## Syndicate of Pakistani International Neurosurgeons (SPIN) Workshop

# **SPIN 2024**

Organised by Pakistan Academy of Neurological Surgery (PANS)

## Thursday to Sunday, April 18 – 21, 2024





THE AGA KHAN UNIVERSITY



Contact us: info@pans.org.pk

## **Committee Members**

Patron: Dr. Ghaus Malik

### **International Faculty:**

- Dr. Raheel Ahmed
- Dr. Omar Chohan
- Dr. Saniya Godil
- Dr. Aqueel Pabaney
- Mr. Fahid Rasul
- Mr. Amjad Shad

### **National Faculty:**

- Dr. Asif Bashir
- Dr. Iram Bokhari
- Dr. Muhammad Ehsan Bari
- Dr. Muhammad Imran
- Dr. Gohar Javed
- Dr. Rashid Jooma
- Dr. Atique Khan
- Dr. Tariq Khan
- Dr. Khalid Mahmood
- Dr. Riaz Raja
- Dr. Ahmed Ali Shah
- Dr. Syed Shahzad Hussain Shah
- Dr. Muhammad Shahzad Shamim
- Dr. Salman Shariff

Director: Dr. Syed Ather Enam

### **Coordinating Faculty:**

- Dr. Saqib Bakshi
- Dr. Saad Akhtar Khan
- Dr. Ahsan Ali Khan
- Dr. Zaeem Sultan
- Dr. Naveed Zaman

### **Organizers:**

- Dr. Muhammad Shakir
- Mr. Sohail Malik
- Mr. Shafeen Gulamani
- Ms. Sonia Ahmed
- Dr. Komal Naeem Jabbar
- Mr. Shariff Charania
- Mr. Zeeshan

### **Objectives**

- 1. Equip workshop participants with fundamental principles and international evidence-based practice standards in neurosurgery.
- 2. Provide immersive, hands-on experience to reinforce learning and application of neurosurgical techniques.
- 3. Facilitate networking with visiting faculty for mentorship opportunities extending beyond the workshop.

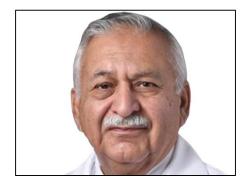
### **Format**

• A comprehensive didactic, case-based, and hands-on neurosurgery workshop covering general neurosurgery and subspecialties (pediatric, spine, neuro-oncology, cerebrovascular, skull base, and adult neurotrauma) designed and conducted by the international faculty of Pakistani origin in collaboration with the Pakistan Academy of Neurological Surgery (PANS) and annual sessions held at the Aga Khan University, Karachi, Pakistan.

### **Target Participants**

• The workshop is designed for senior residents and neurosurgeons who have graduated within the past five years.

## **Patron of Workshop**



**Dr. Ghaus MALIK** is a distinguished alumnus of King Edward Medical College, Lahore, graduating in 1968. Following his initial internship at Mayo Hospital in Lahore in 1969, he embarked on an internship at St. John Queens Hospital in Elmhurst, New York. This marked the beginning of his journey in the United States, where he pursued a General Surgery Residency at Henry Ford Hospital in Detroit in 1970, subsequently specializing in Neurosurgery. In 1975, Dr. Malik became a valued member of the Henry Ford

Medical Group's neurosurgery staff, achieving board certification in neurosurgery by 1978.

To further enhance neurosurgery's collaborative efforts, in 2001, Dr. Malik split his time between the Henry Ford Health System and William Beaumont Hospital, contributing significantly to the development of their neurosurgery program. His expertise lies in cerebrovascular neurosurgery, focusing on arteriovenous malformations (AVMs), aneurysms, and the treatment of complex brain and spinal cord tumors. Dr. Malik's research has been pivotal in understanding vasospasm, clinical outcomes of AVM treatments, and the genetic underpinnings of familial AVMs, leading to his prolific contribution of over 100 published articles and chapters.

Nationally and internationally recognized, Dr. Malik has been invited as a lecturer to numerous esteemed institutions and countries, including but not limited to Argentina, India, Italy, Japan, and Turkey. His global reputation was further solidified in 2004, when he was honored with the John R. Davis Chair in Neurological Surgery at Henry Ford Health System.

A passionate educator, Dr. Malik has significantly influenced resident education at Henry Ford Hospital since 1975, mentoring over 100 residents through the Henry Ford Neurosurgery Residency Program. Beyond his professional accomplishments, Dr. Malik has dedicated over 40 years to the Islamic Association of Greater Detroit (IAGD), serving as its president for a decade and currently as the Chairman of their Board of Trustees. His leadership extended to the Pakistan Association of America, earning him the Distinguished Community Service Award.

Dr. Malik's commitment to advancing neurosurgery and his community engagement is evident in his involvement with the World Federation of Neurosurgical Societies (WFNS) and his active participation in numerous professional associations. His governance contributions to Henry Ford Health System, particularly in developing the medical group's governance structure and finance committee, highlight his multifaceted role. Serving on the Henry Ford Medical Group Board of Governors and Board of Trustees, Dr. Malik continues to leave a lasting impact on the field of neurosurgery and beyond.

