FUSIC® DVT: Training Details

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Details of Training Pathway

1: Identification of a Trainer

A FUSIC® DVT Supervisor is now no longer required to conduct the DVT triggered assessment. Approved Trainers can now oversee and sign-off the whole accreditation process for FUSIC® DVT. Supervisors may be required in the future for an advanced DVT module.

Requirements, responsibilities, and ways to identify a Trainer are all outlined below:

- You can identify a FUSIC® approved Trainer at your hospital or other convenient hospitals, however if you cannot find a local Trainer yourself, then please contact the ICS learning team who will be able to direct you to one.

- If for any reason it has not been possible to identify a Trainer (due to availability), it is possible to nominate a qualified clinical colleague who possesses the correct accreditation(s), credentials, and experience to act as a Trainer on your behalf. They will however be required to make an application to become an officially recognised Trainer.

- Application is easy using a simple form that can be accessed via the ICS website

Requirements for a Trainer

Your Trainer may be any healthcare professional with suitable experience and regular practice in Intensive Care ultrasound.

As a minimum, Trainers are ***expected*** to have been accredited in ***FUSIC® DVT*** *or* ***FAMUS*** for ***at least 12 months***. Applications must be processed and approved by ICS.

Trainers have the following responsibilities:

- To enable you to access a suitable ultrasound machine and patients with pathologies relevant for successful accreditation.

- To mentor you and review your logbook scans.

- To sign-off your competencies and undertake a triggered assessment.

- To sign-off your summary training record (STR) to confirm that you have satisfactorily completed all components of the accreditation.

2: Registration with ICS

Registration is an essential way to ensure that you are kept up to date with all aspects of the accreditation. It will also enable you to freely access our online learning material. We therefore recommend that you register at the beginning of your learning.

- Go to the FUSIC® DVT module page.
- Click on the “add to basket” button.

- Register and pay. Note: *the cost of FUSIC® DVT incudes registration as well as all e-learning content, and a certificate of accreditation at the end of the training*.
- Upon registration, you will receive an email providing details of what the next steps are. This can sometimes take up to 48 hours.
- Once registered, your access to all accreditation related content will last for exactly 24 months, after which your registration will expire.

If you experience any problems, please email learning@ics.ac.uk

3: Completion of online training

The price of FUSIC® e-learning content is included in the cost of registration and covers the theory required to complement your learning journey. We encourage learners to access and work through it prior to starting their logbook.

4: Attendance on an approved course

To achieve FUSIC® DVT accreditation, you must either complete the e-learning or participate in an ICS-approved FUSIC® DVT course. Opting to supplement or substitute your e-learning with attendance at an approved course is permissible.

5: Mentored practice and completion of logbook

All training documents, such as the reporting forms, logbook, competency sign offs, and Summary of Training (STR) form, can be downloaded from the Learning Portal as soon as your FUSIC® registration and enrolment have been approved.

Logbook requirements:

- Minimum directly supervised – 5 (these do not have to be the first 10 scans or be contiguous)
- Minimum total number of scans – 10
- Case mix – At least 1 must demonstrate a DVT. Trainees are encouraged to attend a DVT ultrasound list if there is difficulty finding a positive scan.

Supervised cases:

- Direct supervision is an essential part of the training process.
- A minimum number of 5 supervised scans are required, but we encourage as much direct supervision as possible throughout your logbook collection period.

Unsupervised cases:

- Any scans you undertake without direct supervision should be stored for review by your Trainer.

- Your training scans ***must not*** be documented in the patients' medical record or used to influence your clinical decision-making until a suitably trained individual has verified them.

- We recommend that training scans stored on machines or exported from them for review are labelled with a training reference, and not identifiable patient details.

Timeline:

- Your logbook collection period, from ***first scan*** to ***last scan*** should be no more than ***12 months***. Your triggered assessment must also be completed within this timeframe.

- Learning must also take place in the ***real world***, and we acknowledge that the FUSIC® DVT accreditation process, from registration to completion, may take time. Conversely, to combat skill fade and ensure appropriate development of knowledge and experience, these dates will be recorded and monitored closely by your trainer.

- Applications to extend this logbook collection period will only be considered under ***exceptional circumstances***, in which case you would contact the ***ICS learning team*** at least ***4 weeks*** prior to the expiry of your ***12-month scanning window*** to request an extension.

Case-mix:

- A demonstrable range of pathology is essential. Fundamentally, logbook studies should be performed on ***unwell patients***.

- It is acceptable to include multiple scans from the same patient overtime if their clinical or radiological picture has changed.

- No more than 10% of logbook studies should be on healthy volunteers (who should still have been scanned within a clinical setting).

- In previous years, examinations undertaken during an approved course were accepted as directly supervised scans. However, we no longer support this practice.

- All FUSIC® DVT views should be attempted in each scan however we recognise adequate images are not always possible in each view. You and your Trainer should ensure your logbook reflects that you can obtain all views competently.

- Courses are important, real-life learning opportunities even more so. Interpretable DVT images should be possible for all patients so each scan must include imaging from each examination point.

