years old and 60 nine-twelve years old) were recruited and divided in two groups (A and B). Group A received 15 mg of oral midazolam as premedication and Group B received 10 mg of rectal diazepam as premedication, 40 min before intravenous sedation with Propofol to receive dental treatments. The level of sedation was assessed 30 min after premedication using the Ramsay Sedation Scale (RSS). Children were separated from the parents 40 min after premedication and the behaviour of the child during separation was assessed and graded using Parental



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Separation Anxiety Scale (PSAS). Categorical variables were compared using a chi-square test or Fisher's exact test. Statistical analyses were carried out using SPSS software. **RESULTS:** Within each group there were no statistically significant differences between males and females and between 5-8 and 9-12 years old children, respectively, in relation to both RSS scores and PSAS scores. Furthermore, there were no statistically significant differences between Group A and Group B A in relation to both RSS scores ($p=0.1$) and PSAS scores ($p=0.09$). **CONCLUSIONS:** Oral midazolam and rectal diazepam were both effective as premedication agents; their effectiveness was comparable.

P62

A new questionnaire to evaluate the impact of oral disease on the quality of life in children with autistic spectrum disorders

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AIM: The aim of the present study was to develop a questionnaire for the assessment of oral health related quality of life in children with autistic spectrum disorders (ASD). **METHODS:** On the basis of the questionnaires used to evaluate oral health related quality of life in normotypical children (Children Oral Health related Quality of Life, COHQoL and Early Childhood Oral Health Impact Scale, ECOHIS), a novel questionnaire specific for ASD children was developed. 131 children with ASD aged 4 to 17 were divided into a test group, referred because of oral diseases, and a healthy control group. Both groups underwent a dental visit. Then parents filled in the novel questionnaire. Statistical analyses were carried out using SPSS software. **RESULTS:** Clinical examination revealed a statistically significant difference between the two groups regarding Decayed Missing and Filled Teeth Index, both in permanent teeth (DMFT) and in primary teeth (dmft), with a p-value of 0.015 and 0.00, respectively. Statistically significant differences were also detected for Visible Plaque Index (VPI) and Gingival Bleeding Index (GBI), with p-values of 0.0036 and 0.0015, respectively. Furthermore, the analysis of the questionnaires demonstrated a statistically significant difference ($p=0.00$) between test and control groups. **CONCLUSIONS:** It emerged that ASD children suffering from oral health diseases have a worse quality of life with regards to autistic children without oral diseases. The new questionnaire was able to estimate oral health related quality of life in ASD children.

P63

A simple way to restore fractured anterior teeth in disabled patients: digital workflow and composite injection technique

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INTRODUCTION: Patients with developmental disabilities and mental retardation are more likely to have a malocclusion such as an open bite, which increases the risk of traumatic incisor injury. Reconstructing the incisal edge, with or without an angle, of fractured permanent teeth might be challenging in these young patients with behavioral disorders. **CASE REPORT(S):** These two case reports describe the reconstruction of permanent incisors using a digital workflow and composite injection technique. A digital impression of the maxilla was taken from canine to canine. The open bites make digital impressions easy to manage. A virtual wax-up was created using open-source CAD software, and printed. A transparent vinyl polysiloxane mold of the model was used to reconstruct the injured incisor directly in the mouth by injecting a flowable dentin shade composite through it. The first patient, aged 8 years, had an enamel-dentin fracture of the angle of 11 and reconstruction was performed under sedative premedication. The second patient, 11 years old, with a severe autistic spectrum disorder, was treated under general anesthesia because he needed endodontic treatment following a coronary fracture involving the pulp. **FOLLOW UP:** The use of composite allows the reconstruction to be adapted to the later eruption of immature teeth. The durability of the bonded interface is improved by covering the vestibular and palatal sides. Prosthetic rehabilitation can thus be postponed. **CONCLUSIONS:** This predictive and easy-to-use technique is fully indicated to help young impaired patients to preserve their smile.

P64

The use of lateral oblique radiographs in diagnosing pathology in a special needs paediatric patient: A Case Report

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INTRODUCTION: This case report highlights the challenges in diagnosing dental pathology in children with autism and severe learning disabilities. Parents of non-verbal children often struggle to interpret their pain and in turn, pursuing medical treatment is a challenge. Lateral oblique radiographs

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have proved to be a valuable diagnostic tool in treating an uncooperative child. **CASE REPORT(S):** A 6-year-old non-verbal child with autism and a severe learning disability with self-injurious behaviour and violent tendencies presented to our clinic. A limited clinical examination showed no obvious pathology causing his pain. Initially he was managed for oral hypersensitivity relating to eruption of the first molars. His General Medical Practitioner was also treating him for an ear infection. Due to his progressively challenging behaviour assumed to be attributed to his dental pain, NSAID analgesia given by his mother over some weeks led to a stomach ulcer. After a period of quiescence, the patient returned to our clinic with similar behavioural changes as before. Lateral oblique radiographs identified bilateral resorption of the upper second deciduous molars consequential to impacted upper first molars. **FOLLOW UP:** The affected deciduous molars were removed under general anaesthesia. The patient was reviewed in clinic at regular intervals following treatment and finally one year later, with complete resolution of self-harmful behaviour. **CONCLUSIONS:** Lateral oblique radiographs provided enough information to justify a general anaesthetic procedure and proved to be a useful diagnostic tool to improve this patient's clinical outcome. The need for clear recommendations on the use of analgesia for parents was also highlighted in this case.

