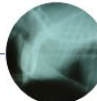






 Cranial  
(CUS)

 Airway  
(POCUS-A)

 Lung  
(POCUS-L)

 Vascular(POCUS-  
VAL)

 Bowel  
(POCUS-B)

# CRANIAL ULTRASOUND IN NEONATAL CARE

MPROvE Academy

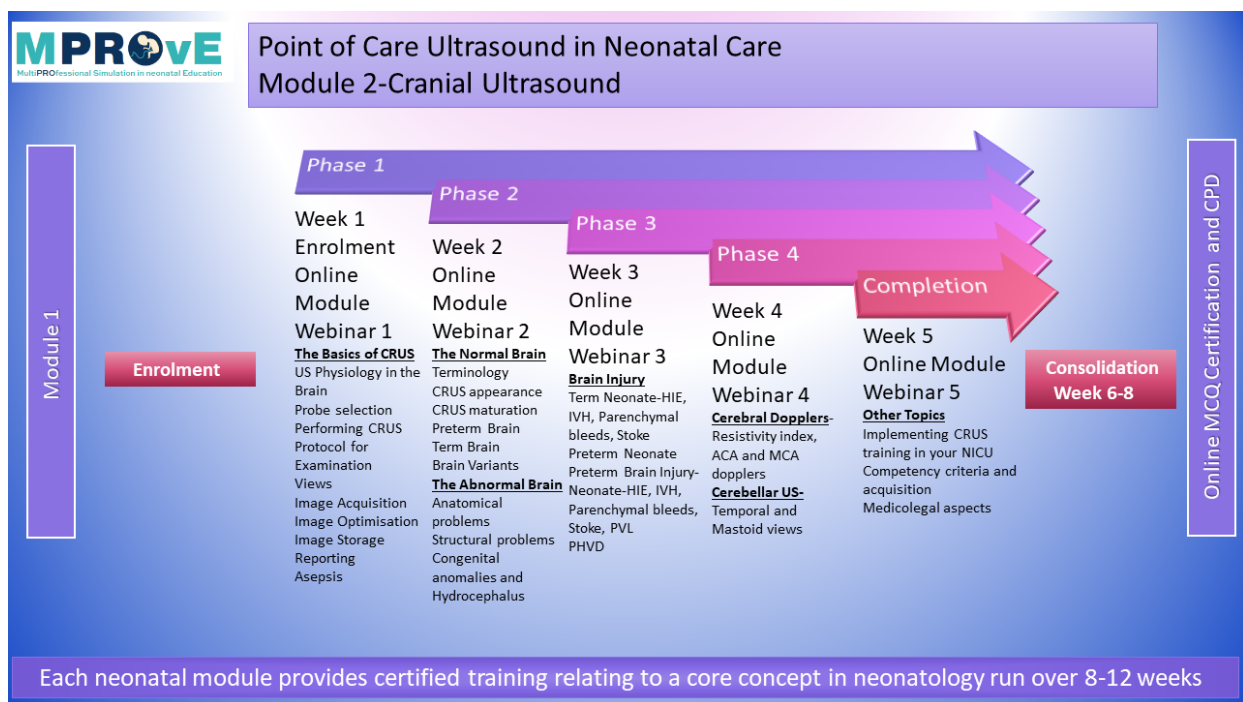
# Cranial Ultrasound in Neonatal Care

The MPROvE Academy was established in 2012. It delivers training in neonatology, delivering courses in neonatal emergency medicine, ethics, human factors, and the neonatal airway.

The academy has introduced point-of-care ultrasound training in neonatal intensive care, which is run in five modules covering Neonatal Lung, Brain, Airway, vascular access, and Bowel. The second module on Cranial Ultrasound will be run over an 8-week period in 2025. It is delivered by an international faculty from four continents.

