

CURRICULUM VITAE



KWAN MUN KEONG

M.B.B.S (Uni. Malaya), M.S.Orth (Uni. Malaya), AM(Mal).

CURRENT APPOINTMENTS

Jan 2015 – Current	<i>Professor (Spine Surgery)</i> Department of Orthopaedic Surgery University Malaya Medical Centre University of Malaya Kuala Lumpur, Malaysia
Jan 2009- Current	<i>Head of Spine Research Unit</i> Department of Orthopaedic Surgery University Malaya Medical Centre University of Malaya Kuala Lumpur, Malaysia
June 2013 – Current	<i>Treasurer</i> Malaysia Spine Society (MSS)
Dec 2012 – Current	<i>Honorary Secretary</i> Asia Pacific Spine Society (APSS) (Formerly known as Spine Section of APOA)
Sept 2015 – Current	<i>Country Representative</i> Scoliosis Research Society
Sept 2016 - Current	<i>Member</i> IMAST Committee, Scoliosis Research Society
Jan 2012 – Current	<i>Examiner</i> Spine Fellowship Programme (Ministry of Health, Malaysia)
July 2013 – Current	<i>Member</i> Editorial Board Asian Journal of Spine
Jan 2008 – Current	<i>Reviewer Panel for Journal</i> Malaysian Orthopaedic Journal
Jan 2012 – Current	<i>Reviewer Panel for Journal</i> Indian Journal of Orthopaedic

AWARDS

1. ***Mahmood Merican Award 2002*** - awarded by Malaysian Orthopaedic Association for the best Thesis of M.S. Orth of the Year 2002
2. ***N. Subramaniam Medal Award 2002*** - awarded by Malaysian Orthopaedic Association for the Top Student of the M.S. Orth (Uni. Malaya) of the year 2002
3. ***Whitecloud Award Nominee- 19th International Meeting On Advanced Spine Techniques (IMAST) 2012***
Feasibility of Percutaneous Posterolateral Spinal Fusion with Recombinant Bone Morphogenetic Protein-2 (Rh-BMP2): A Comparison with Standard Methods Using an Animal Model Study
4. ***P. Balasubramaniam Best Published Translational Medicine Paper Award 2014***, Malaysian Orthopaedic Association, 2014, (NATIONAL)
5. ***Best Oral Paper Presentation Award, International Minimally Invasive Spine Congress Kuala Lumpur, 2014***, (INTERNATIONAL)
6. ***P. Balasubramaniam Best Published Translational Medicine Paper Award 2016***, Malaysian Orthopaedic Association, 2016, (NATIONAL)
7. ***Subir Sengupta Award, Malaysian Orthopaedic Association, 2016***, (NATIONAL)
Peri-operative Outcome in Posterior Spinal Fusion for Adolescent Idiopathic Scoliosis: A Prospective Study Comparing Single Versus Two Attending Surgeons Strategy
8. ***Best Research Award- 4th International Malaysian Spine Society (MSS) Scientific Congress 2016***
Assessment of Intra-Operative Blood Loss at Different Surgical Stages of Posterior Spinal Fusion Surgery in Adolescent Idiopathic Scoliosis (Lenke Type 1 and 2): A Prospective Propensity Score-Matched Cohort Study Comparing Between Single and Two Attending Surgeons

PUBLICATIONS (Spine Surgery)