## **International Faculty**



**Dr. Raheel AHMED** is the Director of Pediatric Surgical Epilepsy and a pediatric neurosurgeon at the University of Wisconsin Health Kids Hospital, Wisconsin. After his graduation from the Aga Khan University Medical College, Pakistan, he pursued a PhD in Developmental Neurobiology from the Department of Biological Sciences at the University of Iowa, Iowa in 2006. He completed his neurosurgery residency at the University of Iowa, followed by fellowship

training at the St. Radboud University Nijmegen, the Netherlands. He then did a Pediatric Neurosurgery fellowship at the Hospital for Sick Children in Toronto. He specializes in pediatric and congenital neurosurgery, pediatric epilepsy, brain tumors, craniofacial disorders, Chiari malformations, and craniocervical anomalies, with his research focusing on the surgical management of epilepsy and pediatric congenital spinal disorders.



**Dr. M. Omar CHOHAN** is a US board-certified Neurosurgeon with expertise in Neurosurgical Oncology and Epilepsy surgery. He graduated from the Aga Khan University Medical School in Karachi, Pakistan in 2002. He received the prestigious World Association of Alzheimer Disease Scientists (WAADS) Award in 2005. He completed Neurosurgery training at the University of New Mexico, where he was awarded "outstanding resident leadership" award, given to one graduating resident or fellow. He completed fellowship

training in Neurosurgical Oncology at the Memorial Sloan Kettering Cancer Center in New York in 2015. Thereafter, he served as Director of Neurosurgical Oncology at UNM Comprehensive Cancer Center from 2015-2020 and was appointed Surgical Director of UNM Comprehensive Epilepsy Program in 2019. He is currently an Associate Professor in Neurosurgery at the University of Mississippi Medical Center with additional appointments in Neurology and Radiation Oncology. He has a broad experience in surgical management of complex intracranial tumors. His research focus is in various pre- and intra-operative mapping techniques including functional mapping, florescence and image guidance, and how these can be utilized for better functional outcomes. He has published widely in peer reviewed journals, written book chapters and presented at various conferences locally and internationally. His current leadership roles include programmatic development of Neuro-oncology and Epilepsy surgery at UMMC.



**Dr. Saniya GODIL** is an Assistant Professor of Neurosurgery and Associate Program Director of neurosurgery residency program at Cooper University Health Care. She graduated from Aga Khan Medical College in 2010. She then completed a postdoctoral research fellowship focusing on patientreported outcomes and health services research as well as a neurosurgical residency at Vanderbilt University. She is fellowship trained in complex skull base, minimally invasive

and endoscopic endonasal cranial surgery at Weill Cornell Medicine and The Ohio State University. She is currently practicing as a Neurosurgical Oncologist and Complex Skull Base Neurosurgeon at Cooper University Health Care. Her primary research interest includes medical education, quality of life and patient-centered outcomes research, prospective outcomes registries and health services research and development of quality improvement and outcomes tools and questionnaires. She has numerous publications and has presented at various national and international conferences.



**Dr. Aqueel PABANEY** is an Assistant Professor of Neurosurgery at the Emory University School of Medicine and a board-certified neurological surgeon. He attended Aga Khan University for his MBBS followed by residency training in neurological surgery at Henry Ford Hospital/Wayne State University in Detroit, Michigan. He did his fellowships in Skull Base Surgery from Louisiana State University in Shreveport, LA, and Cerebrovascular and Endovascular

Neurosurgery from Emory University School of Medicine, Atlanta. He is an active member of the AANS, CNS, and the North American Skull Base Society. Dr. Pabaney has been involved in research activities at Johns Hopkins University and Stanford University. He has an active interest in intrinsic brain tumors, surgical and endovascular management of intracranial aneurysms, arteriovenous malformations, cerebral revascularization, cranial nerve compression syndromes, and endoscopic and minimally invasive cranial approaches. With more than 28 research articles in prestigious international journals, Dr. Pabaney is an active academic clinician with a strong focus on treatment modalities and new approaches to surgical issues.



**Mr. Fahid RASUL** obtained his MBBS from University College London in 2008. He undertook his neurosurgical training in London working at multiple centers of excellence. He was awarded his FRCS in Neurosurgery in 2019 by the Royal College of Surgeons, England. Following this, he completed two prestigious complex spine fellowships where he obtained further experience in Spinal Surgery. He has a number of additional qualifications as well, including a master of philosophy (MPhil) in Clinical Neurosciences from the

University of Cambridge (2016), and an MSc in Clinical Neuroscience from University College London (2012). Mr Rasul was the top-ranked candidate when he obtained his MPhil from the University of Cambridge, earning him funding from the Medical Research Council (MRC). He was also one of only two UK-based neurosurgeons to be awarded the highly acclaimed BASS travelling fellowship in 2020. Mr Rasul has presented his clinical research at multiple national and international conferences. He has also published numerous articles in internationally acclaimed journals. He previously held the position of education lead during his time on the British Association of Spinal Surgeons (BASS) trainee committee. Currently, his practice is based in London at The London Clinic on Harley Street, Birmingham at the Spire Parkway Hospital, and Northampton at the Three Shires Hospital.



**Mr. Amjad SHAD** is a well-known Consultant Neurosurgeon since 2004, at the University Hospital Coventry and Warwickshire NHS Trust. In 2012, he established the Coventry Brain and Spine Service which offers comprehensive spinal care services to patients suffering from back, leg, and neck pain. During his training in Edinburgh, Oxford, and the USA, Professor Shad gained extensive experience in spinal conditions, including complex spinal problems and pain relief.