The teaching involves a combination of didactic online teaching sessions in the first month followed by workshops, interactive sessions and guest webinars by the faculty covering the key learning objectives below [-\(Explained on this video\)](#)

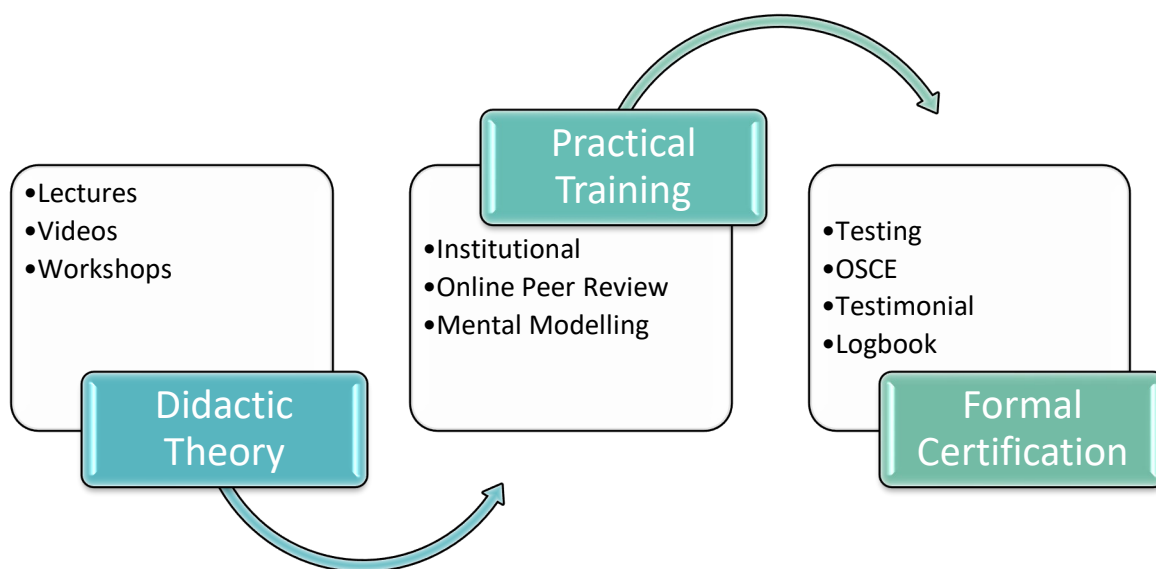
1. Neonatal Cranial Ultrasound-Introduction and Basics
2. The Normal Brain
3. The Abnormal Brain and Pathology
4. Clinical correlation, diagnosis, and clinical approach
5. Protocols and Implementing CRUS



There is an online platform covering all aspects of cranial ultrasound, including normal anatomy, scanning protocols, views, machine use, neonatal brain imaging, prognosis, and parental perspectives. For those with less time commitment, the participants can learn via the videos on the online platform. For those of you who would like accreditation via the course, it is mandatory that you have access to a US machine and can share cases and images in an anonymized way. We will teach you how to do that. At the end of the course, you must take an online exam with a passing mark, which will review the core parts of the curriculum as outlined above. The testing can be done anytime within the first six months after the module starts.

## Course Platform

This is an online course with an online platform covering all the aspects of Lung Ultrasound over 16 chapters with an additional chapter on US of the neonatal airway. Material is delivered through didactic online sessions, peer reviewed online content, peer reviewed videos and online workshops to help develop your theoretical understanding. Each participant has their own portal with access to content and a content library.



## Skill Acquisition

Participants consolidate their learning through practical exposure at their place of work with local supervision or through peer review of anonymized cases online. The clinical tutors complete Objective structural assessment forms alongside peer review to help consolidate the practical skills. Participants are encouraged to keep of a logbook and maintain a log of their scans with reflections. For those who would like accreditation via the course, it is mandatory that you have access to a US machine and can share cases and images in an anonymized way. We will teach you how to do that. At the end of the course, you must take an online exam that has a passing mark which will be a review of the three core parts of the curriculum as outlined above. The testing can be done anytime within the first six months after the module starts. Completion of testing alongside acquisition of practical competencies helps with accreditation and certification at the end of the course.