P65

Interdisciplinary treatment of young patients with oligodontia due to ectodermal dysplasia

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INTRODUCTION: Oligodontia is a common finding in patients with Ectodermal Dysplasia (ED), a rare genetic disorder. The functional and aesthetic problems of such patients, as well as dentofacial growth considerations, make treatment planning challenging. The aim of this report is to describe oral rehabilitation of three children with severe oligodontia due to ED. **CASE REPORT(S):** Three Caucasian boys, aged 3.5 years, who had been diagnosed with ED and with a positive family history were referred to the Postgraduate Paediatric Dental Clinic, NKUA. Patients exhibited common clinical characteristics including decreased facial height, microdontic and malformed teeth and oligodontia. Orthopantomograms revealed congenital absence of at least eight primary and fifteen permanent teeth in each case. Treatment involved restoration of malformed teeth with composite build-ups, to improve aesthetics and provide adequate anchorage for prostheses. Construction of removable dentures was considered the ideal treatment option given the very young

age of the patients, their growth pattern and the high number of permanent teeth missing. This cost-efficient treatment modality aimed at replacing missing teeth, restoring occlusal vertical dimension and alleviating eating difficulties. **FOLLOW UP:** Follow-up at 18 months showed that patients had fully adapted to the special considerations and demands of wearing removable prostheses at a very young age. **CONCLUSIONS:** Although there is evidence for the use of implants in children with oligodontia, their placement should be carefully designed. More conservative modalities should not be dismissed, as they can be safe and effective options for improving patients' quality of life.

P66

Snoring and parafunction in Rett syndrome

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AIM: To explore the patterns of parafunction and bruxism, and their relationship with mutation type and snoring history in individuals with Rett syndrome (RTT). **METHODS:** Using retrospective observational data in the InterRett database provided by families of 216 individuals with confirmed MECP2 genetic mutations, the study investigated experiences of various parafunctional habits, including frequency of bruxism, and their relationships with the mutation type and snoring history using multivariable linear regression. **RESULTS:** The prevalence of any parafunctional habit was 98.2%, with mouthing reported in 50.5%. Bruxism was reported in 143 individuals (66.2%) and the patterns were mostly both diurnal and nocturnal (44.1%) and exclusively diurnal (42.7%). Individuals with p.Arg106Trp mutation were less likely to have bruxism reported than those with C-terminal deletion (aOR=0.15; 95% CI 0.02-0.98, p=0.05). The relative odds of having occasional or frequent bruxism compared to never was higher among those with frequent ("always") snoring than those with no snoring (aROR 3.0; 95% CI 1.1-8.4, p=0.04). Similarly, the relative odds of having nocturnal bruxism constantly, compared to none/occasionally, was higher among those "always" snoring (aROR 6.24; 95% CI 2.1-18.2, p=0.001) than those with no snoring. Compared to individuals with C-terminal deletion, those with p.Arg168* mutation were more likely to have frequent bruxism than none or occasional bruxism reported (aROR 3.4; 95% CI 1.1-10.7 p=0.04). **CONCLUSIONS:** The results suggested an association between nocturnal bruxism and frequent snoring in an international sample of individuals with RTT. There appeared to be genotypic association with bruxism in p.Arg168* and p.Arg106Trp mutations.



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P67

Dental management of a child with tuberous sclerosis**Alzubaidi M*, Balmer R, Drummond B**

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INTRODUCTION Tuberous Sclerosis is a rare genetic disorder resulting from TSC1 or TSC2 genes mutation inherited in an autosomal dominant pattern or as a de novo mutation. It causes development of benign tumours in different organs of the body that commonly affect the brain, eyes, heart, kidney, skin and lungs. It is characterised by variable clinical manifestations including epilepsy, learning disabilities, behavioural issues, kidney problems and breathing difficulties. It is also associated with orofacial features including facial angiofibromas, localised oral fibroma and enamel pits. **CASE REPORT(S)** A boy aged 7 years old was referred by his paediatrician to the Paediatric Dentistry Department at Leeds Dental Institute for a dental assessment. The medical history revealed Focal Epilepsy secondary to Tuberous Sclerosis. Clinical and radiographic examinations showed facial angiofibromas, localised oral fibroma (3x3 mm) on the maxillary anterior gingiva and dental caries affecting URD and LLD with fair oral hygiene. He was co-operative and successfully received prevention, treatment without local anaesthesia including SSCs using Hall technique on URD and LLD and review of oral fibroma. **FOLLOW UP** Over a follow-up period of 3 months good oral health has been maintained and oral fibroma has not changed. The long-term plan will be to review him every 3 months for oral fibroma assessment and prevention advice. **CONCLUSIONS** This case illustrates the typical orofacial features of Tuberous Sclerosis that can be overlooked due to the rarity of the condition. Also, it highlights the value of multi-disciplinary team in terms of diagnosis and management.

