



**HKU  
Med**

School of Clinical Medicine  
Department of Orthopaedics  
& Traumatology  
香港大學矯形及創傷外科學系

**APSS 7th Annual Meeting**

**2024**

**13-16 JUNE 2024 HONG KONG**

Hong Kong Convention and Exhibition Centre

**E-PROGRAMME**



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## Asia Pacific Spine Society 2024 Lunch Symposium

# The triple attack - using advanced technology and techniques to improve patient care (MIS / robot / lateral)

### The OLIF Hong Kong experience

Prof. Jason Cheung

### Improving your surgical armamentarium - using the Mazor™ robot for MIS surgery

Adj Assoc Prof. Jacob Oh

### Please join us for this Medtronic sponsored event

Hong Kong Convention and  
Exhibition Centre, Rooms S221

⋮

Saturday June 15, 2024  
12.20 – 13.20

### Speakers:



#### Prof. Jason Cheung

Chairperson and Clinical  
Professor of the Dept of  
Orthopaedics and  
Traumatology  
University of Hong Kong



#### Adj Assoc Prof. Jacob Oh

Deputy Head of Dept,  
Head of Service  
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Senior Consultant  
Tan Tock Seng Hospital

For further information contact your local Medtronic representative.



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**NUVASIVE**

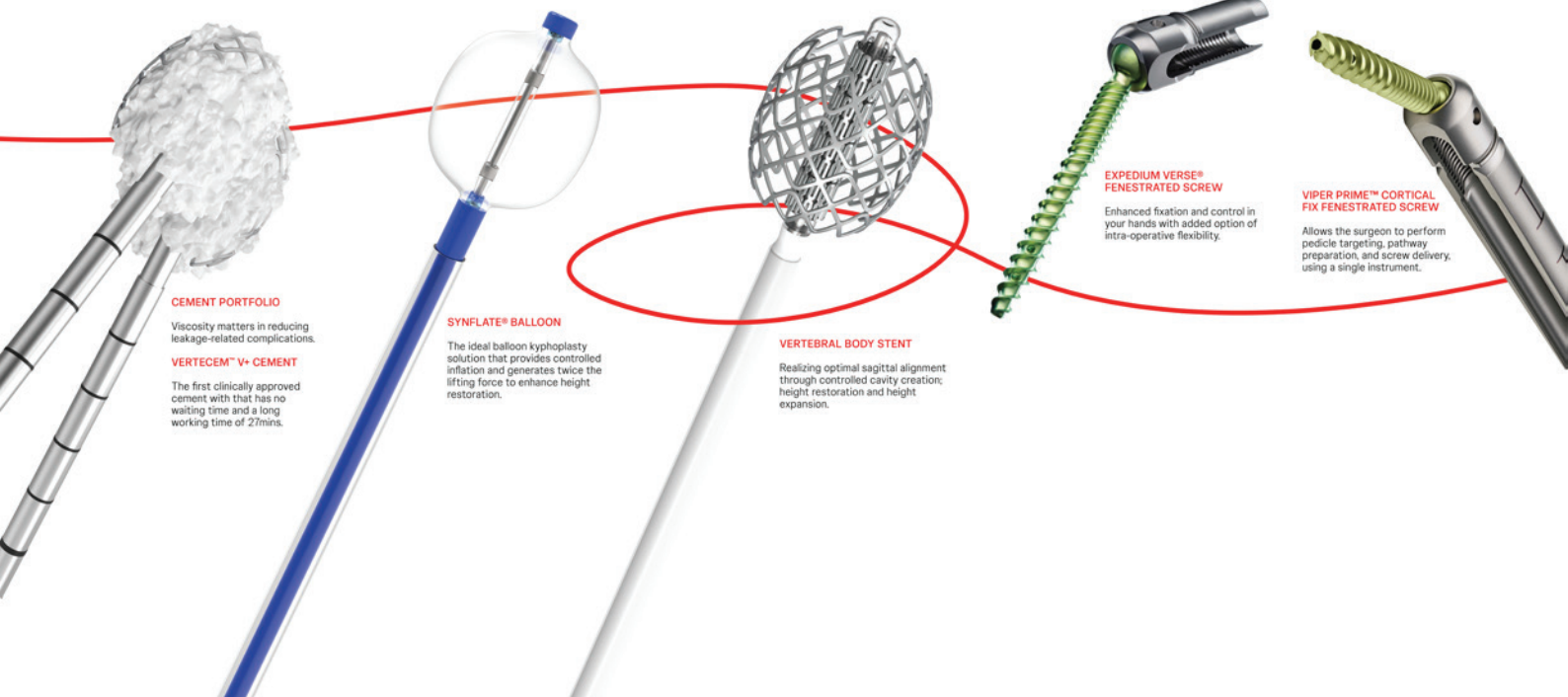
# Uniting to advance patient care

We're committed to providing innovative technologies and industry-leading clinical support to help surgeons and healthcare providers deliver better care around the globe. We now have one of the most comprehensive offerings of musculoskeletal procedural solutions and enabling technologies to impact the care continuum. Our employees are relentlessly focused on changing patient lives.

[\*\*globusmedical.com/Uniting\*\*](https://globusmedical.com/Uniting)

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#### VIPER PRIME™ CORTICAL FIX FENESTRATED SCREW

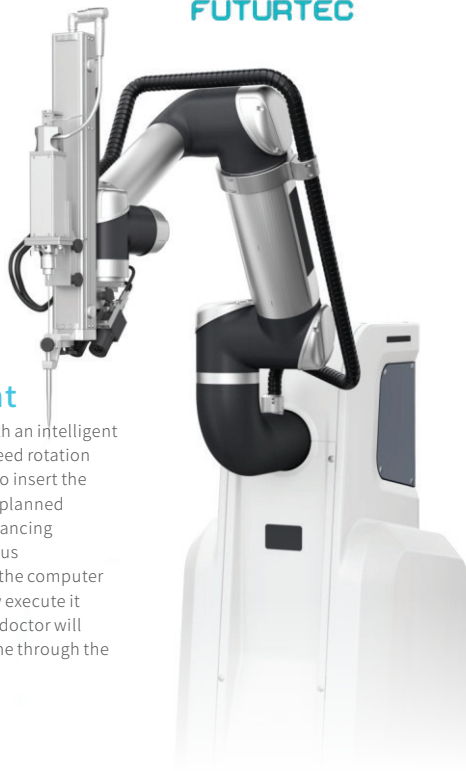
Allows the surgeon to perform pedicle targeting, pathway preparation, and screw delivery, using a single instrument.



# 01

## Automatic k-wire Placement

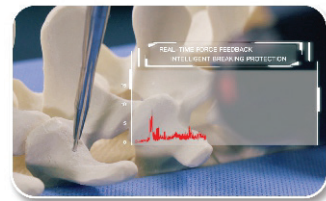
The robotic arm is equipped with an intelligent bone drill, which uses a high-speed rotation rate and low-speed propulsion to insert the Kirschner wire according to the planned trajectory. During the whole advancing process, the doctor can set various parameters and instructions on the computer and the robot will automatically execute it next to the operating table. The doctor will monitor and control it in real time through the computer.



# 02

## Visual force feedback Pressure sensing & protection

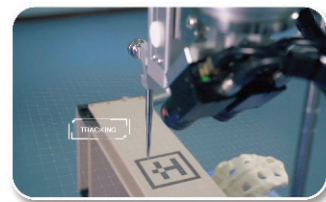
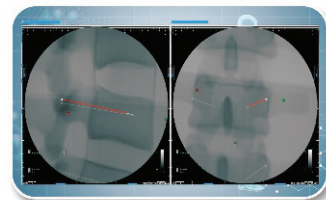
The intelligent bone drill is integrated with a force sensor. Different densities of bone tissue correspond to different K-wire insertion resistances. By tracing changes in pressure values, the doctor's hand feeling can be quantified into pressure waveforms, which are displayed synchronously with the progress of K-wire placement, which is convenient for doctors to monitor in real time. When the system detects the risk of breaking the opposite side of cortical bone, it will automatically stop advancing to further ensure the safety of the operation.



# 03

## Non-invasive navigation and positioning system

The self-developed binocular navigation and positioning system consists of a binocular camera and a non-invasive marker to realize the high accuracy of position registration, and only the conventional 2D C-Arm is needed, which is fast and easy to use; the camera is close to the operation area, which is fully dedicated and focused to the operative anatomic site, and it also has the feature of real-time monitoring of the surgical site.



## SMTP TECHNOLOGY

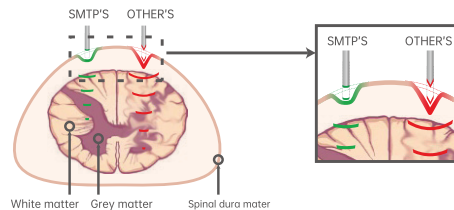
## Ultrasonic Osteotomy surgical system

The XD880A is an ultrasonic osteotome that enables safer and more controlled bone removal while sparing soft tissue and neural structures.



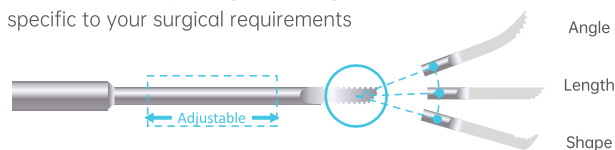
## Better protecting soft tissue

"Low Amplitude + Blunt Tip" efficiently protects the spinal dura mater.



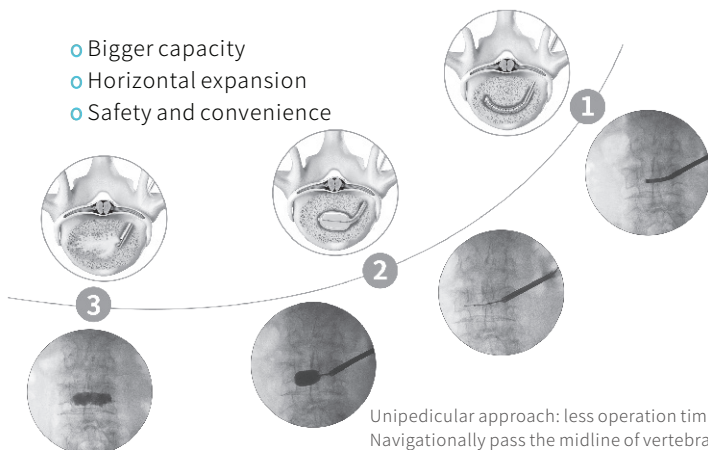
## Efficient cutting, drilling and grinding under lower noise

A. Customize shape, length and angle of TIP, specific to your surgical requirements



B. Designed for both inward and outward resection  
Inward resection = Outside → inside  
Outward resection = Inside → outside

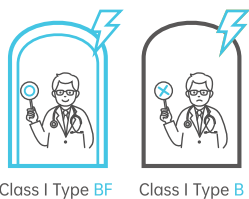
- Bigger capacity
- Horizontal expansion
- Safety and convenience



Unipedicular approach: less operation time  
Navigationally pass the midline of vertebral body  
Create an arc-shaped void with less damage to surrounding cancellous bone  
Work together with Side-open Bone Filler Device.

## Higher protection

Class I type BF protects against electric shock, this higher electrical safety performance measure provides safe protection for doctors and patients.