## Testing and Graduation

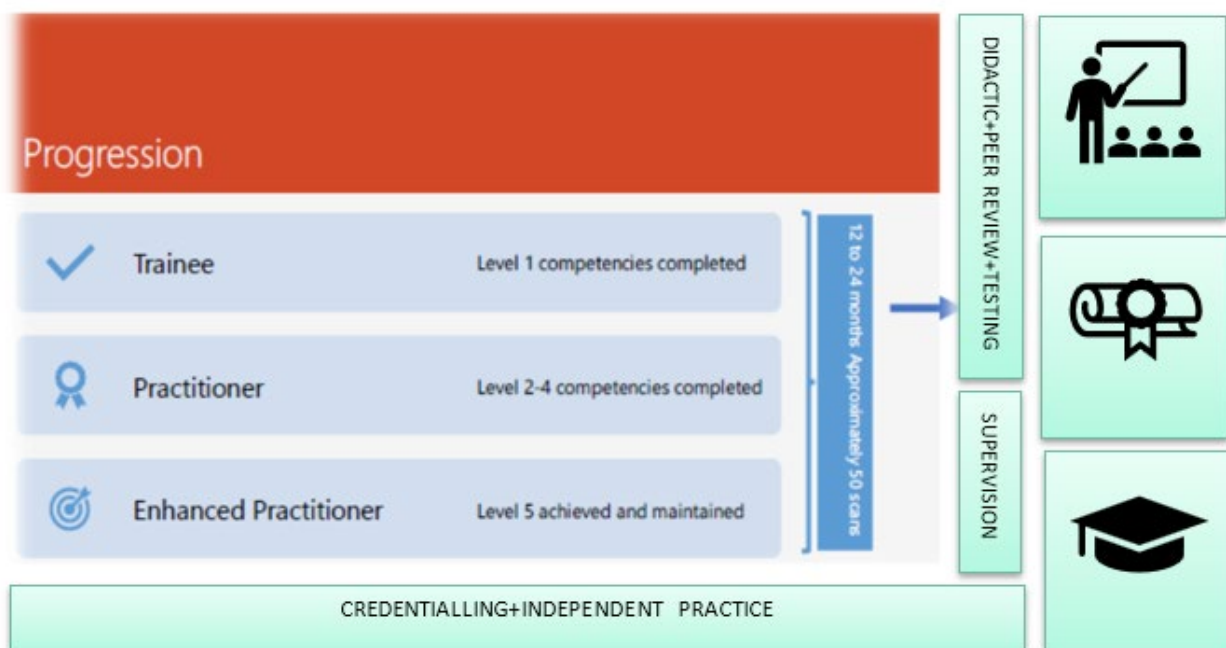
Practical assessment is through Peer review of scans. Quality assurance is carried out through completion of Objective structural assessment forms. Theoretical knowledge, clinical correlation, diagnostic rigor are assessed through an end of course AI powered MCQ that is centile based.

Graduation involves completion of at least 20 scans alongside completion of testing and can be done in the participants time over 6 months.

## Credentiailling

Participants need to follow their institutional and or national guidelines for the purpose of Credentiailling. This course follows a credentialing pathway as outlined below.

I



## **Core Faculty**



# *Dr. Abhijit Bhattacharya*

Dr. Abhijit Bhattacharya currently works as a Senior clinical fellow in Princess Royal Maternity Hospital, Glasgow, UK. He is an experienced and highly skilled Neonatologist with over 9 years of work experience in India and the UK. He is extremely proficient in leading and managing large-scale Neonatal Intensive Care Units and overseeing high-volume Labor and Delivery Services.

Dr. Abhijit Bhattacharya is a brilliant collaborator, a dedicated Neonatal Specialist who cares about newborn babies and believes in providing the best treatment, and a compassionate human who understands the value of effective communication with parents.

He is Currently involved in developing first-of-a-kind Scottish Neonatal Hemodynamic and POCUS group where conduct training for Lung US, vascular access US and Neo-Hemodynamic US.

He developed Lung US guidelines and protocol for the unit and has also written an e-book for the same. He is currently working on an e-book encompassing all the branches of Neonatal Point of Care Ultrasound

**MD,  
RCPCH NEONATAL  
FELLOWSHIP**

**Neonatal Clinical Specialist  
and Trainer**

- Locum Consultant in Cross house Maternity and Neonatal unit, Ayrshire, UK
- Senior clinical fellow in Royal Children Hospital and Royal Alexandra hospital, Glasgow, UK



## *Dr. Aimen Ben Ayadi*

Dr. Aimen Ben Ayad is a highly qualified and experienced neonatologist. He has been American board-certified in Pediatrics and Neonatology since 2017. After completing his medical education and residency training in the United States, Dr. Ben Ayad gained valuable experience at Javon Bea Hospital, Mercy Health.

