



**Adj Asst Prof. Pang Hung Wu**

MBBS( S'pore), MRCS (Ireland) ,MMED Ortho (S'pore) ,GDFM( S'pore), FRCS(Orth)  
Edinburgh

**Director And Chief Of Minimally Invasive Spine Surgery**

Achieve Spine And Orthopaedic Centre  
3 Mount Elizabeth Suite, #16-11, Mount Elizabeth Medical Centre  
Singapore 228510.

Achieve Spine And Orthopaedic Novena Centre  
38 Irrawady Road, #07-63, Mount Elizabeth Novena Specialist Centre, Singapore 329563

**Visiting Consultant**

National Neuroscience Institute

Sengkang General Hospital

Woodlands General Hospital

**Adjunct Assistant Professor**

Yong Loo Lin School Of Medicine  
National University of Singapore

**Visiting Professor**

Henan Third Provincial People's Hospital, China

**Chairman Of Endsocopic Spine Surgery Focus Group, Singapore Spine Society**

Personal details

Name

Pang Hung Wu

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Professional registration

Singapore Medical Council – M13239Z

#### Professional Qualifications

- MBBS with Dean's List Award National University of Singapore March 2006
- Membership of Royal College of Surgeons of Ireland Feb 2009 Royal College of Ireland
- Graduate Diploma of Family Medicine March 2010 National University of Singapore
- Master of Medicine Orthopaedic Surgery Aug 2014 National University of Singapore
- Fellows of Royal College of Surgeons Edinburgh (Orth) May 2016 Edinburgh

#### Specialist Qualification

- Specialist Orthopaedic Surgery Singapore
- Diploma of Family Medicine

#### Membership in Society

Chairman of Endoscopic Spine Surgery Focus Group, Singapore Spine Society.

Permanent Member of Asia Pacific Spine Society , Council Member of Educational Subcommittee

Member, Royal College of Surgeon Ireland

Member of Singapore Orthopaedic Association

Member of AO spine

Fellow of Royal College of Surgeons, Edinburgh

Languages spoken

English, Chinese, Cantonese

**Charity /Social Enterprise Memberships**

Ex Board Member Cerebral Palsy Association of  
Singapore and Honorary Board Member  
Children Charities Association of Singapore

**Medical Honors/Awards**

- Dean List Final MBBS National University of Singapore in March 2006
- Best Houseman Award Orthopaedics National University Hospital in Nov 2006
- Best Houseman Award General Surgery National University Hospital in Feb 2007
- Winner of the Best Oral Presentation Competition in Annual Scientific Congress Singapore in 2007. With the paper Correlation of the long term outcome with completeness of surgical evacuation of Intracerebral haemorrhage- A retrospective Study
- Singapore Ministry of Health Training Scholar in April 2010
- Competed in Young Orthopaedic Investigator Award 2014 Singapore Orthopaedic Association Annual Scientific Meeting
- Competed in Young Surgeon's Award in 49<sup>th</sup> Singapore Malaysia Congress of Medicine in Feb 2015
- Winner of Pacific and Asian Society of Minimally Invasive Spine Surgery (PASMISS) Best poster November 2015 Korea
- Winner of Outstanding Oral Presentation of International Society for the Study of the Lumbar Spine held in June 2015 USA.
- Joint top score candidate in Joint Specialty Fellowship Examination FRCS (Orth) Edinburgh Exit Examination in May 2016
- Orthopaedic Teaching Excellence Award , National University Singapore for 2015-2016
- Orthopaedic Teaching Excellence Award , National University Singapore for 2016-2017
- Service Star Award Ng Teng Feng General Hospital September 2017
- Service Story: Unsung Hero Award Jan 2018
- Service Ambassador Award Ng Teng Feng General Hospital September 2018
- Winner of the Best Paper Award for 2019 Korean Minimally Invasive Surgery Society
- Winner of Best Oral Presentation Award in Virtual World Spine Congress 2020
- Service Ambassador Gold Award Ng Teng Feng General Hospital September 2022

**Fellowship Experience**

- AO Spine East Asia Fellowship: Navigation, Lateral Access Surgery And Complex Deformity Correction Fellowship. Okayama Rosai Hospital , Okayama, Japan , Dec 2020.
- Spinal Endoscopy Fellow of Nanoori Gangnam Hospital, Spine Division , Seoul , South Korea: Sept 2019- Mar 2020
- AO Spine North America Fellowship: Complex Spine Surgery Fellow in Toronto Western Hospital , Canada: Sept 2018-Sept 2019
- Spine Trauma Fellow of Sunnybrook Health Sciences, Toronto , Canada: July 2019- Sept 2019

- Paediatric Spine Fellow at Hospital For Sick Children(SICKIDS) , Toronto, Canada: Sept 2018-July 2019
- AO trauma fellow of University of Heidelberg, BG Klinik Ludwigshafen, Germany, June 2016
- Association of South East Asian Nations(ASEAN) Travelling fellowship 2014 to South East Asia Orthopaedics Centre
- Hong Kong Orthopaedic Association, Singapore Ambassador 2014.

<b>Reviewer /Editor of Journal</b>	
Medicina Journal	Guest Editor , Endoscopic Spine Surgery Special Edition 2023
Journal of Minimally Invasive Spine Surgery and Technique( JMISST)	1) Junior Editor, Member of Editorial Board 2) Editorial board for Endoscopy Section of June 2021 and 2023 issue
Neurospine Journal	1) Reviewer 2) NASS- Neurospine Journal – Editorial board for Endoscopy Section of June 2020 issue
World Neurosurgery	1) Reviewer 2) Editorial board for Endoscopy Section of Sept 2020 issue
BMC Musculoskeletal Disorders	Reviewer
Pain and Therapy Journal	Reviewer
Medicine Journal	Reviewer
Asian Journal of Neurosurgery	Reviewer
Interdisciplinary Neurosurgery	Reviewer
Clinical Neurology And Neurosurgery	Reviewer
<b>Fellowship /Ambassador</b>	
ASEAN Orthopaedic Association Junior Travelling Fellowship 2014	Travelling Fellow for Singapore Orthopaedic Association
HKOA – SOA Ambassador 2014	Singapore SOA Ambassador
AO trauma Fellowship 2017	Germany June-July 2017 in BGU Ludwigshafen, University of Heidelberg
Nanoori Suwon Hospital Endoscopic Spine Fellowship	December 2017
Spine Fellowship in University Health Network Toronto Canada – Toronto Western Hospital, SickKids and Toronto General Hospital	Sept 2018 to June 2019
Spine Fellowship in Sunnybrook Hospital Toronto, Canada	July 2019 to Aug 2019
Nanoori Gangnam Hospital Endoscopic Spine Fellowship	Sept 2019 to March 2020.
AO Spine East Asia Fellowship, Okayama	Dec 2022

