

CONFERENCE PROGRAM • FRIDAY 27 MAY 2022

All Friday sessions will be conducted in Hall 1 | Ground level | Darwin Convention Centre

7.00am Registration Desk opens

8.00am Arrival tea & coffee

7.15 - 8.15am **LifeHealthcare BREAKFAST SESSION** Meeting Rooms 1 & 2

From concept to commercialisations: Rethinking spine microsurgery with the bhs RoboticScope

Mr Michael Santek, CEO, bhs



8.30 - 8.40am **SSA 2022 CONFERENCE OPENING** Prof Matthew Scott-Young, A/Prof John Costi

8.40 - 10.00am FREE PAPER SESSION 1 | OUTCOMES

Chairs | **Prof Matthew Scott-Young, Dr John Street**

8.40am **1.1** Pre-operative anxiety predicts acute post-operative disability in a private, multidisciplinary spine surgery practice
Miss Clare Dal Bon

8.50am **1.2** Use of expandable cages in anterior column reconstruction - single centre outcomes analysis across multiple pathologies
Dr Tanushk Martyn

9.00am **1.3** HbA1c and BMI are modifiable risk factors for reducing wound complications in posterior thoracolumbar spinal fusion, but do not influence risk of pseudarthrosis
A/Prof Aaron Buckland

9.10am **1.4** Mean arterial blood pressure predicts residual motor function in the context of acute traumatic spinal cord injury
Prof Brian Freeman

9.20am **1.5** Lateral lumbar spine interbody fusion using expandable versus static interbody cages: A prospective cohort study of clinical and radiographic outcomes
Dr Cecilia Huo

9.30am **1.6** Predictive factors of sacral ulcers in adults with acute complete spinal cord injury
Ms Phumeena Balasubramaniam

9.40am **1.7** Outcomes of spinal surgery in patients with fibromyalgia: Results from the British Spine Registry
Dr Alvin Pun

9.50am **1.8** Multifidus stimulation in patients with refractory chronic low back pain and functional spine instability: Three-year pivotal trial results
Mr Yun-Hom Yau

10.00 - 10.30am MORNING TEA | EXHIBITION HALLS 2-4

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10.30 - 11.30am FREE PAPER SESSION 2 | LUMBAR SPINE, CERVICAL SPINE

 Chairs | *Dr James Crowley, A/Prof Kevin Seex*

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|---------|------------|---|
| 10.30am | 2.1 | Accuracy of cortical bone trajectory for pedicle screws comparing navigation versus 3D printed patient specific drill guides Prof Ralph Mobbs |
| 10.40am | 2.2 | Phase 1 evaluation of an elastomeric nucleus pulposus device as an option to augment disc at microdiscectomy: Experimental results from chemical, biomechanical, and biocompatibility testing and first-in-human
Dr Xiaolong Chen |
| 10.50am | 2.3 | A case series of tubular retractor assisted minimally invasive extra-foraminal L5/S1 microdiscectomy Dr Joyce Antony |
| 11.00am | 2.4 | Unconstrained cervical disc replacements: Is hypermobility a concern for the Mobi C prosthesis? A/Prof Aaron Buckland |
| 11.10am | 2.5 | Bone defects post Caspar pin distraction during anterior cervical surgery: A case series Mr Sihyong Jake Kim |
| 11.20am | 2.6 | Prone lateral lumbar interbody fusion: A comparison with lateral lumbar interbody fusion A/Prof Aaron Buckland |

11.30am - 11.40am SOCIETY SESSION

 Chair | *Dr Rob Kuru*

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| 11.30am | UPDATE ON THE AUSTRALIAN SPINE REGISTRY
Mr Michael Johnson |
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11.40 - 12.30pm PART A FREE PAPER SESSION 3 | SPINAL DEFORMITY, TUMOUR & TRAUMA

