

25



The Spine Society of Australia  
25th Annual Scientific Meeting combined with the  
Scoliosis Research Society Worldwide Course  
Issues in Cervical Spine Surgery: Focus on Arthroplasty

## SRS Course Program

**THURSDAY 10 APRIL 2014**

8.00am

**SCOLIOSIS RESEARCH SOCIETY WORLDWIDE COURSE OPENING** | Rooms M1 / M2



Welcome Introduction *Dr Geoffrey Askin*

About the Scoliosis Research Society *Dr Steve Glassman*

About the Spine Society of Australia *Dr Peter Wilde*

**8.30 - 10.05am**

**PLENARY SESSION I** | Rooms M1 / M2

### **AIS ASSESSMENT - NON OPERATIVE MANAGEMENT**

Chair | *Dr Robert Labrom*

8.30

AIS - Lenke classification as a guide to treatment

*Professor Marinus de Kleuver*

8.45

Genetics and etiology of AIS

*Dr Rajiv Sethi*

9.00

Non-operative management of adolescent idiopathic scoliosis

*Dr Geoffrey Askin*

9.15

DISCUSSION

### **AIS ASSESSMENT - OPERATIVE MANAGEMENT: GENERAL PRINCIPLES**

Chair | *Dr Robert Labrom*

9.25

Adolescent Idiopathic Scoliosis: Indications for and goals of surgery

*Mr Ian Torode*

9.40

AIS - Pre op assessment including roles of clinical examination, growth potential, pulmonary function tests and dynamic xrays / MRI

*Professor Manabu Ito*

9.55

DISCUSSION

**10.05 - 10.35**

**B R E A K** | Exhibition Area - Rooms M3 / M4



## SRS Course Program | THURSDAY 10 APRIL 2014

**10.35am - 12.45pm PLENARY SESSION 2** | Rooms M1 / M2

### ■ AIS SURGICAL OPTIONS

Chair | *Professor Marinus de Kleuver*

- 10.35 Anterior surgery for idiopathic scoliosis: Is it still relevant?  
*Professor Hee-Kit Wong*
- 10.50 Thoracoscopic correction of idiopathic scoliosis: Outlines, complications, guidelines and recommendations  
*Dr Geoffrey Askin*
- 11.05 DISCUSSION
- 11.15 DEBATE & DISCUSSION | AIS surgical technique: AIS - lumbar (Lenke 5) curves
- Anterior is preferred *Mr Ian Torode*
  - Posterior is preferred *Dr Steven Glassman*

### ■ AIS / SCHEUERMANN'S KYPHOSIS - CONTROVERSY

Chair | *Dr Geoffrey Askin*

- 11.45 The treatment of large spinal deformities with osteotomies and indications for supplemental anterior surgery  
*Dr John Dimar*
- 12.00noon AIS - Sagittal balance: Is it important and how do we achieve it?  
*Professor Hee-Kit Wong*
- 12.15pm Scheuermann's kyphosis and junctional kyphosis  
*Professor Marinus de Kleuver*
- 12.30 DISCUSSION

**12.45 LUNCH** | Exhibition Area - Rooms M3 / M4

- 1.00 SRS Industry Workshops (see page 30) Rooms on plaza level
1. **DePuy Synthes Workshop** Room P4 Minimising complications in deformity procedures  
 Presenters | *Professor Marinus de Kleuver, Dr Robert Labrom, Dr David Bartle*
  2. **Orthofix Workshop** Room P3 Safety strategies in complex spinal deformity surgery  
 Presenter | *Dr Rajiv Sethi*
  3. **SpineCraft Workshop** Room P5



## SRS Course Program | THURSDAY 10 APRIL 2014

**1.45 - 3.15pm**

**PLENARY SESSION 3** | *Rooms M1 / M2*

### GENERAL ASPECTS OF AIS TREATMENT

Chair | *Mr Ian Torode*

1.45

DEBATE & DISCUSSION | AIS - Thoracic (Lenke IC) curve: Full coronal correction / implant density

■ Full correction is not desirable *Professor Marinus de Kleuver*

■ Full correction is desirable *Professor Manabu Ito*

2.15

AIS: Current imaging techniques and the risk of long term exposure to the patient and physician

*Dr John Dimar*

2.30

AIS Biomechanics: Choice of implants - how stiff, which metal and how much metal?

