

# POCUS-LUNG ULTRASOUND IN NEONATAL CARE

*(This course is targeted towards emergency medicine paediatricians,  
paediatricians, and neonatologists wanting to learn Lung Ultrasound)*



*Dr Alok Sharma*

*Consultant Neonatologist with POCUS Interest*

*Course Director and Mentor*

*MPROvE ACADEMY-SOUTHAMPTON UNITED KINGDOM*



# *Dr. Abhijit Bhattacharya*

Dr. Abhijit Bhattacharya currently works as 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 handling high-volume Labor and Delivery Services.

Dr. Abhijit Bhattacharya is a brilliant team player, 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 have also written an e-book for the same. 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. Almudena Alonso*

Dr. Almudena Alonso is a neonatologist at Hospital Puerta del Mar in Cádiz (Spain). She has organized local and national courses on lung ultrasound in different centers.

Her PhD was titled “Normal values and relation to bronchopulmonary dysplasia of the thickness of the pleural line and the ultrasound lung scoring system in newborns” and read it in 2021. She has different publications on neonatal lung and diaphragmatic ultrasound, mainly about the use of lung ultrasound in monitoring very preterm infants during their stay in Neonatal Intensive Care Units. She is the coordinator of the Spanish group for the study of bronchopulmonary dysplasia using lung ultrasound, that includes more than 10 Neonatal Units in Spain. She is also collaborating with other Units from Italy and France in different multicentric studies.

Dr. Almudena Alonso has been part of the Scientific Committee of the LAUNCH (lung ultrasound for neonates and children) conference in Paris. She is the coordinator of the respiratory section of the POCUS group in Spanish Society of Neonatology and also a part of the respiratory section of the ESPR, as well as the POCUS section of the ESPNIC since 2020.

**MD, PHD**

**Neonatologist at Hospital Puerta del Mar in Cadiz (Spain).**



## *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 paediatrics 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 has 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 organiser 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. Arun Sett*

Dr Arun Sett is a neonatologist and PhD student with an interest in the use of neonatal lung ultrasound to guide respiratory support.

Arun's research is a mix of pre-clinical translational research and clinical trials. He teaches on the Australian Society of Ultrasound Medicine CCPU and Lung US courses. He is currently also leading research on LUS in Australia.

Arun currently holds consultant appointments at The Royal Children's Hospital Emergency retrieval services and at Joan Kirner Women's and Children's in Victoria.

# *Dr. Nadya Yousef*

Dr Nadya Yousef is senior consultant neonatologist and deputy head of the NICU at Paris Saclay University Hospitals in Paris, France. Dr Yousef received her medical degree from the University of Oslo in 1995 and her MSc from the University of South Paris in 2008. She has trained in Norway and in France.

Dr Yousef has broad experience in neonatology and neonatal intensive care. Special interest areas include point-of-care ultrasound and the use of simulation-based training to improve patient security and quality of care.

Dr Yousef is a pioneer in the field of neonatal lung ultrasound and has published extensively on the subject. She directs a course on neonatal and pediatric lung ultrasound in Paris. She also co-directs a course on neonatal lung and cardiac POCUS with Dr Yogen Singh. She has taught and lectured internationally in Europe, Africa, Asia and North America. Dr Yousef is a founding member of the French group for pediatric lung ultrasound (GEPP), a member of the ESPNIC POCUS working group and the ESPNIC POCUS certification board. She is co-author of the international ESPNIC POCUS guidelines



**MD, MSC**

**Neonatologist and deputy head of the NICU at Paris Saclay University Hospitals in Paris, France**



## *Dr. Patricia Lee Woods*

Trish is a full-time clinician as a tertiary neonatologist with a specialist interest in point-of-care ultrasound, family-integrated care in NICU, mentoring, and fostering positive relations between sub-specialties.