In 2022, he relocated to the United Arab Emirates, where he currently serves as a consultant at Tawam Hospital, a leading tertiary-level NICU. Beyond his clinical practice, Dr. Ben Ayad is dedicated to advancing the field of neonatology through education and research.

He holds the position of Clinical Assistant Professor at the United Arab Emirates University, sharing his expertise with future generations of healthcare professionals. Dr. Ben Ayad, a respected educator and mentor, has received numerous accolades for his teaching contributions.

He is also a sought-after international speaker, regularly participating in conferences and workshops across the globe. In addition, he has held various positions, including Transport Medical Director at Javon Bea Hospital from 2020 to 2022 and is a global NRP instructor.

NEONATOLOGIST  
TAWAM HOSPITAL, AL  
AIN, ABU DUBAI, UAE



# Dr. Alok Sharma

Dr Alok Sharma is the course director and lead trainer for the Neonatal Point of Care Ultrasound training at the MPROvE academy. He is a Consultant Neonatologist working at the Corniche Hospital Abu Dhabi UAE. He has worked as a physician in neonatology and pediatrics for 22 years, having trained in India and the United Kingdom.

Dr Alok is a consultant neonatologist with a special interest in Neonatal education, simulation and Point of Care Ultrasound. He has completed a neonatal transport fellowship in Leicester, UK. He has also trained in neonatal cardiology and echocardiography in Southampton, UK. He has trained in Lung US at the Antoine Beclere hospital in Paris, France and the NICU at Southampton. He has completed a Postgraduate certificate course in Point of Care Ultrasound run by Dr Pradeep Suryavanshi.

He is a certified simulation healthcare provider trained by the society of simulation healthcare and was neonatal simulation lead in Southampton, UK, from 2012-2017. He has developed and runs the simulation instructor, neonatal emergencies and difficult neonatal airway courses globally.

He is the director of the MPROvE academy, a not-for-profit educational initiative in neonatology which has helped deliver education in the UAE, France, Austria, Germany, Vietnam, India, Kenya, and Nepal. He founded the Neonatal Ethics and Difficult Situations Course, which is run nationally in multiple centers in the UK along with Dr D Wilkinson, Dr Sijo Francis, and Dr S Babarao and is chair and lead organizer for the European Neonatal Ethics Conference.

He has designed specialized preterm manikins with LifeCast and Elstree Studios in the United Kingdom.

Work on multidisciplinary neonatal simulation done by his team and its impact on neonatal outcomes was nominated for the National BMJ Award, securing the Runner's Up position in 2014 in the UK. It was awarded the Best Research Award at SPIH 2014.



**MBBS, MRCPCH,  
CCST, CHSE**

- Course Director and lead trainer at MPROvE Academy
- Consultant Neonatologist, Corniche Hospital, Abu Dhabi





## *Dr Jasim Shihab*

Dr Jasim Shihab is currently Senior Consultant Neonatologist and Group Head : Neonatology and Pediatrics at Sabine Hospitals and Research Centre in India. He joined the group in 2025 after more than a decade of Neonatal Practice in the United Kingdom

He completed his medical training in 2002 and Pediatric Training in India in 2007. He did his Neonatal Fellowship as a IPTS RCPCH trainee in the United Kingdom which he completed in 2010. He has trained and worked in Neonatology since 2008 in India and United Kingdom. He worked as a Neonatal Transport fellow with the London Neonatal Transport Services, London, for a year and has been simulation trainee lead while working with Neonatal Services at the Royal London Hospital. He has been previously a Consultant Neonatologist at East Lancashire NHS Trust, and he also worked as Consultant Neonatologist at Northern Care Alliance NHS Trust during his decade long career in the United Kingdom.