His research led him to develop a new technique to treat various cervical disc problems. Throughout his career, Professor Shad has been at the forefront of embracing new techniques within neurosurgery and has been involved in some ground-breaking surgeries. He is also a member of the Royal College of Surgeons (RCS) and the Medical Defence Union (MDU). His clinical interests include all cervical and lumbar spine pathologies and brain tumors. His surgical interest lies in complex spinal surgery, skull base surgery, pituitary tumors, and endoscopic neurosurgery.

## **National Faculty**



**Dr. Asif BASHIR** MD is the Executive Director /Dean PINS Punjab Institute of Neurosciences and Professor & Chair Neurosurgery. After completing his MBBS from King Edward Medical College, he did his residency from prestigious centres of USA. Prior to returning back to Pakistan, he was Director and Professor of Neurosurgery & Neuroscience Hackensack Meridian School of Medicine, Seton Hall University New Jersey, USA. He also worked there as Associate and Assistant

professor in New Jersey, USA. Dr. Bashir also worked as Assistant Professor Neurosurgery at Wright State University School of Medicine, Ohio, USA. Dr. Bashir's interests includes Minimally Invasive Spine Surgery, Deep Brain Stimulation (DBS), Movement Disorders, Stereotactic & Functional Neurosurgery, Gamma Knife, Brain and Spinal Tumors, Aneurysms, Carotid Surgery.



**Dr. Iram Bokhari** is the acting chief and Associate Professor of neurosurgery at Jinnah Postgraduate Medical Center, Karachi. After getting her MBBS degree she completed her FCPS training in general surgery. Later on, she went on to pursue training in neurosurgery and gained her second FCPS in neurological surgery. In her private practice, she has gained vast experience of managing all kinds of complex neurosurgical cases. Dr. Bokhari has numerous research papers focusing on

complex surgical case management. Her special interest lies in pediatric neurosurgery, neurotrauma, and neuro-oncology.



**Dr. Ehsan BARI** is an Associate Professor of Neurosurgery, and the Residency Program Director of neurosurgery at the Aga Khan University, Karachi. After completing his MBBS, Dr. Bari obtained his FRCS from the Royal College of Surgeons (Ireland) and later obtained his FCPS in neurosurgery. He has also served as an Honorary Registrar of Neurosurgery, at the Royal Hallamshire Hospital, U.K. Altogether, he has 11 years of experience and possesses advanced medical expertise in his

field, excelling in multiple surgical procedures including microscopic and neuronavigational guided techniques.



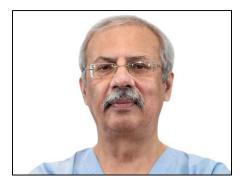
**Dr. Gohar JAVED** is an Associate Professor at the Aga Khan University Hospital, Karachi. He completed his MBBS from Dow Medical College and trained as a neurosurgeon at Civil Hospital, Dow University of Health Sciences, where he later served as an Assistant Professor of Neurosurgery for 7 years. Dr. Gohar is a member of the College of Physicians and Surgeons of Pakistan, as well as a member of the Pakistan Society of Neurosurgeons. He has authored around 50

research papers and holds expertise in vascular neurosurgery.



**Dr. Rashid JOOMA** is a visiting Professor of Neurosurgery in the Department of Surgery at the Aga Khan University, Karachi. He completed his MBBS from Dow Medical College, Karachi, and after his residency in Neurosurgery from Atkinson Morley's Hospital, London, UK, pursued an FRCS in Surgical Neurology from the Royal College of Surgeons Edinburgh, UK. Dr. Jooma did a Fellowship in Epilepsy Surgery from the University of Cincinnati Hospital,

USA. He is the former Director-General of Health of Pakistan. Presently, he is performing his duties as the National Co-ordinator of the Primary Trauma Care Program and is actively involved in many research projects pertaining to traumatic brain injuries.



**Dr. Tariq KHAN** is a Professor of Neurosurgery at Northwest General Hospital and Research Center, Peshawar. He trained as a Neurosurgeon in Ireland and the United Kingdom and practiced at the Royal Victoria Hospital, Belfast, Ireland till December 1989. He returned to Pakistan in January 2000, joined Lady Reading Hospital as a Consultant, and then started a new Neurosurgical Department at Hayatabad Medical Complex, eventually leaving the

hospital as the Professor of Neurosurgery. In 2001, he joined Rehman Medical Institute and then shifted to Northwest General Hospital & Research Centre when it became functional in late 2009. He is the Chairman of Alliance Healthcare, the parent company of Northwest General Hospital, Chairman of the Board of Governors, Northwest School of Medicine, and a member of the National Medical and Dental Academic Board at PMC.



