

# BRIAN HSU

## EDUCATION AND QUALIFICATIONS

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<b>Current Appointments</b>	<b>Visiting Medical Officer</b> , Children's Hospital at Westmead, 2008 to present. <b>VMO</b> , North Shore Private Hospital <b>VMO</b> , Westmead Private Hospital <b>VMO</b> , Norwest Private Hospital <b>VMO</b> , Macquarie University Hospital
<b>Spine Surgery Training</b>	Clinical Spine Fellowship, Twin Cities Spine Center, Minneapolis, 2007 – 2008 (12 months, 1 <sup>st</sup> Aug 2007 – 31 <sup>st</sup> July 2008) Clinical Spine Fellowship, University of California, San Francisco, 2007 (6 months, February 2007 to 31 <sup>st</sup> July 2007)
<b>Postgraduate</b>	Fellow of the Royal Australasian College of Surgeons Fellow of Australian Orthopaedic Association Fellow of Hong Kong Academy of Medicine
<b>Medical Registration</b>	Medical Board of NSW, Australia – MPO332344 United Kingdom General Medical Council – 6075996 Hong Kong Medical Registration Board
<b>Tertiary</b>	<b>MBBS</b> , University of Sydney, 1997  <b>MMed (Neurophysiology)</b> , University of Sydney, 2018

## WORK EXPERIENCE

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<b>2007-08 Clinical Spine Fellow</b>	Twin Cities Spine Center, Minneapolis, Minnesota (12 months)  Combined experience of Adult and Paediatric Spine surgery at Abbott Northwestern Hospital and Gillette Children's Hospital
<b>2007 Clinical Spine Fellow</b>	Department of Orthopaedic Surgery, University of California, San Francisco (6 months)  Combined experience of Complex Adult Spinal Reconstructions for Spinal Deformities and Paediatric Scoliosis

## BOOK CHAPTERS

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- **Management of Fixed Coronal Imbalance**

Hsu B, Berven S

*In The Textbook of Spinal Surgery, 3<sup>th</sup> Edition*, Keith H. Bridwell (ed.), Lippincott Williams & Wilkins, 2011

- **Minimally Invasive Posterior Surgical Approaches to the Lumbar Spine**

Schwender JD, Hsu B

*In The Textbook of Spinal Surgery, 3<sup>th</sup> Edition*, Keith H. Bridwell (ed.), Lippincott Williams & Wilkins, 2011

- **Biomechanics of the Spine**

Narvani AA, Hsu B, Wilson L

*In Basic Orthopaedic Sciences: The Stanmore Guide*, Manoj Ramachandran (ed.), Hodder Arnold, 2006

## PUBLICATIONS

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- **Spinal cord injury from electrocautery: observations in a porcine model using electromyography and motor evoked potentials.** *J Clin Monit Comput.* 2013 Apr;27(2):195-201. doi: 10.1007/s10877-012-9417-2. Epub 2012 Nov 23

Skinner SA, **Hsu B**, Transfeldt EE, Mehbod AA, Rippe DM, Wu C, Erkan S

- **Zoledronic acid improves bone mineral density, reduces bone turnover and improves skeletal architecture over 2years of treatment in children with secondary osteoporosis.** *Bone.* 2011; 49:939-43.

Simm P., Johannesen J., Briody J., McQuade,M., **Hsu B**, Bridge C., Little D., Cowell C., Munns C.

- **Alignment of pedicle screws with pilot holes: can tapping improve screw trajectory in thoracic spines?** *Eur Spine J.* 2010 Jan;19(1):71-7. Epub 2009 Jun 14.

Erkan S, **Hsu B**, Wu C, Mehbod AA, Perl J, Transfeldt EE.

- **Biomechanical evaluation of a new AxiaLIF technique for two-level lumbar fusion** *Eur Spine J.* 2009 Jun;18(6):807-14. Epub 2009 Apr 8.

Erkan S, Wu C, Mehbod AA, **Hsu B**, Pahl DW, Transfeldt EE.

- **Transcranial motor evoked potentials combined with response recording through CMAP as the sole modality of Spinal Cord Monitoring in Spinal Deformity Surgery** Spine 33(10);1100-6, 2008

Hsu B, Cree A, Lagopoulos J, Cummine JC

- **Recurrent substernal nodular goiter – Incidence and Management** Surgery 1996; 120: 1072-5

Hsu B, Reeve TS, Guinea AI, Robinson B, Delbridge L

## ABSTRACTS

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### International Meetings

#### SRS & IMAST & NASS 2008

- **Complications of Pedicle Subtraction Osteotomy versus Smith-Peterson Osteotomy in the treatment of Flat-back deformity (Accepted for podium presentation SRS 2008, E-Poster IMAST 2008)**

Hsu B, Mehbod A, Transfeldt E, Perra J, Lonstein J, Winter R.