*Professor Manabu Ito*

2.45

AIS Biomechanics: Metal ion release in scoliosis constructs and use of BMP in paediatric scoliosis

*Dr Robert Labrom*

3.00

DISCUSSION

**3.15**

**B R E A K** | *Exhibition Area - Rooms M3 / M4*

**3.45 - 4.45pm**

**PLENARY SESSION 4** | *Rooms M1 / M2*

### GENERAL ASPECTS OF AIS TREATMENT *continued*

Chair | *Dr Geoffrey Askin*

3.45

Infections of the spine: Current treatment recommendations for AIS and osteomyelitis

*Dr John Dimar*

4.00

AIS: Complications - Intra-op neurologic deficits and how to manage each step

PANEL DISCUSSION *Mr Ian Torode* and *Dr Robert Labrom* | Audience participation encouraged

■ Screws placement - what imaging?

■ Loss of MPEs (SEPs ok) - what to do?

■ No return (despite 2) – SEPs loss - next step?

■ Wake up test - no motor - next step?

■ Extubated - paralysed - next step?

4.30

DISCUSSION

4.45

SRS Industry Workshops (*see page 30*) *Rooms on plaza level*

4. **K2M Workshop** *Room P3* Addressing 3D correction in complex thoracolumbar deformities

Presenters | *Dr Rajiv Sethi, Dr Brian Hsu*

5. **Medtronic Workshop** *Room P4* Osteotomy strategies for adult spinal deformity

Presenter | *Dr Steven Glassman*

6. **NuVasive Workshop** *Room P5* Correcting coronal and sagittal imbalance with XLIF

Presenter | *Mr Glen Harper*

**5.30 - 7.00pm**

**WELCOME RECEPTION for SRS and SSA delegates** | *Exhibition area - Rooms M3 / M4*



## SRS Course and SSA Conference Program

**FRIDAY 11 APRIL 2014****7.15 - 8.15am****DEPUY SYNTHES BREAKFAST SESSION** | Rooms M1 / M2 (see page 30)

Breakfast from 7.00

**Panel discussion** | Deformity outreach: Beyond your typical practicePresenters | *Dr Peter Woodland, Mr Rob Wilkinson***8.25 - 10.00am****PLENARY SESSION 5** | Rooms M1 / M2**ADULT DEFORMITY - SURGICAL TECHNIQUES IN ADULT DEFORMITY:  
DE NOVO ADULT SCOLIOSIS**Chair | *Dr Robert Labrom*

8.25

Adult scoliosis: Introduction - De Novo adult scoliosis

*A/Professor Richard Williams*

8.40

Proximal Junctional Kyphosis (PJK): How to avoid it

*Dr Steven Glassman*

8.55

Sacro-pelvic reconstruction: Instrumentation to the lowest lumbar vertebra

*Dr John Dimar*

9.10

DISCUSSION

9.25

PANEL DISCUSSION &amp; CASE PRESENTATION | De Novo Adult Scoliosis 30 degrees with radicular pain

■ Decompress alone? *Professor Hee-Kit Wong*■ Short fusion? *Dr Peter Wilde*■ Long fusion? *A/Professor Richard Williams***10.00****B R E A K** | Exhibition Area - Rooms M3 / M4

25



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## SRS Course and SSA Conference Program