Rosai Hospital, Japan	
<b>Academic Position</b>	
Yong Loo Lin School of Medicine Adjunct Clinical Educator Scheme	Adjunct Assistant Professor
Yong Loo Lin School of Medicine Clinical Faculty Scheme	Clinical Lecturer <ul style="list-style-type: none"> <li>• Orthopaedic Teaching Excellence Award , National University Singapore for 2015-2016</li> <li>• Orthopaedic Teaching Excellence Award , National University Singapore for 2016-2017</li> </ul>
Convener of Royal College Of Surgeons Edinburgh Professional Examination	Convener of FRCS Exit Examination in 2017
<b>Current Employment</b>	
National University Health System- Juronghealth Campus, Ng Teng Feng General Hospital, Singapore	Consultant from July 2018 – May 2023
Ng Teng Feng General Hospital, Singapore	Visiting Consultant June 2023-current
National University Hospital, Singapore	Visiting Consultant June 2023-current
Singhealth, Sengkang Hospital , Singapore	Visiting Consultant June 2023-current
Achieve Spine And Orthopaedic Centre	Director and Chief Of Minimally Invasive Spine Surgeon. Senior Consultant Orthopaedic Surgeon

<b>Research and Publications</b>	
1. Socioeconomic aspect of Diabetics with and without foot problems.	Poster Presentation in APOA 2007. Published as book chapter in <u>Diabetic Foot Problems</u> , pp. 15-28 (2008) World Scientific
2. Correlation of the long term outcome with completeness of surgical evacuation of Intracerebral haemorrhage- A retrospective Study	Winner of the Best Oral Presentation Competition in Annual Scientific Congress 2007. Published in Singapore Medical Journal 2010 ;51(4) 320
3. Spontaneous Perforation of the Oesophagus	Published in Singapore Surgical Bulletin January ,the Chapter of General Surgeons, College of Surgeons, Singapore. 2010
4. A Patient with Thyroid Storm Presenting with Apathetic Thyrotoxicosis and Features of Meningoencephalitis	Yang SPL, <b>Wu PH</b> , Tey BH, Tan CK (2011) A Patient with Thyroid Storm Presenting with Apathetic Thyrotoxicosis and Features of Meningoencephalitis. <i>Thyroid</i> 21:675-678
5. Osteomyelitis and Septic Arthritis in a Single tertiary paediatric centre: A ten year study on epidemiology and antibiotics therapy	Presentation SOA ASM 2012
6. Metastatic Spinal Tumor Surgery. A Comparison of minimally invasive	Winner of Outstanding Oral Presentation of International Society for the Study of the Lumbar Spine held in June

versus Open percutaneous pedicular screw fixation	2015 USA Published Clin Spine Surg. 2016 Jun 27 Kumar N, Malhotra R, Maharajan K, Zaw AS, <b>Wu PH</b> , Makandura MC, Po Liu GK, Thambiah J, Wong HK (2017) Metastatic Spine Tumor Surgery: A Comparative Study of Minimally Invasive Approach Using Percutaneous Pedicle Screws Fixation Versus Open Approach. Clinical spine surgery 30:E1015-e1021
7.Versatility of Percutaneous Pedicular Screw Fixation In Metastatic Spine Tumour Surgery. A Prospective Analysis	Competed in SOA ASM Young Orthopaedic Investigator Award 2014 Winner of Pacific and Asian Society of Minimally Invasive Spine Surgery (PASMISS) Best poster November 2015 Korea Published in Annals of Surgical Oncology: Volume 22, Issue 5 (2015), Page 1604-1611 Kumar N, Zaw AS, Reyes MR, Malhotra R, <b>Wu PH</b> , Makandura MC, Thambiah J, Liu GKP, Wong H-K (2015) Versatility of percutaneous pedicular screw fixation in metastatic spine tumor surgery: a prospective analysis. Annals of surgical oncology 22:1604-1611
8.Evaluation of Headless Compression Screw fixation outcome between simple and complex radial head fractures. A case series with minimum 1 year follow up	HKOA – SOA ambassador award 2014.
9.Surgical Fixation Of Radial Head Fractures using Cannulated Headless Compression Screws. Treatment protocol and outcomes in a prospective case series	Finalist in Young Surgeon's Award in 49 <sup>th</sup> Singapore Malaysia Congress of Medicine.
10."Comparison of headless compression screws with plate fixation and primary radial head arthroplasty as surgical treatment for complex three parts radial head fractures"	Screw fixation versus arthroplasty versus plate fixation for 3-part radial head fractures. <b>Wu PH</b> , Shen L, Chee YH.J Orthop Surg (Hong Kong). 2016 Apr; 24(1):57-61.
11.Prospective Study Of Surgical Fixation Of Radial Head Fractures using Cannulated Headless Compression Screws For Simple And Complex Radial Head	Prospective study of surgical fixation of radial head fractures using cannulated headless compression screws for simple and complex radial head fractures. <b>Wu PH</b> , Dixit A, Kiat Tan DM, Shen L, Chee YH.J Orthop Surg (Hong Kong). 2017 May-Aug; 25(2)