 Chairs | *Dr Peter Woodland, A/Prof Aaron Buckland*

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|---------|------------|---|
| 11.40am | 3.1 | Healing rates following rigid lumbo-sacral immobilisation in athletic adolescent pars bone stress injury A/Prof Paul Licina |
| 11.50am | 3.2 | Carbon instrumentation in surgical treatment of metastatic spinal cord compression Dr Soren Schmidt Morgen |
| 12.00pm | 3.3 | Global variations in management of A3 and A4 subaxial cervical subaxial cervical spine fractures as designated by the AO Spine subaxial injury classification system Dr Barry Kweh |
| 12.10pm | 3.4 | Does lengthening the bipolar spinal construct result in measurable radiographic change in spinal alignment in patients with neuromuscular scoliosis? Dr Kris Lundine |
| 12.20pm | 3.5 | The collateral effect of enhanced recovery after surgery protocols on spine patients with neuromuscular scoliosis A/Prof Martin Gehrchen |

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12.30 - 1.30pm LUNCH | EXHIBITION HALLS 2-4

1.30 - 3.00pm SYMPOSIUM 1

Chair | *Dr Davor Saravanja*

SPINAL REGISTRIES AND ADVERSE EVENTS:
HOW WELL DO WE MONITOR OUTCOMES?

1.30pm Adverse events reporting and analysis *Dr John Street*

1.55pm Spine Registry: The set up, running and value *Dr John Street*

2.20pm Registries: The need, challenges and future *Mr Michael Johnson*

3.00 - 3.30pm AFTERNOON TEA | EXHIBITION HALLS 2-4

3.30 - 4.10pm PART B FREE PAPER SESSION 3 | SPINAL DEFORMITY, TUMOUR & TRAUMA

Chairs | *Dr Peter Woodland, A/Prof Aaron Buckland*

3.30pm **3.6** Utility of adjunct MRI scanning in cervical spine clearance in obtunded trauma patients: A retrospective analysis *Dr Farhaan Altaf*

3.40pm **3.7** Detection of post-operative neurological deficits with intra-operative neuromonitoring in spinal deformity surgery *Dr Norine Ma*

3.50pm **3.8** Identifying segmental deformity changes in longitudinal AIS growth *Mr Fraser Labrom*

4.00pm **3.8a** Characterising segmental deformity changes in longitudinal AIS growth studies *Mr Fraser Labrom*

4.10pm - 5.30pm SOCIETY SESSION

Chair | *Dr Rob Kuru*

NAVIGATING THE MEDICAL NEGLIGENCE MINEFIELD:
CURRENT TRENDS IN SPINAL SURGERY

4.10pm Introduction and facilitation *Dr Graeme Brazenor*

4.15pm *Mr Michael Lynch*

4.35pm *Mr Bill Madden*

4.55pm *Dr Andrew Kam*

5.10pm DISCUSSION

5.30 - 7.00pm WELCOME RECEPTION | EXHIBITION HALLS 2-4

CONFERENCE PROGRAM • SATURDAY 28 MAY 2022

All Saturday sessions will be conducted in Hall 1 | Ground level | Darwin Convention Centre

7.00am Registration Desk opens

8.00am Arrival tea & coffee

7.15 - 8.15am **Medtronic BREAKFAST SESSION** Meeting Rooms 1 & 2

Chair | **Prof Ralph Mobbs**

AI-driven surgical planning, patient-specific implants and navigated robotic guidance - the future of spinal surgery

Dr Christopher Ames, Dr Richard Chua

Medtronic
Engineering the extraordinary

8.30 - 10.00am FREE PAPER SESSION 4 | BASIC SCIENCE & BIOMECHANICS

Chairs | **Dr Claire Jones, Dr Ryan Quarrington**

8.30am **4.1** Characterising spinal cerebrospinal fluid flow in the pig with phase-contrast magnetic resonance imaging
Ms Madeleine Bessen

8.40am **4.2** Lateral fenestration of lumbar intervertebral discs in rabbits: development and characterisation of an in vivo preclinical model with multi-modal endpoint analysis
Dr James Crowley

8.50am **4.3** Bone marrow lesions and cysts in the cervical facets
Dr Claire Jones

9.00am **4.4** Traumatic impact loading of flexed ovine lumbar motion segments is more likely to induce endplate fractures than herniations
Dr Vonne Van Heeswijk