She is passionate in leading the neonatal Australasian Society of Ultrasound Medicine (ASUM) Clinician Performed Ultrasound (CCPU) program in lung ultrasound and fostering original clinical research on the utility of lung ultrasound in assessing ETT position and evolution of BPD.

She is a key member of the neonatal ASUM committee teaching advanced neonatal cardiac, lung, and cranial ultrasound, responsible for training and governance with Australia. She has led lung ultrasound workshops throughout Australia and New Zealand and as an invited guest in Malaysia, Indonesia, and China.

Trish developed the Learning from Excellence program “You’re Awesome Baby!” as a way of capturing positive peer feedback in the NICU, showing gratitude to one another, and learning from truly excellent practice.

She is a board member of the parent-led NICU charity ‘Helping Little Hands’ and Scientific committee member of the Women’s and Infants Research Foundation (WIRF) and avidly supports family-integrated care within our NICU.

She is a captive presenter on the international stage at conferences including SMACC, Don’t Forget the Bubbles, CODA Change, and Cool Topics and is affectionally known as Khaleesi of Neonatology (from her Game of Thrones-themed presentation at SMACC Dublin).

**MB  
CHB(HONOURS),  
BSc(HONOURS),  
MRCPCH, FRACP,  
CCPU, M RETRIEVAL  
MED**

**Clinical Senior Lecturer  
University of Western  
Australia Faculty of  
Medicine**

**Consultant Neonatologist  
King Edward Memorial  
Hospital, Perth, Western  
Australia**



## *Dr. Pradeep Suryawanshi*

Dr. Pradeep Suryawanshi is currently the professor and head of the Department of Neonatology at BVU Med College , Pune. He is also designated as the director of Neonatology and Paediatrics at Sahyadri Hospitals Pune as well as a mentor of department of Pediatrics at BLDE University Bijapur.

Dr. Pradeep Suryawanshi is gold medalist during his undergraduate years and completed post-graduation and Pediatrics from India and Australia. He has completed a fellowship in Neonatology specializing in point of care Ultrasound in Neonatology.

Dr .Suryawanshi runs a post graduate programme which has trained hundreds of clinicians in point of care ultrasound globally.

He has authored 71 articles, written 3 national guidelines and authored chapters in 16 different textbooks.

He is also mentored the set up and training of 34 NICUS in India.