12.Minimally Invasive Lateral Access Corpectomy for a Solitary Renal Cell Carcinoma Spinal Metastasis: A Case Report	JLee , <b>Wu PH</b> , Tan YH Journal of Minimally Invasive Spine Surgery and Technique 2018; 3(2): 70-74.
13.How I do it ? Uniportal Full endoscopic contralateral approach for Lumbar foraminal stenosis with Double Crush Syndrome.	<b>Wu PH</b> , Kim HS, Jang I-T. How I do it? Uniportal full endoscopic contralateral approach for lumbar foraminal stenosis with double crush syndrome. <i>Acta Neurochirurgica</i> . 2019.
14.Complications and limitations of Endoscopic spine surgery and Percutaneous instrumentation	Kim, H.-S.; Sharma, S.; <b>Wu, PH.</b> ; Raorane, H.; Adsul, N.; Singh, R.; Jang, I.-T., Complications and limitations of endoscopic spine surgery and percutaneous instrumentation. <i>Indian Spine Journal</i> 2020, 3, (1), 78-85
15.Incidental Durotomy during Endoscopic Stenotic Lumbar Decompression (ESLD): incidence, classification and proposed management strategies	Kim, H. S.; Raorane, H. D.; <b>PH Wu.</b> ; Heo, D. H.; Sharma, S. B.; Jang, I. T., Incidental Durotomy during Endoscopic Stenotic Lumbar Decompression (ESLD): incidence, classification and proposed management strategies. <i>World Neurosurg</i> 2020.
16.Lumbar Degenerative Disease Part 1: Anatomy and Pathophysiology of Intervertebral Discogenic Pain and Radiofrequency Ablation of Basivertebral and Sinuvertebral Nerve Treatment for Chronic Discogenic Back Pain: A Prospective Case Series and Review of Literature.	Kim, H.S.; <b>Wu, P.H.</b> ; Jang, I.-T. Lumbar Degenerative Disease Part 1: Anatomy and Pathophysiology of Intervertebral Discogenic Pain and Radiofrequency Ablation of Basivertebral and Sinuvertebral Nerve Treatment for Chronic Discogenic Back Pain: A Prospective Case Series and Review of Literature. <i>Int. J. Mol. Sci.</i> 2020, 21, 1483. <b>Joint first Author</b>
17.Intervertebral Disc Diseases PART 2: A Review of the Current Diagnostic and Treatment Strategies for Intervertebral Disc Disease.	<b>Wu, P. H.</b> ; Kim, H. S.; Jang, I.-T., Intervertebral Disc Diseases PART 2: A Review of the Current Diagnostic and Treatment Strategies for Intervertebral Disc Disease. <i>International journal of molecular sciences</i> 2020, 21, (6), 2135.
18.Current and Future of Endoscopic Spine Surgery	Kim, H. S.; <b>Wu, P. H.</b> ; Jang, I.-T., Current and Future of Endoscopic Spine Surgery: What are the Common Procedures we Have Now and What Lies Ahead? <i>World Neurosurgery</i> <b>2020</b> , 140, 642-653. Joint first author of the article.
19.Technical Note On Uniportal Full Endoscopic Posterolateral Approach Transforaminal Lumbar Interbody Fusion with Reduction for Grade 2 Spondylolisthesis	<b>Winner of KOSMISS Best Oral Presentation.</b> Joint first author of the article. Kim, H. S.; <b>Wu, P. H.</b> ; Jang, I.-T., Technical note on Uniportal full endoscopic posterolateral approach transforaminal lumbar interbody fusion with reduction for grade 2 spondylolisthesis. <i>Interdisciplinary Neurosurgery</i> 2020, 21, 100712.



20.Feasibility of Endoscopic Transforaminal Lumbar Interbody Fusion(eTLIF) through the Posterior Paraspinal Approach: Technical Note and Preliminary Result	Kim HS, Raorane HD, <b>Wu PH</b> , et al. Feasibility of Endoscopic Transforaminal Lumbar Interbody Fusion (eTLIF) Through the Posterior Paraspinal Approach: Technical Note and Preliminary Result. <i>J Minim Invasive Spine Surg Tech.</i> 4 2021;6(1):35-41. doi:10.21182/jmisst.2021.00045 <b>Winner of JMISST 2021 Top Paper Award</b>
21.Endoscopic Resection of Asymmetric Superior Articular Process Tip Fracture Of Lumbar Spine, An Unusual Cause Of Severe Back Pain. Report of 2 cases and Technical Note	Joint first author of the article. Kim HS, <b>Wu PH</b> , Raorane HD, Heo DH, Lee YJ, Yang K-H, Jang I-T (2020) Endoscopic Resection of Symptomatic Degenerative Repetitive Stress Related Fracture of the Tip of Superior Articular Process. An Unusual Cause of Severe Back Pain: Report of 2 Cases and Technical Note. <i>J Minim Invasive Spine Surg Tech</i> 5:36-41
22.Safe Extraforaminal Docking and Floating Technique in Endoscopic Transforaminal Thoracolumbar Junction Disc Herniation Decompression, A Case Review.	<b>Wu PH</b> , Kim HS, Raorane HD, Heo DH, Yi YJ, Yang K-H, Jang I-T (2020) Safe Extraforaminal Docking and Floating Technique in Transforaminal Endoscopic Discectomy for Thoracolumbar Junction for Calcified Disc Herniation: A Case Report and Technical Review for Calcified Disc Herniation. <i>J Minim Invasive Spine Surg Tech</i> 5:26-30 <b>Winner of JMISST 2020 Top Paper Award</b>
23.Lumbar Endoscopic Unilateral Laminotomy for Bilateral Decompression (LE-ULBD) Outside-In Approach: A Proctorship Guideline with 12 Steps of Effectiveness and Safety	Joint first author of the article. Kim, H.-S.; <b>Wu, P. H.</b> ; Jang, I.-T., Lumbar Endoscopic Unilateral Laminotomy for Bilateral Decompression Outside-In Approach: A Proctorship Guideline With 12 Steps of Effectiveness and Safety. <i>Neurospine</i> <b>2020</b> , 17, (Suppl 1), S99-S109
24.Uniportal Endoscopic Lateral To Medial Direction Transforaminal Lumbar Interbody Fusion ( Endo(LM) –TLIF): A Technical Guide For Navigating Through Landmarks In Revision Lumbar Surgery.	<b>Wu PH</b> , Kim HS, Jang I-T. Uniportal Endoscopic Lateral to Medial Direction Transforaminal Lumbar Interbody Fusion: A Case Report and Technical Guide for Navigating Through Landmarks in Left Lumbar 4/5 Post Laminotomy Revision Lumbar Fusion Surgery. <i>J Minim Invasive Spine Surg Tech.</i> 4 2021;6(1):66-73. doi:10.21182/jmisst.2020.00199
25. Full-Endoscopic Lumbar Decompression with Minimal Nerve Root Retraction for Impending Neurologic Deficit in Degenerative Lumbar Spine Diseases.	Kim HS, Raorane HD, Choi I, <b>Wu PH</b> , Yang KH, Yi YJ, Jang IT. Full-Endoscopic Lumbar Decompression with Minimal Nerve Root Retraction for Impending Neurologic Deficit in Degenerative Lumbar Spine Diseases. <i>J Neurol Surg A Cent Eur Neurosurg.</i> 2021 Jul 8. doi: 10.1055/s-0041-1725955. Epub ahead of print. PMID: 34237776.
26. Retrospective Case Control Study: Clinical and Computer Tomographic Fusion and Subsidence Evaluation for Single Level Uniportal Endoscopic Posterolateral Approach	Joint first author of the article Kim, HS, Wu PH, Kim JY, et al. Retrospective Case Control Study: Clinical and Computer Tomographic Fusion and Subsidence Evaluation for Single Level Uniportal Endoscopic Posterolateral Approach Transforaminal Lumbar Interbody Fusion