- **Radiographic Results of Pedicle Subtraction Osteotomy versus Smith-Peterson Osteotomy in the treatment of Flat-back deformity (Accepted for podium presentation SRS 2008, E-Poster IMAST 2008)**

Hsu B, Mehbod A, Transfeldt E, Perra J, Lonstein J, Winter R.

- **A Systematic Method to evaluate Thoracic Pedicle screw positioning (Manuscript preparation in progress for publication, accepted for podium presentation at IMAST 2008, E-Poster SRS 2008)**

Hsu B, Erkan S, Mehbod A, Wu C, Transfeldt E

- **Pedicle screw trajectory is improved with tapping in thoracic spines (Manuscript preparation in progress for publication, accepted for presentation at IMAST 2008, E-Poster SRS 2008, Minneapolis Orthopaedic Society)**

Erkan S, Hsu B, Mehbod A, Wu C, Transfeldt E

- **Biomechanical evaluation of a new AxiaLIF technique for two level lumbar fusion (Manuscript preparation in progress for publication, accepted for E-Poster IMAST 2008)**

Erkan S, Wu C, Mehbod A, Hsu B, Transfeldt E

#### American Society of Neurophysiological Monitoring (ASNM) 2008

- **Risks for Spinal Cord Injury From Electrocautery Coagulation Around Thoracic Nerve Roots in a porcine model (Manuscript preparation in progress for publication, Presented at ASNM 2008)**

Hsu B, Skinner S, Mehbod A, Wu C, Transfeldt E

**North American Spine Society Spring Break 2009**

- **Three-Dimensional Analysis of the Cervical Neuroforamina Using an Upright M.R.I. in Healthy and Spondylotic Individuals Placed in Flexion, Extension, and Axial Rotation**

Pahl D, Hsu B, Rovner J, Denis F, Garvey T

**Spine Society of Australia**

Podium Presentation 2006

**Transcranial Motor Evoked Potentials As The Sole Modality Of Spinal Cord Monitoring In Spinal Deformity Surgery**

Hsu B, Cree A, Lagopoulos J, Cummine J

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PRESENTATIONS

**International Meetings**

**Canadian Spine Society**

- **Podium Presentation 2014**

**Restoration of Thoracic Kyphosis in Adolescent Idiopathic Scoliosis: Comparative Radiographic Analysis of Round versus Rail Rods**

Dr Sumant Samuel, Dr Margaret Smith, Ms Corinne Bridge, Dr Brian Hsu, Dr Randolph Gray

**Scoliosis Research Society**

- **Poster Presentation 2009**

**Post-operative wound infections after spinal deformity surgery in neuromuscular and idiopathic patient populations: risk factors and outcomes**

- **Podium Presentation 2008**

**Pedicle Subtraction (PSO) versus Smith-Petersen Osteotomies (SPO) for Correction of Fixed Sagittal Plane Deformities: Clinical and Radiographic Outcomes in 151 Patients**

**IMAST (International Meeting on Advanced Spine Techniques)**

- **Poster Presentation 2012**

**Too hot to Handle? - Heat Generation in spinal instrumentation during Magnetic Resonance Imaging**

**Laminar Screw Fixation of the Axis in the Pediatric Population - A Series of Eight Patients**

- **Poster Presentation 2009**

**Transcranial motor-evoked potential monitoring in neuromuscular scoliosis: Are they reliable and reproducible?**

**Post-operative wound infections after spinal deformity surgery in neuromuscular and idiopathic patient populations: risk factors and outcomes**

- **Podium Presentation 2008**

**A Systematic Method to evaluate Thoracic Pedicle screw positioning**

- **Podium Presentation 2008**

**Comparison of infection rates of Open vs Minimally-invasive TLIFs**

- **Poster Presentation 2007**

**Transcranial Motor Evoked Potentials in Neuromuscular Scoliosis**  
Hsu B, Cree A, Lagopoulos J, Cummine J

- **Poster Presentation 2006**

**The use of Transcranial Motor Evoked Potentials in Deformity Surgery: Efficacy and Results**  
Hsu B, Cree A, Lagopoulos J, Cummine J