**Dr. Khalid MAHMOOD**, FRCS (Glasg), FRCS (SN), is a board-certified neurosurgeon who received his training and qualifications from prestigious neurosurgery centers in the UK. He completed a Fellowship in Endonasal Skull base surgery at Wexner Medical Centre, Ohio State University, USA. With a focus on Endoscopic Endonasal surgery and the endoscopic Brow approach, he has mentored 26 Fellows in this subspecialty nationwide. Prof. Mahmood is renowned as a pioneering

neurosurgeon in Pakistan, particularly excelling in utilizing advanced technology for Deep Brain Stimulation and surgical interventions for Parkinson's disease and Dystonia. He is a distinguished educator, mentor, and administrator, having overseen the training of 35 consultant neurosurgeons in Pakistan. Currently, he serves as an examiner for the College of Physicians and Surgeons Pakistan and the University of Health Sciences, Punjab, Lahore. Prof. Mahmood has held significant positions such as President of the Pakistan Society of Neurosurgeons, Principal of PGMI/AMC/Lahore General Hospital, Executive Director of the Punjab Institute of Neurosciences (PINS) in Lahore and Head Department of Neurosurgery PINS.He was instrumental in establishing and managing PINS as a 500-bed hospital exclusively dedicated to patients with neurological disorders, making it the largest facility of its kind in the region. Recognized for his exceptional contributions to neurosurgery, Prof. Mahmood has been honored with the BPS-21 award by the Government of Punjab and the Presidential award Tamgha-e-Imtiaz for his exemplary services in the field of neurosurgery in Pakistan.



**Dr. Riaz Ahmed RAJA** is the Head of the Department and Professor of neurosurgery at Liaquat University of Medical and Health Sciences. He is an active advocate for medical education and research and holds sessions regularly for FCPS-II candidates applying for neurosurgery. With numerous publications, presentations, and citation Prof. Raja has been a source of inspiration and mentor to many younger neurosurgeons. He has also co-designed the curriculum for

neurosurgery for several universities in Sindh.



**Dr. Ahmed Ali SHAH** is a visiting Professor at the Aga Khan University, Karachi. He graduated from Dow Medical College and trained as a Neurosurgeon at the Guys, Maudsley, and Kings College Hospitals in London. Dr. Shah returned to Pakistan in 1986 and established a Neurosurgery Department at the Dow Medical College, where he diligently served for 18 years. He has also served as the President of the Pakistan Society of Neurosurgeons. Presently, he is working as a

Consultant Neurosurgeon at the Aga Khan University Hospital and Dean, Faculty of Neurosurgery at the College of Physicians & Surgeons of Pakistan. Dr. Ahmed is also a Fellow of the Royal Society of Medicine, England.



**Dr. Syed Shahzad Hussain SHAH** is a Professor and Head of Neurosurgery Unit-II at Punjab Institute of Neurosciences, Lahore. He completed his M.B.B.S from Quaid-e Azam Medical College, Bahawalpur and got FCPS Neurosurgery training at Lahore General Hospital and Jinnah Hospital, Lahore where he later served as Assistant Professor and Associate Professor for almost 9 years. He also served as Vice Principal and Professor of Neurosurgery at Gujranwala Medical College, Gujranwala till May, 2023. He possesses

advanced expertise in his field with special interest in endoscopic and vascular brain surgeries.



**Dr. Shahzad SHAMIM** is a Professor and Head of Neurosurgery at the Aga Khan University, Karachi. He completed his MBBS from Dow Medical College and later trained as a neurosurgeon at the Aga Khan University. He completed an AANS Visiting Surgeon Fellowship at Henry Ford Hospital, Detroit, MI, USA, and later went on to complete a Fellowship in Spine Surgery at the National Hospital for Neurology and Neurosurgery, Queen Square,

UK.



**Dr. Salman SHARIF** is a Professor of Neurosurgery, and Head of Department at Liaquat National Hospital, Karachi. He is a UK-trained neurosurgeon and got his F.R.C.S General Surgery England in February 1993 and F.R.C.S Neurosurgery in April 1999. He is also an executive committee member of world-renowned societies that includes the Middle East Spine Society, the Asian Congress of Neurological Surgeons, the Asia Pacific Cervical Spine Society, the South Asian

Neurological Surgeons, and the World Federation of Neurological Surgeons. Dr. Salman has also served as a President of the Pakistan Society of Neurosurgeons.



**Dr. Atique KHAN** is a Professor of Neurosurgery at Civil Hospital, Dow University of Health Sciences, Karachi. He holds FCPS in Neurosurgery by the College of Physicians and Surgeons, Pakistan. Dr. Atique Ahmed Khan is a highly specialized neurosurgeon, experienced in treating various neurological conditions. With extensive experience in prestigious hospitals, he provides comprehensive pre and post-surgical care. Dr. Khan's expertise spans risk assessment, prevention, and management of neurological

conditions, offering tailored treatment plans for patients of all ages.

## **Coordinating Faculty**



**Dr. Syed Ather ENAM** is a U.S. Board-certified Neurosurgeon, Professor of Neurosurgery, Director of the Center of Oncological Research in Surgery, and Scientific Director of Juma Research Laboratories at the Aga Khan University, Karachi, Pakistan. He has a Specialist Certification in Neurosurgery from Canada, an FRCS from Canada, an FRCS from Ireland, an FRCS from Glasgow (U.K.), and a Fellowship of American College of Surgeons.