Transforaminal Lumbar Interbody Fusion Versus Microscopic Minimally Invasive Transforaminal Interbody Fusion.	Versus Microscopic Minimally Invasive Transforaminal Interbody Fusion. Global Spine J 2022;2192568221994796.
27.Full Endoscopic Disc Adhesion Drilling(EDAD) Technique of Transforaminal Lumbar Interbody Fusion (TLIF) for high grade spondylolisthesis: Technical note and preliminary result	Joint first author of the article. Kim HS, <b>Wu PH</b> , Jang I-T: Technical note on Uniportal full endoscopic posterolateral approach transforaminal lumbar interbody fusion with reduction for grade 2 spondylolisthesis. <b>Interdisciplinary Neurosurgery 21</b> : 100712, 2020
28.Evolution of endoscopic transforaminal lumbar approach for degenerative lumbar disease. Journal of Spine Surgery	Kim, H. S.; Raorane, H. D.; <b>Wu, P. H.</b> ; Yi, Y. J.; Jang, I. T., Evolution of endoscopic transforaminal lumbar approach for degenerative lumbar disease. <i>Journal of Spine Surgery</i> 2020.
29.Full Endoscopic Posterior Endoscopic Cervical Foraminotomy And Discectomy: A Technical Note With Clinical And Radiological Computer Tomography Evaluation On The Bony Effect Of Decompression With 2 Years Follow Up.	<b>Wu PH</b> , Kim HS, Lee YJ et al. Posterior endoscopic cervical foraminotomy and discectomy: clinical and radiological computer tomography evaluation on the bony effect of decompression with 2 years follow-up. <b>European Spine Journal</b> 2020: DOI: 10.1007/s00586-020-06637-8
30.A Narrative Review of Development of Full-Endoscopic Lumbar Spine Surgery	<b>Wu, P. H.</b> ; Kim, H. S.; Jang, I.-T., A Narrative Review of Development of Full-Endoscopic Lumbar Spine Surgery. <i>Neurospine</i> <b>2020</b> , 17, (Suppl 1), S20-S33.
31.Development Of Endoscopic Spine Surgery For Healthy Life: To Provide Spine Care For Better, For Worse, For Richer, For Poorer, In sickness And In Health	Joint first author of the article. Kim, H. S.; <b>Wu, P. H.</b> ; Jang, I.-T., Development of Endoscopic Spine Surgery for Healthy Life: To Provide Spine Care for Better, for Worse, for Richer, for Poorer, in Sickness and in Health. <i>Neurospine</i> <b>2020</b> , 17, (Suppl 1), S3-S8.
32.Technical Considerations Of Uniportal Endoscopic Posterolateral Lumbar Interbody Fusion. A Review Of Its Early Clinical Results In Application In Adult Degenerative Scoliosis.	Joint first author of the article. Kim, H.-S.; <b>Wu, P. H.</b> ; Lee, Y. J.; Kim, D. H.; Jang, I. T., Technical Considerations of Uniportal Endoscopic Posterolateral Lumbar Interbody Fusion: A Review of Its Early Clinical Results in Application in Adult Degenerative Scoliosis. <i>World Neurosurgery</i> <b>2020</b> .
33.Safe Route for Cervical Approach: Partial Pediculotomy , Partial Vertebroto my Approach For Posterior Endoscopic Cervical Foraminotomy and Discectomy	Joint first author of the article. Kim HS, <b>Wu PH</b> , Lee YJ, et al. Safe Route for Cervical Approach: Partial Pediculotomy , Partial Vertebroto my Approach For Posterior Endoscopic Cervical Foraminotomy and Discectomy [published online ahead of print, 2020 May 10]. <i>World Neurosurg.</i> 2020;S1878-8750(20)30993-1.
34. Clinical Results of evolution change of practice from open to endoscopic spine surgery for	Journal Of Musculoskeletal Research. <u>Vol. 25, No. 02, 2240001 (2022)</u>

cervical disc herniation and foraminal stenosis	
35.Generation Change Of Practice In Spinal Surgery: Can Endoscopic Spine Surgery Expand Its Indications To Fill In The Role of Conventional Open Spine Surgery In Most Of Degenerative Spinal Diseases: A Study Of 616 Spinal Cases 3 Years	Joint first author of the article. Kim HS, <b>Wu PH</b> , Raorane HD et al. Generation Change of Practice in Spinal Surgery: Can Endoscopic Spine Surgery Expand its Indications to Fill in the Role of Conventional Open Spine Surgery in Most of Degenerative Spinal Diseases and Disc Herniations: A Study of 616 Spinal Cases 3 Years. <i>Neurology India</i> 2020; 68: 1157-1165 DOI: 10.4103/0028-3886.299145
36.Infected Schmorl's node: a case report	Kim, H.S., Raorane, H.D., Sharma, S., <b>Wu, P.H</b> et al. Infected Schmorl's node: a case report. <i>BMC Musculoskelet Disord</i> <b>21</b> , 280 (2020).
37.Full Endoscopic Posterolateral Transforaminal Lumbar Interbody Fusion with Endoscopic Disc Drilling Preparation Technique for Symptomatic Foraminal Stenosis Secondary to Severe Collapsed Disc Space: A Clinical and Computer Tomographic Study with Technical Note.	<b>Wu, P.H.</b> ; Kim, H.S.; Lee, Y.J.; Kim, D.H.; Lee, J.H.; Jeon, J.B.; Raorane, H.D.; Jang, I.-T. Uniportal Full Endoscopic Posterolateral Transforaminal Lumbar Interbody Fusion with Endoscopic Disc Drilling Preparation Technique for Symptomatic Foraminal Stenosis Secondary to Severe Collapsed Disc Space: A Clinical and Computer Tomographic Study with Technical Note. <i>Brain Sci.</i> <b>2020</b> , <i>10</i> , 373.
38.Comparative Clinical And Radiographic Cohort Study: Uniportal Thoracic Endoscopic Laminotomy With Bilateral Decompression Using One Block Resection Technique And Thoracic Open Laminotomy With Bilateral Decompression For Thoracic Ossified Ligamentum Flavum	<b>Winner of Best Oral Presentation Award (Second) in Virtual World Spine 2020 Congress</b> Kim HS, Wu PH. Comparative Clinical and Radiographic Cohort Study: Uniportal Thoracic Endoscopic Laminotomy With Bilateral Decompression by Using the 1-Block Resection Technique and Thoracic Open Laminotomy With Bilateral Decompression for Thoracic Ossified Ligamentum Flavum. 2022.
39.A Systematic Review of Complications Associated with Initial Learning Curve of Endoscopic Spine Surgery Highlighting the Necessity of Introducing an Effective Fellowship to Train Competent Endoscopic Spine Surgeons	<b>Pang Hung Wu</b> , Hyeun Sung Kim, Dong Hwa Heo, and Gamaliel Yu Heng Tan, Il-Tae Jang, et al. "A Systematic Review of Complications Associated with Initial Learning Curve of Endoscopic Spine Surgery Highlighting the Necessity of Introducing an Effective Fellowship to Train Competent Endoscopic Spine Surgeons." <i>J Spine</i> 9 (2020): 456. DOI: 10.37421/jsp.2020.9.456
40. Early Career Challenges In Setting Up An Endoscopic Spine Surgery Practice.	<b>Wu PH</b> . Early Career Challenges in Setting Up an Endoscopic Spine Surgery Practice. <i>World Neurosurg.</i> 2020 Dec;144:264-269. doi: 10.1016/j.wneu.2020.09.056. PMID: 33227850.
41.Uniportal thoracic endoscopic decompression using one block resection technique for thoracic ossified ligamentum flavum technical	<b>Wu PH</b> , Kim HS, Kim J-Y et al. Uniportal thoracic endoscopic decompression using one block resection technique for thoracic ossified ligamentum flavum technical report. <i>Interdisciplinary Neurosurgery</i> 2021; 23:

report.	100963 DOI: <a href="https://doi.org/10.1016/j.inat.2020.100963">https://doi.org/10.1016/j.inat.2020.100963</a>
42. Effect of dorsal root ganglion retraction in endoscopic lumbar decompressive surgery for foraminal pathology: a retrospective cohort study of Interlaminar Contralateral Endoscopic Lumbar Foraminotomy and Discectomy (ICELF) Versus Transforaminal Endoscopic Lumbar Foraminotomy and Discectomy (TELD)	Kim HS, Kim JY, <b>Wu PH</b> et al. Effect of dorsal root ganglion retraction in endoscopic lumbar decompressive surgery for foraminal pathology: a retrospective cohort study of Interlaminar Contralateral Endoscopic Lumbar Foraminotomy and Discectomy (ICELF) Versus Transforaminal Endoscopic Lumbar Foraminotomy and Discectomy (TELD). <i>World Neurosurg</i> 2021; DOI: 10.21037/jss-20-620 10.1016/j.wneu.2020.12.176
43. Overview of Tips in Overcoming Learning Curve in Uniportal And Biportal Endoscopic Spine Surgery	<b>Wu PH</b> , Kim HS, Choi DJ, Gamaliel Y-HT. Overview of Tips in Overcoming Learning Curve in Uniportal and Biportal Endoscopic Spine Surgery. <i>J Minim Invasive Spine Surg Tech.</i> 4 2021;6(Suppl 1):S84-S96. doi:10.21182/jmisst.2020.00024
44. Review of Techniques of Uniportal Full Lumbar Endoscopic Unilateral Laminotomy For Bilateral Decompression.	Kim HS, <b>Wu PH</b> , Jang I-T. Clinical Results And Review of Techniques of Lumbar Endoscopic Unilateral Laminotomy With Bilateral Decompression (LE-ULBD) for Lumbar Stenosis. <i>J Minim Invasive Spine Surg Tech.</i> 4 2021;6(Suppl 1):S117-S122. doi:10.21182/jmisst.2021.00038
45. Rationale Of Endoscopic Spine Surgery: A New Paradigm Shift in Spine Surgery From Patient's benefits to Public Interest In This New Era Of Pandemic.	Kim HS, <b>Wu PH</b> , Jang I-T. Rationale of Endoscopic Spine Surgery: A New Paradigm Shift In Spine Surgery From Patient's benefits to Public Interest In This New Era of Pandemic. <i>J Minim Invasive Spine Surg Tech.</i> 4 2021;6(Suppl 1):S77-S80. doi:10.21182/jmisst.2021.00031
46. Anatomical Importance of Inner Ligamentum Flavum Parameters for Successful Endoscopic Lumbar Decompression Surgery.	Kim JY, Kim HS, <b>Wu PH</b> , Jang I-T. Anatomical Importance of Inner Ligamentum Flavum Parameters for Successful Endoscopic Lumbar Decompression Surgery. <i>J Minim Invasive Spine Surg Tech.</i> 4 2021;6(1):26-34. doi:10.21182/jmisst.2020.00213
47. How I do it? Uniportal full endoscopic pseudoarthrosis release of left L5/S1 Bertolotti's syndrome under intraoperative computer tomographic guidance in an ambulatory setting.	<b>Wu PH</b> , Sebastian M, Kim HS, Heng GTY (2021) How I do it? Uniportal full endoscopic pseudoarthrosis release of left L5/S1 Bertolotti's syndrome under intraoperative computer tomographic guidance in an ambulatory setting. <i>Acta Neurochir (Wien)</i> . doi: 10.1007/s00701-021-04975-0
48. Alleviating Paravertebral Muscle Spasm after Radiofrequency Ablation Treatment of Hypersensitive Basivertebral and Sinuvertebral Nerves for Chronic Discogenic Back Pain.	Kim JY, Kim HS, <b>Wu PH</b> , Jang IT. Alleviating Paravertebral Muscle Spasm after Radiofrequency Ablation Treatment of Hypersensitive Basivertebral and Sinuvertebral Nerves for Chronic Discogenic Back Pain. <i>Pain physician.</i> Sep 2021;24(6):E883-e892.
49. Differentiation of pain related functional limitations in surgical patients with Lumbar Spinal Stenosis	Charalampidis A, Canizares M, Kalsi PS, <b>Pang Hung Wu</b> , Johnson M, Soroceanu A, Nataraj A, Glennie A, Rasoulinejad P, Attabib N, Hall H, Fisher C, Thomas K,

