POCUS Programme Overview 2026-27
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Programme Introduction:

Point of care ultrasound and echo is regarded as a very useful skill in the management of patients of acutely unwell patients by medical doctors. Used bedside in a focused manner, it can be a quick but very effective way to optimise the assessment and management of patients with various types of acute medical conditions.
With the above in context, the Society of Acute Medicine introduced a curriculum on point of care ultrasound, called FAMUS, for doctors to help them get trained and accredited on doing Point of Care ultrasound. Simultaneously, the Intensive Care Society of UK has its own curriculum on point of care echo. In view of the importance of point of care ultrasound in the management of acutely unwell patients, the Joint Royal College of Physicians Training Board (JRCPTB) introduced new changes to the higher specialty curriculum of Acute Internal Medicine whereby from 2022 onwards, new higher specialty trainees in Acute Internal Medicine will have point of care ultrasound as a mandatory curriculum item for their CCT. With regards to above, the FAMUS accreditation pathway will act as one of the benchmarks for the trainees to pursue in order to learn and get accredited in point of care ultrasound while the FUSIC HEART accreditation pathway will act as one of the benchmarks for point of care echo.

The POCUS teaching programme at LRI is a 11 month long teaching programme which will be run with the purpose of:

a. Supporting doctors in getting formally accredited in FAMUS and FUSIC-Heart.
b. Making doctors proficient in using point of care ultrasound and echo to improve their skills in the assessment and management of acutely unwell medical patients.

Prerequisite to Enroll into this course:
Any East Mids AIM trainee can join this programme

For others, the following is the prerequisite to join the programme:

1. Must be working in UHL in some capacity
2. For those who want to do FAMUS, must have either attended the Leicester FAMUS course or have helped as a volunteer at the Leicester FAMUS course.
3. For those who want to do FUSIC-heart, they must satisfy (2) and also must have attended a FUSIC heart course or have completed the FUSIC heart modules from ICS website (by the end of one month of the programme as written below)
4. Can guarantee compliance with the programme and maintain the requirements to remain enrolled in this programme, mentioned later in this document

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Within one month of the start of the programme, ALL participants must complete the following and submit to us the proof of the following:

a. Registered for the FAMUS modules with SAM
b. Completed the FAMUS e learning modules from e-lfh
c. If doing FUSIC heart, registered for the FUSIC heart module with ICS

Intended Learning Outcomes

Upon completion of this course and through strict adherence to the programme, participants will be able to:

a. Demonstrate knowledge about the basic concepts of point of care ultrasound/echo including concepts on how an ultrasound image is generated, ultrasound physics, nature, and use of the ultrasound probes, how the ultrasound machine works, etc.

b. Acquire knowledge about issues related to governance associated with point of care ultrasound/echo.

c. Display proficiency in the technique and skills of the technique of doing point of care ultrasound (lungs/abdomen/leg vessels/peripheral vascular access)/echo

d. Interpret findings obtained from point of care ultrasound/echo and identify relevant pathological findings including:
Lung Pathologies: e.g pleural effusions, pulmonary oedema, pneumothorax and consolidation/collapse.
Abdominal pathologies: e.g ascites, hydronephrosis and distended bladder.
DVT lower limbs

e. Apply the findings obtained from point of care ultrasound/echo to impact patient management.

f. Identify the areas needing further research into this topic.

g. USG guided vascular access

h. Attain accreditation in FAMUS and/or FUSIC-heart.

i. As a bonus will also have the chance to learn USG assisted lumbar puncture

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Content, structure and delivery:
Aligning with the intended learning outcomes, the students will be taught, through a combination of theoretical, bedside-practical and mentored sessions, contents which will help them to acquire the knowledge and skills as mentioned above in the Intended Learning Outcomes.