He was Chair, Dept of Surgery at AKU for more than 7 years, and before that led the Section of Neurosurgery for 7 years. He has been awarded several accolades and honors for his work in the USA and Pakistan, including the Physician of the year medallion, Master Surgeon Award, Excellence in Neurosurgery Award, and the presidential award, Sitara-e-Imtiaz. Dr. Enam has a strong interest in basic science research with a Ph.D. in Neuroscience from Northwestern University Institute of Neuroscience, USA. He is a life member of Sigma Xi, a scientific research honor society, as well as the Founding President of the Pakistan Society of Basic and Applied Neuroscience, the Founding President of the Pakistan Society of Neuro-Oncology, Founder of the Pakistan Academy of Neurological Surgery, a member of the Executive Committee of AANS-CNS Section of Brain Tumors (USA). He has been editor of several international scientific journals and has delivered numerous lectures globally on Neurosurgery, Neuro-Oncology, and Neuroscience topics. He is currently an examiner and an advisory faculty member of the College of Physicians and Surgeons of Pakistan and a Ph.D. supervisor for the Higher Education Commission of Pakistan. He has authored over 300 manuscripts, chapters, abstracts, editorials, and articles.



**Dr. Naveed Zaman AKHUNZADA** graduated from Ayub Medical College, Abbottabad in 2009. After clearing his FCPS (Surgery) in 2011 he received general surgery training from MMC Mardan, Khyber Teaching hospital Peshawar, HMC Hayatabad, and AMC Abbottabad. He started a neurosurgery residency at the Aga Khan University Hospital in 2013 and graduated in 2017. He remained an instructor at the AKUH till July 2019 and joined Rehman Medical Institute as an Assistant Professor and consultant

neurosurgeon in August 2019. Dr. Akhunzada is an avid researcher and teacher interested in multiinstitute outcomes and capacity building across Pakistan.



**Dr. Saqib BAKHSHI** is an Assistant Neurosurgery Professor at the Aga Khan University. He graduated from Dow Medical College in 2013 and then completed his residency training in Neurosurgery at the Aga Khan University (AKU). He graduated from the residency program in 2020 as the best graduate and best researcher across all specialties. He has more than 40 research publications and has presented his work at national and international conferences.

His clinical interests include pediatric neurosurgery and epilepsy surgery. He focuses his research on clinical neurosurgery, medical education, and gender diversity in medicine. He is currently working as an assistant professor and consultant neurosurgeon at AKU.



**Dr. Ahsan Ali KHAN** is working as an Assistant Professor of Neurosurgery at the Aga Khan University. He attended medical school and completed his neurosurgical training at the Southeast University, Nanjing, China. He pursued advanced training by completing the Global Neurotrauma Fellowship in affiliation with the Barrow Neurological Institute, Phoenix, Arizona, the Meditech Foundation, Colombia, and the University of Cambridge, United Kingdom. Furthermore, he

completed a Spine Fellowship at the National Institute of Traumatology and Orthopedics, Rio de Janeiro, Brazil in 2020. He joined Aga Khan University in 2021 as a surgical neuro-oncology fellow and now serves as an assistant professor and consultant neurosurgeon. His area of interest includes neuro-oncology (brain and spine), innovations in neurosurgery, and capacity building in limited resource settings.



**Dr. Saad Akhtar KHAN** is working as an Assistant Professor of Neurosurgery at Liaquat National Hospital and a Consultant Neurosurgeon at Aga Khan University Hospital, Karachi. He completed his neurosurgery training at Aga Khan University Hospital in 2015. He was awarded the best resident award, the second-best research scholar by the Department of Postgraduate Medical Education at Aga Khan University, and the Most Outstanding Resident Award by the Department of Surgery. He has 35 research publications along with a book

chapter. His area of interest includes surgical neuro-oncology, especially awake brain tumors surgeries and endoscopic skull base surgeries. He also has a keen interest in medical education and is currently an MHPE scholar as well.



**Dr. Zaeem SULTAN,** currently the District Neurosurgeon for Jhang (Punjab), graduated from Allama Iqbal Medical College in 2012, and later trained as a neurosurgeon at Jinnah Hospital Lahore. After residency, he joined Neurosurgery Department at Queen Elizabeth Hospital Birmingham as a fellow, and subsequently worked as a registrar and a senior registrar. To further his co-curricular interests, he also completed a Diploma in Neurotrauma Care (GN), and

Artificial Intelligence Professional Certificate (IBM). Dr. Zaeem was awarded "Distinguished International Fellow – Neurosurgery" by the Neurosurgery Department at Queen Elizabeth Hospital Birmingham. He also served as the Virtual Teaching Lead, at QEHB. Dr. Zaeem holds honorary fellowship of the Royal Society of Medicine (UK), and honorary membership of the Royal College of Physicians and Surgeons, Glasgow (UK). His interests include spine and neuro-oncology.