1. ***“Coronal Plane and Apical Vertebral Rotation Correction of Adolescent Idiopathic Scoliosis with Multisegmented Hook-Rod System – A Retrospective Review.”*** **Kwan MK**, Chooi WK, Lim HH. Med J Malaysia 2004 Dec; 59 Suppl F: 14-18.
2. ***“The Assessment of Immediate Post-Operative Scoliosis Correction using Pedical Screw by utilising the Fulcrum Bending Technique.”*** **Chan CYW**, **Kwan MK**, Saravanan S, Saw LB, Deepak AS. Med J Malaysia 2007 Mar; 62(1):33-35.
3. ***“Non-Hodgkin’s Lymphoma Masquerading as Psoas Abscess: A Case Report.”*** **Ng WM**, Ong TC, **Kwan MK**, Cheok CY. Malaysian Orthop J 2008; 2(1): 49-51
4. ***“Post-operative Health Related Quality of Life Assessment in Scoliosis Patients.”*** **Chan CYW**, **Kwan MK**, Saw LB, Deepak AS, Chong CS, Liew TM, Lee CS. Med J Malaysia 2008 Jun; 63(2):137-139.
5. ***“Comparison of SRS-24 and SRS-22 scores in thirty eight Adolescent Idiopathic Scoliosis patients who had undergone surgical correction.”*** **Chan CYW**, Saw LB, **Kwan MK**. Malaysian Orthop J 2009 May; 3(1):56-59.
6. ***“Pneumocranium Secondary to Halo Vest Pin Penetration through an Enlarged Frontal Sinus.”*** **Cheong ML**, Chan CY, Saw LB, **Kwan MK**. Eur Spine J 2009 Jul; 18 Suppl 2: 269-271.
7. ***“U-Shaped sacral fracture: an easily missed fracture with high morbidity. A report of two cases”.*** **Hussin P**, Chan CYW, Saw LB, **Kwan MK**. Emerg Med J 2009 Sept;26:677-678.
8. ***“Chance Fracture Secondary to a Healed Kyphotic Compression Osteoporotic Fracture.”*** **Teh KK**, Chan CYW, Saw LB, **Kwan MK**. Malaysia Orthop J 2009 Nov; 3(2): 44-46.
9. ***“Safety of Thoracic Pedicle Screw Application Using the Funnel Technique in Asian: A Cadaveric Evaluation.”*** **Chan CYW**, **Kwan MK**, Saw LB. Eur Spine J 2010 Jan; 19:78-84.
10. ***“Head scarf related Hangman’s fracture – A case report.”*** **Chiu CK**, Chan CYW, Saw LB, **Kwan MK**. Eur J Trauma Emerg Surg 2010 Apr; 36(2):180-182.
11. ***“Safety Issues and Neurological Improvement following C1-C2 Fusion using C1 Lateral Mass and C2 Pedicle Screw in Atlantoaxial Instability.”*** **MK Kwan**, CYW Chan, TCC Kwan, YN Gashi, LB Saw. Malaysia Orthop J 2010 Jul; 4(2):17-21.
12. ***“Thoracic Pedicle Screw Insertion in Asian Cadaveric Specimen: Does Radiological Pedicle Profile Affect Outcome?”*** **Chan CYW**, Saw LB, **Kwan MK**. Surg Radiol Anat 2011 Jan; 33(1):19-25. DOI: 10.1007/s00276-010-0726-1.
13. ***“Extensive Brown Tumors of Spine, Distal Femur and Patella Presenting with Acute Cord Compression. A Case Report.”*** **TH Low**, LB Saw, **MK Kwan**, CYW Chan, AS Deepak. Malaysian Orthop J 2011 Jan; 5(1):60-62.
14. ***“Double Level Extension-Distrraction Thoracic Spine Injuries with Concomitant Double Level Sternal Fractures: A Case Report.”*** **CK Lee**, CYW Chan, LB Saw, **MK Kwan**. Malaysian Orthop J 2011 Jan; 5(1):52-55.
15. ***“Acute Brown-Sequard Syndrome Following Brachial Plexus Avulsion Injury. A Report of Two Cases.”*** **Zubair M**, Ravindran T, Chan CYW, Saw LB, **Kwan MK**. Hong Kong J Emerg Med 2011 Apr; Accepted.

