**SRS Course Program**  |  **THURSDAY 10 APRIL 2014**

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### 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**

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### 8.30 - 10.05am

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

#### AIS ASSESSMENT - NON OPERATIVE MANAGEMENT

- **Chair**: **Dr Robert Labrom**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>8.30</td>
<td>AIS - Lenke classification as a guide to treatment</td>
<td><strong>Professor Marinus de Kleuver</strong></td>
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<tr>
<td>8.45</td>
<td>Genetics and etiology of AIS</td>
<td><strong>Dr Rajiv Sethi</strong></td>
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<tr>
<td>9.00</td>
<td>Non-operative management of adolescent idiopathic scoliosis</td>
<td><strong>Dr Geoffrey Askin</strong></td>
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<tr>
<td>9.15</td>
<td>DISCUSSION</td>
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#### AIS ASSESSMENT - OPERATIVE MANAGEMENT: GENERAL PRINCIPLES

- **Chair**: **Dr Robert Labrom**

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<tr>
<td>9.25</td>
<td>Adolescent Idiopathic Scoliosis: Indications for and goals of surgery</td>
<td><strong>Mr Ian Torode</strong></td>
</tr>
<tr>
<td>9.40</td>
<td>AIS - Pre op assessment including roles of clinical examination, growth potential, pulmonary function tests and dynamic xrays / MRI</td>
<td><strong>Professor Manabu Ito</strong></td>
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<tr>
<td>9.55</td>
<td>DISCUSSION</td>
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### 10.05 - 10.35

**BREAK**  |  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 - 3.15 pm

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<th>PLENARY SESSION 3</th>
<th>Rooms M1 / M2</th>
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#### GENERAL ASPECTS OF AIS TREATMENT

**Chair:**  Mr Ian Torode

1.45 DEBATE & DISCUSSION  | AIS - Thoracic (Lenke 1C) 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 BREAK | Exhibition Area - Rooms M3 / M4

### 3.45 - 4.45 pm

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<th>PLENARY SESSION 4</th>
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#### 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
- Screws placement - what imaging?  Dr Robert Labrom
- No return (despite 2) - SEPs loss - next step?  Mr Ian Torode
- Exubated - paralysed - next step?  Audience participation encouraged

4.30 DISCUSSION

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

<table>
<thead>
<tr>
<th>Workshop</th>
<th>Room</th>
<th>Description</th>
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<tbody>
<tr>
<td>K2M Workshop</td>
<td>P3</td>
<td>Addressing 3D correction in complex thoracolumbar deformities  Dr Rajiv Sethi, Dr Brian Hsu</td>
</tr>
<tr>
<td>Medtronic Workshop</td>
<td>P4</td>
<td>Osteotomy strategies for adult spinal deformity  Dr Steven Glassman</td>
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<tr>
<td>NuVasive Workshop</td>
<td>P5</td>
<td>Correcting coronal and sagittal imbalance with XLIF  Mr Glen Harper</td>
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### 5.30 - 7.00 pm

| 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 practice
Presenters  | 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 & 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  BREAK  | Exhibition Area - Rooms M3 / M4
PLENARY SESSION 6 | Rooms M1 / M2

10.30 PLenary Session 6

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*

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<th>1.45 - 3.00pm</th>
<th>FREE PAPER SESSION I</th>
<th>TUMOUR AND TRAUMA</th>
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<tr>
<td><strong>Chair</strong></td>
<td><em>A/Professor Richard Williams</em></td>
<td><em>Rooms M1 / M2</em></td>
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</tbody>
</table>
| **1.45** | **1.1** | The effects of the nature of admission and a non-refusal spinal policy on acute spinal cord injury care<br>*Monish Maharaj*
| **1.51** | **1.2** | Epidemiology and risk factors of cervical spine injuries in New South Wales: A four-year retrospective study<br>*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<br>*Sumant Samuel*
| **2.03** | **1.4** | A prospective clinical and radiological analysis of multi-level minimally invasive spinal surgery for traumatic and pathological fractures<br>*Wai Yoon*
| **2.09** | **1.5** | Non-operative management of cranio-cervical dissociation in children<br>*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<br>*Prashanth Rao*
| **2.21** | **1.7** | Risk factors for pathologic fracture and cord compression in patients with spinal metastases<br>*Catherine Hibberd*
| **2.27** | **1.8** | Spinal osteoid osteoma: A multicentre retrospective cohort study comparison of results with appendicular osteoid osteoma<br>*Braad Sowman*
| **2.33** | **1.9** | Outcomes in patients undergoing minimally invasive percutaneous fixation techniques for metastatic spinal disease<br>*Ganesha Thayaparan*
| **2.39** | **DISCUSSION** | |