# Scientific Program

# Day-1, Thursday, April 18, 2024

	Sessions						
	Thursday, April 18, 2024,   8:00- 18:00 (Pakistan Time; GMT +5)						
Time	Duration	Specialty	Faculty	Coordinator	Торіс		
8:00- 8:30	30 mins	General	Dr. Ahmed Ali Shah	Dr. Naveed Zaman	Professionalism		
8:30- 11:00	2.5 hrs	Skull Base	Dr. Saniya Godil	Dr. Ahsan Ali Khan	<ul> <li>Principles of Cranial Surgery</li> <li>Pterional Craniotomy and anterior clinoidectomy</li> <li>BiFrontal Craniotomy</li> <li>Eyebrow Craniotomy</li> <li>Hand on: Pterional Craniotomy on 3D Printed Skull</li> <li>Case Based Discussion: Anterior skull base pathology</li> <li>Endoscopic endonasal surgery for anterior skull base</li> </ul>		
11:00-11:30	30 mins			Tea-Break	•		
11:30- 2:00	2.5 hrs	Spine	Dr. Amjad Shad & Dr. Fahid Rasul	Dr. Zaeem Sultan	<ul> <li>Consent &amp; positioning for spine surgeries</li> <li>Lumbar discectomy and decompression</li> <li>Lumbar Trauma (Posterior lumbar fixation)</li> </ul>		
2:00-2:30	30 mins			Lunch Break			
2:30-3:00	30 mins	General	Dr. Rashid Jooma	Dr. Saad Akhtar Khan	Ethical Practice in Neurosurgery		
3:00-6:00	3.0 hrs	Pediatric	Dr. Raheel Ahmed	Dr. Saqib Bakhshi	<ol> <li>Pediatric Neurotrauma</li> <li>Cranial trauma: Principles and guidelines</li> <li>Hydrocephalus</li> <li>CSF circulation</li> <li>Prematurity-associated hydrocephalus</li> <li>Aqueductal stenosis</li> <li>Tumor-related hydrocephalus</li> <li>Surgical Treatment</li> </ol>		
7:00-9:00	2 hrs			Dinner at Avari	Tower		

## Day-2, Friday, April 19, 2024

	Sessions							
	Friday, April 19, 2024,   8:00- 18:00 (Pakistan Time; GMT +5)							
Time	Duration	Speciality	Faculty	Coordinator	Торіс			
8:00- 8:30	30 mins	General	Dr. Salman Shariff	Dr. Zaeem Sultan	• Building networks to enhance personal capacity			
8:30-11:00	2.5 hrs	Cerebrovas cular	Dr. Aqueel Pabaney	Dr. Saad Akhtar Khan	<ul> <li>Intracranial Aneurysms</li> <li>AVMs</li> <li>DAVFs / CCFs / Cavernomas</li> <li>Strokes</li> </ul>			
11:00- 1:00	2.0 hrs	Pediatric	Dr. Raheel Ahmed	Dr. Saqib Bakhshi	<ul> <li>Spina bifida</li> <li>Neuro-endoscopy for hydrocephalus, tumors and congenital lesion</li> </ul>			
1:00- 2:30	1.5 hrs			Juma Namaz and	Lunch Break			
2:30- 3:30	1.0 hr	Pediatric	Dr. Raheel Ahmed	Dr. Saqib Bakhshi	<ul> <li>Spina bifida</li> <li>Neuro-endoscopy for hydrocephalus, tumors and congenital lesion</li> </ul>			
3:30-6:00	2.5 hrs	Neuro- oncology	Dr. M. Omar Chohan	Dr. Ahsan Ali Khan	<ul> <li>Intraparenchymal surgery</li> <li>Brain mapping</li> <li>Rolandic masses</li> <li>Peri Rolandic masses</li> <li>Temporal lobectomy</li> </ul>			
7:00-9:00	2.0 hrs			Dinner at K	olachi			

## Day-3, Saturday, April 20, 2024

	Sessions						
		Saturday, April 20	, 2024,   8:00- 19:00	) (Pakistan Tim	e; GMT +5)		
Time	Duration	Speciality	Faculty	Coordinator	Торіс		
8:00- 8:30	30 mins	General	Dr. Atique Khan	Dr. Saqib Bakhshi	• Following neurosurgery standards in public sector facilities		
8:30- 11:00	2.5 hrs	Skull Base	Dr. Saniya Godil	Dr. Ahsan Ali Khan	<ul> <li>Suboccipital Craniotomy</li> <li>Retrosigmoid and far lateral Craniotomy</li> <li>Vestibular schwannoma, petroclival meningioma, foramen magnum meningioma, epidermoid</li> <li>Cerebellar and 4<sup>th</sup> ventricular tumors (telovelar approach), medulloblastoma, ependymoma, hemangioblastoma</li> <li>Retrosigmoid craniotomy on 3D Printed skull</li> </ul>		
11:00-11:30	30 mins			Tea-Break			
11:30- 2:00	2.5 hrs	Spine	Dr. Amjad Shad & Dr. Fahid Rasul	Dr. Zaeem Sultan	<ul> <li>Anterior cervical decompression and fixation</li> <li>Posterior cervical decompression and fixation</li> </ul>		
2:00-2:30	30 mins			Lunch Break			
2:30- 3:00	30 mins	General	Dr. Tariq Khan	Dr. Naveed Zaman	Neurosurgery training- Global aspects		
3:00-3:30	30 mins	General	Dr. Khalid Mahmood	Dr. Zaeem Sultan	Neurosurgery in Pakistan: DBS Experience & Future Path		
3:30-6:30	3.0 hrs	Cerebrovascular	Dr. Aqueel Pabaney	Dr. Saad Akhtar Khan	<ul> <li>Positioning, incision, marking, and craniotomy on 3D skull Model</li> <li>Microvascular techniques on Chicken Wings</li> <li>Endovascular techniques on Flow Model</li> </ul>		
6:30- 7:00	30 mins	General	Dr. Asif Bashir	Dr. Saqib Bakhshi	Neurosurgery teaching & training: Pakistan vs USA		
7:30-9:30	2.0 hrs		Dinner	at Dr. Ather Ena	m's House		