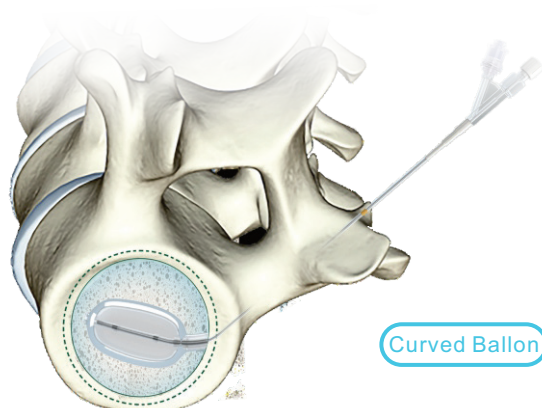


Class I Type BF

Class I Type B



## Kinetic Curved Balloon



Curved Balloon

# WELCOME MESSAGE

## Welcome Message from the Co-Chairs

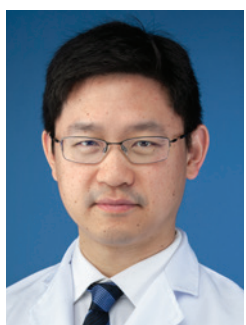
On behalf of the Organizing Committee, we would like to invite you to join the Asia Pacific Spine Society (APSS) 7th Annual Meeting 2024, which will be held in Hong Kong from 13 to 16 June 2024. The Meeting is co-organized by the Asia Pacific Spine Society and the Department of Orthopaedics & Traumatology, School of Clinical Medicine, LKS Faculty of Medicine, The University of Hong Kong.

APSS (the Spine Section of the Asia Pacific Orthopaedic Association [APOA]) is a regional organization of the spine surgeons mainly from the Asia Pacific region. This society started with the Western Pacific Orthopaedic Association - Spine Section in 1979. Today, APOA has 24 member chapters and more than 59,000 members from over 40 countries. The APSS organized its Annual Meeting in the Asia Pacific region to promote excellence and advancement in the field of spine surgery for clinicians and researchers. We are delighted that the 7th Annual Meeting will be held in Hong Kong in 2024. Hong Kong hosted the last APSS event nine years ago in 2015. We are honoured to have the opportunity to host the APSS event again.

The Congress will provide a platform for professional education, sharing of cutting-edge science, demonstration of advanced and novel techniques, and interaction among international experts in the field of spine surgery. As a well-attended Congress, you will not only enjoy the chance to meet colleagues from the Asia-Pacific region, but also international co-workers. Last but not the least, the many attractions such as culture, sights and food that Hong Kong has to offer.

We cordially invite you to come to Hong Kong to join our Congress to learn, to share, to meet with old friends and to make new ones. The Organizing Committee is committed in making the APSS 7th Annual Meeting 2024 a memorable and successful one.

We look forward to seeing you in Hong Kong!



**Prof Jason PY CHEUNG**  
Congress Co-chair



**Prof Kenny YH KWAN**  
Congress Co-chair



# WELCOME MESSAGE

## Welcome Message from the President of APSS

On behalf of the Asia Pacific Spine Society (APSS), I am thrilled to extend a warm welcome to all of you as we anticipate the Society's 7th Annual Meeting in Hong Kong!

This occasion marks a significant moment for our community, where we will come together to celebrate the progress we have made and chart the course for the future of spine care in the Asia Pacific region. The past year has been a testament to the spine community's unwavering commitment to excellence in improving the quality of spine care across the region.

While we take pride in these achievements, we are also acutely aware of the challenges that lie ahead. It is, therefore, crucial that we continue to work together, building upon shared expertise and fostering collaboration across borders. This meeting serves as a vital platform for us to connect, share knowledge, and ignite the spark of innovation that will propel us forward.

The Organising Committee has meticulously curated a diverse scientific programme, featuring presentations and workshops from leading experts across the Asia Pacific region. We hope that this will encourage stimulating research discussions and cultivate possible networking ties, leading to cutting-edge innovations that will shape the future of spine care.

It is in this spirit of collaboration that we look forward to welcoming industry partners in the region who share our vision in advancing spine treatment. Together, we can leverage on our combined expertise and resources to accelerate progress and improve the lives of many patients. We would like to offer you the opportunity to showcase the advancement in research and technology that your organisation has made in alignment with the Society's vision. Please contact the Congress Secretariat to explore available exhibition opportunities.

Beyond the scientific programme, we would like to invite you to experience the vibrant city of Hong Kong. From its captivating skyline and bustling streets to its rich history and cultural offerings, Hong Kong promises to be an unforgettable backdrop for this meeting.

Let's leave Hong Kong not only with improved knowledge and skills but also with a renewed sense of purpose and shared commitment to constructing a better future for spine care in this region.



**Professor Dato' Dr Mun Keong KWAN**

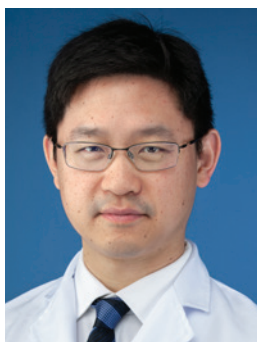
President

Asia Pacific Spine Society (APSS)

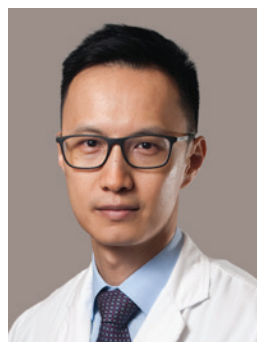
# ORGANIZING COMMITTEE

## Local Organizing Committee

Congress Co-chairs:



Jason PY CHEUNG



Kenny YH KWAN

Scientific Committee Chair:



Paul A KOLJONEN

Scientific Committee Members:



Ka Kin LI



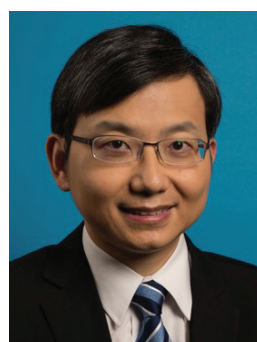
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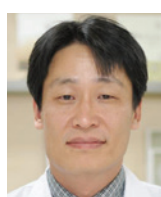
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# LOCAL SPEAKERS BIOGRAPHY



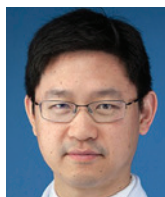
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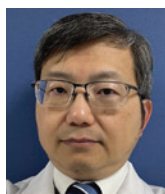
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# PROGRAMME-AT-A-GLANCE

## 15 June 2024 (Saturday)

Time	S221	S224-225	S226-227
07:50-08:50	Symposium 1 Spinal endoscopy	Symposium 2 Adolescent Idiopathic Scoliosis 1	Symposium 3 Spinal tumor and infection
08:50-09:50	Free Paper 1 - Endoscopy	Free Paper 2 - AIS 1	Free Paper 3 – Tumor and infection
09:50-10:10	Coffee Break / Poster Viewing		
10:10-10:20	Opening Remarks		
10:20-11:20	Presidential Lectures		
11:20-12:20	Symposium 4 Cervical spine 1	Symposium 5 Adult spinal deformity 1 (concepts)	Symposium 6 Advanced technology
12:20-13:20	Lunch Symposium		
13:20-14:20	Best Basic Science Award Presentation – Basic Science	Free Paper 4 – Cervical	Free Paper 5 – Cervical and miscellaneous
14:20-15:20	Best Clinical Award Presentation – clinical	Free Paper 6 – New Technology 1	Free Paper 7 – New Technology 2
15:20-15:30	Coffee Break / Poster Viewing		
15:30-16:40	Symposium 7 APSS-AO Spine Symposium: New Era Education	Symposium 8 Debate series 1 (degenerative spine)	Symposium 9 Focus group: Anterior column reconstruction
16:40-17:50	Symposium 10 Safety in spine surgery	Symposium 11 Operative video session 1	Symposium 12 Different surgical techniques in correcting sagittal alignment for thoracolumbar deformity surgery
18:00-22:00	Gala Dinner		

# PROGRAMME-AT-A-GLANCE

16 June 2024 (Sunday)

Time	S221	S224-225	S226-227
08:00-09:00	Symposium 13 Trauma	Symposium 14 Adult spinal deformity 2 (mx of complications)	Symposium 15 AIS focus group (brace treatment)
09:00-10:00	Free Paper 8 - Trauma	Free Paper 9 – Adult spinal deformity 1	Free Paper 10 – AIS 2
10:00-10:20	Coffee Break / Poster Viewing		
10:20-11:00	APSS Fellowship Session		
11:00-11:30	APSS Oration		
11:30-12:30	Symposium 16 EOS Debate series 2 (EOS)	Symposium 17 Osteoporosis spine	Symposium 18 APSS-Eurospine
12:30-13:30	Lunchtime / APSS General Assembly for Members		
13:30-14:30	Symposium 19 Adolescent Idiopathic Scoliosis 2 (operative technique)	Symposium 20 APSS-JSS Combined Symposium	Symposium 21 Cervical spine 2
14:30-15:40	Free Paper 11 – AIS 3	Free Paper 12 – Adult spinal deformity 2	Free Paper 13 - ComplicationsS
15:40-16:00	Coffee Break / Poster Viewing		
16:00-17:00	Symposium 22 Meet the Masters	Symposium 23 Operative video session 2 (endoscopy)	Symposium 24 Intelligent spine
17:00-17:10	Adjourn		

