

Wednesday 28th September

Lung Ultrasound

Dear all,

Welcome to day 3 of the inaugural Piezofest - Cardiothoracic Perioperative Ultrasound and Echocardiography Symposium!

We are pleased to welcome you as delegates and faculty.

This document should accompany a link to the pre-course content. Some of our faculty have been kind enough to record videos to watch ahead of the course, so that you have some familiarity with what will be covered on the day. These talks will be uploaded as we approach the course, so please check back for more content. We've also included a group of papers (attached to the email) and a list of further references that may be useful to peruse in advance.

We will convene in the Great Hall within the North wing of St. Bartholomew's Hospital, for registration, refreshments and the course itself. The Great Hall is accessed via St Bartholomew's Hospital quad (with the fountain in the centre). Nearest stations are Farringdon, Barbican and St Paul's. The red arrows roughly show access to the quad, with the green arrow showing the approximate location of the entrance to the Great Hall.

The day is broken up by different lung pathologies

We will be covering:

- Lung ultrasound views
- Pneumothorax
- Pleural fluid / thoracocentesis
- Consolidation
- Interstitial disease
- Diaphragm ultrasound
- Covid lung

Please see the pages below for the overall timetable, the faculty, model and delegate lists and then a detailed timetable with how the groups will rotate through the different stations.

The course has been kindly supported with equipment from GE and Sonosite.

Lunch will be nearby at 21 West on West Smithfield. Hopefully, you have all submitted your choices for the main course with the pre-course questionnaire.

After the course you are all welcome to join us at a nearby pub for post-course drinks, the first round is on us.

If there are any questions ahead of the course please email:
info@cardiothoracicanaesthesia.com

If there are any problems finding the course location please phone any of the course organisers - Paul, Anders or Mani.

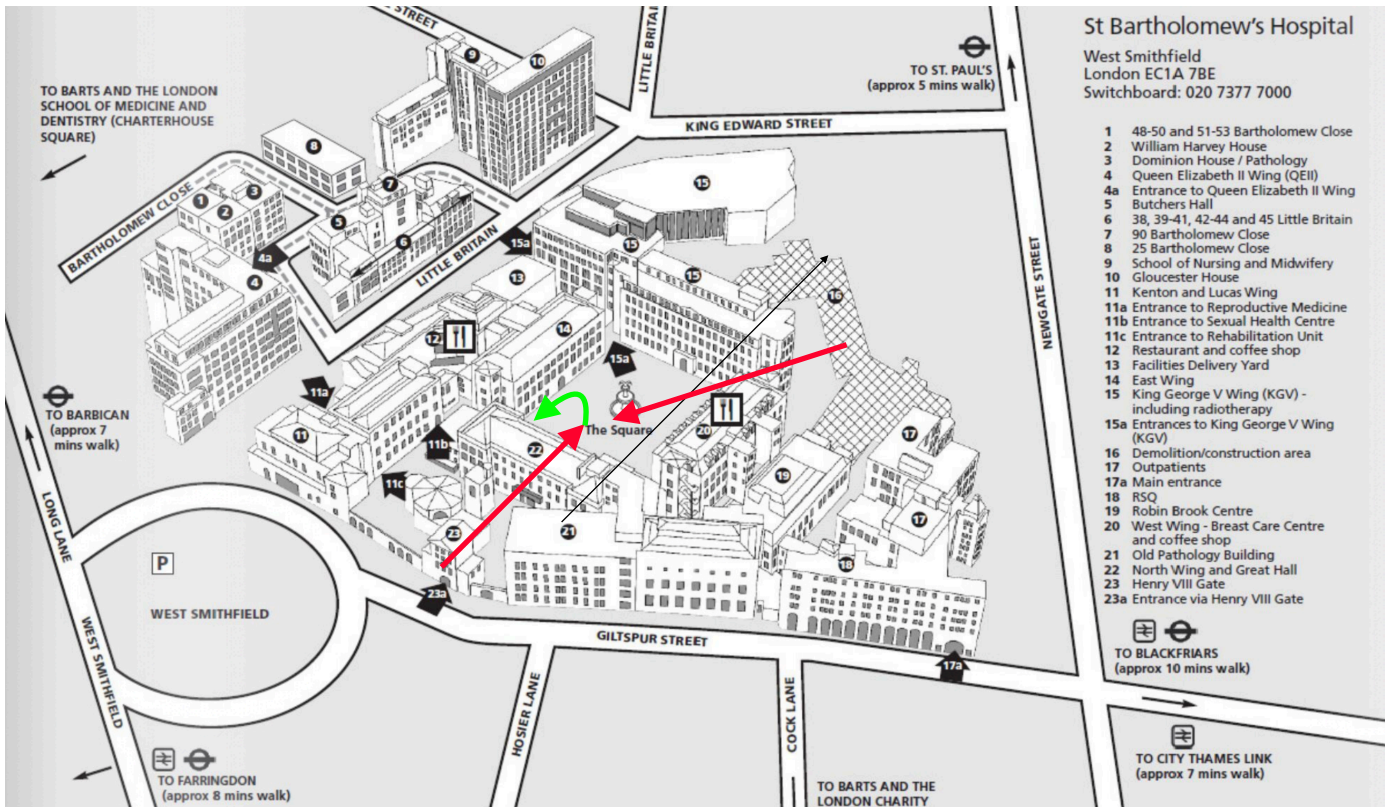
See you next week!