## **Spine Society of Australia**

**Podium Presentation 2006**

**Transcranial Motor Evoked Potentials As The Sole Modality Of Spinal Cord Monitoring In Spinal Deformity Surgery**  
Hsu B, Cree A, Lagopoulos J, Cummine J

## **Other Meetings, Lectures and Presentations**

- **NSQIP Steering Committee, The Children's Hospital Westmead**
- **Webinars with Chinese surgeons 2022 - Presenter**
- **Webinars with Chinese surgeons 2021 - Presenter**
- **Meeting of the Minds 2021 – Presenter**
- **Global Spine Virtual Conference 2021**
- **11<sup>th</sup> Annual Meeting of Cervical Spine Research Society Asia Pacific Section 2021**
- **AOA NSWASM 2021 – invited speaker**

- **CSRS 49th Annual Meeting and 26th Instructional Course 2021**
- **2<sup>nd</sup> Shandong Spine Forum China:** Presentation on Complications management following posterior cervical deformity correction + Q&A
- **University of Sydney 2019, Presentation on ‘The Spine Surgeon Perspective’**
- **Depuy-Synthes Cervical Spine Course 2019, Singapore**  
Invited Faculty: Cervical Spine Surgery
- **Spineart Academy, Macquarie University Cadaver Course, 2018, 2019**
- **Spineart Academy, International Deformity Course 2018, Geneva**  
Faculty member and Presenter
- **Spineart Academy, International Deformity Course 2017, Madrid**  
Faculty member and Presenter
- **Depuy-Synthes Elevated Best Practice 2018, Beijing**  
Invited Guest Speaker: Cervical Spine Deformity Surgery
- **Depuy-Synthes Elevated Best Practice 2017, Chongqin**  
Invited Guest Speaker: Cervical Spine Revision Surgery
- **Twin Cities Spine Center, Minneapolis, Minnesota**  
Monthly Morbidity and Mortality Meeting Coordinator and Presenter, 2007-08
- **University of California, San Francisco Orthopaedic Grand Rounds 2007**
  - Orthopaedic Education in Australia: Past, Present and Future
- **Liverpool Hospital Orthopaedic Department Grand Rounds 2004**
  - Smoking and Tibial Non-union or Delayed union
  - Management of Distal Third Clavicle Fractures
- **St George Hospital Grand Rounds 2003**
  - Placement of Acetabular Screws in Total Hip Arthroplasty
  - Hip Anatomy and Hip Approaches
  - Removal of Implants in Revision Hip Arthroplasty
  - Leg Length Discrepancy and Pre-operative Planning in Total Hip Arthroplasty
  - Ligament Balancing in Total Knee Arthroplasty
- **Auckland Hospital Orthopaedic Department Grand Rounds 2002**
  - Fractures of the Odontoid
- **Australian Orthopaedic Registrar Association Annual Meeting 2006**
  - Spinal Cord Monitoring in Spinal Surgery

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## AWARDS AND SCHOLARSHIPS

### Post-Graduate

- **Australian Orthopaedic Association Travelling Scholarship 2006**
- **Spine Society of Australia, Travelling Scholarship 2006**

### Tertiary

- **Robin May Memorial Prize 1996** for “Display of leadership and good fellowship through his or her term as a medical undergraduate”
- **Northern Sydney Area Health Services Board Prize** in 1996, for “Best overall contribution to the Northern Clinical School during undergraduate training”.
- **John Irvine Hunter Prize and the title ‘Prosecutor’** in 1993, for “Proficiency in anatomy and contribution to the Wilson Museum of Anatomy, University of Sydney”

### Secondary

- **St Ignatius College Prize**, for “highest Aggregate score in the 1990 Higher School Certificate”
- **Proxime of Year 12** St Ignatius College 1990
- **Australian Students Prize** for gaining a place in the top 500 Order of Merit list in the 1990 Higher School Certificate
- **NSW Premiers Certificate of Excellence** for First in the State in 3 unit Chinese
- **The Australian Chinese Academics and Professionals Association for Excellence** in the 1990 HSC 3 unit Chinese

## COURSES

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### Deformity Down Under – Annual Educational Meeting for Spine Surgeons (2010 to present)