*\*The programme is subject to change without prior notice.*

# DETAILED PROGRAMME

## 15 June 2024 (Saturday)

	Topic		Speakers		Topic	Speakers
	S221		S224-225		S226-227	
7:50-8:50	Symposium 1: Spinal endoscopy Moderators: Michael Tse (Hong Kong SAR), Pang Hung Wu (Singapore)		Symposium 2: Adolescent idiopathic scoliosis 1 Moderators: Paul Koljonen (Hong Kong SAR), Chee Kidd Chiu (Malaysia)		Symposium 3: Spinal tumor & infection Moderators: Ka Kin Li (Hong Kong SAR), Wongthawat Liawrungrueang (Thailand)	
7:50-8:00	Uni-portal endoscopy - Transforaminal	Cheng Li Lin (Taiwan)	Schroth exercises for AIS - local experience in HK	Aldous Cheng (Hong Kong SAR)	Spinal Metastasis	Kenny Kwan (Hong Kong SAR)
8:00-8:10	Avoiding complications in endoscopic spinal surgery	Pang Hung Wu (Singapore)	UIV selection and operative strategy in thoracic curve for shoulder balance and neck tilt	Mun Keong Kwan (Malaysia)	Management of Benign Primary Spinal Tumor	Ka Kin Li (Hong Kong SAR)
8:10-8:20	Bi-portal endoscopy	Cho Yau Lo (Hong Kong SAR)	Selective thoracic fusion in Lenke 1 or 2C	Hideki Shigematsu (Japan)	Management of Malignant Primary Spinal tumor	Jae Yoon Chung (South Korea)
8:20-8:30	Posterior cervical endoscopy	Yudha Mathan Sakti (Indonesia)	LIV selection in Lenke 5/6 - L3 or L4?	Dong-Gune Chang (South Korea)	Modified Hong Kong surgery to present - What has changed?	Shanmuganathan Rajasekaran (India)
8:30-8:40	Endoscopic fusion	Ho-Jin Lee (South Korea)	ERAS protocol for AIS operation - How can we get the best outcome?	Chang Ju Hwang (South Korea)	Cervical chordoma - Practical management approach	Yat Wa Wong (Hong Kong SAR)
8:40-8:50	Q&A		Q&A		Q&A	
8:50-9:50	Free paper (1) – Endoscopy Moderators: Cho Yau Lo (Hong Kong SAR), Takaki Yoshimizu (Japan)		Free paper (2) – AIS 1 Moderators: Graham Shea (Hong Kong SAR), Hideki Shigematsu (Japan)		Free paper (3) – Tumor & infection Moderators: Yat Wa Wong (Hong Kong SAR), Shanmuganathan Rajasekaran (India)	
9:50-10:10	Coffee break / Poster Viewing					
10:10-10:20	Opening remarks					
10:20-11:20	Presidential lectures					
10:20-10:35	Hong Kong and Spine, development of APSS	Keith Luk (Hong Kong SAR)				
10:35-10:50	Role of Hong Kong with mainland China - Spine perspective	Jianguo Zhang (China)				
10:50-11:05	Learning and teaching in the times of Virtual Simulation and ChatGPT	Shanmuganathan Rajasekaran (India)				
11:05-11:20	Future role of APSS amongst spine societies	Mun Keong Kwan (Malaysia)				
11:20-12:20	Symposium 4: Cervical spine 1 Moderators: Graham Shea (Hong Kong SAR), Jomick Lumawig (Philippines)		Symposium 5: Adult spinal deformity 1 (concepts) Moderators: Ying Kei Chan (Hong Kong SAR), Masashi Miyazaki (Japan)		Symposium 6: Advanced technology Moderators: Chun Man Ma (Hong Kong SAR), Torphong Bunmaprasert (Thailand)	
11:20-11:30	Cervical sagittal alignment - Update in latest concepts	Wen-Tien Wu (Taiwan)	Definition and pathophysiology	Jae Hyuk Yang (South Korea)	Technology in spine - Do we need any at all?	Yudha Mathan Sakti (Indonesia)
11:30-11:40	Ossification of posterior longitudinal ligament in cervical spine - Current concepts in surgical planning	Kin Cheung Mak (Hong Kong SAR)	Radiological assessment	Alvin Pun (Australia)	3D printing in spine surgery	Chun Man Ma (Hong Kong SAR)
11:40-11:50	Cervical total disc replacement - Is it ready for the mainstream?	Dennis Hey (Singapore)	Classification and spectrum of deformity	Nam-Su Chung (South Korea)	Navigation in complex spinal deformity	Sam Yeol Chang (South Korea)
11:50-12:00	Atlantoaxial rotatory dislocation in children - Concepts and treatment	Paul Koljonen (Hong Kong SAR)	Surgical treatment - Decision making and surgical options	Reuben Soh (Singapore)	Robotic assisted spine surgery's benefit	Wongthawat Liawrungrueang (Thailand)
12:00-12:10	Cervical deformity: Combination of anterior and posterior approach	Yat Wa Wong (Hong Kong SAR)	ASD in the octogenarian - How to approach?	Prakash Sitoula (Nepal)	VR / AR in spine surgery	Sang-Min Park (South Korea)
12:10-12:20	Q&A		Q&A		Q&A	



# DETAILED PROGRAMME

12:20-13:20	Lunch symposium (Sponsored by Medtronic)					
	The triple attack - Using advanced technology and techniques to improve patient care (MIS / robot / lateral)					
	The OLIF Hong Kong experience	Jason Cheung (Hong Kong SAR)				
	Improving your surgical armamentarium - Using the Mazor™ robot for MIS surgery	Jacob Oh (Singapore)				
13:20-14:20	Best Paper Session (Basic Science) Moderators: Daisuke Sakai (Japan), Ajoy Prasad Shetty Tonse (India)		Free paper (4) – Cervical Moderators: Paul Koljonen (Hong Kong SAR), Wen-Tien Wu (Taiwan)		Free paper (5) – Cervical and miscellaneous Moderators: Chris Tang (Hong Kong SAR), Kazuya Kitamura (Japan)	
14:20-15:20	Best Paper Session (Clinical) Moderators: Dong-Gune Chang (South Korea), Chris Chan (Malaysia)		Free paper (6) – New technology 1 Moderators: Grace Zhang (Hong Kong SAR), Wongthawat Liawrungrueang (Thailand)		Free paper (7) – New technology 2 Moderators: Michael Tse (Hong Kong SAR), Takaki Yoshimizu (Japan)	
15:20-15:30	Coffee break / Poster Viewing					
15:30-16:40	Symposium 7 - APSS-AO spine symposium: New era education Moderators: Kenny Kwan (Hong Kong SAR), Abhay Nene (India)		Symposium 8 - Debate series 1 (degenerative spine) Moderators: Raymond Wong (Hong Kong SAR), Shinji Takahashi (Japan)		Symposium 9 - Focus group: Anterior column reconstruction (Advanced techniques with video) Moderators: Jason Cheung (Hong Kong SAR), Hideyuki Arima (Japan)	
15:30-15:40	Challenges and solutions in providing effective education in orthopaedics	Masato Tanaka (Japan)	Cervical radiculopathy - ACDF vs TDR	Dennis Hey (Singapore): TDR	PTP surgery	Reuben Soh (Singapore)
15:40-15:50	Challenges and solutions in providing effective education in neurosurgery	Luke Kim (South Korea)		Jose Manuel F. Ignacio (Phillipines): ACDF	MIS-corpectomy	Jacob Oh (Singapore)
15:50-16:00	Community Development in AO Asia Pacific	Chung Chek Wong (Malaysia)	Lumbar spondylolisthesis - Fuse or not fuse	Kam Kwong Wong (Hong Kong SAR) : Fusion is better	Avoiding PSOs	Brian Hsu (Australia)
16:00-16:10	Impact of AI in AO spine research	Daisuke Sakai (Japan)		Chris Chan (Malaysia) : Decompression alone	(15 min talks)	
16:10-16:20	How to use large language models such as ChatGPT and Bard properly?	Dong Gune Chang (South Korea)	Lumbar stenosis - Microscopic vs endoscopic	Michael Tse (Hong Kong SAR): Microscopic is better		
16:20-16:30	Future Education for young spine surgeons - Risks and benefits of AI and chatGPT	Ajoy Shetty (India)		Takaki Yoshimizu (Japan): Endoscopic is better		
16:30-16:40	Q&A		Q&A		Q&A	
16:40-17:50	Symposium 10 - Safety in spine surgery Moderators: Chris Tang (Hong Kong SAR), Ajoy Shetty (India)		Symposium 11 - Operative video session 1 Moderators: Yat Wa Wong (Hong Kong SAR), Reuben Soh (Singapore)		Symposium 12 - Different surgical techniques in correcting sagittal alignment for thoracolumbar deformity surgery Moderators: Kam Kwong Wong (Hong Kong SAR), Done-Gune Chang (South Korea)	
16:40-16:50	Optimization for spine surgery in elderly	Young Bae Kim (South Korea)	L5/S1 high grade slip correction technique (15 min)	Shankar Acharya (India)	All posterior open surgery	Yong-Chan Kim (South Korea)
16:50-17:00	Intraoperative neuromonitoring: What to do when signal lost?	Ajoy Shetty (India)	Cervical anterior sliding corpectomy (15 min)	Dong-Ho Lee (South Korea)	Open anterior deformity correction	Yong Qiu (China)
17:00-17:10	Surgical site infection: Prevention and Treatment	Gaurav Raj Dhakal (Nepal)	Pedicle subtraction osteotomy (15 min)	Yukihiro Matsuyama (Japan)	Hybrid	Zhaomin Zheng (China)
17:10-17:20	Radiation Safety in spine surgery	Ji-Won Kwon (South Korea)	Vertebral column resection (15 min)	Hui ren Tao (China)	Circumferential MIS	Jae-Young Hong (South Korea)
17:20-17:30	Smart OR: Optimizing workflow and safety in OR	Dione Szeto (Hong Kong SAR)			All posterior MIS deformity correction	Dinesh Kumar (Singapore)
17:30-17:40	Safer spine surgery with navigation	Torphong Bunmaprasert (Thailand)			Endoscopic decompression alone avoids fusion	Luke Kim (South Korea)
17:40-17:50	Q&A		Q&A		Q&A	
18:30- 22:30	Gala Dinner					

# DETAILED PROGRAMME

## 16 June 2024 (Sunday)

	Topic		Speakers		Topic		Speakers		Topic		Speakers	
	S221				S224-225				S226-227			
8:00-9:00	Symposium 13 - Trauma <i>Moderators: Paul Koljonen (Hong Kong SAR), Yoshiharu Kawaguchi (Japan)</i>				Symposium 14 - Adult spinal deformity 2 (mx of complications) <i>Medorators: Kin Cheung Mak (Hong Kong SAR), Gabriel Liu (Singapore)</i>				Symposium 15 - AIS focus group (brace treatment) <i>Moderators: Mun Keong Kwan (Malaysia), Hideki Shigematse (Japan)</i>			
8:00-8:10	Odontoid fracture in elderly	Raymond Wong (Hong Kong SAR)			Junctional failures	Kyu-Jung Cho (South Korea)			Concept of brace treatment and bone maturity evaluation	Lau Leok Lim (Singapore)		
8:10-8:20	Central Cord Syndrome: Current Concept	Graham Shea (Hong Kong SAR)			Risk stratification and prediction for mechanical failure	Mitsuru Yagi (Japan)			Timing of starting brace treatment	Chen Chih-Wei (Taiwan)		
8:20-8:30	Traumatic thoracolumbar fracture with neurological deficit, is open decompression necessary?	Zamzuri Zakaria (Malaysia)			Management of inappropriate sagittal alignment	Masashi Miyazaki (Japan)			Timing of stopping brace treatment	Hideyuki Arima (Japan)		
8:30-8:40	Updates on sacral fractures	Wongthawat Liawrungrueang (Thailand)			The use of Subcrestal iliac screws in spinal deformity: Why, when and How?	Gabriel Liu (Singapore)			Do you recommend brace treatment for more than Risser 4 AIS patients?	Chee Kidd Chiu (Malaysia)		
8:40-8:50	Robotic rehabilitation after spine trauma	Chor Yin Lam (Hong Kong SAR)			Infection	Dong-Gune Chang (South Korea)			Do we offer bracing for more than 40 degree curves at the initial OPD visit?	Jason Cheung (Hong Kong SAR)		
8:50-9:00	Q&A				Q&A				Q&A			
9:00-10:00	Free paper (8) – Trauma <i>Moderators: Raymond Wong (Hong Kong SAR), Abhay Nene (India)</i>				Free paper (9) – Adult spinal deformity 1 <i>Moderators: Kenny Kwan (Hong Kong SAR), Brian Hsu (Australia)</i>				Free paper (10) – AIS 2 <i>Moderators: Jason Cheung (Hong Kong SAR), Chee Kidd Chiu (Malaysia)</i>			
10:00-10:20	Coffee break / Poster Viewing											
10:20-11:00	APSS Fellowship Session											
10:20-10:27	Introduction by APSS Fellowship Sub-Committee Chairman	Pankaj Kandwal (India)										
10:28-10:35	APSS Medtronic 2023	Bhaskar Sarkar (India)										
10:36-10:43	APSS Medtronic 2020	Praveen Goparaju (India)										
10:44-10:51	APSS Medtronic 2019	Mazhar Ali (Pakistan)										
10:52-10:59	APSS Medtronic 2019	Rohan Gala (India)										
11:00-11:30	APSS Oration <i>Moderator: Mun Keong Kwan (Malaysia)</i>											
	History of Spinal Fusion in Spinal Deformity and Spinal Pathology	K S Sivananthan (Malaysia)										
11:30-12:30	Symposium 16 - Debate series 2 (EOS) <i>Moderators: Keith Luk (Hong Kong SAR), Hee Kit Wong (Singapore)</i>				Symposium 17 - Osteoporotic spine <i>Moderators: Cho Yau Lo (Hong Kong SAR), Chris Chan (Malaysia)</i>				Symposium 18 - APSS-Eurospine <i>Moderators: Kenny Kwan (Hong Kong SAR), Brian Hsu (Australia)</i>			
11:30-11:40	Congenital scoliosis - I would do growing rod	Kota Watanabe (Japan)			Update on classification of osteoporotic vertebral compression fractures	Raymond Wong (Hong Kong SAR)			VBT is better for AIS	Ahmet Alanay (Turkey)		
11:40-11:50	Congenital scoliosis - I would do fusion	Abhay Nene (India)			Instrumentation strategies in osteoporotic spine	Shin Oe (Japan)			Fusion is better for AIS	M Arif Khan (Pakistan)		
11:50-12:00	9 year old with scoliosis - Growing rods now	Pankaj Kandwal (India)			Complicated osteoporotic vertebral compression fractures: What to do	Shinji Takahashi (Japan)			Lumbar degenerative deformity and the limits of sagittal plane analysis from biomechanical modelling perspective	Dominique Rothenfluh (United Kingdom)		
12:00-12:10	9 year old with scoliosis - Delayed Fusion	Leok Lim Lau (Singapore)			Cementation in acute OVF	Peter Li (Hong Kong SAR)			Short fusions in adult spinal deformity	Chun Man Ma (Hong Kong SAR)		
12:10-12:20	9 year old with scoliosis - Fusion now	Jason Cheung (Hong Kong SAR)			How to deal with osteoporosis in ASD surgery	Young-Hoon Kim (South Korea)			Preventing lumbosacral junction failures	Aaron Zhu (Hong Kong SAR)		
12:20-12:30	Q&A				Q&A				Q&A			