Best wishes,

Paul Balfour - 07540989879

Anders Hulme - 07921514358

Mani Bahra - 07984113117



Programme

| | |
|--------------|--------------------------|
| 0845 - 0900 | Registration |
| 0900 - 1000 | Scanning workshop |
| 1000 - 1100 | Scanning workshop |
| 1100 - 1120 | Refreshments |
| 1120 - 1220 | Scanning workshop |
| 1220 - 1320 | Scanning workshop |
| 1320 - 1420 | Lunch |
| 1420 - 1520 | Scanning workshop |
| 1520 - 1550 | Scanning workshop part 1 |
| 1550 - 1600 | Refreshments |
| 1600 - 1630 | Scanning workshop part 2 |
| 1630 - 1730 | Scanning workshop |
| 1730 onwards | Drinks |

Pre-course content

Video lectures

- Systematic ultrasound examination of the lung
- Recognition of normal aerated lung, thoracic structures and adjacent organs
- Pleural fluid and thoracocentesis
- Consolidation and atelectasis
- Interstitial syndrome and covid lung
- Pneumothorax
- Lung ultrasound accreditation

References

PDF files of useful papers are available at <https://cardiothoracicanaesthesia.com/piezofest-lung>.

Other useful references

2019 Review article: <https://pubmed.ncbi.nlm.nih.gov/31418060/>

Diagnostic accuracy of lung US: <https://ccforum.biomedcentral.com/articles/10.1186/s13054-021-03759-3>

Pitfalls of lung US: <https://pubmed.ncbi.nlm.nih.gov/35164490/>

US-guided chest drain insertion: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6068051/>

Lung ultrasound web resource: <https://www.openlus.com/en/>

Timetable

| Station | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-------------|--|---------|---------|---------|---------|---------|---------|
| 0845 - 0900 | Registration in Great Hall, St. Bartholomew's Hospital | | | | | | |
| 0900 - 1000 | Group A | Group B | Group C | Group D | Group E | Group F | Group G |
| 1000 - 1100 | B | C | D | E | F | G | A |
| 1100 - 1120 | Tea Break | | | | | | |
| 1120 - 1220 | C | D | E | F | G | A | B |
| 1220 - 1320 | D | E | F | G | A | B | C |
| 1320 - 1420 | Lunch Break | | | | | | |
| 1420 - 1520 | E | F | G | A | B | C | D |
| 1520 - 1630 | F | G | A | B | C | D | E |
| | To include 10-minute tea break | | | | | | |
| 1630 - 1730 | G | A | B | C | D | E | F |
| 1730 | Questions, feedback then post-course drinks | | | | | | |



Faculty

Lung Ultrasound Course Director - Dr Giampaolo Martinelli - Consultant Anaesthetist, Barts Heart Centre

Dr Carlos Corredor - Consultant Anaesthetist, Barts Heart Centre

Dr Samson Kendall - Critical Care Senior Clinical Fellow, Barts Heart Centre

Dr Segun Olusanya - Intensive Care Consultant, Barts Heart Centre

Dr Serena Roveda - Acute Medicine and Intensive Care Consultant, St. George's Hospital

Dr Hatem Soliman - Intensive Care Consultant, Harefield Hospital

Dr Giovanni Volpicelli - Emergency Medicine Consultant, San Luigi Gonzaga Hospital, Turin, Italy.