**FRIDAY 11 APRIL 2014**

**10.30am - 12.30pm** **PLENARY SESSION 6** | *Rooms M1 / M2*

### **ADULT DEFORMITY - SURGICAL TECHNIQUES IN ADULT DEFORMITY: DE NOVO ADULT SCOLIOSIS** *continued*

Chair | *A/Professor Richard Williams*

10.30 Innovative approaches in adult deformity surgery: A focus on minimally invasive methods

*Dr Rajiv Sethi*

10.45 Complications and revision rates in adult deformity surgery with an emphasis on strategies to mitigate risk

*Dr Rajiv Sethi*

11.00 DISCUSSION

### **OUTCOMES AND EVALUATION**

Chair | *A/Professor Richard Williams*

11.15 Lumbar degenerative scoliosis: Patient selection for surgery

*Dr Steven Glassman*

11.30 The future role of spine registries

*Professor Marinus de Kleuver*

11.45 Health economics and QALYs in surgery for adult spinal deformity

*Dr Peter Wilde*

12.00noon DISCUSSION

**12.30pm** *SRS Course closes*

**LUNCH** | *Exhibition Area - Rooms M3 / M4*



## SSA Conference Program | FRIDAY 11 APRIL 2014



1.30pm CONFERENCE OPENING | Rooms M1 / M2

*Dr Peter Wilde and A/Prof Richard Williams*

1.45 - 3.00pm

### FREE PAPER SESSION I | TUMOUR AND TRAUMA

Chair | *A/Professor Richard Williams* | Rooms M1 / M2 | See abstracts pages 66 - 73

- 1.45 **1.1** The effects of the nature of admission and a non-refusal spinal policy on acute spinal cord injury care  
*Monish Maharaj*
- 1.51 **1.2** Epidemiology and risk factors of cervical spine injuries in New South Wales:  
A four-year retrospective study  
*Jiun-Lih Jerry Lin*
- 1.57 **1.3** Subaxial injury classification treatment recommendations for unilateral isolated, non-displaced or  
minimally displaced cervical facet fractures: A retrospective review of 33 patients  
*Sumant Samuel*
- 2.03 **1.4** A prospective clinical and radiological analysis of multi-level minimally invasive spinal surgery for  
traumatic and pathological fractures  
*Wai Yoon*
- 2.09 **1.5** Non-operative management of cranio-cervical dissociation in children  
*Michael Johnson*
- 2.15 **1.6** Disc (degenerate-disc infection study with contaminant control) discussion on methods,  
interim analysis and comparison between pilot study and the disc trial:  
The pitfalls of not sending contaminant control  
*Prashanth Rao*
- 2.21 **1.7** Risk factors for pathologic fracture and cord compression in patients with spinal metastases  
*Catherine Hibberd*
- 2.27 **1.8** Spinal osteoid osteoma: A multicentre retrospective cohort study comparison of results with  
appendicular osteoid osteoma  
*Braad Sowman*
- 2.33 **1.9** Outcomes in patients undergoing minimally invasive percutaneous fixation techniques for  
metastatic spinal disease  
*Ganesha Thayaparan*
- 2.39 DISCUSSION

3.00

AFTERNOON TEA | Exhibition Area, Rooms M3 / M4



## SSA Conference Program

**FRIDAY 11 APRIL 2014**

**3.30 - 4.00pm**

### FREE PAPER SESSION 2 | BASIC SCIENCE

Chair | *Dr Gerald Quan* | Rooms M1 / M2 | See abstracts pages 74 - 77

- 3.30      **2.1**      Costs of cervical disc replacement versus anterior cervical discectomy and fusion for treatment of single-level cervical disc disease: An analysis of the blue health intelligence database for acute and long-term costs and complications  
*Jack Zigler*
- 3.36      **2.2**      Alteration of osteocytes density and canaliculi network in an ovine model of the osteoporotic lumbar spine  
*Reza Zarrinkalam*
- 3.42      **2.3**      Molecular and functional effects of bone morphogenetic protein 13 on human intervertebral disc cells and its expression in human tissue  
*Twishi Gulati*
- 3.48      **2.4**      6- versus 12- month performance of polycaprolactone-based scaffold plus recombinant human morphogenetic protein-2 (RHBMP-2) in an ovine thoracic interbody fusion model  
*Mostyn Yong*
- 3.54      DISCUSSION