# DETAILED PROGRAMME

12:30-12:45	Lunch break		Lunch break		Lunch break	
12:45-13:15	APSS general assembly for members					
13:15-13:20	Preview of APSS-APPOS 2025 in Malaysia					
13:20-13:25	APSS presidential (closing) remarks					
13:25-13:30	Award ceremony: APSS best paper recipients 1. APSS-ASJ best paper - Basic science - Clinical research 2. APSS congress best paper - Basic science - Clinical research					
13:30-14:30	Symposium 19 - Adolescent idiopathic scoliosis 2 (operative technique) <i>Moderators: Kenneth Cheung (Hong Kong SAR), Huiren Tao (China)</i>		Symposium 20 - APSS-JSS combined symposium <i>Moderators: Jason Cheung (Hong Kong SAR), Daisuke Sakai (Japan)</i>		Symposium 21 - Cervical spine 2 <i>Moderators: Kam Kwong Wong (Hong Kong SAR), Dong Ho Lee (South Korea)</i>	
13:30-13:40	Posterior 1	Chris Chan (Malaysia)	Management of post infection deformities - Advances in the last few decades	Shanmuganathan Rajasekaran (India)	Navigation in cervical spine surgery - Updates in technology	Han-Dong Lee (South Korea)
13:40-13:50	Posterior 2	Masashi Miyazaki (Japan)	Advancements in Adult Spinal Deformity Surgery Across the Decades	Yukihiro Matsuyama (Japan)	VA injury in cervical spine surgery - Risks and management	Byung-Wan Choi (South Korea)
13:50-14:00	Posterior 3	Pankaj Kandwal (India)	Advancements in Pediatric Spinal Deformity Surgery: The Evolution of the Current Decades Ahead	Kota Watanabe (Japan)	Long term neurological survivorship after decompression for DCM	Graham Shea (Hong Kong SAR)
14:00-14:10	Posterior 4	Kenneth Cheung (Hong Kong SAR)	Expectation of community building between APSS and JSS for Spinal Deformity Treatment	Mun Keong Kwan (Malaysia)	Dysphagia after cervical surgery - How can we prevent it?	Chris Tang (Hong Kong SAR)
14:10-14:20	Anterior	Hee Kit Wong (Singapore)	(12 min talks)		Management of dural tear in cervical spine	Yoshiharu Kawaguchi (Japan)
14:20-14:30	Q&A		Q&A		Q&A	
14:30-15:40	Free paper (11) – AIS 3 <i>Moderators: Chun Man Ma (Hong Kong SAR), Yudha Matha Sakti (Indonesia)</i>		Free paper (12) – Adult spinal deformity 2 <i>Moderators: Kam Kwong Wong (Hong Kong SAR), Hideki Shigematsu (Japan)</i>		Free paper (13) – Complications <i>Moderators: Ka Kin Li (Hong Kong SAR), Yoshiharu Kawaguchi (Japan)</i>	
15:40-16:00	Coffee break / Poster Viewing					
16:00-17:10	Symposium 22 - Meet the masters <i>Moderators: Yat Wa Wong (Hong Kong SAR), Chung Chek Wong (Malaysia)</i>		Symposium 23 - Operative video session 2 (endoscopy) <i>Moderators: Michael Tse (Hong Kong SAR), Max Wu (Taiwan)</i>		Symposium 24 - Intelligent spine <i>Moderators: Grace Zhang (Hong Kong SAR), Ajoy Sherry (India)</i>	
16:00-16:10	My worst case 1	K S Sivanathan (Malaysia)	Interlaminar percutaneous endoscopic disectomy	Michael Tse (Hong Kong SAR)	Generative AI for spinal deformity: Technologies can be transferred to other specialties	Grace Zhang (Hong Kong SAR)
16:10-16:20	My worst case 2	Yoshiharu Kawaguchi (Japan)	Transforaminal percutaneous lumbar disectomy	Ying Kei Chan (Hong Kong SAR)	Application of AI in patient selection and outcome prediction	Wongthawat Liawrungrueang (Thailand)
16:20-16:30	My worst case 3	Yat Wa Wong (Hong Kong SAR)	UBE	Kwang-Sup Song (South Korea)	AI for scoliosis diagnostics and prediction	Guilin Chen (China)
16:30-16:40	My worst case 4	Yukihiro Matsuyama (Japan)	Thoracic endoscopy	Pang Hung Wu (Singapore)	AI in Tumor Prediction	Jonathan Tan (Singapore)
16:40-16:50	My worst case 5	Ronald Tangente (Philippines)	Posterior percutaneous endoscopic cervical foraminotomy and disectomy	Max Wu (Taiwan)	Incorporating AI in spinal deformity correction	Bhavuk Garg (India)
16:50-17:00	Q&A		Q&A		Q&A	
17:00-17:10	Adjourn					



# SCHEDULE OF PAPER PRESENTATIONS

**15 June 2024 (Saturday)**

**Free paper (1) – Endoscopy**

**08:50 – 09:50 (Room S221)**

*Moderators: Cho Yau Lo (Hong Kong SAR) and Takaki Yoshimizu (Japan)*

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
08:50 – 08:54	4	Wongthawat Liawrungrueang (Thailand)	Full endoscopic over-the-top decompression for single-level lumbar spinal stenosis: A single-center experience
08:54 – 08:58	45	Qingpeng Gao (China)	Learning curve for percutaneous endoscopic lumbar discectomy (PELD)
08:58 – 09:02	37	Takaki Yoshimizu (Japan)	Short-term outcomes of biportal endoscopy-assisted extraforaminal interbody fusion
09:02 – 09:06	41	Ishant Gunadala (India)	Ultrasound guidance in lumbar unilateral biportal endoscopy
09:06 – 09:10	61	Seung Deok Sun (South Korea)	Comparative analysis endoscopic L5-S1 foraminotomy vs Biportal endoscopic L5-S1 fusion
09:10 – 09:14	97	Pramod Sudarshan (India)	Results of single level discectomy and decompression by Unilateral Biportal Endoscopy (UBE) – Does it have the potential to become a gold standard technique?
09:14 – 09:18	104	Jae Hung Shin (South Korea)	The Safety of Full Endoscopic spine surgery (Uniportal endoscopy) from the perspective of the amount of infusion fluid and MRI scan
09:18 – 09:22	125	Yu-Hsiang Su (Taiwan)	Surgical and Functional Outcomes of Biportal Posterolateral Endoscopic Lumbar Interbody Fusion via Percutaneous Pedicle Screw Incisional Wounds- a case series
09:22 – 09:26	73	Nantaka Tepasamordej (Thailand)	Feasibility of Endoscopic Lumbar Discectomy in a Remote Government Hospital in Thailand: A Cost-Utility Analysis
09:26 – 09:30	251	Lương Minh Quang (Viet Nam)	Full endoscopic laminectomy – a more minimally invasive and muscle preserving treatment for cervical spondylotic myelopathy: A case series.

# SCHEDULE OF PAPER PRESENTATIONS

## Free paper (2) – AIS 1

08:50 – 09:50 (Room S224-225)

Moderators: *Graham Shea (Hong Kong SAR) and Hideki Shigematsu (Japan)*

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
08:50 – 08:54	56	Kwan Tung Teenie Wong (Hong Kong SAR)	Vertebral Body Tethering of Main Thoracic Curve Results in Spontaneous correction in Untethered Proximal Thoracic Cobb and Shoulder Balance: A Three- Dimensional Analysis
08:54 – 08:58	59	Jungwook Lim (South Korea)	Clinical effect of intraoperative use of tranexamic acid in Minimal invasive scoliosis surgery (MISS) in patients with adolescent idiopathic scoliosis
08:58 – 09:02	60	Jungwook Lim (South Korea)	Thoracic Chord Length in Scoliosis using the Ideal Pedicle Entry Point based on Facet Joint: A computed tomography study
09:02 – 09:06	67	Takahiro Kitagawa (Japan)	Pelvic incidence as a predictor of proximal junctional kyphosis in Lenke type 5 adolescent idiopathic scoliosis patients
09:06 – 09:10	71	Kwan Tung Teenie Wong (Hong Kong SAR)	Vertebral Body Tethering Results in Improvement in Coronal Cobb Angle but Deterioration in Axial Rotation, A 3- Dimensional Analysis
09:10 – 09:14	103	Dong-Gune Chang (South Korea)	Long-term Follow-up Rotational Changes After Direct Vertebral Rotation in Adolescent Idiopathic Scoliosis
09:14 – 09:18	127	Glenys Poon (Singapore)	Mid to Long-term Outcomes of Thoracoscopic Anterior Selective Thoracic Fusion in Adolescent Idiopathic Scoliosis (AIS) for in Lenke 1 & 2 curves – a Minimum 2 year Follow-up Review
09:18 – 09:22	141	Sin Ying Lee (Malaysia)	Deriving a Favourable Intraoperative Lowest Instrumented Vertebra (LIV) Tilt Angle using Preoperative Left Supine Side-Bending (LSB) Radiographs For Lenke Type 1 And 2 (Non-AR Curves) Adolescent Idiopathic Scoliosis (AIS) Patients

# SCHEDULE OF PAPER PRESENTATIONS

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
09:22 – 09:26	147	Siti Mariam Mohamad (Malaysia)	Prediction of the Optimal Upper Instrumented Vertebra (UIV) Tilt Angle based on the Pre-operative Erect Radiograph for Lenke Type 1 and 2 Adolescent Idiopathic Scoliosis (AIS) Patients
09:26 – 09:30	149	Siti Mariam Mohamad (Malaysia)	Postoperative Medial Shoulder, Lateral Shoulder and Neck Imbalance among 120 Lenke 1 and 2 Adolescent Idiopathic Scoliosis (AIS) Patients with a Minimum of 5-Year Follow-Up



# SCHEDULE OF PAPER PRESENTATIONS

## Free paper (3) – Tumor & infection

08:50 – 09:50 (Room S226-227)

Moderators: Yat Wa Wong (Hong Kong SAR) and Shanmuganathan Rajasekaran (India)