9.10am **4.5** Characterizing gait profiles of spine, hip and knee disease using a single-point wearable inertial measurement unit
Mr R. Dineth Fonseka

9.20am **4.6** Digital image correlation for spinal implant kinematics
Mr Sihyong Jake Kim

9.30am **4.7** New perspective from old data: A contemporary, quantitative analysis of the first reported cervical facet dislocation produced in the laboratory
Dr Ryan Quarrington

9.40am **4.8** Biomechanically rational pre-surgical planning using CT-based lumbosacral spine modelling
Mr Vivek Ramakrishna

9.50am **4.9** Engineering the perfect mattress: The influence of substrate mechanics on deep tissue stresses in supine lying
Mr Lionel Rayward

CONFERENCE PROGRAM • SATURDAY 28 MAY 2022

All Saturday sessions will be conducted in Hall 1 | Ground level | Darwin Convention Centre

10.00 - 10.30am MORNING TEA | EXHIBITION HALLS 2 - 4

10.30 - 11.20am PRESIDENT'S SESSION

Chair | **Prof Matthew Scott-Young**

10.35am The past, present, and future of spine surgery **Prof Robert Gaines**

11.00am Backing you up: How the radiologist and imaging can augment the spinal surgeon's approach **Dr Peter Jackson**

11.20am - 12.30pm FREE PAPER SESSION 5 | INTERVENTION, MULTIFARIOUS

Chairs | **Dr Jonathon Ball, Dr Kris Lundine**

11.20am **5.1** Lumbar arthroplasty for treatment of primary or recurrent lumbar disc herniation
Dr Vincent Rossi

11.30am **5.2** Short-term outcomes of biopsychosocial rehabilitation following spine surgery
Miss Clare Dal Bon

11.40am **5.3** Comorbidity data collection across different spine registries: An evidence map
Dr Esther Apos

11.50am **5.4** Combined Subjective and Objective health related Quality of Life (SO.QOL™) score, and usefulness in a spine population for pre and post intervention assessment
Prof Ralph Mobbs

12.00pm **5.5** Can the use of general practitioners with an extended role (GPwER) in spinal practice expedite assessment of patients referred to spinal surgeons: Preliminary experience and challenges
Prof Ian Whittle

12.10pm **5.6** Comparison between microdiscectomy and endoscopic discectomy
Dr Joseph Maalouly

12.20pm **5.7** Clinical & radiological outcomes following the use of triangular sacro-iliac joint cages in addition to S2-alar-iliac screws (Bedrock technique) to enhance spinopelvic fixation
Dr Alvin Pun

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All Saturday sessions will be conducted in Hall 1 | Ground level | Darwin Convention Centre

12.30 - 1.30pm LUNCH | EXHIBITION HALLS 2-4

1.30 - 3.00pm SYMPOSIUM 2

Chair | *Dr Ashish Diwan*

SPINAL ENDOSCOPY

1.30pm My experience with microendoscopic discectomy *Dr Peter Turner*

2.00pm Endoscopic and minimally invasive surgery: *Dr Georgios Vastardis*
The early stages of learning the endoscopy
technique - pearls and pitfalls

3.00 - 3.30pm AFTERNOON TEA | EXHIBITION HALLS 2-4

3.30 - 4.30pm THE GETTING OF WISDOM

Chair | *A/Prof John Costi*

3.30pm Stories in serendipity, lightbulb moments and *Dr Ashish Diwan*
tenacity at research & development

3.50pm I fell in love with rehab but hated spinal cord, so *Prof Ruth Marshall*
how did I end up in SCI for 36 years? The getting
of wisdom about what really mattered to me

4.10pm The getting of wisdom *Dr Peter McCombe*

4.30 - 6.00pm **SSA BUSINESS MEETING (AGM) SSA MEMBERS ONLY**

7.15 - 11.00pm SSA CONFERENCE GALA DINNER
Pee Wees at the Point

CONFERENCE PROGRAM • SUNDAY 29 MAY 2022

All Sunday sessions will be conducted in Waterfront Rooms 1 & 2 | level 2 | Darwin Convention Centre