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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 1  |  DEBATE

SINGLE LEVEL DISC PATHOLOGY ACDF VS CERVICAL ARTHROPLASTY
Chair  |  A/Professor 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 - 8.15 am  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 - 10.00 am  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

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<td>10.30am - 12.30pm</td>
<td>SYMPOSIUM 2</td>
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<td>Chair: Dr Peter Wilde</td>
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<td>10.30</td>
<td>CSM management dilemmas</td>
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<td>10.55</td>
<td>Cervical sagittal balance: Assessment and significance in global sagittal alignment</td>
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<tr>
<td>11.20</td>
<td>DISCUSSION</td>
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<tr>
<td>11.30</td>
<td>Cervical deformity management dilemmas</td>
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<td>11.55</td>
<td>Update on management of odontoid fractures in the elderly</td>
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<td>12.20pm</td>
<td>DISCUSSION</td>
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<td>12.30</td>
<td>LUNCH</td>
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<td>1.30 - 3.15pm</td>
<td>FREE PAPER SESSION 4</td>
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<td>Chair: Dr Michael Johnson</td>
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<tr>
<td>1.30</td>
<td>4.1 Cervical artificial disc replacement with prodisc-C: Clinical and radiographic outcomes with long-term follow-up</td>
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<tr>
<td>1.36</td>
<td>4.2 Benchmarking current surgical practices: Single level anterior cervical discectomy versus cervical arthroplasty</td>
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<tr>
<td>1.42</td>
<td>4.3 Cervical and lumbar total disc replacement outcomes 2002 - present</td>
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<tr>
<td>1.48</td>
<td>4.4 Outcomes of ALIF based on indication: A prospective study</td>
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<tr>
<td>1.54</td>
<td>4.5 An interim prospective analysis of modic changes in symptomatic candidates undergoing spinal surgery as part of the disc study</td>
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</table>
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

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

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**

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<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>3.45</td>
<td>Supine to standing Cobb angle change in idiopathic scoliosis: The effect of endplate preselection</td>
<td>Mark Pearcy</td>
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<tr>
<td>3.51</td>
<td>A biomechanical analysis of growing rods used in the management of early onset scoliosis</td>
<td>Mark Quick</td>
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<tr>
<td>3.57</td>
<td>Single-center, retrospective analysis of 641 pedicle screws placed with robotic-guidance in adolescent idiopathic scoliosis (AIS)</td>
<td>Raymund Woo</td>
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<tr>
<td>4.03</td>
<td>Curve magnitude in patients with adolescent idiopathic scoliosis re-ferred for surgical evaluation: Experience from a system without school screening</td>
<td>Benny Dahl</td>
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<tr>
<td>4.09</td>
<td>Thoracoscopic scoliosis surgery: A cheaper option? a cost analysis of 189 consecutive cases</td>
<td>Andrew Cook</td>
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<tr>
<td>4.15</td>
<td>Analysis of pedicle length in lumbosacral isthmic spondylolisthesis</td>
<td>Phoebe Matthews</td>
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<tr>
<td>4.21</td>
<td>‘Hubbing’ detrimental to pedicle screw fixation</td>
<td>Matthew Pelletier</td>
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<td>4.27</td>
<td><strong>DISCUSSION</strong></td>
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**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**