His areas of interest include neonatal ventilation, ethics, difficult airway and neonatal simulation, neonatal neurology. While a consultant in the United Kingdom he has held various positions as neonatal neurology lead, simulation lead, difficult airway lead, etc. in the NHS Trusts he has worked in. He is trained in Neonatal POCUS and has been a trainer in the Trust Cardiology Club for neonatal trainees. He was also a faculty for Northwest ODN neurology study days. He is a trained simulation instructor and has facilitated simulation instructor courses and neonatal difficult airway courses in the United Kingdom, Europe, the Middle East and India. He has been invited as faculty in various national and international conferences. He is part of the MPROVE Neonatal team as well as member of the European Society of Pediatric and Neonatal Intensive Care (ESPNIC) simulation working group. He was also the co-organizer for the European Neonatal Ethics Conference 2019 held in Southampton.

*MBBS, MD PAEDIATRICS,  
NEONATAL FELLOW  
(RCPCH, UK)*



## *Dr. Praveen Kishore*

Dr Praveen Kishore is a Consultant Neonatologist at the Trevor Mann Baby Unit regional NICU at University Hospitals Sussex, Brighton

Praveen completed his undergraduate medical education and post-graduation in Pediatrics in India. He has trained in neonatal intensive care in Bristol, Southampton and Portsmouth in the UK, and has a special interest in neonatal cardiology and hemodynamics.

He has a keen interest in neonatal education and simulation training and is an instructor on the RCUK ARNI and NLS courses. He has a special interest in human factors and role of structured debriefing in simulation.

*DCH, DNB, MRCPCH,  
CCT*



# *Dr. Ranjit Kumar Gunda*

Dr Ranjit Kumar Gunda is a Consultant Neonatologist who is trained in UK and worked in very busy tertiary neonatal medical and surgical intensive care units and has 14 years of experience in Tertiary Neonatal Intensive care.

Dr Ranjit obtained MBBS from Osmania Medical College India and completed his Paediatric training from West Midlands, UK and received MRCPCH from Royal College of Paediatrics and Child Health. Following this he completed Neonatal GRID training from Wessex Deanery, UK and obtained CCT in Neonatology from RCPCH, UK.

Dr Ranjit has got special interest in Neonatal Transport and completed one year fellowship in Neonatal transport from Centre Neonatal transport team, UK. Following that he worked as a Consultant Neonatologist in UK and moved to India and worked with Rainbow Children's Hospital, India as a Consultant Neonatologist and Neonatal Transport Lead.

Dr Ranjit has special interest in Simulation based training and is very keen on quality improvement and patient safety by multiprofessional education. He is co-founder for MPROVE academy and an active member of Pedi STARS (Paediatric Simulation Training and Research Society) group in India. He was awarded the best oral presentation at the ASPIH International Conference (Association of Simulated Practice in Healthcare) for his work on cost effective targeted simulation to improve patient outcomes. He has a special interest in low-cost models. He is an instructor in newborn life support courses and Simulation Instructor courses and neonatal simulation training courses. During the covid pandemic actively involved in he was involved in developing SPAN-T Tele Simulation Training Program, a virtual simulation program for paediatricians and neonatologists across India.

*MBBS, MRCPCH,  
FRCPC, CCT-  
NEONATAL MEDICINE  
(UK)*

*CONSULTANT  
NEONATOLOGIST AND  
HOD NEONATOLOGY,  
AHALIA HOSPITAL, ABU  
DHABI*

# Expert Speakers



## *Dr. Rajesh Sharma*

Dr. Rajesh is a consultant neonatologist at Corniche Hospital- a Government of Abu Dhabi Health service entity, looking after the largest tertiary level NICU in the country with 80 NICU beds. He has over 11 years of international work experience under his belt, having worked in some of the well-renowned healthcare facilities in the world.

Dr Sharma did his MBBS from SMS Medical College, Jaipur. He subsequently did an MD in Paediatrics followed by Senior Residency in Paediatrics from JIPMER, Pondicherry. He was also conferred the 'Best Student Award' of SMS Medical College, India for overall excellence in academic and extracurricular activities. He won a Gold Medal in research paper presentation at National Neonatology Forum Conference.