P68

The oral health status of children with osteogenesis imperfecta**Gatzogianni M.*, Agouropoulos A., Gizani S.**

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AIM: The aim of the study was to record the oral health status of children with osteogenesis imperfecta (OI). **METHODS:** 40 OI patients were examined on their periodontal health (Loe and Silness plaque and gingival index), dental caries experience (dmft/DMFT), dental anomalies and TMJ, molar and canine relationship, presence of crossbite and the need for orthodontic treatment. Panoramic radiographs were also evaluated. Parents completed a questionnaire about demographic data, dental history and oral hygiene routine and dietary habits. Descriptive

statistics and Spearman correlation coefficient rho were used to analyze the data ($P \leq 0.05$). **RESULTS:** The mean age of the children was 9.5 years, 23% had never been to the dentist before, 73% brushed once or twice per day and more than half of the children consumed few sugary snacks per week mainly between meals. Most of the children had moderate oral hygiene and 50% presented with bleeding and calculus while 78% had caries in primary teeth (mean dmft= 3.19, SD=3.81) while 82% had caries in the permanent dentition (mean DMFT= 5.31, SD=4.9). One third of the children had posterior and 5% anterior crossbite, 28% class III malocclusion and 76% needed orthodontic treatment. In this group, 25% of the children had enamel dental defects and 10% had dentinogenesis imperfecta while radiographic defects were found in 45%, mainly taurodontism and cervical constriction. **CONCLUSIONS:** Results indicate that OI patients have numerous oral health problems and early dental examination and targeted oral health preventive programs are necessary to ensure good oral health for a better quality of life.

P69

Risks associated with orthodontic treatment of unerupted teeth with gold chain attachments: a case series**George I.*, Atack N., Day C.**

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INTRODUCTION: Orthodontic treatment (OT) for unerupted teeth (UET) usually involves exposing and bonding (E+B) UET with gold chains (GC). UET are not exposed to oral flora and dietary carbohydrates and usually erupt caries free. Three patients presented with unerupted maxillary central incisors for E+B and OT to the Bristol Dental Hospital (BDH). Upon eruption, patient P1 (M 11yr) and P2 (M 15yr) had hypoplasia/caries on UR1 tooth; P2's UR1 became infected and necrosed; P3 (M 10yr) had an E+B UL1 and once the tooth erupted required incisal caries restoration. **BACKGROUND-CASE REPORT(S):** P1 attended in 2017. UR1 was E+B in June 2019, in September 2020 UR1 erupted. A restoration is planned for the incisal caries. P2 first attended in 2014, E+B of UR1 occurred in November 2019, erupting in December 2019. Infection occurred in July 2020 and UR1 underwent RCT in January 2021. P3 presented in 2012 for GA E+B UL1 and discharged from BDH in 2014 following OT. **FOLLOW UP** P1 is awaiting treatment on UR1. P2 is nearing the end of OT. P3 was discharged in 2014. **CONCLUSIONS:** Oral hygiene (OH) is as important for UET as erupted teeth. OT means OH must be scrupulous to prevent caries and periodontal disease. Tracking of bacteria up GCs by 'capillary action', mucosa covering E+B teeth not being as tightly bound to UET and gravitational forces when patients are supine may cause bacterial ingress. The addition of GCs to UET may increase risks and patients should be informed during consent.

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P70

Maxillary Adenomatoid Odontogenic Tumour presenting in a child and curative treatment by enucleation

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INTRODUCTION: Adenomatoid odontogenic tumours are rare, benign, often slow growing lesions of epithelial origin. They are most commonly found in the anterior maxilla of young adults in their second decade and frequently associated with impacted canines. Their occurrence comprises 2-7% of all odontogenic tumours. **CASE REPORT(S):** A 16 year-old boy was referred to the Oral Surgery Department at The Edinburgh Dental Institute, by his orthodontist, after developing a swelling in his left maxilla. On examination, a 2cm bony swelling was palpable in buccal sulcus of teeth 23 and 24 and increased probing depths were associated with these teeth. 23 had a 6mm distal pocket and 24 a 12mm mesial pocket. All teeth responded to vitality testing. Radiographic imaging revealed a well-defined unilocular radiolucency extending from the apex of 23 to the distal aspect of the apex of 24 with buccal expansion. The root of 24 was displaced distally. Treatment involved biopsy and enucleation under local anaesthetic. Histopathology results revealed this lesion was an adenomatoid odontogenic tumour. **FOLLOW UP:** 8 month radiographic follow up revealed full bony healing of the lesion and clinically no signs of mucosal scarring following enucleation. Teeth 23 and 24 remained vital. The patient was discharged to his orthodontist to complete his orthodontic treatment. **CONCLUSIONS:** Adenomatoid odontogenic tumours are a rare finding but it is important for paediatric dentists to consider them as a differential diagnosis given the age group they commonly affect. This case highlights that importance of early recognition and appropriate referral to allow for optimal treatment and successful outcomes.



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