**4.00 - 5.00**

### SYMPOSIUM I | DEBATE

#### SINGLE LEVEL DISC PATHOLOGY ACDF VS CERVICAL ARTHROPLASTY

Chair | *AIProfessor Graeme Brazenor* | Rooms M1 / M2

Presenters | *Dr Ed Benzel* and *Dr Daniel Riew*

5.00 - 6.15

SSA Business Meeting | Rooms M1 / M2

7.00 for 7.30pm

SSA 25th ANNIVERSARY GALA DINNER

*Queensland Art Gallery of Modern Art (GOMA) | Roof Terrace, Stanley Place, South Bank*



## SSA Conference Program | SATURDAY 12 APRIL 2014

**7.15 - 8.15am**

**DEVICE TECHNOLOGIES BREAKFAST SESSION** | Rooms M1 / M2 (see page 30)

Breakfast from 7.00

Results of 4 year IDE study comparing Mobi-C cervical arthroplasty to ACDF in one and two Levels

Presenter | *Dr Jacques Beaurain*, Mobi-C Designer & Spine Specialist

**8.30 - 10.00am**

**FREE PAPER SESSION 3** | NOVEL & BIOLOGICAL TECHNOLOGY, COMPLICATIONS

Chair | *Dr Peter Woodland* | Rooms M1 / M2 | See abstracts pages 80 - 88

8.30

**3.1** Stem cell therapies used to treat lumbar degenerative disc disease: A systematic review  
*David Oehme*

8.36

**3.2** Initial two-year safety data for an anular closure device: Interim results from a multicenter, prospective, randomized clinical trial  
*Adisa Kursumovic*

8.42

**3.3** Anterior to PSOAS fusion (ATP) of the lumbar spine: Clinical results on the first 20 consecutive patients  
*Kevin Seex*

8.48

**3.4** Clinical outcomes and fusion rates following anterior lumbar interbody fusion with bone graft substitute "i-FACTOR": An ABM/P-15 composite  
*Ralph Mobbs*

8.54

**3.5** Indirect foraminal decompression following anterior lumbar interbody fusion (ALIF): A radiographic study using a new pedicle to pedicle (P-P) technique  
*Prashanth Rao*

9.00

DISCUSSION

9.12

**3.6** Bone morphogenetic proteins in spine surgery: Long term followup of fusion rates and complications  
*Graeme Brazenor*

9.18

**3.7** The incidence of retrograde ejaculation following anterior lumbar interbody fusion using RHBMP2 in 376 male patients  
*Matthew Scott-Young*

9.24

**3.8** Adjacent segment disease: Is preserving the motion segment really necessary? A review of 1763 cervical surgical cases  
*Robin Pillay*

9.30

**3.9** The utility of gabapentin in chronic sciatica  
*Joseph Garcia Redmond*

9.36

**3.10** Morbidity and mortality of complex spine surgery A prospective cohort study in 679 patients based on the saves system  
*Benny Dahl*

9.42

**3.11** Missed diagnoses with the lumbar spine  
*GRC Howie*

9.48

DISCUSSION





## SSA Conference Program

SATURDAY 12 APRIL 2014

10.00am

M O R N I N G T E A | Exhibition Area - Rooms M3 / M4

**10.30am - 12.30pm SYMPOSIUM 2 | CONTOVERSIES IN CERVICAL SURGERY**Chair | *Dr Peter Wilde* | Rooms M1 / M2 | See abstracts pages 89 - 90

10.30

CSM management dilemmas

*Dr Edward Benzel*

10.55

Cervical sagittal balance: Assessment and significance in global sagittal alignment