**M.D, D.C.H (SYDNEY),  
FELLOW  
NEONATOLOGY  
(AUSTRALIA),  
FRCPCH(UK), FNNF**



# Point of Care of Neonatal Ultrasound (Module 1)

## Lung Ultrasound in Neonatology

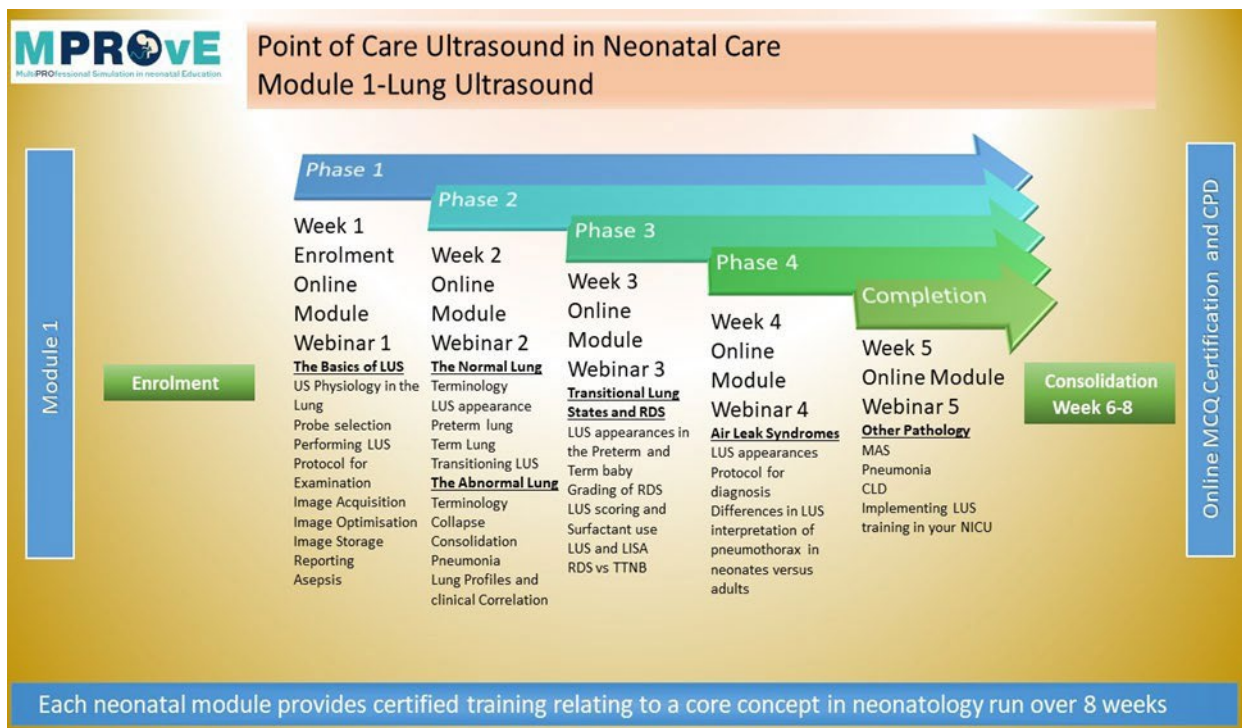
The MPROvE academy was established in 2012. It delivers training in neonatology and courses in neonatal emergency medicine, ethics, human factors, and the neonatal airway.

The academy has introduced Point of Care Ultrasound training in neonatal intensive care, which is run in 5 modules covering the Neonatal Lung, Brain, Airway, Vascular access, and Bowel.

The first module on lung ultrasound will be run in 2024 over a 12-week period. An international faculty delivers it from 4 continents.

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

1. The Normal Lung
2. The Abnormal Lung
3. Clinical correlation, diagnosis, and clinical approach



There is an online platform covering all the aspects of Lung Ultrasound over 12 chapters. 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 anonymised 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.

Topic	Speaker	Date/Time	Link
<b>Introduction-US Basics and Physiology</b>			
1. Introductions to the module, mentorship, logbooks, accreditation, POCUS-US Physics Nuts and Bolts- Get it right the first time	Alok Sharma Webinar 45+15m	15/01/2024 Toronto 1000 London 1500 Barcelona 1600 Paris 1600 Abu Dhabi 1900 Delhi 2030 Kathmandu 1945 Islamabad 2000	
2. US Physiology in the lung, Artefact and Nomenclature Your machine Probe selection, Settings, Performing LUS Protocol for examination Image acquisition Image storage Reporting, Reporting templates	Alok Sharma Webinar 45+15m	18/01/2024 Toronto 1000 London 1500 Barcelona 1600 Paris 1600 Abu Dhabi 1900 Delhi 2030 Kathmandu 1945 Islamabad 2000	
<b>Introduction-US Profile and Nomenclature</b>			
3. LUS appearance What is normal? The Term and Preterm Neonate Transitioning lung states Defining and reporting lung profile Nomenclature	Alok Sharma Webinar 45+15m	21/01/2024 Toronto 1000 London 1500 Barcelona 1600 Paris 1600 Abu Dhabi 1900 Delhi 2030 Kathmandu 1945 Islamabad 2000	
4. LUS appearance Revision of lung profiles and Nomenclature Lines and Signs in Lung US	Abhijit Bhattacharya Workshop 90m	28/01/2024 Toronto 1000 London 1500 Barcelona 1600 Paris 1600 Abu Dhabi 1900 Delhi 2030 Kathmandu 1945 Islamabad 2000	
<b>Consolidated Learning-Lung US and the Abnormal Lung</b>			
5.The Abnormal Lung-Part 1 Pneumothorax Pneumonia RDS TTNB MAS	Alok Sharma Webinar 45+15m	04/02/2024 Toronto 1000 London 1500 Barcelona 1600 Paris 1600 Abu Dhabi 1900 Delhi 2030 Kathmandu 1945 Islamabad 2000	