- *Founder and conference organizer*
- 2010 – Adult and Paediatric Deformity
- 2011 – Adult and Paediatric Deformity
- 2012 – Adult and Paediatric Deformity
- 2013 – Adult and Paediatric Deformity and Bioskills lab
- 2014 – Cervical Spine
- 2015 – Third World Spine Surgery, MIS
- 2016 – Tumour and Trauma and Bioskills Lab
- 2017 – New Technologies
- 2018 – Complex Adult and Paediatric Deformity
- 2019 – Evolution of Spine Surgery Techniques
- 2022 – Contemporary Concepts in Spinal Surgery

### Spine Surgery Courses

- **Speaker & Moderator @ APSS & APOA Dubai 2024**
- **26<sup>th</sup> Anniversary of PCI-IOSS Spine Surgery Summit (Indonesia)**
- **Convenor @ IMAST San Diego 2024**
- **AO Spine Advanced Anatomical Specimen Course 2023, 2024**
- **IMAST 2023**
- **Spine Week Australia 2023**
- **GSC 2023, 2024**
- **Deformity Down Under 2023**
- **SRS 59<sup>th</sup> Annual Meeting (Spain)**
- **SRS 58<sup>th</sup> Annual Meeting, USA**
- **SRS Hong Kong 2023**
- **AO Spine AP Board Meeting + COA (Xian) November 2023**
- **AO Spine Hospital Based Education 2022**
- **Cervical Spine Research Society San Diego 2022**
- **DDU ASEAN 2022, 2023, 2024**
- **Deformity Down Under 2022**
- **Eurospine Milan 2022**

- **AO Spine Singapore 2022**
- **Spine Society Australia 2022**
- **SRS Singapore 2022**
- **IMAST Miami 2022**
- **2022 NSWASM**
- **Chinese Orthopaedic Association Annual Congress, Beijing, 2016-2018**
- **Spine Week, Singapore, 2016**
- **Spine Surgery Live, Skull to Sacrum, New York, USA, 2016**
- **Safety in Spine Surgery Summit, New York, USA, 2016**
- **Scoliosis Research Society 50<sup>th</sup> Annual Meeting Pre-meeting Course and Instructional Course Lectures, Minneapolis, USA, 2015**
- **10<sup>th</sup> UCSF Spine Symposium, San Francisco, USA, 2015**
- **AO North America, Complex Paediatric Spinal Deformity Course, Tampa, USA, 2014**
- **Scoliosis Research Society 47<sup>th</sup> Annual Meeting Pre-meeting Course and Instructional Course Lectures, Chicago, USA, 2012**
- **North American Spine Society Evaluation and Treatment of Adult Spinal Deformity: Skull to Sacrum, Burr Ridge, Illinois, USA, 2011**
- **Scoliosis Research Society 45<sup>th</sup> Annual Meeting Pre-meeting Course and Instructional Course Lectures, Kyoto, Japan, 2010**
- **Scoliosis Research Society 44<sup>th</sup> Annual Meeting Pre-meeting Course and Instructional Course Lectures, San Antonio, 2009**
- **Spinal Trauma Techniques, Medtronic, Sydney, 2008**
- **Emerging Trends in Cervical Spine, Stryker Spine, Baltimore, MD, 2008**
- **Current Trends in Adult and Paediatric Deformity Treatment, Dallas, Texas, 2008**
- **Controversies in Deformity Surgery, Santa Fe, New Mexico, 2008**
- **International Spine Tumour Symposium, Vancouver, Canada, 2007**
- **Spine Deformity Symposium, AO Spine, San Diego, 2007**
- **Management of Complications in Complex Spine Surgery, AO Spine, San Francisco, 2007**
- **Scoliosis Research Society 43<sup>rd</sup> Annual Meeting Pre-meeting Course and Instructional Course Lectures, Salt Lake City, Utah, 2008**
  - **Update on Congenital Spinal Deformity**
- **Scoliosis Research Society 42<sup>nd</sup> Annual Meeting Pre-meeting Course and Instructional Course Lectures, Edinburgh, Scotland, 2007**
  - **Update on Congenital Spinal Deformity**
- **Scoliosis Research Society 41<sup>st</sup> Annual Meeting Pre-meeting Course and Instructional Course Lectures, Monterey, California, 2006**
  - **Paediatric Deformity Symposium**
- **Elevating Best Practice, Depuy, Spine Cadaver Course, Sydney, 2006**
- **Cervical Spine Cadaver Workshop, Stryker Spine, Sydney, 2006**
- **Elevating Best Practice, Depuy, Spine Cadaver Course, Brisbane 2005**
- **Advances in Spine, Port Douglas, 2005**
- **Medtronic Spine Education Day at the Royal Australasian College of Surgeons, Melbourne, 2007**
- **Demonstrator at the Cervical Spine Cadaver Workshop for Operating Theatre Nurses (SHIVER) 2006 at Prince of Wales Hospital Laboratories, Sydney**