(LSS) using the ODI: a Canadian Spine Outcomes and Research Network (CSORN) study. The Spine Journal.	Raja Rampersaud Y (2021) Differentiation of pain related functional limitations in surgical patients with Lumbar Spinal Stenosis (LSS) using the ODI: a Canadian Spine Outcomes and Research Network (CSORN) study. The Spine Journal. doi: <a href="https://doi.org/10.1016/j.spinee.2021.10.008">https://doi.org/10.1016/j.spinee.2021.10.008</a>
50. A narrative review of uniportal endoscopic lumbar interbody fusion: Comparison of uniportal facet-preserving trans-kambin endoscopic fusion and uniportal facet-sacrificing posterolateral transforaminal lumbar interbody fusion.	Kim HS, <b>Wu PH</b> , Sairyo K, et al. A narrative review of uniportal endoscopic lumbar interbody fusion: Comparison of uniportal facet-preserving trans-kambin endoscopic fusion and uniportal facet-sacrificing posterolateral transforaminal lumbar interbody fusion. Int J Spine Surg. 2021;15(suppl 3):S72-s83. doi: 10.14444/8166.
51. Prospective Cohort Study with a 2-Year Follow-up of Clinical Results, Fusion rate, and Muscle Bulk for Uniportal Full Endoscopic Posterolateral Transforaminal Lumbar Interbody Fusion	<b>Wu PH</b> , Kim HS, An JW, et al. Prospective Cohort Study with a 2-Year Follow-up of Clinical Results, Fusion rate, and Muscle Bulk for Uniportal Full Endoscopic Posterolateral Transforaminal Lumbar Interbody Fusion. Asian Spine J 2023;0.
52. Stronger Together: Collaboration of Asia Pacific With the Rest of the World in Research and Education to Advance the Science, Art, and Practice of Spinal Surgery	Kim HS, <b>Wu PH</b> , Jang IT. Stronger Together: Collaboration of Asia Pacific With the Rest of the World in Research and Education to Advance the Science, Art, and Practice of Spinal Surgery. International journal of spine surgery 2022;16:859-60.
53. Technical Note on Unilateral Biportal Lumbar Endoscopic Interbody Fusion	Lau, E.T.-C.; <b>Wu, P.H.</b> Technical Note on Unilateral Biportal Lumbar Endoscopic Interbody Fusion. <i>Surg. Tech. Dev.</i> <b>2022</b> , <i>11</i> , 71-89. <a href="https://doi.org/10.3390/std11020007">https://doi.org/10.3390/std11020007</a>
54. Remodeling of Epidural Fluid Hematoma after Uniportal Lumbar Endoscopic Unilateral Laminotomy with Bilateral Decompression: Comparative Clinical and Radiological Outcomes with a Minimum Follow-up of 2 Years	<b>Wu PH</b> , Kim HS, Grasso G, et al. Remodeling of Epidural Fluid Hematoma after Uniportal Lumbar Endoscopic Unilateral Laminotomy with Bilateral Decompression: Comparative Clinical and Radiological Outcomes with a Minimum Follow-up of 2 Years. Asian Spine J 2022;0.
55. Remodeling Pattern of Spinal Canal after Full Endoscopic Uniportal Lumbar Endoscopic Unilateral Laminotomy for Bilateral Decompression: One Year Repetitive MRI and Clinical Follow-Up Evaluation.	Kim HS, <b>Wu PH</b> , Grasso G, et al Remodeling Pattern of Spinal Canal after Full Endoscopic Uniportal Lumbar Endoscopic Unilateral Laminotomy for Bilateral Decompression: One Year Repetitive MRI and Clinical Follow-Up Evaluation. Diagnostics 2022;12:793
56. Ambulatory uniportal versus biportal endoscopic unilateral laminotomy with bilateral decompression for lumbar spinal stenosis-cohort study using a prospective registry	<b>Wu PH</b> , Chin BZJ, Lee P, Woon CY, Kim HS, George R, Lin S, Tan YG. Ambulatory uniportal versus biportal endoscopic unilateral laminotomy with bilateral decompression for lumbar spinal stenosis-cohort study using a prospective registry. Eur Spine J. 2023 Mar 2. doi: 10.1007/s00586-023-07620-9. Epub ahead of print. PMID: 36862219.

57. Unilateral Biportal Endoscopic Supralaminar , Posterior Spinous Process Sparing Approach For En Bloc Cervical Laminectomy In Case Of Cervical Osteochondroma Causing Cervical Myelopathy: A Case Report	Wu DPH, Kavishwar DRA, Natalie DTHW, Tan DG. Unilateral Biportal Endoscopic Supralaminar, Posterior Spinous Process Sparing Approach For En Bloc Cervical Laminectomy In Case Of Cervical Osteochondroma Causing Myelopathy A Case Report. North American Spine Society Journal (NASSJ). 2023:100225.
58. Posterior Cervical Unilateral Biportal Endoscopic One-Block Resection Technique For Cervical Ossified Ligamentum Flavum	George R, Wu PH. Posterior Cervical Unilateral Biportal Endoscopic One-Block Resection Technique for Cervical Ossified Ligamentum Flavum. <i>Surgical Techniques Development</i> . 2023; 12(2):80-86. <a href="https://doi.org/10.3390/std12020007">https://doi.org/10.3390/std12020007</a>
Textbook Chapters	
Pang Hung's Guide to NUH Orthopaedics for the House Officers	Printed as Internal Publication in May 2010 for new houseman.
Author of 3 chapters in Diabetic Foot Problems. <ul style="list-style-type: none"> <li>Diabetes Mellitus and Its Complications: A Global Problem</li> <li>Socio-Economic Factors of Diabetics with and without Foot Problems in Singapore</li> </ul> Clinical Examination of Diabetic Foot Problem	Published in 2008.

Prognosis in Spine Trauma : Book chapter in Youmans and Winn Neurosurgery Eighth Edition	Published in 2022.
Book chapter Posterior Stenotic Lumbar Decompression	Advanced Techniques of Endoscopic Lumbar Spine Surgery Kim, Mayer, Heo, Park et al
Co-Author of chapter Contralateral approach to spinal foramen.	Advanced Techniques of Endoscopic Lumbar Spine Surgery Kim, Mayer, Heo, Park et al
First Author of book chapter Bentham Books Contemporary Endoscopic Spine Surgery Second edition- Cervical Edition	Full Endoscopic Partial Pediculotomy , Partial Vertebrectomy Technique For Cervical Degenerative Spinal Disease
First Author of book chapter Bentham Books Contemporary Endoscopic Spine Surgery Second edition- Thoracic Edition	Full Endoscopic One Block Resection Technique For Thoracic Ossified Ligamentum Flavum
First Author of book chapter Bentham Books Contemporary Endoscopic Spine Surgery Second edition- Lumbar Edition	Visualized Endoscopic Radiofrequency Ablation Of Sinuvertebral Nerve And Basivertebral Nerve For Chronic Discogenic Back Pain
ASSI textbook of surgery	Thoracic Endoscopic Spine Surgery: Pending publication later this year
KOESS Second edition	
AO spine Textbook of minimally invasive spine surgery in 2022/2023	3 chapters: 1)Thoracic Transforaminal Endoscopic Discectomy 2) Thoracic Endoscopic Unilateral Laminotomy With Bilateral Decompression 3) Endoscopic Fusion
Unilateral Biportal Endoscopy of the Spine An Atlas of Surgical Techniques 2023	Wrote 2 Chapters: Complications Associated with Unilateral Biportal Endoscopic Spine Surgery Perioperative Care in Unilateral Biportal Endoscopic Spine Surgery
Endoscopy of the Spine Principle and Practice 2023	Full Endoscopic Interlaminar Contralateral Endoscopic Lumbar Foraminotomy
<b>Presentations</b>	
Case Presentation of Atypical Chest Pain In NUH Emergency Department Case Conference	Winner of Best Presentation Award in 2010 Emergency Department Presentation Award.
Minimally Invasive Treatment to Metastatic Spine Diseases	Invited Speaker to BIT's 4 <sup>th</sup> Annual World Congress of Orthopaedics 2017 and 19th Xi An Orthopaedic Conference
Cervical Spine Research Society ,Toronto	Participant , Nov 2016
North America Spine Society, Orlando	Participant Oct 2017