## Day-4, Sunday, April 21, 2024

	Sessions						
	Sunday, April 21, 2024,   7:30- 16:00 (Pakistan Time; GMT +5)						
Time	Duration	Speciality	Faculty	Coordinator	Торіс		
7:30- 10:00	2.5 hrs	Spine	Dr. Amjad Shad & Dr. Fahid Rasul	Dr. Zaeem Sultan	<ul> <li>Thoracic Disc</li> <li>Caries Spine</li> <li>Craniocervical Junction</li> <li>Cervical Trauma</li> <li>Intradural Meningioma</li> </ul>		
10:00- 12:30	2.5 hrs	Neuro- oncology	Dr. M. Omar Chohan	Dr. Ahsan Ali Khan	<ul> <li>Navigating language networks in glioma surgery</li> <li>Insular gliomas</li> <li>Minimally invasive approaches (BrainPath, SRS, LITT)</li> <li>Transcallosal approach to anterior 3<sup>rd</sup> ventricle</li> </ul>		
12:30- 1:00	30 mins			Lunch Break			
1:00- 4:00	3.0 hrs	Adult Trauma	Dr. Fahid Rasul	Dr. Naveed Zaman	<ul> <li>Neurosurgical assessment and medical management in trauma.</li> <li>Neuromonitoring and EVD placement.</li> <li>When and how to operate.</li> <li>Basics and Technical nuances of decompression.</li> <li>Identifying and planning for intraoperative/immediate postoperative complications.</li> </ul>		

# **Spine Section**

	(Dr	. Amjad Shad, Dr. Fahid Rasul, Dr. Zaeem Sultan)	
Sr. No.	Topic Theme	Areas Covered	
1.	Consent	Parts of consent, WHO checklist	(20 mins)
		SESSION 1 (150 mins) – Lumbar	
	[Two ca	ases: A case of paracentral disc prolapse + a case of FLD with stenosis]	
2.	Lumbar	Positioning, decision-making for disc surgery. Imaging discussion	30 mins
	Discectomy + decompression	Hands-on	40 mins
		[Landmarks of laminectomy, hemilaminectomy, foraminotomy, basics of microdiscectomy]	
		Two cases of fractures (L1 and L3) – one burst and one type B]	- I
3.	Lumbar Trauma (Posterior lumbar fixation)	Positioning, decision-making, conservative versus surgery, posterior screw fixation, screw variations, basics of biomechanics, osteoporosis considerations, S2AI and alar screw landmarks	30 mins
		Hands-on	40 mins
		SESSION 2 (150 mins) – Cervical	1
		(A case of single-level cervical stenosis – subaxial)	
4.	Anterior Cervical Decompression +	Indications, Positioning, ACDF approach, nuisances and trouble shooting, cages, plating	30 mins
	Fixation	Hands- on	45 mins
		(A case of multilevel cervical stenosis)	_
5.	Posterior cervical	Lateral mass screw insertion landmarks, second-line strategies (facet, laminar,	30 mins
	Decompression +	pedicle), cervicothoracic junction, 360 degree approach	
	Fixation	Hands-on	45 mins
	_	SESSION 3 – Miscellaneous (150 mins)	
6.	Thoracic Disc	Approaches, challenges, landmarks, pedicle screw landmarks	10 mins
		Hands-on (thoracic pedicle screws)	20 mins
7.	Caries Spine	Decision-making, surgical indications, ATT, Operative considerations	10 mins
		Hands-on	20 mins
8.	Craniocervical	C1-C2 screws, odontoid fractures, OC fusion	10 mins
	Junction	Hands-on	20 mins
9.	Cervical Trauma	Decision-making, indications for surgery, cervical traction, corpectomy	10 mins
		landmarks	
		Hands- on	20 mins
10.	Intradural	Microsurgery steps for intradural surgery	10 mins
	Meningioma	Hands-on	20 mins

## **Pediatric Section**

	(Dr. Raheel Ahmed, Dr. Saqib Bakhshi)						
	Session	Topics	Areas Covered	Duration			
Day 1	Case Based & Hand-on (3D Model)	Pediatric Neurotrauma	Cranial trauma: Principles and guidelines	60 mins			
	Case Based	Hydrocephalus	CSF circulation Prematurity associated hydrocephalus Aqueductal stenosis Tumor-related hydrocephalus Surgical Treatment i. Endoscopy ii. Shunt placement - treatment, equipment, and complications	120 mins			
Day 2	Case Based	Spina bifida	Myelomeningocele – postnatal treatment and follow up Spina bifida occulta and the tethered spinal cord	60 mins			
	Hands-on	Neuro-endoscopy/U/S for hydrocephalus, tumors and congenital lesion		120 mins			