## Orthopaedic and Trauma Surgery

- **Trauma Cadaver Course**, Zimmer, Melbourne 2005
- **AO Hand Course**, Sydney, 2002
- **AO Foot and Ankle Course**, Sydney, 2002
- **Basic Principles in Fracture Management**, AO Course, Hong Kong, 1999

## Leadership, Management and Research

- Clinical Trial application @ North Shore Private Hospital with SpineMark on **Efficacy and Safety of Tranexamic Acid in Spinal Fusion, 2018**
- **K2M post-market study of RAIL rod**
- AOA-Kellogg Leadership Series, Module 1: **Using Research to Advance Organizational Success**. At the Kellogg School of Management, Chicago, 2007
- **Graduate Certificate of Public Health**, Auckland University, 2002
- **Critical Literature Evaluation and Research Course**, RACS, 2001

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## CONFERENCE PARTICIPATION

- **International Meeting of Advanced Spinal Techniques** 2007, 2008, 2022, 2023
- **Scoliosis Research Society** 2006, 2007, 2008, 2009, 2010, 2012, 2015, 2018, 2019, 2022
- **Spine Society of Australia** 2005, 2006, 2012, 2014
- **Scoliosis Research Society, Hands On Course**, Singapore 2022
- **Australian Orthopaedic Registrars Association Annual Meeting** 2002-04
- **Surgeons as Leaders in Everyday Practice** 2018
- **Seattle Science Foundation, 2<sup>nd</sup> Annual Advances in Motion Preservation of the Spine –Virtual**, 2020
- **"Endoscopy: When? Why? How?"** 2021
- **Australian Medical Association – Private Practice Masterclass** 2021
- **Eurospine Milan**, 2022
- **Global Spine Congress (GSC)** 2023
- **AO Spine Governance meetings 2023**, AO Spine Board Member
- **AO Spine Masters Seminar – Spineweek 2023**
- **Asia Pacific Meeting on Safety & Quality in Spine Surgery**, 2024

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## ADMINISTRATIVE POSITIONS

- Scoliosis Research Society Education Committee Member and Co-Chair
- Scoliosis Research Society IMAST Committee Member
- AOSPINE, ASIA PACIFIC, Elected Delegate, 2014 - Present

- Local host and Convenor of “Deformity Down Under” spinal deformity meeting 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019
- Scoliosis Research Society, Chairperson, Bylaws Committee, 2018-2019
- Scoliosis Research Society, Member of Research Grants Review Committee 2010, 2015
- Scoliosis Research Society, Member of Education Committee 2010, 2011, 2012
- Scoliosis Research Society, Member of Historical Committee 2013
- Scoliosis Research Society, Member of By-Laws Committee 2015 - 2017
- Reviewer for **SPINE** 2010 - present
- Reviewr for **Spine Deformity Journal** 2017 to present
- Reviewer for **European Spine Journal** 2010 – present
- Reviewer for **Clinical Neurology and Neurosurgery**, 2008, 2011, 2014
- Presenter and Preceptor for Resident Teaching Series, University of California, San Francisco, Department of Orthopaedic Surgery, 2007
- Registrar in charge of Rachel Forster Bone Bank, 2000
- Treasurer, Sydney University Medical Society, 1995
- Vice-President of Resident Medical Officers’ Association, Royal Prince Alfred Hospital, 1998
- Undergraduate Year Representative in Years 4, 5 & 6
- Student Member of Sydney University Faculty of Medicine, 1996, 1997
- Intern Representative to Clinical Training Committee, RPAH
- Secretary of Sydney University Soccer Football Club, 1996

#### PROFESSIONAL MEMBERSHIPS

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- Fellow of Australasian College of Surgeons, since 2007
- Active member Scoliosis Research Society, since 2013
- Australian Society of Orthopaedic Surgeons (ASOS), since 2004
- Member of the Australian Medical Association, since 1997
- Member of North American Spine Society, 2008 to present
- Associate Fellow of Australian Orthopaedic Association
- American Academy of Orthopaedic Surgeons, International Affiliate Member

#### LANGUAGES

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Fluent in English and Chinese (Cantonese)