16. ***“Radiological Assessment of Cervical Lateral Lateral Mass Screw Angulations in Asian Patients. How safe are the vertebral vessels?”*** Sureisen M, Saw LB, Chan CYW, Deepak AS, **Kwan MK**. Indian J Orthop 2011. 45(6): 504-507.
17. ***“A Radiological Evaluation of The Morphometry and Safety of S1, S2 and S2-iliac Screws in the Asian Population Using Three Dimensional Computed Tomography Scan: An Analysis of 180 Pelvis.”*** **Kwan MK**, Jeffry A, Chan CYW, Saw LB. Surg Radiol Anat 2012 Apr; 34(3):217-227. DOI: 10.1007/s00276-011-0919-2.
18. ***“The Role of Percutaneous Pedicle Screw Stabilisation for Unstable Spine Fractures in Polytraumatised Patients: A Report of Two Cases.”*** Tan BB, Chan CYW, Saw LB, **Kwan MK**. Indian J Orthop 2012 Nov; 46(6):710-713. DOI: 10.4103/0019-5413.104235.
19. ***“Symptomatic Calcifying Pseudotumour of the Thoracic Spine that Resolved with Indomethacin Treatment: A Case Report.”*** **Kwan MK**, Abdelhai AM, Saw LB, Chan CYW. Spine 2012; 37(26): E1676-679. DOI: 10.1097/BRS.0b013e318276b48c.
20. ***“Correction of Severe Thoracolumbar Spondylolisthesis Secondary to Neurofibromatosis with Posterior Spinal Instrumented Fusion Alone. A Case Report.”*** M Tahir, **MK Kwan**, CYW Chan, LB Saw, DW Goh. Med J Malaysia. 2012 Dec; 67(6): 633-635.
21. ***“Feasibility of Percutaneous Spinal Fusion with Bone Morphogenetic Protein: A Comparison with Standard Methods (An Animal Study Model)”*** Chan CYW, Saw LB, **Kwan MK**. J Surg Tech Disord. [Accepted in 2013 Apr]
22. ***“The Safety and Strength of a Novel Medial, Partial non-threaded Pedicle Screw: A Cadaveric and Biomechanical Investigation”*** **Kwan MK**, Kanthan SR, Saw LB, Lenke LG. Journal of Spinal Disorders and Techniques. [Accepted for publication in September 2013 – BSD 201199]
23. ***“Neck Tilt and Shoulder Imbalance in Adolescent Idiopathic Scoliosis Patients Underwent Posterior or Spinal Fusion. How to Prevent These Problems?”*** **Kwan MK**. Journal of Spine Research. 2014; 5(3):461.
24. ***“Improved Accuracy and Safety of Intracorporeal Transpedicular Bone Grafting using Contrast Impregnated Bone: A Case Report”*** Chiu CK, Chan CYW, **Kwan MK**. Malaysian Orthopaedic Journal. 2014; 8(3):27-9.
25. ***“Is Neck Tilt and Shoulder Imbalance The Same Phenomenon? A Prospective Analysis of 89 Adolescent Idiopathic Scoliosis Patients (Lenke Type 1 and 2)”*** **Kwan MK**, Wong KA, Lee CK, Chan CYW. Eur Spine Journal. 2015; R10.1007/s00586-015-4016-9.
26. ***“A Comparison of Feasibility and Safety of Percutaneous Fluoroscopic Guided Thoracic Pedicle Screws Between Europeans and Asians: Is There Any Difference?”*** **Kwan MK**, Chiu CK, Chan CYW, Zamani R, Hansen-Algenstaedt N. European Spine Journal. 2015; 10.1007/s00586-015-4150-4.
27. ***“Prediction of Curve Correction using Alternate Level Pedicle Screw Placement in Adolescent Idiopathic Scoliosis (AIS) Lenke 1 and 2 Patients using Supine Side Bending (SB) and Fulcrum Bending (FB) Radiograph: The Influence of Curve Magnitude and Lenke AR Curves”*** **Kwan MK**, Zeyada HE, Chan CY. Spine (Phila Pa 1976). 2015 August 27.
28. ***“Accuracy and Safety of Fluoroscopic Guided Percutaneous Pedicle Screws in Thoracic and Lumbosacral Spine: A Review of 2000 Screws”*** Hansen-Algenstaedt N, Chiu CK, Chan CYW, Lee CK, Christian S, **Kwan MK**. Spine. 2015; 40(17):E954-63.