The contents will reflect the desired point of care ultrasound and echo related outcomes as laid down by the FAMUS working group(FAMUS, 2021) and the FUSIC-Heart working group(FUSIC Heart, 2021)

A brief overview of the contents:

a. Basics of point of care lung ultrasound covering the following topics:
   i. An introduction to the various types of ultrasound probes
   ii. How to operate an ultrasound machine

b. Point of Care Lung Ultrasound:
   i. Technique of doing point of care lung ultrasound
   ii. What constitutes 'normal' findings associated with point of care lung ultrasound
   iii. How to identify the following pathological conditions on point of care lung ultrasound: pneumothorax, pulmonary oedema, pleural effusion, collapse, and consolidation
   iv. How to develop the skills and knowledge to inform clinical practice via findings obtained from point of care lung ultrasound.

c. Point of Care Abdomen Ultrasound:
   i. Technique of doing point of care abdomen ultrasound
   ii. What constitutes 'normal findings' associated with point of care abdomen ultrasound
   iii. How to identify the following pathological conditions on point of care abdomen ultrasound: ascites, hydronephrosis, distended bladder.
   iv. How to develop the skills and knowledge to inform clinical practice via findings obtained from point of care abdomen ultrasound.

d. Point of care Vascular Ultrasound:
   i. Technique of doing point of care leg vessel ultrasound
   ii. What constitutes 'normal' findings associated with point of care leg vessel ultrasound
   iii. How to 'rule in' DVT
   iv. How to inform clinical practice via findings on point of care leg vessel ultrasound
   v. USG guided peripheral vascular access

e. Point of care echo:
   i. Technique of doing point of care echo
   ii. What constitutes 'normal' findings associated with point of care echo
   iii. How to identify the following pathological conditions on point of care echo: LV impairment, LV

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dilation, RV impairment, RV dilation, Pericardial effusion, Severe Hypovolemia.
Iv. How to inform clinical practice via findings obtained from point of care echo

f. USG guided vascular access

g. Optional(Till FAMUS makes it mandatory): USG assisted Lumbar puncture

To achieve the above, the following structure will be used:

The module will be delivered over a 11 month period via once to twice a week teaching sessions, with each session lasting for 1-2 hours, the sessions being conducted by doctors who are recognised as mentors in point of care ultrasound and echo by the Society for Acute Medicine, UK and Intensive Care Society of UK respectively.

The initial few sessions will consist of 'classroom-based' teaching sessions on the theoretical aspects of point of care ultrasound/echo. This will cover contents like Introduction to the FAMUS and FUSIC-Heart curriculum and accreditation pathway, Ultrasound Physics, orientation with machine and probes, theoretical teaching on normal point of care ultrasound findings as well as pathological findings, case studies being aimed to help the students acquire the ability to inform their clinical practice based on point of care ultrasound/echo findings. These sessions will be taking place in a classical classroom-type environment, with the mentors using a mixture of theory, case-studies, and video materials to deliver their teaching. The classroom based sessions will also be used to teach the participants under a simulated setting on how to gain vascular access using USG guidance and perform USG assisted Lumbar Puncture.

The mentors will also make use of the flipped method of learning by circulating relevant resource materials before the actual sessions for the students to read, so that the students can have better clarity from beforehand on the contents being delivered.

After completion of the initial theoretical teaching sessions, the next few sessions will focus on bedside scanning of 'normal' volunteers who would be consented prior to the scanning sessions. These sessions will be conducted with the aim of enabling the students to gain the ability to develop and refine their technique of doing the scans as well as identifying the normal ultrasound/echo findings with greater expertise.

After the above is completed, the teaching sessions will focus on practical, bedside scanning of real patients. These sessions will focus on patients with various types of pathological findings, the findings reflective of what the course is aiming to teach the students (as mentioned above). These patients will be consented prior to the sessions and explained in detail about what the sessions are aiming for.

In addition to above, once the candidates have attended the theoretical sessions and attended the sessions of scanning normal volunteers, they will be asked to scan patients by themselves(without impacting the patient's management through their scans) and then upload their scans as well as their

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comment on the scan findings(without patient identifiable data and with the patient's consent) to an online platform to which the candidates will all be added. That online platform will give the candidates the opportunity to have feedback from the mentors about their scan quality and findings and gain from the benefits of feedback as well as encourage others to participate in that group discussion as well.

The online platform will also give the participants the opportunity to benefit from 'blended learning' by having that online platform as a media by which various asynchronised learning activities around point of care ultrasound can take place.

Throughout the module, all steps needed to ensure patient dignity and confidentiality will be taken, which is of prime importance in any healthcare setting.