Additional content by:

Dr Luna Gargani - Consultant Cardiologist, Institute of Clinical Physiology, National Research Council, Pisa, Italy

Cardiothoracic Anaesthesia Partnership

Piezofest course organisers:

Dr Paul Balfour - Anaesthetic Senior Clinical Fellow, Harefield Hospital

Dr Anders Hulme - Anaesthetics Registrar, Harefield Hospital

Dr Manpreet Bahra - Anaesthetics Registrar, University College Hospital

Workshops

Station #1 – Pleural fluid & thoracocentesis

Station #2 – Pneumothorax

Station #3 – Consolidation

Station #4 - Interstitial disease

Station #5 - Lung aeration and diaphragm

Station #6 - Ask an expert

Station #7 - Covid lung

Delegate Groups

A

Dr Simon Liu - Consultant Anaesthetist, Guy's and St. Thomas' Hospital
Dr Paul Balfour - Anaesthetics Senior Clinical Fellow, Harefield Hospital

B

Dr Su-Li Lim - Specialist Anaesthetist, Royal Melbourne Hospital, Australia
Dr Maggie Zou - Anaesthetics Registrar, University College Hospital

C

Dr Sheena Miller - Consultant Anaesthetist, Royal Infirmary of Edinburgh
Dr Kornelija Maceviciute - Clinical Fellow, St. Bartholomew's Hospital

D

Dr James Arthur - Anaesthetic Registrar, Epsom and St. Helier Hospitals
Dr Eduardas Ambrasas - ICU Senior Clinical Fellow, St. Bartholomew's Hospital

E

Dr Joseph Gallagher - Anaesthetic Registrar, King's College Hospital
Dr Gareth Davey - Doctor, St Helier Hospital
Mr Tom Trevarthen - Band 7 Physiotherapist, St Bartholomew's Hospital

F

Dr Anna Khan-Leavitt - ICU Registrar, Guy's and St. Thomas' Hospitals
Dr Nick Haslam - Anaesthetics Registrar, St. Bartholomew's Hospital
Mr Peter Lang - Cardiothoracic Surgery ST8, Golden Jubilee National Hospital, Glasgow

G

Dr Lucy Waterford - Anaesthetics and ICU Registrar, Royal Free Hospital
Dr Patrick van den Berg - Trust Grade Anaesthetist, St Bartholomew's Hospital
Dr Eais Mehmood - Anaesthetics ST6, University Hospital of Wales, Cardiff

FUSIC lung - syllabus

We are not promoting this course as directly mapping to the ICS FUSIC lung syllabus, however for those who wish to accredit in lung US with the Intensive Care Society the syllabus is below.

Information on accreditation can be found at: <https://www.ics.ac.uk/Society/Learning/FUSIC/Modules/Lung.aspx>

Syllabus:

Performance of systematic examination of lung and pleura

- Scanning each lung in 3 zones (upper, lower and postero-lateral regions)

Recognition of normal thoracic structures and adjacent organs

- Ribs, subcutaneous tissues, pleura and diaphragm
- Heart, liver, spleen and kidneys

Identification of ultrasound appearances of normal aerated lung including:

- Diaphragmatic movement
- Pleural line and sliding sign (in 2D and M mode)
- Normal aerated lung (including A-line and B line artefacts)

Recognition of pleural fluid

- Ultrasound appearances of pleural fluid and pleural thickening
- Appearances suggesting transudate, exudate and loculation
- Assessment of size of effusion
- Distinguishing between pleural thickening and effusion
- Demonstration of sinusoid sign on M mode
- Distinguishing between pleural and abdominal fluid collection

Recognition of consolidation/atelectasis

- Ultrasound appearances of consolidated/atelectatic lung
- Ultrasound appearances of air and fluid bronchograms

Recognition of interstitial syndrome

- Differentiating between normal and pathological B-lines

Use of ultrasound to exclude pneumothorax

- Recognition of signs of pneumothorax (B mode and M mode)
- Absence of lung sliding, B lines and lung pulse
- Presence of lung point

Doctors (or AHPs for whom this is part of their practice):

- Performance of ultrasound guided thoracocentesis and knowledge of the pros and cons of direct vs indirect approach

Allied Healthcare Professionals (when this is not part of their practice)

- Description of ultrasound guided thoracocentesis