He moved to United Kingdom to gain further experience in Neonatology in 2001. He successfully completed MRCPCH (UK) in 2004. In the UK, he pursued higher specialist training program in Neonatal Medicine at major perinatal centers like Queen Charlotte and Chelsea Hospital, London and Homerton University Hospital London, leading to British Board (CCT) certification in Neonatal Medicine in 2009.

He then joined NHS Tayside –Ninewells University Hospital, Dundee, UK as consultant neonatologist. He became a fellow of Royal College of Paediatrics and Child Health (UK) in 2010. His core specialties include Neonatal Medicine and Neonatal Metabolic Medicine. He is one of the few medical practitioners in the UAE who have vast experience in conducting neonatal transfers, both air and surface.

Dr. Sharma has served as Vice-Chair of RCPCH (UK) Trainee's committee. He is actively involved in academic activities and has research articles published in international journals and has many presentations at international conferences. He enjoys teaching and developing his teaching skills with a 'Program Based Learning' facilitator course from City University, London, UK.

Along with following medical pursuits, he is also a keen sportsman and was Captain of his state and university football team in India and was a playing member of Kinloch Cricket Club in Scotland, UK.

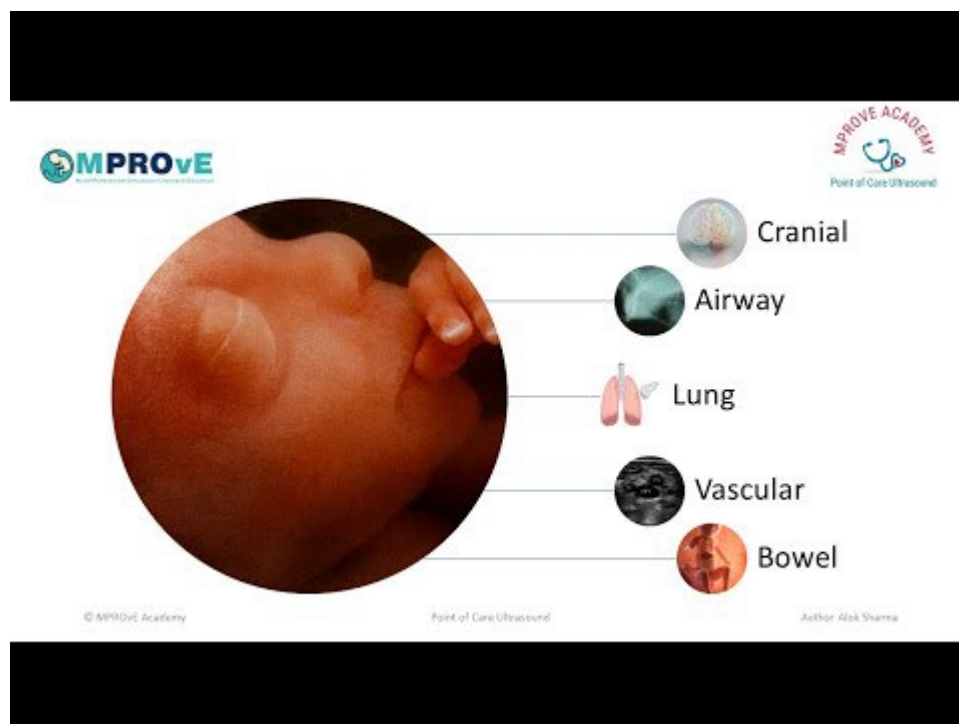
*MBBS,MD, MRCPCH,  
FRCPCH, CCST (UK)-  
NEONATAL MEDICINE*