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
08:50 – 08:54	57	Mamer Rosario (Philippines)	Early postoperative outcomes of posterior spinal TB surgeries – a single-institutional prospective analysis of 15 consecutive cases
08:54 – 08:58	58	Mamer Rosario (Philippines)	Awareness of trainees on diagnosing TB spondylitis – an analysis of cross-sectional data among Filipino orthopaedic residents
08:58 – 09:02	62	Junlong Zhong (China)	The Safety and Efficacy of PVCR in Treating Severe Thoracolumbar Pott's Deformity in More Than 5-year Follow-up
09:02 – 09:06	138	Aakash Jain (India)	Defining Surgical Indication for Instability in Spinal Tuberculosis: Validation Analysis of Tuberculosis Spine Instability Score (TSIS)
09:06 – 09:10	168	Qiujiang Li (China)	Adherence of Mycobacterium Tuberculosis on Material Surface of Nano-hydroxyapatite/polyamide 66 Composite and Long-term Results of Clinic Application to Spinal Tuberculosis
09:10 – 09:14	202	Vivek Shankar (India)	Analysis of Midterm Clinical and Functional Outcomes Following Sacrectomy for Primary Malignant Sacral Tumors: A Single Tertiary Care Center Study on Posterior-Only Approach without Reconstruction
09:14 – 09:18	222	Shanmuganathan Rajasekaran (India)	Does the Gut microbiome influence disc health and disease? –the interplay between dysbiosis, pathobionts, and disc inflammation
09:18 – 09:22	223	Shanmuganathan Rajasekaran (India)	An Algorithm for the Posterior Only Surgical Correction of Kyphosis in Thoracic and Thoracolumbar Spinal Tuberculosis
09:22 – 09:26	227	Si Jian Hui (Singapore)	Does intraoperative cell-salvaged autologous blood transfusion in metastatic spine tumour surgery improve long-term clinical outcomes? A prospective clinical study
09:26 – 09:30	228	Si Jian Hui (Singapore)	Implant and construct decision making in metastatic spine tumour surgery

# SCHEDULE OF PAPER PRESENTATIONS

## Best Paper Presentation – Basic science

13:20 – 14:20 (Room S221)

Moderators: *Daisuke Sakai (Japan) and Ajoy Prasad Shetty Tonse (India)*

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
13:20 – 13:23	-	Hak Sun Kim (South Korea)	Introduction of ASJ
13:23 – 13:29	220	Karthik Ramachandran (India)	Unraveling Complement Protein C1q Dysregulation: Insights from Plasma and Tissue Proteomics in Degenerative Disc Disease
13:29 – 13:35	26	Prudence WH Cheung (Hong Kong SAR)	Impaired Glycine Neurotransmission Causes Adolescent Idiopathic Scoliosis: A Novel Variant and Functional Pathway
13:35 – 13:41	64	Junlong Zhong (China)	Biomechanical Comparison of Different Instrumentations for Severe Thoracolumbar Pott's Deformity after PVCR: A Finite Element Study
13:41 – 13:47	119	Aman Verma (India)	Can a simple smartphone be a cornerstone in School Health screening program for detecting scoliosis in resource poor developing countries? – Revisiting the “Scoliometer”
13:47 – 13:53	128	Adam Yiu Chung Lau (Hong Kong SAR)	Early prediction of curve progression to surgical threshold in Adolescent Idiopathic Scoliosis with bone microarchitecture phenotyping – a step closer to Precision Medicine
13:53 – 13:59	132	Jiong Hao Jonathan Tan (Singapore)	Deep Learning Model for Automated Detection and Classification of Degenerative Cord Signal Abnormality, Spinal Canal and Neural Foraminal Stenosis on Cervical Spine MRI
13:59 – 14:05	204	Wing Ki Cheung (Hong Kong SAR)	How the curve morphology differs between curve types in patients with Adolescent Idiopathic Scoliosis during brace treatment?
14:05 – 14:11	274	Moxin Zhao (Hong Kong SAR)	Non-Radiative Postural Alignment Assessment: Generating Radiograph Comparable Images with 3D Imaging and Deep Learning

# SCHEDULE OF PAPER PRESENTATIONS

## Free paper (4) – Cervical

13:20 – 14:20 (Room S224-225)

Moderators: Paul Koljonen (Hong Kong SAR) and Wen-Tien Wu (Taiwan)

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
13:20 – 13:24	176	Xiao Yang (China)	Two-level anterior cervical corpectomy and fusion versus posterior open-door laminoplasty for the treatment of cervical ossification of posterior longitudinal ligament: a comparison of the clinical impact on the occipito-atlantoaxial complex
13:24 – 13:28	178	Zhiqiang Yang (China)	A novel MRI-based Cervical Endplate Bone Quality score independently predicts cage subsidence after Anterior Cervical Discectomy and Fusion
13:28 – 13:32	182	Junhu Li (China)	MRI-based cervical vertebral bone quality score and the quality of paravertebral muscle are novel predictors of the loss of cervical lordosis after open-door laminoplasty.
13:32 – 13:36	185	Junhu Li (China)	Effect of different intraoperative neck positions on postoperative dysphagia after anterior cervical discectomy and fusion: a double-blind, prospective, randomized controlled trial.
13:36 – 13:40	205	Karlen Ka-pui Law (Hong Kong SAR)	A new arena in quantifying functional deficits with the severity of spinal cord compression in Degenerative Cervical Myelopathy
13:40 – 13:44	130	Jose Kreisher Rae Foscablo (Philippines)	Clinical and Radiographic Predictors of Deterioration in Mild Cervical Spondylotic Myelopathy: A Systematic Review
13:44 – 13:48	201	Howard, Hao-wen Chen (Taiwan)	The Meaning and Clinical Application of Facet Fluid Effusion Found on MRI in Patients with Cervical Degenerative Spondylolisthesis
13:48 – 13:52	218	Karthik Ramachandran (India)	Postoperative Analgesic Efficacy of Inter-semispinal Plane Block in Posterior Cervical Laminectomy- A Prospective Randomised Controlled Study
13:52 – 13:56	76	Yasutsugu Yukawa (Japan)	Does anterior surgery provide good surgical outcome for K-line (-) and/or huge (occupying ratio > 50%) ossification of posterior ligament in cervical spine?



# SCHEDULE OF PAPER PRESENTATIONS

## Free paper (5) - Cervical and miscellaneous

13:20 – 14:20 (Room S226-227)

Moderators: Chris Tang (Hong Kong SAR) and Kazuya Kitamura (Japan)

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
13:20 – 13:24	126	Yasutsugu Yukawa (Japan)	Impact of increased signal intensity of the spinal cord at the vertebral body level in patients with cervical myelopathy
13:24 – 13:28	177	Shuxin Zheng (China)	The novel cervical vertebral bone quality score can independently predict cage subsidence after anterior cervical corpectomy and fusion
13:28 – 13:32	83	Yudha Mathan Sakti (Indonesia)	Evaluation of mRNA Tumor Necrosis Factor Alpha (TNF- $\alpha$ ) Level from Nucleus Pulposus, Annulus Fibrosus and Facet Joint Tissue on Degenerative Lumbar Canal Stenosis Patient
13:32 – 13:36	98	Chongyan Wang (Singapore)	Tandem Spinal Stenosis: A 845 Multiracial Asian Patients' Prevalence and Risk Factor Analysis
13:36 – 13:40	241	Zhang Hao (China)	Dynamic CT imaging of the cervical spine in patients with atlantoaxial instability
13:40 – 13:44	242	Zhang Hao (China)	ACDF with cervical uncinectomy for cervical radiculopathy with foraminal stenosis
13:44 – 13:48	150	Shun Heng Tan (Malaysia)	All-Pedicle Construct Selective Thoracic Fusion (STF) in Adolescent Idiopathic Scoliosis (AIS): Clinical and Radiological Outcomes at 5-Year Follow-Up for Lenke 1B, 1C, 2B, and 2C Curves
13:48 – 13:52	213	Yukan Wu (China)	Evaluation of Accuracy of Thoracolumbar Pedicle Screw Placement Assisted by Artificial Intelligence Preoperative Planning
13:52 – 13:56	174	Xiao Yang (China)	Long-term quality of life in patients with severe thoracic ossification of the ligamentum flavum treated with posterior laminectomy: a clinic follow-up study with a mean of 70.8 months.
13:56 – 14:00	148	Mrs. Siti Mariam Mohamad (Malaysia)	Anxiety and Depression, Quality of Life (QOL) and Coping Strategies among Adolescent Idiopathic Scoliosis (AIS) Patients on Bracing

# SCHEDULE OF PAPER PRESENTATIONS

## Best Paper Presentation – Clinical

14:20 – 15:20 (Room S221)

Moderators: *Dong-Gune Chang (South Korea) and Chris Chan (Malaysia)*

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
14:20 – 14:26	2	Yuan-Shun Lo (Taiwan)	Predicting Neurologic Complications in Thoracic Three-Column Osteotomy: A Clinical Application of a Novel MRI-Based Classification Approach
14:26 – 14:32	25	Prudence WH Cheung (Hong Kong SAR)	The Proximal Femur Maturity Index is a novel tool to Predict Curve Progression Risk in Patients with Adolescent Idiopathic Scoliosis Undergoing Bracing
14:32 – 14:38	27	Yong Yao Tan (Singapore)	Single position lateral lumbar interbody fusion with navigated percutaneous pedicle screw fixation: Technique modification with resultant resource usage optimisation
14:38 – 14:44	63	Kai Cao (China)	The Risk Factors for Implant Failure after PVCR for Severe Thoracolumbar Pott's Deformity
14:44 – 14:50	80	Ziquan Li (China)	Risk Factors of Surgical Complications for Early-onset Scoliosis (EOS)
14:50 – 14:56	106	Hideki Shigematsu (Japan)	Current Trends in Intraoperative Neurophysiological Monitoring among Asian Countries. An Asia Pacific Spine Society (APSS) Survey.
14:56 – 15:02	179	Junhu Li (China)	The relationship between postoperative proximal junctional kyphosis and MRI-based pedicle bone quality scores in thoracic adolescent idiopathic scoliosis
15:02 – 15:08	208	Victoria Yuk Ting Hui (Hong Kong SAR)	Lateral Plane Fulcrum Bending Radiographs Predicts Postoperative Thoracic Normokyphosis in Adolescent Idiopathic Scoliosis

# SCHEDULE OF PAPER PRESENTATIONS

## Free paper (6) - New technology 1

14:20 – 15:20 (Room S224-225)

Moderators: Grace Zhang (Hong Kong SAR) and Wongthawat Liawrungrueang (Thailand)

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
14:20 – 14:24	5	Wongthawat Liawrungrueang (Thailand)	Artificial Neural Networks Model Detection for Osteoporotic Vertebral Compression Fracture
14:24 – 14:28	229	Si Jian Hui (Singapore)	Does 3D printing affect material properties of PEEK composites? - A detailed compositional & optimized mechanical analysis of pre and post manufacturing
14:28 – 14:32	100	Nagaraju Honnegowda (India)	To assess role of 3D printed model in pre operation planning and outcome of kyphectomy
14:32 – 14:36	109	Chenxi Yu (Hong Kong SAR)	Learning Powered Axial Vertebral Rotation Analysis for Adolescent Idiopathic Scoliosis: Technology Development and Clinical Validation
14:36 – 14:40	110	Xihe Kuang (Hong Kong SAR)	Deep Learning Driven Rapid Diagnosis System for Pedicle Dysplasia with Preliminary Validation
14:40 – 14:44	133	Jiong Hao Jonathan Tan (Singapore)	Can a deep learning artificial intelligence model lead to earlier diagnosis of high grade metastatic epidural spinal cord compression and reduction in treatment delay?
14:44 – 14:48	225	Nan Meng (Hong Kong SAR)	Radiation-free 3D Spine Curve Synthesis Based on Biplanar Optical Unclothed Back Images for Spine Alignment Analysis
14:48 – 14:52	52	Kihyun Kwon (South Korea)	Are there correlations between surgical timing or weather conditions and early post-spinal fusion surgery Infections? Big data analysis