Global Spine Congress Singapore	Participant May 2018
Minimally invasive Lateral Access Corpectomy for a solitary renal cell carcinoma spinal metastasis : a case report	Published in Journal of Minimally Invasive Spine Surgery and Technique 3(2) 70-74, 2018 as senior author
Fellows (Cadavers), Las Vegas, NV, USA,	Participant 13-16 <sup>th</sup> September 2018.
4 <sup>th</sup> Annual International Spinal Deformity Symposium in New York	Participant 1-3 <sup>rd</sup> Dec 2018
17 <sup>th</sup> Annual AOSpine North America Fellows Forum in Banff Canada	Oral Presentation Primary Outcomes of Prospective Evaluation of Elderly Deformity Surgery at 2 years follow up
12th Asia Pacific Spine Society Meeting in Incheon	<p>Presentation Outpatient 1, 2 or 3 level anterior cervical discectomy and fusion procedures have similar complication and 30 day readmission rates compared to overnight stay; analysis of 284 patients in the public healthcare setting</p> <p>presentation: Minimally invasive Lateral Access Corpectomy for a solitary renal cell carcinoma spinal metastasis : a case report</p>
Global Spine Congress Toronto May 2019	Minimally Invasive Lateral Access Lumbar Interbody Fusion: Preliminary results poster presentation
Korean Neurosurgical Society October 2019 Meeting	<p>Cross Link-Laminar Hooks And Central Rod Technique (CHART) Construct in Reduction of Fixation of Revision of Proximal Junction Kyphosis at the Upper Thoracic Curve. a Case Series Review and Literature Review of Osteotomy Closure Techniques</p> <p>Patch Blocking Dural Repair Technique Using Fibrin Sealant Patch During Endoscopic Lumbar Decompression.</p> <p>Feasibility of Endoscopic Transforaminal Lumbar Interbody Fusion Through The Posterior Paraspinal Approach.</p>
Korean Minimally Invasive Surgery Society Advance Spinal Endoscopic Course 2019 Meeting	Best Paper Award Winner: How I do it? uniportal endoscopic transforaminal lumbar interbody fusion in grade 2 isthmic spondylolisthesis.
KOESS Winter Camp 2020	Podium Presentation. Incidental Durotomy During Endoscopic Stenotic Lumbar decompression incidence ,classification and proposed treatment strategies in our retrospective case series
Virtual World Spine 2020	<ul style="list-style-type: none"> <li>Winner of Best Oral Presentation Award in Virtual World Spine Congress 2020</li> </ul>
First World Congress On Spine	Guest Speaker On A Narrative Review And Clinical



Endoscopy: World Masters Series 2020	Applications Of Endoscopic Spine Surgery
Singapore Spine Society 2020	Guest Speaker On Biportal Endoscopic Spine Surgery
International Society of Unilateral Biportal Endoscopy Shangdong Station	Comparison Of Uniportal And Biportal Endoscopic Spine Surgery
6 <sup>th</sup> ASEAN MISST Indonesia 2021	Faculty and Speaker on 2 topics <ul style="list-style-type: none"> <li>• Transforaminal Endoscopic Lumbar Discectomy Lumbar Five Sacral One</li> <li>• Versatility Of Unilateral Biportal Endoscopy in Lumbar Spine</li> </ul>
International Society of Unilateral Biportal Endoscopy Shangdong Station	Comparison Of Uniportal And Biportal Endoscopic Fusion
Kyiv Biportal Endoscopic Spine Surgery Meeting 2021	Faculty
3 <sup>rd</sup> ISMISS Asia –Japan and 13 <sup>th</sup> MISS Summit Forum	Faculty and Speaker on topic <ul style="list-style-type: none"> <li>• Multiple Level Lumbar Endoscopic Unilateral Laminotomy And Bilateral Decompression On Morbid Obese Patient, Tips and Tricks</li> </ul>
6 <sup>th</sup> ASSEAN MISST Indonesia	Live Surgical Demonstration Biportal Talk Uniportal Transforaminal Talk
Second World Congress On Spine Endoscopy: World Masters Series 2021	Uniportal Endoscopic Release Of Bertolotti Syndrome 18 <sup>th</sup> to 19 <sup>th</sup> September 2021
Elliquence Key Opinion Leader Education Webinar Series	Versatility In Interlaminar Endoscopic Decompression With Or Without Discectomy
2021 International Joint Meeting Of Korean Society Of Neurosurgery, World Spinal Column Society and 1 <sup>st</sup> Annual Society Of Minimally Invasive Spine Surgery Asia Pacific Meeting : Seoul South Korea	3 Oral presentations papers <ol style="list-style-type: none"> <li>1) Comparative Clinical And Radiographic Cohort Study: Uniportal Thoracic Endoscopic Laminotomy With Bilateral Decompression Using One Block Resection Technique And Thoracic Open Laminotomy With Bilateral Decompression For Thoracic Ossified Ligamentum Flavum</li> <li>2) Safe Route for Cervical Approach: Partial Pediculotomy , Partial Vertebroto my Approach For Posterior Endoscopic Cervical Foraminotomy and Discectomy</li> <li>3) Endoscopic Transforaminal Lumbar Interbody Fusion Achieved Improved Radiological And Clinical Outcome Compared To Open Microscopic Transforaminal Lumbar Interbody Fusion: A Retrospective Case Study</li> </ol>
2021, The 61 <sup>st</sup> Annual Meeting Of The Korean Neurosurgical Society	Oral Presentation : Cervical Endoscopic Foraminotomy
Global Spine Congress November 2021	2 Podium Oral Presentations:

	<ol style="list-style-type: none"> <li>1) Partial Pediculotomy , Partial Vertebroto my Approach For Posterior Endoscopic Cervical Foraminotomy And Discectomy</li> <li>2) Comparative Clinical And Radiologic Cohort Study: Uniportal Thoracic Endoscopic Laminotomy With Bilateral Decompression Using One Block Resection Technique And Thoracic Open Laminotomy With Bilateral Decompression For Thoracic Ossified Ligamentum Flavum</li> </ol> <p>1 Poster: Uniportal Full Endoscopic Posterolateral Transforaminal Lumbar Interbody Fusion with Endoscopic Disc Drilling Preparation Technique for Symptomatic Foraminal Stenosis Secondary to Severe Collapsed Disc Space: A Clinical and Computer Tomographic Study with Technical Note</p>
International Society Of Unilateral Biportal Endoscopy – French Endoscopic Spine Surgery Society Meeting Jan 2022	Faculty
Nanoori Endoscopic Spinal Surgery International Web Symposium Jan 2022	Guest Speaker
International Society Of Unilateral Biportal Endoscopy – Turkey Endoscopic Spine Surgery Society Meeting April 2022	Moderator
World Spinal Column Society: Pearls from the OR. “World Spine Certificate Course 2022”	Pathophysiology Of Lower Back Pain
Elliquence Education Series 2021/2022	<p>Two Webinar:</p> <ol style="list-style-type: none"> <li>1) Versatility In Lumbar Endoscopic Spine Surgery Interlaminar Approach</li> <li>2) Transforaminal Endoscopic Lumbar Discectomy Approaches</li> </ol>
7 <sup>th</sup> ASSEAN MISST Chiang Mai Thailand , July 2022	Faculty and Guest International Speaker
World Spinal Column Society 9 and 15 <sup>th</sup> Hellenic Spine Society Meeting	<p>Athens 1-5<sup>th</sup> November 2022</p> <p>Guest Speaker and Cadaveric Workshop instructor</p>
Third World Congress On Spine Endoscopy: World Masters Series 2022	Mumbai June 2022 , Guest Speaker
MISSABCON India Pune 11 <sup>th</sup> November 2022	Guest Speaker
Medtronics Osteotomy Course for National University Health System Jan	Faculty and Chairman

2023	
Singapore Spine Society Annual Meeting March 2023	Chairman of Endoscopic Focus Group Session Faculty and Speaker for 3 Topics
World Federation Of Neurosurgery Spine Committee: Endoscopic Lumbar Spine Surgery How to start, First Steps, First Cases 1 <sup>st</sup> April 2023	Transforaminal Lumbar Spine Surgery Faculty
Asia Pacific Spine Society Advanced Spine Webinar Series: Minimally Invasive Spine Surgery 16 <sup>th</sup> April 2023	Moderator and Speaker
Spineweek , Melbourne Australia 1-6 <sup>th</sup> May 2023	APSS faculty topic on Uniportal versus Biportal Endoscopic Decompression For Stenosis
Global Spine Congress, Prague, Czech Republic, 30 <sup>th</sup> May – 3 <sup>rd</sup> June 2023.	Invited Guest Speaker For Endoscopic Fusion In Spondylolisthesis
World Endoscopy Meeting , Mumbai , India 15-28 <sup>th</sup> June 2023	Invited International Speaker
World Unilateral Biportal Endoscopy Society ,Seoul, Korea 2023 7-8 <sup>th</sup> July 2023	Invited International Speaker
North America Spine Society International Annual Meeting 21 <sup>st</sup> July 2023	Invited International Speaker
8 <sup>th</sup> ASEAN MISST Indonesia, 27 <sup>th</sup> -29 <sup>th</sup> July	Invited International Speaker
20 <sup>th</sup> ASEAN Congress Of Neurological Surgery and Asian-Australian Congress Of Neurological Surgeons in Bangkok, Thailand	Invited international Speaker
APSS Advanced Spine Webinar Series 2023 Programme Endoscopic Spine Surgery	Moderator and speaker
<b><u>Education</u></b>	
Royal College of Surgeons of Edinburgh Orthopaedics	Completed in 2016
Master of Medicine(Orthopaedics) Singapore	Completed
Graduate Diploma Family Medicine, National University of Singapore	Completed
Royal College of Surgeons Ireland	Member of MRCS Ireland
Medicine Bachelor and Bachelor of Surgery, Yong Loo Lin School of Medicine, National University of Singapore. 2006	Graduated in National University of Singapore with MBBS as top 10 students  Dean List Final MBBS
<b><u>Professional Experience</u></b>	

National University Hospital (NUH) General Surgery	Outstanding House Officer Award of the posting
NUH Orthopaedic Department House Officer	Awarded Dean's Award For Best House Officer in the HO posting
Tan Tock Seng Hospital (TTSH) General Medicine	Good performance
Medical Officer in NUH Orthopaedic Dept	Attained the Highest score among the Medical Officers. A* in NUH Orthopaedics
National University Health System General Surgery Department	Medical Officer for 6 months
Jurong General Hospital Anesthesia	Medical Officer for 6 months
NUH Emergency Medicine	Medical Officer for 6 months
TTSH Orthopaedics	Medical Officer for 6 months
National University Health System Orthopaedics	Service Registrar for 6 months
National University Health System Orthopaedics	Registrar for 6 months
Singapore General Hospital Orthopaedic	Registrar for 6 months
National University Health System Hand Surgery	Registrar for 3 months
Kandang Kerbau Women and Children Hospitals Paediatrics Orthopaedics	Registrar for 3 months
<b>Changi General Hospital Orthopaedics</b>	Registrar for 6 months
<b>SGH orthopaedics</b>	Registrar for 6 months
NUH Orthopaedics	Registrar for 6 months
Ng Teng Feng General Hospital Jurong Health Service	Associate Consultant from July 2016- July 2018
National University Health System, Juronghealth Campus, Singapore	Consultant , July 2018 - Present
<b><u>National Service in Singapore Armed Forces</u></b>	
Headquarters Starlight Taiwan <b>2008-2009</b>	Medical Officer of Singapore Armed Forces Headquarters in Taiwan in charge of Triservice( army, navy and airforce medical services)
<b>Maju Camp Medical Centre</b>	Medical Officer In Charge
<b><u>8<sup>th</sup> Combat Support Hospital Battalion 2010-present</u></b>	Platoon Commander of Surgical Company of 8CSH battalion holding the Rank of Major
<b><u>Team doctor for sporting events</u></b>	
<b>Singapore youth olympics</b>	Team Doctor 14 <sup>th</sup> -26 <sup>th</sup> 2010
HSBC RUDBY SEVENS SINGAPORE	Team Doctor 15 <sup>th</sup> -16 <sup>th</sup> April 2017

<b><u>VOLUNTEER WORK</u></b>	
Children Charities Association	Director Representative of Cerebral Palsy Association of Singapore 2012 -2019
Singapore Disability Sports Council	Honorary Board Member 2011-2012
Old Victoria Association	Council Member 2010-2014
Cerebral Palsy Association Of Singapore	Board Member of the Executive Committee 2006 - 2019
Singapore International Foundation	Volunteer
Social Enterprise/	
SMA House Officer Seminar	Guest Speaker - Night Call
Victoria Junior College Annual Medical Seminar	Invited speaker
Victoria School Student Leader Investiture	Guest of Honour, May 2018
National Council Of Social Service	Long Service Award for 10 years in Cerebral Palsy Association Of Singapore. 2017