*CONSULTANT  
NEONATOLOGIST,  
CORNICHE HOSPITAL, ABU  
DHABI*

Topic	Speaker	Date/Time	Link
Introduction-US Basics and Physiology			
<b>1. Introductions to the module, mentorship, logbooks, accreditation</b> Part 1-US Physics Part 2-Basic and Normal Anatomy Part 3-The Normal Views Part 4-Mental Modelling Clinical Correlation	<b>Dr Alok Sharma</b> <b>Core Faculty</b> Webinar 45+15m	Toronto 1000 London 1500 Barcelona 1600 Paris 1600 Abu Dhabi 1900 Delhi 2030 Kathmandu 1945 Islamabad 2000	21.05.2026 Thursday
<b>2. Performing CRUSS in Neonates</b> Part 1-The Machine Probe selection, Settings, Image Optimisation Part 2-The Baby Positioning, Containment, Asepsis Part 3-Protocol for the study Part 4- Image acquisition, Image storage, Reporting, Templates	<b>Dr Alok Sharma</b> <b>Core Faculty</b> Webinar 45+15m	Toronto 1000 London 1500 Barcelona 1600 Paris 1600 Abu Dhabi 1900 Delhi 2030 Kathmandu 1945 Islamabad 2000	24.05.2026 Sunday
Introduction-US Profile and Nomenclature			
<b>3. Performing CRUSS Imaging -Part 1</b> Nomenclature Terminology The Term Neonate The Preterm Neonate Preterm Brain Maturation Normal Variants <b>Peer Review 0</b>	<b>Dr Aiman Ben Ayad</b> <b>Core Faculty</b> Workshop 90m	Toronto 1000 London 1500 Barcelona 1600 Paris 1600 Abu Dhabi 1900 Delhi 2030 Kathmandu 1945 Islamabad 2000	28.05.2026 Thursday
<b>4. Performing CRUSS Imaging-Part 2</b> Image Optimisation Departmental Protocols Quality Assurance and Peer Review Cerebral Doppler Measurements in Cranial US <b>Peer Review 1</b>	<b>Dr Alok Sharma</b> <b>Core Faculty</b> Webinar 45+15m	Toronto 1000 London 1500 Barcelona 1600 Paris 1600 Abu Dhabi 1900 Delhi 2030 Kathmandu 1945 Islamabad 2000	31.05.2026 Sunday
The Term Baby-The Abnormal Brain			
<b>5. The Term Baby with Neonatal Hypoxic Ischemic Encephalopathy after birth</b> CRUSS Protocol Patterns of Injury Further imaging MRI <b>Peer Review 2</b>	<b>Dr Abhijit Bhattacharya</b> <b>Core Faculty</b> Webinar 45+15m	Toronto 1000 London 1500 Barcelona 1600 Paris 1600 Abu Dhabi 1900 Delhi 2030 Kathmandu 1945 Islamabad 2000	04.06.2026 Thursday



Topic	Speaker	Date/Time	Link
<b>6. Term baby with ICH, IVH and Stroke</b> <b>CRUSS</b> Patterns of Injury Further imaging <b>Peer Review 3</b>	<b>Dr Alok Sharma</b> <b>Core Faculty</b> Webinar 45+15m	Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	07.06.2026 Sunday
<b>7. Expert Session</b> <b>Infection of the Brain</b> Bacterial Viral (TORCH)	<b>Dr Pradeep Suryavanshi</b> <b>Expert Speaker</b> Webinar 45+15m	Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	11.06.2026 Thursday
<b>8. Expert Session</b> <b>Congenital Abnormalities, including Hydrocephalus in the Term Neonate</b> <b>Peer Review 4</b>	<b>Dr Ranjit Gunda</b> <b>Core Faculty</b> Workshop 60m	Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	14.06.2026 Sunday
<b>9. Cerebellar Imaging</b> Mastoid Views Measurements <b>Peer Review 5</b>	<b>Dr Alok Sharma</b> <b>Core Faculty</b> Webinar 45+15m	Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	18.06.2026 Thursday