# SCHEDULE OF PAPER PRESENTATIONS

## Free paper (7) - New technology 2

14:20 – 15:20 (Room S226-227)

Moderators: Michael Tse (Hong Kong SAR) and Takaki Yoshimizu (Japan)

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
14:20 – 14:24	96	Pramod Sudarshan (India)	Intrathecal nusinersen injection for Spinal muscular atrophy post spinal deformity correction surgery – A technical note
14:24 – 14:28	40	Ryo Mizukoshi (Japan)	Gender Differences in Spinal Mobility During Postural Changes: A Detailed Analysis Using Upright CT
14:28 – 14:32	252	Chun Man Ma (Hong Kong SAR)	Resection of hemivertebra in congenital scoliosis using ultrasonic bone cutter under computerized navigation
14:32 – 14:36	50	Melissa Mae Sanchez (Philippines)	Analyzing Pedicle Morphology of Thoracic and Lumbar Vertebra using Computed Tomographic Measurement among Filipino population in a tertiary hospital
14:36 – 14:40	115	Muhammad Jawad Saleem (Pakistan)	Outcome of Expansion Duraplasty in Transverse Myelitis
14:40 – 14:44	169	Xi Yang (China)	A comparison of anterior reconstruction of spinal defect using nano-hydroxyapatite/polyamide 66 cage and autologous iliac bone for thoracolumbar tuberculosis: a stepwise propensity score matching analysis
14:44 – 14:48	262	Alvin Pun (Australia)	Prone Transpsoas (PTP) Lateral Lumbar Interbody Fusion (LLIF): Segmental Lordosis and Patient Reported Outcome Measures (PROMS) In Case Series Comparable To Current Literature
14:48 – 14:52	230	Si Jian Hui (Singapore)	Novel material processing printing method for novel PEEK-HA-Mg <sub>2</sub> SiO <sub>4</sub> composite material for spine implants
14:52 – 14:56	258	Gabriel Leow Zihui (Singapore)	Experience using CFR-PEEK implants in metastatic and primary spine tumour surgery; a single centre experience
14:56 – 15:00	273	Hao Wu (Hong Kong SAR)	Prospective Validation of Multimodal Digital Exercise Therapy for Low Back Pain Management

# SCHEDULE OF PAPER PRESENTATIONS

**16 June 2024 (Sunday)**

**Free paper (8) – Trauma**

09:00 – 10:00 (Room S221)

*Moderators: Raymond Wong (Hong Kong SAR) and Abhay Nene (India)*

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
09:00 – 09:04	23	Hiroyuki Kitagawa (Japan)	Is traumatic disc injury a local kyphosis risk?
09:04 – 09:08	1	Weera Chaiyamongkol (Thailand)	Surgical management strategies for unstable sacral fractures
09:08 – 09:12	10	Xin Qiu (China)	Single-cell nuclear transcriptome sequencing resolves cellular heterogeneity in a single segmental compression model of chronic spinal cord injury in rabbits
09:12 – 09:16	38	Masatoshi Teraguchi (Japan)	Association between thoracic diffuse idiopathic skeletal hyperostosis and Spinal cord injury without radiographic evidence of trauma.
09:16 – 09:20	39	Masatoshi Teraguchi (Japan)	Non cervical diffuse idiopathic skeletal hyperostosis is a risk factor for severity of cervical spinal cord injury
09:20 – 09:24	44	Romel Estillore (Philippines)	Influence of Barium Sulfate Contrast Agent in Bone Cement on its Physical and Mechanical Properties in the Vertebra of an Animal Model for the Treatment of Vertebral Compression Fractures
09:24 – 09:28	79	Torphong Bunmaprasert (Thailand)	Factors Associated with Non-Contiguous Spine Fracture in Patients with Traumatic Cervical Spine Injury: a 12-Year Retrospective Study
09:28 – 09:32	165	Mian Huang (Hong Kong SAR)	A GPT-Based Question-and-Answer Chatbot on Osteoporosis and Phantom-Less QCT Bone Mineral Density Measurement System for Osteoporosis
09:32 – 09:36	187	Ganesh Kumar (India)	Single vs Double Index screws in Thoracolumbar Burst Fractures: A Comparative Retrospective study
09:36 – 09:40	261	Wei-chao Li (China)	Clinical efficacy and finite element analysis of a novel hollow pedicle screw combined with kyphoplasty for the treatment of Kummell disease

# SCHEDULE OF PAPER PRESENTATIONS

## Free paper (9) – Adult spinal deformity 1

09:00 – 10:00 (Room S224-225)

Moderators: *Kenny Yat Hong Kwan (Hong Kong SAR) and Brian Hsu (Australia)*

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
09:00 – 09:04	203	Kuang-Ting Yeh (Taiwan)	Whole spinal alignment in asymptomatic older women with low bone mass: a focus on global tilt angle
09:04 – 09:08	271	Ganesh Kumar (India)	Assessment of osteoporosis using MRI: Is DEXA ready for retirement?
09:08 – 09:12	33	Keiji Nagata (Japan)	Proximal Junctional Kyphosis in Adult Spinal Deformity Correction Surgery: A New Evaluation Method for Upper UIV Using Comfortable Seated Simple X-Ray Evaluation
09:12 – 09:16	69	Guodong Wang (China)	Erector spinae atrophy correlates with global sagittal imbalance and postoperative proximal junctional kyphosis incidence in lumbar degenerative kyphosis
09:16 – 09:20	14	Young-il Ko (South Korea)	Analysis of risk factors affecting lumbosacral pseudoarthrosis in multi-segmental fusion: a CT-based study
09:20 – 09:24	206	Masao Koda (Japan)	Cast Test: Surgical Outcome Prediction of Thoraco-Lumbar Spine Correction Surgery for Sagittal Vertical Axis (+) Type Dropped Head Syndrome: A Report of Initial 5 Cases
09:24 – 09:28	167	Graham Shea (Hong Kong SAR)	The Long-term Natural History of Degenerative Lumbar Spinal Stenosis
09:28 – 09:32	255	Jerry Chi Yan Ip (Hong Kong SAR)	Predicting the Radiographic Correction of Spondylolisthesis following Oblique Lateral Interbody Fusion (OLIF)



# SCHEDULE OF PAPER PRESENTATIONS

## Free paper (10) – AIS 2

09:00 – 10:00 (Room S226-227)

Moderators: Jason Pui Yin Cheung (Hong Kong SAR) and Chee Kidd Chiu (Malaysia)

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
09:00 – 09:04	153	Yu Jie Lee (Malaysia)	How useful is WhatsApp in the peri-operative management of Adolescent Idiopathic Scoliosis (AIS) patients
09:04 – 09:08	81	Yudha Mathan Sakti (Indonesia)	Multifactorial Genetic Analysis as A Prospective Predictor of Adolescent Idiopathic Scoliosis Development: Ladybird Homeobox 1 (LBX1) And Estrogen Receptor (ESR) mRNA Expression
09:08 – 09:12	139	Sin Ying Lee (Malaysia)	Statistical Comparison of Two Radiographic Classifications for Adult Idiopathic Scoliosis (AdIS) Patients Based on Supine versus Supine Side-Bending Radiographs
09:12 – 09:16	146	Chun Hong Ngan (Malaysia)	Outcomes of Pregnancy and Childbirth Following Posterior Spinal Fusion in Adolescent Idiopathic Scoliosis: A Retrospective Cohort Study
09:16 – 09:20	156	Yee Wern Evonne Tan (Malaysia)	Predictive value of supine radiographs for postoperative curve correction in Adult Idiopathic Scoliosis (AdIS) patients
09:20 – 09:24	158	Sze Khiong Fam (Malaysia)	Long-Term Functional Outcome, Health-Related Quality of Life (HRQOL), and Sports Participation among Adolescent Idiopathic Scoliosis (AIS) Patients more than 10 years after Posterior Spinal Fusion (PSF) Surgery: A Study of 128 AIS Patients.
09:24 – 09:28	186	Tsunehiko Konomi (Japan)	Clinical outcomes of Coplanar-Hybrid techniques for restoring thoracic kyphosis in patients with idiopathic scoliosis: Synergy between convex uniplanar screws and hybrid constructs on the concave side
09:28 – 09:32	226	Mohd Shahnaz Hasan (Malaysia)	A Retrospective Comparative Study of Single Bolus Versus Bolus Followed by Continuous Infusion with Similar Total Tranexamic Acid Dosage on Surgical Blood Loss in Scoliosis Surgery
09:32 – 09:36	243	Prudence Cheung (Hong Kong SAR)	Back Pain Questionnaire in Adolescent Idiopathic Scoliosis: An Insight into Pain Characteristics and its Relationship with Health-Related Quality of Life

# SCHEDULE OF PAPER PRESENTATIONS

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
09:36 – 09:40	249	Chun Man Ma (Hong Kong SAR)	The use of novel H-bar in intraoperative assessment of alignment for patients with adolescent idiopathic scoliosis receiving posterior fusion surgery

# SCHEDULE OF PAPER PRESENTATIONS

## Free paper (11) – AIS 3

14:30 – 15:40 (Room S221)

Moderators: Chun Man Ma (Hong Kong SAR) and Yudha Matha Sakti (Indonesia)

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
14:30 – 14:34	70	Guodong Wang (China)	Clinical and Radiological Outcome of Selective Fusion for Rotatory Olisthesis in Degenerative Lumbar Scoliosis: A retrospective cohort study
14:34 – 14:38	129	Josephine Rebecca Chandren (Malaysia)	Review of the Perioperative Outcomes of 123 Adult Idiopathic Scoliosis (AdIS) Patients underwent Posterior Spinal Fusion (PSF).
14:38 – 14:42	140	Sin Ying Lee (Malaysia)	A Dedicated Spine Team Approach Maintained a Consistent Operating Theatre (OT) Efficiency and Perioperative Outcomes in Posterior Spinal Fusion (PSF) Surgery for Adolescent Idiopathic Scoliosis (AIS) Patients
14:42 – 14:46	143	Saturveithan Chandirasegaran (Malaysia)	Perioperative Outcome of Severe Adolescent Idiopathic Scoliosis (AIS) Patients with Cobb Angle $\geq 100^\circ$ : The Feasibility of Single-Stage Posterior Spinal Fusion with Radical Facetectomies.
14:46 – 14:50	144	Saturveithan Chandirasegaran (Malaysia)	A Novel Approach: Utilization of Medial Pedicle Wall Referencing Extra-Pedicular (EP) Screw Insertion Technique in Narrow Dysplastic Pedicles in Adolescent Idiopathic Scoliosis (AIS) Patients.
14:50 – 14:54	145	Saturveithan Chandirasegaran (Malaysia)	The Feasibility of Rapid Recovery Protocol (RRP) in Severe Adolescent Idiopathic Scoliosis (AIS) Patients (Cobb Angle $\geq 90^\circ$ ) following Posterior Spinal Fusion (PSF).
14:54 – 14:58	151	Kar Jun Lee (Malaysia)	Zonal Differences in distribution of Dysplastic Pedicles in Severe (Cobb Angle $\geq 90^\circ$ ) Idiopathic Scoliosis (IS): A Computed Tomography Study of 2652 Pedicles using the Zonal Classification
14:58 – 15:02	157	Sze Khiong Fam (Malaysia)	Description of A Novel Proximal Hyperkyphotic Rod Contouring Technique to Redistribute Thoracic Kyphosis among Adolescent Idiopathic Scoliosis (AIS) Patients: A study of 58 Lenke Type 1 and 2 AIS Patients
15:02 – 15:06	160	Wee Jieh Wang (Malaysia)	Comparison between Medial and Lateral Pedicle Wall Thickness in Asian Adolescent Idiopathic Scoliosis (AIS) with Major Thoracic Curves