7.30am Registration Desk opens - Waterfront Foyer

8.00am Arrival tea & coffee

8.15 - 9.40am FREE PAPER SESSION 6 | NEW TECHNOLOGY

Chairs | *Prof Ian Whittle, Mr Lionel Rayward*

8.15am **6.1** Analysing gait patterns in degenerative lumbar spine diseases using inertial wearable sensors: An observational study

Mr Pragadesh Natarajan

6.1a Proposed objective scoring algorithm for clinical evaluation of walking asymmetry in lumbar disc herniation, based on relevant gait metrics from wearable devices: The Gait Symmetry Index (GSi)

Mr Pragadesh Natarajan

8.30am **6.3** Cage placement as a predictor of postoperative subsidence in expandable and static TLIF cages rather than cage specific properties

A/Prof Aaron Buckland

8.40am **6.4** Clinical and economic viability of spinal implants manufactured by 3D printing versus legacy materials

Dr David Edis

8.50am **6.5** Convergence of 3D-printing and spinal orthosis design

Miss Rachel Chalmers

9.00am **6.6** Do evoked potentials matter? Pre-pathologic signal change and clinical outcomes with expandable cages in lateral lumbar interbody fusion surgery

Prof Greg Malham

9.10am **6.7** A generative design algorithm to automate the quantification of cosmesis in adolescent idiopathic scoliosis patients from 3D surface scans

Dr Sinduja Suresh

9.20am **6.8** Flash Align: A pilot study of an innovative method to measure spine alignment using machine-vision optical technology

Dr John Cunningham

9.30am **6.9** Effect of humidified warmed air on the surgical incision during spinal surgery: Early results from first in human proof of concept study

Dr Callum Spence

9.40 - 10.00am MORNING TEA | WATERFRONT FOYER

CONFERENCE PROGRAM • SUNDAY 29 MAY 2022

All Sunday sessions will be conducted in Waterfront Rooms 1 & 2 | level 2 | Darwin Convention Centre

10.00am - 11.25pm FREE PAPER SESSION 7 | SPINAL SURGERY

 Chairs | **Dr Rob Kuru, Ms Madeleine Bessen**

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|---------|-------------|---|
| 10.00am | 7.1 | One year clinical and radiographic outcomes of cervical arthroplasty with synergy disc
Dr Vincent Rossi |
| 10.10am | 7.2 | Comparing osteostimulative bone graft substitutes in interbody fusion: Is there a difference?
A/Prof Paul Licina |
| 10.20am | 7.3 | Objective gait analysis using a single-point wearable sensor to assess lumbar spine patients pre- and postoperatively
Mr R. Dineth Fonseka |
| 10.30am | 7.4 | A model of motion segment behaviour during lumbar fusion explains why the standard technique of compressing pedicle screws to gain lordosis is severely limited
A/Prof Kevin Seex |
| 10.40am | 7.5 | Who bleeds during elective anterior lumbar surgery?
Prof Greg Malham |
| 10.50am | 7.6 | Initial Australasian experience in endoscopic spine surgery: Outcomes on 43 consecutive patients
Dr Shanu Gambhir |
| 11.00am | 7.7 | Preliminary outcomes for patients undergoing vertebral body tethering for idiopathic scoliosis
Dr Megan Roser |
| 11.10am | 7.8 | Lateral lumbar interbody fusion: Outcomes and complications from high volume surgeons
Mr Matthew Morton |
| 11.20am | 7.8a | Lateral lumbar and interbody fusion using recombinant human bone morphogenetic Protein-2: Comparative study of fusion rates and complications
Mr Matthew Morton |

11.25 - 12.05pm	TOP POSTER SESSION 5 mins / poster	Chair Prof Ralph Mobbs
	Top Poster 1 Mr Wentian Li	Top Poster 2 Dr Patrick Pearce
	Top Poster 3 Dr Xiaolong Chen	Top Poster 4 Dr Ji Tu
	Top Poster 5 Dr David Edis	Top Poster 6 Prof Shah Alam
	Top Poster 7 A/Prof Martin Gehrchen	Top Poster 8 Mr Henrik Baecker

 12.05 - 12.10pm **AWARDS and CLOSE** *Best Paper Award sponsor* 