29. ***“The Accuracy and Safety of Fluoroscopically Guided Percutaneous Pedicle Screws in the Lumbosacral Junction and the Lumbar Spine: A Review of 880 Screws”*** Chiu CK, Kwan MK, Chan CYW, Schaefer C, Hansen-Algenstaedt N. Bone and Joint. 2015; 97-B (8):1111-7.
30. ***“Can Intra-operative Text Messages [Short Message Service (SMS)] Reduce Parental Anxiety of Children Undergoing Posterior Spinal Fusion Surgery For Adolescent Idiopathic Scoliosis (AIS)”*** Kwan MK, Gan CC, Chiu CK, Chan CYW. Spine. 2015.
31. ***“Comparison between Percutaneous Fluoroscopic-Guided and Conventional Open Pedicle Screw Placement Techniques for the Thoracic Spine: A Safety Evaluation in Human Cadavers”*** Kwan MK, Chiu CK, Lee CK, Chan CYW. Bone & Joint. 2015.
32. ***“Minimally Invasive Spinal Stabilization (MIS_t) using Fluoroscopic-Guided Percutaneous Screws Technique as a Form of Palliative Surgery in Patients with Spinal Metastasis”*** Kwan MK, Lee CK, Chan CYW. Asian Spine Journal. 2015.
33. ***“Ultra Long Construct MIS_t using Percutaneous Pedicle Screws in the Treatment of Symptomatic Multicentric Metastasis: A Case Report”*** Lee CK, Chan CYW, Kwan MK. Asian Spine Journal. 2015.
34. ***“Improved Accuracy and Safety of Intracorporeal Transpedicular Bone Grafting- using Contrast Impregnated Bone: A Case Report”*** Chiu CK, Chan CYW, Kwan MK. Malaysian Orthopaedic Journal. 2015.
35. ***“Peri-operative Outcome in Posterior Spinal Fusion for Adolescent Idiopathic Scoliosis: A Prospective Study Comparing Single Versus Two Attending Surgeons Strategy”*** Kwan MK, Chan CYW. Spine. 2015.
36. ***“Assessment of Intra-operative Blood Loss at Different Surgical Stages during Posterior Spinal Fusion Surgery in the Treatment of Adolescent Idiopathic Scoliosis”*** Chiu CK, Chan CYW, Aziz I, Hassan MS, Kwan MK. Spine. 2015.
37. ***“Minimally Invasive Spinal Stabilization using Fluoroscopic-Guided Percutaneous Screws as a Form of Palliative Surgery in Patients with Spinal Metastasis”*** Kwan MK, Lee CK, Chan CYW. Asian Spine Journal. 2016.
38. ***“Is There an Optimal Upper Instrumented Vertebra (UIV) Tilt Angle to Prevent Post-operative Shoulder Imbalance and Neck Tilt in Lenke 1 and 2 Adolescent Idiopathic Scoliosis (AIS) Patients?”*** Kwan MK, Chan CYW. European Spine Journal. 2016.
39. ***“Remarkable Bone Formation Following Gefitinib Treatment in Lung Adenocarcinoma Patients with Extensive Lytic Bone Metastases Positive for Epidermal Growth Factor Receptor (EGFR) Mutation: A Report of Two Cases”*** Elrofai SB, Kwan AKN, Chan CYW, Kwan MK. Journal of Orthopaedic Surgery. [Accepted in 2015].
40. ***“Posterior Spinal Instrumented Fusion in Scoliosis Associated with MELAS Syndrome: A Report of 2 Cases and Review of Literature”*** Loh KW, Chan CYW, Chiu CK, M. Shahnaz Hasan, Kwan MK. Journal of Orthopaedic Surgery. 2016.
41. ***“Neurological Recovery in Two Patients with Cauda Equina Syndrome Secondary to L5 Lumbar Spine Giant Cell Tumour after Treatment with Denosumab without Surgery”*** Randhawa SS, Kwan AKN, Chiu CK, Chan CYW, Kwan MK. Asian Spine Journal. 2016.
42. ***“The Use of Pre-operative Halo Traction to Minimize Risk for Correction of Severe Scoliosis in a Patient with Fontan Circulation: A Case Report and Review of Literature”*** Chan CYW, Lim CY, M. Shahnaz Hasan, Kwan MK. European Spine Journal. 2016.