# SCHEDULE OF PAPER PRESENTATIONS

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
15:06 – 15:10	163	Woon Theng Heng (Malaysia)	Medial Wall Glide Technique: A Novel Technique for Pedicle Screw Insertion in Non-Dysplastic Pedicles Among Adolescent Idiopathic Scoliosis (AIS) Patients

# SCHEDULE OF PAPER PRESENTATIONS

## Free paper (12) – Adult spinal deformity 2

14:30 – 15:40 (Room S224-225)

Moderators: Kam-Kwong Wong (Hong Kong SAR) and Hideki Shigematsu (Japan)

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
14:30 – 14:34	253	Gabriel Leow Zihui (Singapore)	5-year radiological outcomes between decompression alone and decompression with an interlaminar device for lumbar spinal stenosis
14:34 – 14:38	53	Dong-ho Kang (South Korea)	The fate of pre-existing L5-S1 degeneration following oblique lumbar interbody fusion of L4-L5 and above
14:38 – 14:42	54	Dong-ho Kang (South Korea)	Predicting adequate segmental lordosis correction in lumbar spinal stenosis patients undergoing oblique lumbar interbody fusion: A focus on the discontinuous segment
14:42 – 14:46	171	Qiujiang Li (China)	S1 vertebral bone quality score independently predicts pedicle screw loosening following surgery in patients with adult degenerative scoliosis
14:46 – 14:50	172	Qiujiang Li (China)	MRI-based endplate bone quality score as a predictor of cage subsidence following oblique lumbar interbody fusion
14:50 – 14:54	180	Hideki Shigematsu (Japan)	Survey on the Necessity of Intraoperative Neurophysiological Monitoring for Spinal Cord Surgeries in Asian Countries
14:54 – 14:58	238	Sri Krishna Chaitanya Kondety (India)	Expandable Cages For Transforaminal Lumbar Interbody Fusion- 1 Year Radiological Outcomes Of Lumbar Lordosis, Vertebral Foramen Height, Anterior and Posterior Disc Height

# SCHEDULE OF PAPER PRESENTATIONS

## Free paper (13) – Complications

14:30 – 15:40 (Room S226-227)

Moderators: Ka Kin Li (Hong Kong SAR) and Yoshiharu Kawaguchi (Japan)

Time	Abstract Number	Abstract Presenter (Country / Region)	Abstract Topic
14:30 – 14:34	16	Takahiro Mui (Japan)	Which patients do we need to consider augmentation of muscle active potentials regarding MEP monitoring before spine surgery?
14:34 – 14:38	250	Qiuya Li (Hong Kong SAR)	Incidence of Rare Complications during and after Lumbar Spine Surgery in Hong Kong
14:38 – 14:42	51	Pochollo Miguel Rosales (Philippines)	Dural Sealants In Spine Surgery: A Scientometric Analysis
14:42 – 14:46	36	Kihyun Kwon (South Korea)	Analysis of risk factors for persistent postoperative neuropathic pain after surgery in patients with spinal stenosis
14:46 – 14:50	43	Paul Albert Manuel (Philippines)	Outpatient intermittent percutaneous CSF drainage as treatment of CSF leak in spine surgery
14:50 – 14:54	272	Yanzhe Wei (China)	Analysis of Surgical Strategies for Two Cases of Ankylosing Spondylitis Kyphosis Complicated by Anterior Dural Ectasia/Spinal Cord Herniation
14:54 – 14:58	47	Rohit Thaker (India)	Dural tears incidence and it's outcome in Minimally Invasive Spine Surgery (MISS) vs. Open Spine surgery for degenerative lumbar spine pathologies.
14:58 – 15:02	78	Hideyuki Arima (Japan)	Impact of osteoporosis on clinical outcomes after corrective fusion for adult spinal deformity and reoperation rates for mechanical complications
15:02 – 15:06	152	Yu Jie Lee (Malaysia)	Factors associated with Moderate and Severe Pulmonary Impairment (MSPI) in Preoperative Adolescent Idiopathic Scoliosis (AIS) Patients
15:06 – 15:10	219	Karthik Ramachandran (India)	Risk Predictive Score and Cord Morphology Classification for Intraoperative Neuromonitoring Alerts in Kyphosis Surgery



# ACCREDITATIONS

Accreditation points have been accredited by the following colleges and programme for local delegates.

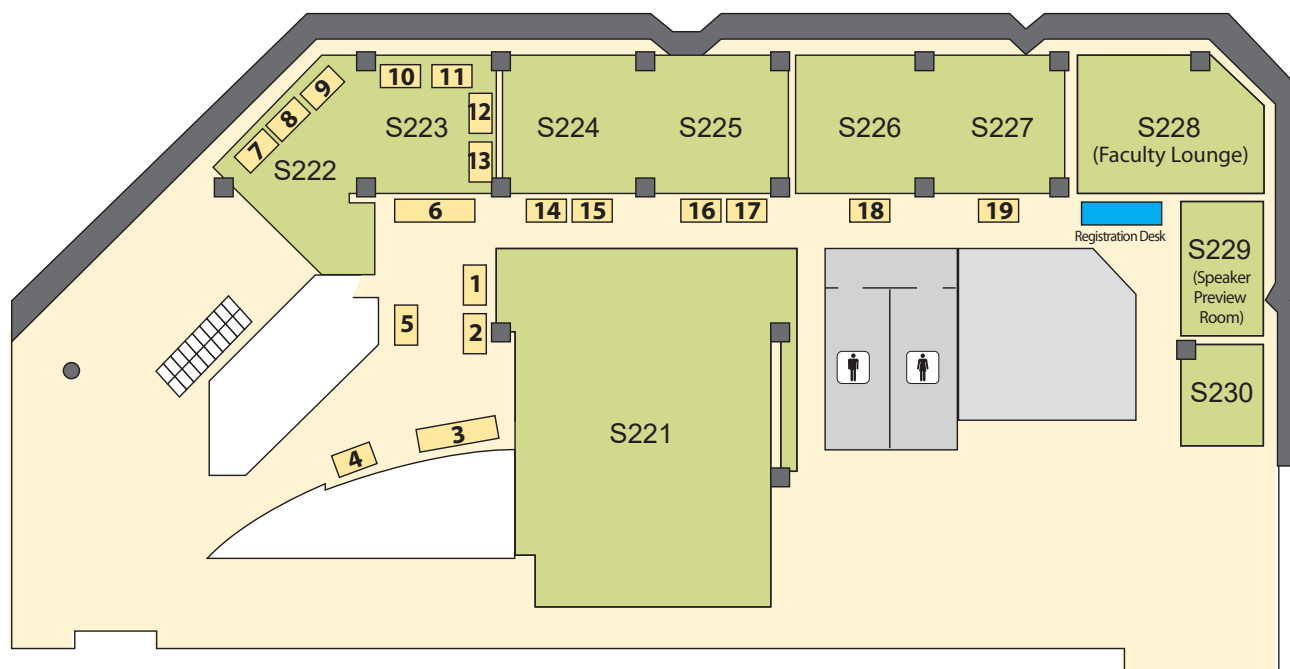
(as of 12 June 2024)

Colleges	Max. for Whole Function	15 Jun	16 Jun	Category/ Remarks
CME				
Hong Kong College of Community Medicine	10	9	7	PP-PP
The Hong Kong College of Family Physicians	10	5	5	OEA-5.02
The Hong Kong College of Orthopaedic Surgeons	8 8 4	5 5 2	5 5 2	CAT A Training Rehab
The Hong Kong College of Pathologists	16	9	7	CME-PP
The Hong Kong College of Physicians	8	4	4	PP-PP
Hong Kong College of Radiologists	16	9	7	B-PP
The College of Surgeons of Hong Kong	12	6	6	CME-PP
Medical Council of Hong Kong	10	5	5	-
CNE				
Hospital Authority - CNE / PEM Accreditation Panel	17.5	9.5	8	-
CPD				
Hong Kong Physiotherapy Association Ltd.	10	10		Main Cat 1 Sub-Cat C
Hong Kong Society of Certified Prosthetist-Orthotists	10	5	5	Cat A.1
Occupational Therapists Board	Pending	Pending	Pending	Pending

*The final accreditations will be at the discretion of individual college / association.*

# FLOOR PLAN & EXHIBITION

## Rooms S221 – S230, Hong Kong Convention & Exhibition Centre (HKCEC)



Number	Sponsor
1	Johnson & Johnson (Hong Kong) Ltd.
2	Hong Kong Conova Medical Technology Ltd.
3	Medtronic Hong Kong Medical Ltd.
4	Y.S. Medical Equipment Ltd.
5	Globus Medical, Inc.
6	Medyssey Co., Ltd.
7	Karl Storz Endoscopy China Ltd.
8	The Industrial Promoting Co., Ltd.
9	AO Spine
10	Tronda Electronics Ltd.
11	Stryker China Ltd.
12	Keymax Technology HK Ltd.
13	Amgen Hong Kong Ltd.
14	Pearl Medical International Co., Ltd.
15	Transmedic China Ltd.
16	Hisamitsu Pharmaceutical (Hong Kong) Co., Ltd.
17	Beijing Fule Science & Technology Development Co., Ltd.
18	Médecins Sans Frontières Hong Kong
19	Asia Pacific Spine Society

# GENERAL INFORMATION

## Date and Venues

**13 & 14 June 2024**

### Cadaveric Workshop

Surgical Skills Centre, The University of Hong Kong  
 10/F, Laboratory Block, Li Ka Shing Faculty of Medicine  
 21 Sassoon Road, Pokfulam  
 Hong Kong

**15 & 16 June 2024**

### Annual Meeting

S220 Series Rooms, Level 2  
 Hong Kong Convention and Exhibition Centre  
 1 Expo Drive, Hong Kong  
 (Please use Harbour Road entrance.)

### Location and Transportation

Participants can walk to the HKCEC from the MTR Exhibition Centre Station or from the MTR Wanchai Station; or Wanchai Ferry Pier within minutes.

## Registration & Information Desks (Annual Meeting)

Upon arrival, please approach the Registration Desk to collect your name badge. The Registration Desk will be operated at the following location and hours:

Date	Opening Hours	Location
15 June 2024	07:30-18:00	<b>Annual Meeting Venue</b>
16 June 2024	07:30-17:30	Room S228 Foyer Level 2, Hong Kong Convention and Exhibition Centre (HKCEC)

## Speakers Preview Room

Date	Opening Hours	Location
14 June 2024 (Fri)	08:30-17:30	Room S229
15 June 2024 (Sat)	07:30-18:00	Level 2, HKCEC
16 June 2024 (Sun)	07:30-17:00	

Speakers and oral presenters are requested to bring their PowerPoint presentation files to the Speakers Ready Room at least 3 hours before their session starts.