Topic	Speaker	Date/Time	Link
The Preterm Baby-The Abnormal Brain			
<b>10.</b> Screening Protocols for Preterm Baby- Current Evidence and Practices <b>a.Screening Programme vs Individualized Approach</b> <b>b. Case-based discussions</b> <b>Peer Review 6</b>	<b>Expert Session</b> <b>Dr Rajesh Sharma</b> <b>Core Faculty</b> Webinar 45+15m	<b>Toronto 1100</b> <b>London 1600</b> <b>Barcelona 1700</b> <b>Paris 1700</b> <b>Abu Dhabi 2000</b> <b>Delhi 2130</b> <b>Islamabad 2100</b>	21.06.2026 Sunday
<b>11.</b> The Preterm Brain and maturational change of the Preterm Brain Intraventricular haemorrhage Appearance Grading <b>Peer Review 7</b>	<b>Dr Alok Sharma</b> <b>Core Faculty</b> Webinar 45+15m	<b>Toronto 1100</b> <b>London 1600</b> <b>Barcelona 1700</b> <b>Paris 1700</b> <b>Abu Dhabi 2000</b> <b>Delhi 2130</b> <b>Islamabad 2100</b>	25.06.2026 Thursday
<b>12.</b> PVL,White Matter Injury in the Preterm Baby Diagnosis Grading Screening Protocol <b>Peer Review 8</b>	<b>Dr Alok Sharma</b> <b>Core Faculty</b> Webinar 45+15m	<b>Toronto 1100</b> <b>London 1600</b> <b>Barcelona 1700</b> <b>Paris 1700</b> <b>Abu Dhabi 2000</b> <b>Delhi 2130</b> <b>Islamabad 2100</b>	28.06.2026 Sunday
Protocols, Clinical Correlation, and Clinical Approach			
<b>13.</b> Post Haemorrhagic Ventricular Dilatation Appearance, Grading, Measurements <b>Peer Review 9</b>	<b>Expert Session</b> <b>Dr Praveen Kishore</b> <b>Core Faculty</b> Webinar 45+15m	<b>Toronto 1100</b> <b>London 1600</b> <b>Barcelona 1700</b> <b>Paris 1700</b> <b>Abu Dhabi 2000</b> <b>Delhi 2130</b> <b>Islamabad 2100</b>	02.07.2026 Thursday
<b>14a.</b> The MDT approach to the baby with the enlarging head and ventricular dilatation Term vs Preterm <b>a. Clinic radiological approach</b> <b>b. Neonatal Management</b> <b>c. Paediatric and Neuroradiologist Perspective</b> <b>d. Neurosurgical Approach</b> <b>e. Prognosis</b>	<b>Dr Praveen Kishore</b> <b>Dr Ranjit Gunda</b> <b>Core Faculty</b> Workshop 90 minutes	<b>Toronto 1100</b> <b>London 1600</b> <b>Barcelona 1700</b> <b>Paris 1700</b> <b>Abu Dhabi 2000</b> <b>Delhi 2130</b> <b>Islamabad 2100</b>	05.07.2026 Sunday
<b>14.</b> The MDT approach to Antenatal Brain Abnormalities <b>a. The Spectrum</b> <b>b. Fetal Medicine Neonatal Liaison</b> <b>c. Antenatal Pathways and Postnatal Plans</b> <b>Antenatal Palliative Care Pathways</b>	<b>Dr Alok Sharma</b> <b>Dr Ranjit Gunda</b> <b>Core Faculty</b> Workshop 90 minutes	<b>Toronto 1100</b> <b>London 1600</b> <b>Barcelona 1700</b> <b>Paris 1700</b> <b>Abu Dhabi 2000</b> <b>Delhi 2130</b> <b>Islamabad 2100</b>	09.07.2026 Thursday

Prognosis Communication and Parental Perspectives (OPEN Sessions)			
<b>15. Parents, Prognosis, Breaking Bad News Part 1 IVH</b> a. Parental Perspectives- Hearing is not Understanding, Am I ready for this? Hope? b. How should MDT approach discussions in this regard c. The Impact of Culture and Religion	<b>Dr Aiman Ben Ayad</b> Core Faculty Workshop 45+15m	Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	12.07.2026 Sunday
<b>16. Parents, Prognosis, Breaking Bad News Part 2 Perinatal Depression, Neonatal Encephalopathy HIE</b> a. Parental Perspectives- Hearing is not Understanding, Am I ready for this? Hope? b. How should MDT approach discussions in this regard c. Role of MRI and CRUS in decision making and timing	<b>Dr Aiman Ben Ayad</b> Core Faculty Workshop 45+15m	Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	16.07.2026 Thursday
<b>17. Neurodevelopmental Outcomes for babies with IVH, PVL and White Matter Injury</b> a. CUSS scores-Is there a role b. Deep Learning Models	Export Session	Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	

Close and Testing Window Open for 8 weeks till July 31st