43. ***“Prediction of Height Increment using Pre-operative Radiological parameters Following Selective Thoracic Fusion with Alternate Level Pedicle Screw Construct in Lenke 1 and 2 Adolescent Idiopathic Scoliosis Patients”*** Kwan MK, Aziz I, Chan CYW. Journal of Orthopaedic Surgery. [Accepted in 2016].
44. ***“Assessing the Flexibility of the Proximal Thoracic Segments above the ‘Potential Upper Instrumented Vertebra’ using the Cervical Supine Side Bending Radiographs in Lenke 1 and 2 Curves for Adolescent Idiopathic Scoliosis Patients”*** Chan CYW, Chiu CK, **Kwan MK**. Spine (Phila Pa 1976). 2016.
45. ***“A Silver Medal Winner at the 13th World Wu Shu Championship 2015, 17 Months after Selective Thoracic Fusion for AIS: A Case Report”*** Chan CYW, Aziz I, Chai FW, **Kwan MK**. Spine (Phila Pa 1976). [Accepted in 2016].
46. ***“Accuracy and Safety of Pedicle Screw Placement in Adolescent Idiopathic Scoliosis (AIS) Patients: A Review of 2020 screws using Computer Tomography Assessment”*** **Mun Keong Kwan**, Chee Kidd Chiu, Siti Mariam Abd Gani, Chris Yin Wei Chan. Spine (Phila Pa 1976). [Accepted in 2016].
47. ***“Is C1 Lateral Mass Screw Placement Safe for the Chinese, Indians and Malays? An Analysis of 180 Computed Tomography Scans”*** Lee Chee Kean, Tan Tiam Siong, Chan Chris Yin Wei, **Kwan Mun Keong**. Journal of Orthopaedic Surgery. [Accepted in 2016].
48. ***“Anesthetic Considerations In Scoliosis Patient With Dopa-Responsive Dystonia Or Segawa’s Syndrome: 2 Case Reports And A Review Of The Literature”*** M. Shahnaz Hasan, Kok Weng Leong, Chris Yin Wei Chan, **Mun Keong Kwan**. Journal of Orthopaedic Surgery. [Accepted in 2016].
49. ***“Biomechanical Comparison between Cortical Screw-rod Construct versus Pedicle Screw-rod Construct in a Transforaminal Lumbar Interbody Fusion (TLIF): A Porcine Animal Study Model”***. Chris Chan Yin Wei, Sem Sei Haw, Elrofai Suliman Bashir, Saw Lim Beng, Shamugan Rukmani Kanthan, **Kwan Mun Keong**. Journal of Orthopaedic Surgery. [Accepted in 2016].
50. ***“Comparison between Minimally Invasive Surgery and Conventional Open Surgery for Patients with Spinal Metastasis: A Prospective Propensity Score-Matched Study”***. Nils Hansen-Algenstaedt, **Mun Keong Kwan**, Petra Algenstaedt, Chee Kidd Chiu, Lennart Viezens, Teik Seng Chan, Chee Kean Lee, Jasmin Wellbrock, Chris Yin Wei Chan, Christian Schaefer. Spine (Phila Pa 1976). [Accepted in 2016].
51. ***“Trajectory of Post-operative Wound Pain within the first two weeks following Posterior Spinal Fusion Surgery in Adolescent Idiopathic Scoliosis Patients”***. **Mun Keong Kwan**, Chee Kidd Chiu, Teik Seng Chan, Kok Ian Chong, Siti Mariam Mohamad, Mohd Shahnaz Hasan, Chris Yin Wei Chan. Spine (Phila Pa 1976). [Accepted in 2016].
52. ***“Does a Dual Attending Surgeon Strategy confer additional benefit for Posterior Selective Thoracic Fusion in Lenke 1 and 2 Adolescent Idiopathic Scoliosis (AIS)? A Prospective Propensity Matching Score Analysis”***. **Kwan MK**, Chan CYW. The Spine Journal. [Accepted in 2016].