## Faculty Dinner (By Invitation Only)

<b>Date:</b>	13 June 2024 (Thursday)
<b>Time:</b>	19:00 – 22:00
<b>Venue:</b>	HKU Senior Common Room Ming Pavilion, 14/F, KK Leung Building, The University of Hong Kong
<b>Dress Code:</b>	Smart Casual



# GENERAL INFORMATION

## Welcome Reception (Sponsored by AO Spine)

<b>Date:</b>	14 June 2024 (Friday)
<b>Time:</b>	18:00 - 20:00
<b>Venue:</b>	The Dynasty Club 7/F, South West Tower, Convention Plaza, 1 Harbour Road, Wan Chai
<b>Dress Code:</b>	Smart Casual

## Congress Dinner (By Invitation Only)

<b>Date:</b>	14 June 2024 (Friday)
<b>Time:</b>	20:00 - 22:00
<b>Venue:</b>	The Dynasty Club 7/F, South West Tower, Convention Plaza, 1 Harbour Road, Wan Chai
<b>Dress Code:</b>	Smart Casual

## Gala Dinner

<b>Date:</b>	15 June 2024 (Saturday)
<b>Time:</b>	18:30 – 22:30
<b>Venue:</b>	Aberdeen Marina Club (Grand Ballroom, Level 2) (Address: 8 Shum Wan Road, Aberdeen)
<b>Dress Code:</b>	Business Casual
<b>Coach</b>	Depart from HKCEC: 18:00
<b>Transfer:</b>	Return coach to HKCEC: 22:20 Pick-up point: G/F Entrance, HKCEC (Next to Harbour Kitchen)
<b>Admission:</b>	by email confirmation with QR code

## E-Posters

E-posters will be displayed at Rooms S222-S223, the exhibition area on 15 – 16 June 2024.

## Exhibition

The exhibition is located at the S220 Foyer and Rooms S222-223, Level 2 on 15-16 June 2024.

## Coffee / Tea

Coffee / Tea and Refreshments will be served at the designated times.

## Lunch

Complimentary lunch will be provided with limited quota on a first-come-first-served basis during the designated times.

## Bring Your Own Bottle

You are recommended to bring your own reusable bottles and mugs. Water dispensers will be available at the venue.

# GENERAL INFORMATION

## Identification Badges

All participants will receive an identification badge upon registration. Name badges are required at all times for identification purposes and admission to the meeting.

## Internet Service

Complimentary WIFI access is available in all the HKCEC venues. To ensure reasonable performance and fair use by all Wi-Fi service users, there is a 240-minute usage limit of each session of the complimentary Wi-Fi service upon successful login for each device. Users can login again for the complimentary Wi-Fi service after each session or disconnection.

## Language

The official language of the Meeting is English. There will be no simultaneous interpretation.

## Professional Accreditation

Should Hong Kong delegates wish to obtain CME points, please signify your attendance at the service desk located at the Registration Area. Please find more details at <https://www.apss2024hk.org/accreditations.html>.

## Certificate of Attendance

E-certificate of attendance will be sent to those attended the Meeting by email within one week after the Meeting.

## Useful Contacts

Conference Hotline (14-16 June)	2852 2333 (dial +852 first for international call)
Emergency Number (police, fire, ambulance)	999
Weather	<a href="https://www.hko.gov.hk/">https://www.hko.gov.hk/</a>
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Hong Kong Airport Authority Hotline	2181 0000 2181 8888

## Important Disclaimer

Every effort has been made to ensure that the meeting programme is accurate at the time of printing. However, organizers reserve the right to change the programme as circumstances may require.

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64	Junlong Zhong (China)	Biomechanical Comparison of Different Instrumentations for Severe Thoracolumbar Pott's Deformity after PVCR: A Finite Element Study
119	Aman Verma (India)	Can a simple smartphone be a cornerstone in School Health screening program for detecting scoliosis in resource poor developing countries? – Revisiting the “Scoliometer”
128	Adam Yiu Chung Lau (Hong Kong SAR)	Early prediction of curve progression to surgical threshold in Adolescent Idiopathic Scoliosis with bone microarchitecture phenotyping – a step closer to Precision Medicine
132	Jiong Hao Jonathan Tan (Singapore)	Deep Learning Model for Automated Detection and Classification of Degenerative Cord Signal Abnormality, Spinal Canal and Neural Foraminal Stenosis on Cervical Spine MRI
204	Wing Ki Cheung (Hong Kong SAR)	How the curve morphology differs between curve types in patients with Adolescent Idiopathic Scoliosis during brace treatment?
220	Karthik Ramachandran (India)	Unraveling Complement Protein C1q Dysregulation: Insights from Plasma and Tissue Proteomics in Degenerative Disc Disease
274	Moxin Zhao (Hong Kong SAR)	Non-Radiative Postural Alignment Assessment: Generating Radiograph Comparable Images with 3D Imaging and Deep Learning



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25	Jason PY Cheung (Hong Kong SAR)	The Proximal Femur Maturity Index is a novel tool to Predict Curve Progression Risk in Patients with Adolescent Idiopathic Scoliosis Undergoing Bracing
27	Yong Yao Tan (Singapore)	Single position lateral lumbar interbody fusion with navigated percutaneous pedicle screw fixation: Technique modification with resultant resource usage optimisation
63	Kai Cao (China)	The Risk Factors for Implant Failure after PVCR for Severe Thoracolumbar Pott's Deformity
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106	Hideki Shigematsu (Japan)	Current Trends in Intraoperative Neurophysiological Monitoring among Asian Countries. An Asia Pacific Spine Society (APSS) Survey.
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5	Wongthawat Liawrungrueang (Thailand)	Artificial Neural Networks Model Detection for Osteoporotic Vertebral Compression Fracture
10	Xin Qiu (China)	Single-cell nuclear transcriptome sequencing resolves cellular heterogeneity in a single segmental compression model of chronic spinal cord injury in rabbits
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33	Keiji Nagata (Japan)	Proximal Junctional Kyphosis in Adult Spinal Deformity Correction Surgery: A New Evaluation Method for Upper UIV Using Comfortable Seated Simple X-Ray Evaluation
36	Kihyun Kwon (South Korea)	Analysis of risk factors for persistent postoperative neuropathic pain after surgery in patients with spinal stenosis
37	Takaki Yoshimizu (Japan)	Short-term outcomes of biportal endoscopy-assisted extraforaminal interbody fusion
38	Masatoshi Teraguchi (Japan)	Association between thoracic diffuse idiopathic skeletal hyperostosis and Spinal cord injury without radiographic evidence of trauma.
39	Masatoshi Teraguchi (Japan)	Non cervical diffuse idiopathic skeletal hyperostosis is a risk factor for severity of cervical spinal cord injury
40	Ryo Mizukoshi (Japan)	Gender Differences in Spinal Mobility During Postural Changes: A Detailed Analysis Using Upright CT
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54	Dong-ho Kang (South Korea)	Predicting adequate segmental lordosis correction in lumbar spinal stenosis patients undergoing oblique lumbar interbody fusion : A focus on the discontinuous segment
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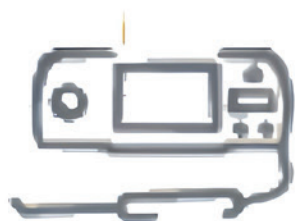
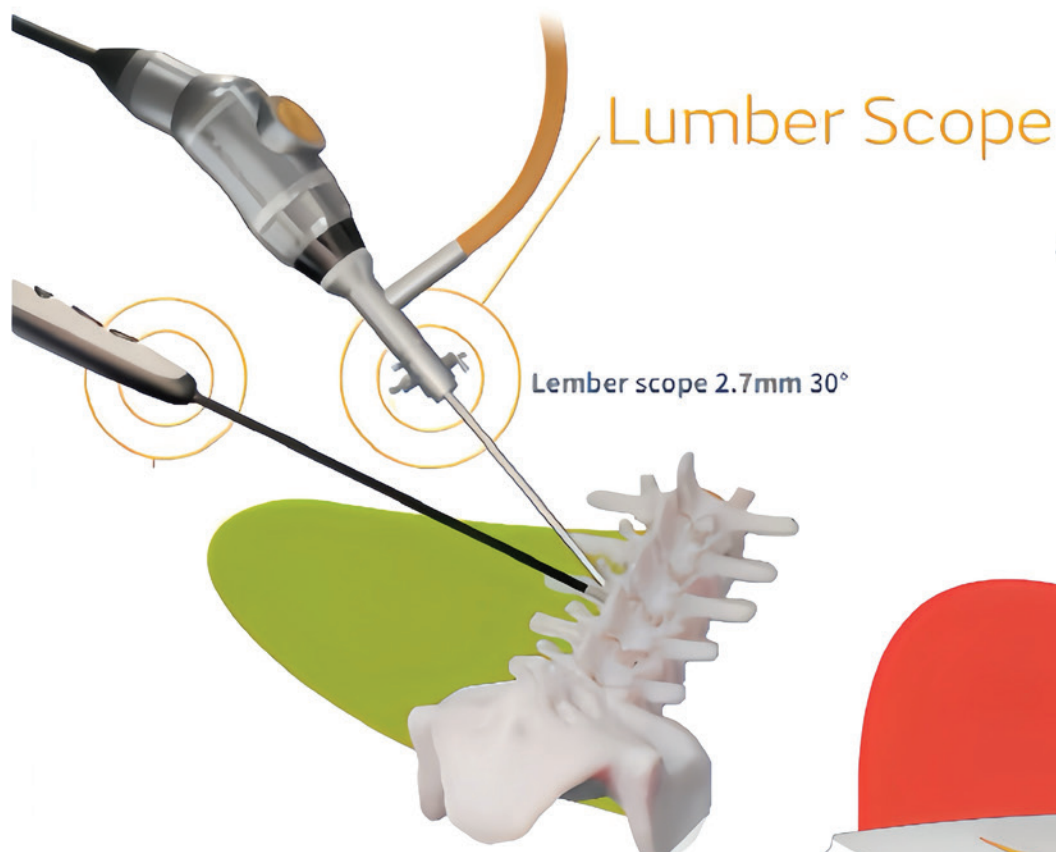
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References: 1. Forteo® Prescribing Information 2. Fuggle NR, et al. Drugs. 2020;80(15):1537-1552.

#### Forteo Abbreviated Prescribing Information

**Therapeutic indications:** Treatment of osteoporosis in postmenopausal women and in men at increased risk of fracture. In postmenopausal women, a significant reduction in the incidence of vertebral and non-vertebral fractures but not hip fractures has been demonstrated. Treatment of osteoporosis associated with sustained systemic glucocorticoid therapy. **Recommended dose:** 20 mcg once daily by subcutaneous injection in thigh or abdomen. The maximum total duration of treatment with Forteo® should be 24 months. The 24-month course of Forteo® should not be repeated over a patient's lifetime. **Contraindications:** Hypersensitivity. Pregnancy and breast-feeding. Pre-existing hypercalcaemia. Severe renal impairment. Metabolic bone diseases (hyperparathyroidism and Paget's disease) Unexplained elevations of alkaline phosphatase. Prior external beam or implant radiation therapy to the skeleton. Skeletal malignancies or bone metastases. Special precautions: Increased serum calcium, urolithiasis, orthostatic hypotension, moderate renal impairment, younger adults. Women of childbearing potential should use effective methods of contraception during therapy. **Adverse reactions:** Pain in limb, anaemia, hypercholesterolaemia, depression, dizziness, headache, sciatica, syncope, vertigo, palpitations, hypotension, dyspnoea, nausea, vomiting, hiatus hernia, GERD, increased sweating, muscle cramps, fatigue, chest pain, asthenia, mild and transient injection site events including pain, swelling, erythema, localized bruising, pruritis and minor bleeding. Drug interactions: Forteo® should be used with caution in patients taking digitalis. **Preparation and packaging:** Solution for injection as pre-filled pen providing 250mcg/mL for 2.4mL. Special precautions for storage: Store in a refrigerator (2° C-8° C) at all times. The pen should be returned to the refrigerator immediately after use. Do not store the injection device with the needle attached. Do not freeze. Each pen is intended for 28 days dosage. **For full details, please refer to the prescribing information.**

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