Topic	Speaker	Date/Time	Link
6. The Abnormal Lung-Part 2 Consolidation Collapse Pulmonary Haemorrhage Pleural Effusion Other Lung Pathology	Abhijit Bhattacharya Webinar 90m	11/02/2024 Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	
7. RDS in the Preterm Neonate Pattern Recognition and Application LUS scoring in the management of RDS When is the best time to scan after birth?	Dr Alok Sharma Interactive Workshop 60m	18/02/2024 Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	
<b>Consolidated Learning-Lung US Clinical Correlation and Diagnosis</b>			
8. Clinical Correlation LUS in the term neonate with Respiratory Distress LUS in the Preterm neonate with Respiratory distress	Dr Alok Sharma Clinical Approach and Pattern Recognition Session 90m	25/02/2024 Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	
<b>9. Expert Session</b> LUS in diagnosis of BPD and Chronic lung disease	Dr Almudena Alonso Invited Speaker	<b>03/03/2024</b> Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	
<b>10. Expert Session</b> LUS in the diagnosis and Management of Pneumothorax and Pleural Effusions	Dr Patricia Wood Invited Speaker	10/03/2024 Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	

Topic	Speaker	Date/Time	Link
<b>11. Expert Session</b> LUS in the diagnosis in Neonatal Infections and Pneumonia	Dr Pradeep Suryawanshi Invited Speaker	17/03/2024 Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	
<b>12. Expert Session</b> LUS in diagnosis of the Surgical Neonate	Dr Nadya Yousef Invited Speaker	24/03/2024 Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	
<b>Lung US in Practice-Clinical Approach and Special Situations</b>			
13. POCUS approach to the neonate with acute deterioration-SAFE-SAFER protocol	Dr Nadya Yousef Clinical Approach 1 Webinar 45+15m	31/03/2024 Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	
14. LUS in the diagnosis of respiratory failure, weaning of NIV and Optimising Respiratory support	Dr Almudena Alonso Clinical Approach 2 Webinar 45+15m	07/04/2024 Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	
15. LUS and the Desaturating Neonate on the ventilator; LUS and Lung Recruitment	Dr Alok Sharma Clinical Approach 3 Webinar 45+15m	14/04/2024 Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	

16. LUS and Lung Volume Analysis- Clinical Implications	Dr Arun Sett Invited Speaker	21/04/2024 Toronto 1100 London 1600 Barcelona 1700 Paris 1700 Abu Dhabi 2000 Delhi 2130 Islamabad 2100	
--	---------------------------------	---	--

Peer Review Sessions (cover these sessions/also Prerecorded)			
LISA in RDS-Lung Ultrasound vs FIO2 vs Clinical Assessment-Evidence vs Practice			
Ultrasound for the purposes of Needle Thoracentesis, Pleural fluid tap and placement of chest drains			
LUS and the Blue Protocol-Why Neonatologists should know this			
LUS -Diagnosis, Evaluation, Estimation of Pleural Effusions			
Developing your guidelines locally			

Prerecorded Sessions (Can be watched by participants on the Portal)			
LUS-heart and lung interaction; Implication for Clinical Practice	Dr Nadya Yousef		
POCUS for management of neonates with respiratory distress after birth 1. Diagnosis and prediction of admission 2. Reducing admissions to the NICU	Dr Almudena Alonso		
Medicolegal implications of running and developing an LUS training programme Competency acquisition and keeping things safe- Grandfather Clause and Implications for Practice Quorum Approach	Dr Alok Sharma		