53. ***“Assessment of Intra-operative Blood Loss at Different Surgical Stages of Posterior Spinal Fusion Surgery in Adolescent Idiopathic Scoliosis (Lenke Type 1 and 2): A Prospective Propensity Score-Matched Cohort Study Comparing between Single and Two Attending Surgeons”***. **Kwan MK**, Chiu CK, Siti Mariam Mohamad, M. Shahnaz Hasan, Chan CYW. *European Spine Journal*. [Accepted in 2016].
54. ***“Factors Affecting Intra-Operative Blood Loss for Posterior Spinal Fusion in 100 Adolescent Idiopathic Scoliosis (AIS) Patients in Malaysia”***. Chee Kean Lee, Chiao Chin Gan, Izzuddin Aziz, Mohd Shahnaz Hasan, Chris Yin Wei Chan, **Mun Keong Kwan**. *The Medical Journal of Malaysia*. [Accepted in 2016].
55. ***“Surgical Morphometry of C1 and C2 Vertebrae: A 3-Dimensional Computed Tomography Analysis of 180 Chinese, Indian and Malay”***. Lee CK, Tan TS, Chan CYW, **Kwan MK**. *Asian Spine Journal*. [Accepted in 2016].

BOOK/ INSTRUCTIONAL MANUAL

1. Orthopaedic Trauma Course Manual (1st Edition). Edited by Kwan MK, Abbas AA, Choon DSK. Printed for Orthopaedic Trauma Course use only.
2. Handbook of Orthopaedic Surgery. Kwan MK, Chua YP, Ng WM, Saw LB. University of Malaya: Kuala Lumpur. 2007. **ISBN 983-42851-1-6**
3. Masters in Orthopaedic Surgery. Training Requirements. Part I: Surgical Skills. Kwan MK, Ahmad TS. University of Malaya: Kuala Lumpur. 2008. **ISBN 978-983-42600-6-4**
4. Masters in Orthopaedic Surgery. Training Requirements. Part II: Clinical Practice Skills. Kwan MK, Ahmad TS. University of Malaya: Kuala Lumpur. 2008. **ISBN 978-983-42600-7-1**
5. **Patient Handbook on Idiopathic Scoliosis.** Kwan MK, Chan CYW, Loh KW, Lim CC, Ho NWW. University of Malaya: Kuala Lumpur 2013. **ISBN 978-983-42600-9-5**
6. **Management of Spinal Deformities Concise Handbook for Orthopaedic Trainees.** Kwan MK, Chan CYW, Loh KW, Lim CC, Ho NWW. University of Malaya: Kuala Lumpur 2013. **ISBN 978-983-42600-9-5**

BOOK CHAPTER

1. Kwan MK. Degenerative spine disease. Textbook of Orthopaedics and Trauma. In: Sivananthan S, Sherry E, Warnke P, Miller MD. Mercer's 10th edn. UK: Hodder Arnold; 2012. pp993-1006.
2. Kwan MK. Vertebroplasty and kyphoplasty for fragility fractures of the spine. Current Progress in Orthopaedics. HK; 2013.