Reporting:

- You must use the standard reporting form for all training ultrasound examinations where provided.

- All documents, including the summary training record form, logbook, and competency assessments, can be downloaded from the ICS Learning Portal once registration is complete.

Review:

- Your Trainer is responsible for reviewing your logbook and signing off that you have undertaken studies and demonstrated competence in an appropriate range of pathology.

- We encourage you to meet periodically with your Trainer to review your studies. Doing so at the end limits your learning opportunities and risks losing them altogether, after considerable expense of your time and effort. Over time you should notice increasing agreement in interpretation between you and your Trainer.
- Comparing the images, you get from DVT ultrasound, where available, is an invaluable part of the training process.

Competence:

- Learners acquire skills at different rates. The minimum number of scans that are likely to be necessary to demonstrate competence and to have experience of the required range of pathology, is 10.

- Your Trainer is responsible for assessing competence and whether you have undertaken an adequate number of scans before your Triggered Assessment.

6: Assessment of competence

- Once you have performed and logged an appropriate number of examinations/ procedures and have had your competencies signed off, you may undertake a triggered assessment with your Trainer.

- Once all the above steps have been completed and your **summary training record (STR)** has been completed, dated and signed off by your registered FUSIC® approved Trainer, you should submit your **STR** for review via the learning portal, and you will be awarded a certificate of accreditation in FUSIC® DVT.

7: Maintenance of competence after accreditation

- Once accredited, you will be responsible for maintaining your knowledge and competence in ultrasound by undertaking regular and relevant CPD/ CME. In order to maintain your practical skills, it is important that you regularly undertake ultrasound examinations that involve an appropriate range of pathology.

- Undertaking regular audit and multidisciplinary review of your studies by advanced practitioners is an excellent way to maintain quality assurance.

- 12 months after FUSIC® DVT accreditation, with evidence of ongoing clinical activity in DVT ultrasound, you will be eligible to become a FUSIC® DVT Trainer by application to the FUSIC® learning team.

For further guidance on 'echocardiography and ultrasound' governance, please go to: GPICS 2 and read section 4.7 (p117).

FUSIC® DVT syllabus

Generic knowledge

Physics and instrumentation

- Properties of sound waves: amplitude, frequency, wavelength, propagation velocity
- Ultrasound in the body:
  - Propagation velocity in different media
  - Frequency and attenuation
  - Sound and interfaces - transmission, reflection (specular, scatter), refraction, acoustic impedance.
  - Biological effects - heat generation and safety
- Sound generation:
  - Piezo-electric effect
  - Basic transducer design
  - Types of transducers
  - B mode and M mode
- Image quality
  - Frame rate, temporal resolution, spatial resolution, axial resolution, lateral resolution and how these relate to frequency, depth and width
  - Gain
  - Focus points
  - Artefacts and their generation
  - Colour, Power, Spectral (PW, CW)
- Ultrasound systems
  - Basic components and controls
  - ECG
- Descriptive terms
  - Hyperechoic, hypoechoic and anechoic and how they relate to structures
    -Sonographic appearance of tissues, muscle, blood vessels, nerves, bone, tendons etc

Ultrasound techniques

- Patient information and preparation
- Indications and limitations of focused examinations
- Relevance of other imaging modalities to ultrasound

- Influence of ultrasound results on the need for other imaging
- Selection of appropriate transducer and exam type
- Use of conductive gel
- Correct probe placement and orientation for standard views
- Correct adjustment of ultrasound controls (depth, gain, width and focus)
- Probe manipulation and nomenclature - e.g. pressure, sliding, fanning, rocking, rotating
- Scanning techniques - 2D, M-mode, and colour Doppler
- Identification of relevant anatomy
- Identification of common artefacts

Administration and governance

- Image recording, reporting and storage
- Indications for immediate expert assistance, subsequent comprehensive scan by accredited practitioner or need for alternative investigation
- Medico-legal aspects - outlining the responsibility to practice within specific levels of competence and the requirements for training
- Need to quality assure reports
- Relevance of data protection act to image storage
- Consent
- Understanding sterility, infection control and machine cleaning
- The value and role of departmental protocols
- The resource implications of ultrasound use

Module Specific knowledge (FUSIC® DVT)

Identification of:

- Common femoral vein and artery in inguinal crease
- Junction of common femoral and saphenous veins
- Junction of common femoral and deep femoral veins
- Popliteal vein and artery in popliteal fossa
- Trifurcation of popliteal vein
- Distinguishes veins from arteries

Demonstration of:

- Compression test in inguinal region, compressing every 1 cm from 2 cm proximal from junction of common femoral and saphenous veins to junction of common femoral and deep femoral veins, continuing compression of vein down to mid-thigh.
- Compression test at popliteal fossa, compressing every 1 cm from the distal 2cm of the popliteal vein to its trifurcation.
- Use of colour Doppler to distinguish vein from artery, identify phasic venous flow with respiration and augmentation of venous flow with calf compression.