*Dr Daniel Riew*

11.20

DISCUSSION

11.30

Cervical deformity management dilemmas

*Dr Edward Benzel*

11.55

Update on management of odontoid fractures in the elderly

*Dr Daniel Riew*

12.20pm

DISCUSSION

12.30

L U N C H | Exhibition Area - Rooms M3 / M4

**1.30 - 3.15pm FREE PAPER SESSION 4 | FUSION AND NON-FUSION, LOW BACK PAIN**Chair | *Dr Michael Johnson* | Rooms M1 / M2 | See abstracts pages 91 - 100

1.30

**4.1** Cervical artificial disc replacement with prodisc-C: Clinical and radiographic outcomes with long-term follow-up*Gregory Malham*

1.36

**4.2** Benchmarking current surgical practices: Single level anterior cervical discectomy versus cervical arthroplasty*Richard Kahler*

1.42

**4.3** Cervical and lumbar total disc replacement outcomes 2002 - present*M. Jerry Day, Jr.*

1.48

**4.4** Outcomes of ALIF based on indication: A prospective study*Ralph Mobbs*

1.54

**4.5** An interim prospective analysis of modic changes in symptomatic candidates undergoing spinal surgery as part of the disc study*Ganeshha Thayaparan*



## SSA Conference Program | SATURDAY 12 APRIL 2014

### 1.30 - 3.15pm FREE PAPER SESSION 4 | FUSION AND NON-FUSION, LOW BACK PAIN *continued*

Chair | *Dr Michael Johnson* | Rooms M1 / M2 | See abstracts pages 91 - 100

- 2.00 **4.6** Assessment and classification of subsidence in lateral interbody fusion using serial computed tomography  
*Gregory Malham*
- 2.06 DISCUSSION
- 2.30 **4.7** Standardizing patient related outcomes measurement low back pain: An international, cross-disciplinary effort  
*Richard Kahler*
- 2.36 **4.8** Herniation under the microscope: A biomechanical and microstructural study investigating the combined effects of compression rate and flexion  
*Kelly Wade*
- 2.42 **4.9** Endplate pressure distribution is influenced by bone graft substitute within interbody cages  
*Kieran McCaffrey*
- 2.48 **4.10** A multiscale structural investigation of the annulus-endplate anchorage system and its mechanisms of failure  
*Samantha Rodrigues*
- 2.54 **4.11** The use of commercial accelerometers for analysing physical recovery in neurogenic claudication patients following surgical intervention  
*Monish Maharaj*
- 3.00 DISCUSSION

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3.15 AFTERNOON TEA | *Exhibition Area - Rooms M3 / M4*



## SSA Conference Program | SATURDAY 12 APRIL 2014

### 3.45 - 4.45pm FREE PAPER SESSION 5 | DEFORMITY

Chair | *Dr Geoffrey Askin* | Rooms M1 / M2 | See abstracts pages 101 - 106

- 3.45 **5.1** Supine to standing Cobb angle change in idiopathic scoliosis: The effect of endplate preselection  
*Mark Percy*
- 3.51 **5.2** A biomechanical analysis of growing rods used in the management of early onset scoliosis  
*Mark Quick*
- 3.57 **5.3** Single-center, retrospective analysis of 641 pedicle screws placed with robotic-guidance in adolescent idiopathic scoliosis (AIS)  
*Raymund Woo*
- 4.03 **5.4** Curve magnitude in patients with adolescent idiopathic scoliosis re-referred for surgical evaluation: Experience from a system without school screening  
*Benny Dahl*
- 4.09 **5.5** Thoracoscopic scoliosis surgery: A cheaper option? a cost analysis of 189 consecutive cases  
*Andrew Cook*
- 4.15 **5.6** Analysis of pedicle length in lumbosacral isthmic spondylolisthesis  
*Phoebe Matthews*
- 4.21 **5.7** 'Hubbing' detrimental to pedicle screw fixation  
*Matthew Pelletier*
- 4.27 DISCUSSION

### 4.45 SOCIETY SESSION | Rooms M1 / M2

Website upgrade

*Dr Peter Wilde*

Registry - where are we going?

*Dr Michael Johnson*

5.15 Awards and close

5.30 *SSA Conference concludes*