This course will try to equip the course participants with the knowledge and skills of how to perform point of care ultrasound/echo on patients and how to interpret the findings and apply them to impact patient management.

As mentioned earlier, this course will also aim to enhance the trainees' overall clinical competence by following the concept of the spiral curriculum where the trainees will get to scan patients with various conditions which they deal with in their daily practice anyway, but now having the chance to approach them from a different angle, having the benefit and advantage of being able to use point of care ultrasound/echo to give them further insight into the management of these conditions.

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A Summary of the Structure of the teaching programme:

Number of sessions: once to thrice a week

Duration of programme: 11 months(September 2025 to July 2026):

Duration of each session: 1-2 hours

Session 1: Introduction to the programme and an overview of the accreditation pathway in FAMUS and FUSIC-heart

Session 2: Lesson about basics of the Ultrasound machine

Session 3: Theoretical teaching on point of care echo

Session 4: Theoretical teaching on point of care lung ultrasound

Session 5: Theoretical teaching on point of care abdomen ultrasound

Session 6: Theoretical teaching on point of care vascular ultrasound

Session 7: Sims session on USG guided Vascular access

Session 8: Sims session on USG assisted LP

Session 9 onwards: Regular bedside scans; at a regular interval, sessions will be kept for signing off 'mentored' scans – please refer to the section on assessments below; at regular intervals, there will be assessments to consolidate learning.

Participants will be expected to complete all their supervised scans by the end of the 6th month.

Month 7 onwards:

a. **Bedside sessions**
b. **Mentored sessions**
c. **Theoretical teaching sessions at regular intervals focusing on ability to interpret images and how this can impact practice and patient management**
d. **Sessions for Assessment of completion of training(ACT) exams**

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Assessment:

Students will be assessed by the mentors via the following ways:
Formative assessments:

a. They will need to do a total of 10 point of care scans for each of lungs/abdomen/heart and 5 point of care scans for leg vessels directly under the supervision of the mentor – the 'supervised scans.
b. Over the course of the 12 months, they will be expected to do 5 USG guided vascular access procedures, 30 point of care scans for each of lungs and abdomen, 40 point of care scans for heart and 10 point of care scans for leg vessels by themselves and write down their interpretation of the findings and how they would like to apply those findings into the patient's management and then discuss the scans and their plan of management with the mentor. These will be referred to as the 'mentored scans'.

The above assessments follow the same model laid down by the Society of Acute Medicine UK (FAMUS, 2021). *and Intensive Care Society UK and count towards the logbook requirement* (FUSIC HEART 2021).

Summative Assessment:

a. At regular intervals, we will aim for the participants to have MCQ tests on different concepts including basics of point of care ultrasound, interpreting scan findings, and testing their knowledge on the application of scan findings into different clinical scenarios.
b. By the time students sit for each ACT exam, they will be expected to write one reflection for each module(FUSIC-heart/FAMUS lungs/FAMUS abdo/FAMUS Vascular) using 1000 words on their learnings from each module and how they can use these learnings to impact patient management.
c. At the end of the course, following the same model laid down by the Society of Acute Medicine UK and Intensive Care Society UK, the students will have to give 'accreditation' exam on each of point of care lungs/abdomen/leg vessels/heart to a 'supervisor'(as recognised by the Society for Acute Medicine UK and Intensive Care Society UK) on point of care ultrasound and echo.
They can only sit for the accreditation exam once they have completed the first two summative assessments named above.

The Formative assessments will be marked as 'Complete' or 'Incomplete' while the summative assessments will be marked as 'passed' or 'failed'.

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Conditions to remain Enrolled:

To maintain the standards of the course, it will be strictly monitored to ensure that the participants are fulfilling the following requirements:

a. Meaningful engagement with the teaching sessions(attending least three sessions per month)

b. Doing a minimum number of the following scans per month:

5 point of care echo(if participants want to enrol for the echo accreditation process as well)
5 point of care lung ultrasound
5 point of care abdomen ultrasound
2 point of care vascular ultrasound
1 USG guided peripheral vascular access every month

c. Completion of all the formative and summative assessments.

At every 2 month intervals, compliance of the participants to the above will be monitored and any participant unable to fulfil the requirements named above will no longer be able to remain enrolled with the course.

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Indicative Reading list

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