# **Cerebrovascular Section**

	Session	Topics	Areas Covered	Duration	
Day-2	Case Based	Intracranial	When to treat unruptured aneurysms	40 mins	
		Aneurysms	To clip or to coil		
			Discuss data, trials, scores		
			Surgical Approaches for:		
			MCA		
			Acom		
			Pcom		
			PICA		
			DACA		
			Basilar Apex (including clinoidectomy)		
			What can be done with Endovascular tools?		
			Basics of DSA Management of anourysms Endousceular		
			Management of aneurysms Endovascular route		
			Pre and post-operative Management of		
			SAH patients:		
			Vasospasm		
			Hydrocephalus		
	Case Based	AVMs	Understanding anatomy of AVMs	40 mins	
			Decoding DSA of AVMs		
			When to treat and when to observe		
			Endovascular Approaches to AVMs		
			Surgical Approaches to AVM		
			Spinal AVMs – quick primer		
	Case Based	DAVFs /	Understanding Angiographic Anatomy of	40 mins	
		CCFs /	DAVFs and CCFs		
		Cavernomas	Making sense of Grading Systems		
			When and how to treat DAVFs / CCFs?		
			Endovascular treatment		
			Surgical treatment		
			Cavernomas – quick primer		
	Case Based	Stroke	Discuss etiologies	30 mins	
			Endovascular treatment of strokes		
			Role of NS in strokes		
Day 3	Hand-on	3D	Positioning, incision, marking, and	3 hrs	
		skull Model	craniotomy		
		Chicken	Microvascular techniques		
		Wings			
		Flow Model	Endovascular techniques		
		Aneurysm			
		Box/Blocks			

## **Skull Base Section**

	Session	Topics	Areas Covered	Duration
Day-1	Principles of Cranial Surgery		Anesthesia considerations, neuromonitoring, neuronavigation, positioning, pinning, etc	15 mins
		Pterional Craniotomy and anterior clinoidectomy	Indications, surgical technique, interfascial/subfascial	20 mins
		BiFrontal Craniotomy	Indications, surgical technique	15 mins
		Eyebrow Craniotomy	Indications, surgical technique	15 mins
	360 Degree Access to the Anterior	Hands on	Pterional Craniotomy on 3D Printed Skull	30mins
	Skull Base	Case Based Discussion	Anterior skull base pathology: olfactory groove meningioma, planum meningioma, sphenoid wing meningioma, clinoidal meningioma, pituitary adenoma, craniopharyngioma	40 mins
		Endoscopic Endonasal Surgery	Introduction to endoscopic endonasal surgery for anterior skull base	20 mins
Day-3		Suboccipital Craniotomy	Indications, surgical technique	15mins
		Retrosigmoid and Far lateral Craniotomy	Indications, surgical technique	20 mins
	Posterior Skull Base	Case Based Discussion	Vestibular schwannoma, petroclival meningioma, foramen magnum meningioma, epidermoid	40 mins
		Case based Discussion	Cerebellar and 4 <sup>th</sup> ventricular tumors (telovelar approach), medulloblastoma, ependymoma, hemangioblastoma	30 mins
		Hands on	Retrosigmoid craniotomy on 3D Printed skull	30 mins

## **Neuro-oncology Section**

	(Dr. Omar Chohan, Dr. Ahsan Ali Khan)						
	Session	Topics	Areas Covered	Duration			
Day 2	Case Based	Intraparenchymal surgery	Overview, introduction, personal thoughts on intraparenchymal surgery	30mins			
	Case Based	Brain mapping	Brain mapping- how I do it	30 mins			
	Case Based	Rolandic masses	Rolandic masses	30 mins			
	Case Based	Peri Rolandic masses	Peri Rolandic masses	30 mins			
	Case Based and Lab Session	Temporal lobectomy	Temporal lobectomy-how I do it	30 mins			
Day 4	Case Based	Glioma surgery	Navigating language networks in glioma surgery	40 mins			
	Didactic and Case Based	Insular gliomas	Insular gliomas	40 mins			
	Lab Session	Anterior 3 <sup>rd</sup> ventricle	Transcallosal approach to anterior 3 <sup>rd</sup> ventricle	30 mins			
	Case Based	Minimally invasive approaches	Minimally invasive approaches (BrainPath, SRS, LITT)	40 mins			

# **Adult Neurotrauma Section**

		(Dr. rainu Kasul &	<b>Dr. Naveed Zaman</b> )	
	Session	Topics	Covered Areas	Timing
Day 4	Case Based	Neurosurgical assessment and medical management in trauma	Relevant neurosurgical history, Initial assessment in ER (GCS/MRC scoring), medical management / ICP lowering maneuvers.	30 mins
	Hand-on (3D Models)	Neuromonitoring and EVD placement	Need for Neuromonitoring and Placement of subdural bolt / EVD, EVD insertion points and techniques, ICP monitoring, and waveforms. ICU management including fluid, electrolytes, ventilator management	45 mins
	Case Based	When and how to operate (Case discussion)	Choosing a patient for surgical intervention, when not to operate, timing of intervention, Craniectomy vs craniotomy	30 mins
	Hands-on	Basics and Technical nuances of decompression.	Basics of decompressive craniectomy (Incision, Muscle flap, burr holes, Dural flap / Duroplasty, hemostasis techniques, closure)	45 mins
	Case Based	Identifying and planning for intraoperative/immediate post-operative complications.	Identifying Venous sinus injuries, managing injuries, Avoiding Major cortical veins, avoiding cerebral edema, Avoiding/managing post-op Complication (hemorrhage, CSF leak, SSI, wound dehiscence)	30 mins

## **SPIN WORKSHOP**

# **Our Collaborating Partners**

