

A Guide to Running an ED Ultrasound Training Programme

This is a guide for supervisors of Emergency Ultrasound Training and Emergency Department directors for the requirements and structure necessary to provide a departmental run ultrasound training programme. To ensure the required standards are met for [credentiaing by ACEM](#) or [accreditation by ASUM](#) adherence to the appropriate policies and guidelines is mandatory (please follow links provided)

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ED Ultrasound Training Programme Requirements

- An Emergency Department Director who acknowledges and supports the ED ultrasound (US) training programme
- A Director or Supervisor of ED US Training
- Assessors of ED US training
- Emergency Medicine trainees who are interested and committed to the ED US training programme. This is currently on a voluntary and individual basis.
(As of January 2016: US training is not mandatory but ACEM encourages all emergency physicians to be competent in the 'core' areas of emergency ultrasound, being abdominal aortic aneurysm, EFAST, procedural guidance and echo in life support).
[ACEM policy on the use of Bedside Ultrasound by Emergency Physicians](#)
- ED US trainees must be responsible for their own training, record keeping, logbooks, quality improvement and progress
- An ED US training programme defined set of standards and orientation programme and manual.
- An ED US education, literature and resource package
- Defined guidelines for ED US credentialing
- A defined pathway to achieve ED US credentialing
- Regular (3-6 monthly) review and record keeping of progress (by director / supervisor of ED US training) of ED US trainees
- Defined guidelines for governance and quality improvement of the utility and provision of Point of Care Ultrasound (PoCUS)
- Provision of formative and summative assessments for ED US trainees
- Accompanying documentation to support an ED US training programme
- Agreements and understandings with other hospital departments and hospital administration to support an ED US training programme. Including hospital administration, department of radiology, ultrasonography, echocardiology, and IT.

Directors and Supervisors of ED US Training

- Will be a FACEM with the necessary qualifications to be a supervisor or assessor of ED US training
 - Have a CCPU in the relevant units (e.g. E-FAST, AAA, vascular access, BELS as a minimum)
 - Have a DDU, FRANZCR, DMU or equivalent
 - Are a sonographer registered by ASAR or NZ MRTB
 - Must be practicing in the relevant area
- Will organise the structure of the ED US training programme
- Will identify and invite appropriately qualified assessors of ED US to partake in and support the ED US training programme
- Will provide orientation with accompanying documentation to ED US trainees
- Will organise ED US education for trainees
- Will review, monitor and supervise the progress of trainees on a regular basis
- Will provide a defined pathway to achieve ED US credentialing
- May organise an accredited ED US training workshop if they desire.
This workshop will adhere to the required standards [credentialing by ACEM](#) or [accreditation by ASUM](#)
[ACEM policy on the Minimum Requirements for an Ultrasound Workshop](#)
[ASUM requirements for an Ultrasound Workshop](#)
- Will organise formative and summative assessments for ED US trainees
- Will maintain relationships with other hospital departments and hospital administration to maintain the ED US training programme
- Will provide a structure and standards to maintain and review quality and governance surrounding PoCUS in ED.
- Will be responsible for machine acquisition and maintenance
- Will be responsible for developing, monitoring and revising a robust quality assurance and governance process.

Assessors of ED US Training

- Have the necessary qualifications to be a supervisor or assessor of ED US training, as stated above.
- Will support and partake in the ED US training programme
- Will provide education and supervision of ED US trainees
- Will help trainees with image acquisition and logbook completion
- Will perform formative and summative assessments of trainees
- Will maintain their own standards of PoCUS as defined by ACEM and ASUM.

An Example of an ED US Training Programme Orientation Manual

Bedside Ultrasound (also known as 'Point of Care US' (PoCUS))

The Ten Ultrasound Commandments of PoCUS

1. Ask someone to show you how to use the machines
2. Access the pre-reading / pre-watching provided
3. Attend accredited teaching (ACEM trainees only)
4. Clean the machines before & after use
5. Put them back where they belong and plug them in
6. Take care of the probes and cords
7. Report all damage to the ED equipment officer / ED US director/supervisor.
8. Enter patient first name and surname, MRN & your initials. Save the images to the hard drive & enter a 'POCUS note' on EMR.
9. Make a record in your own logbook and export images to an external drive.
10. Find someone accredited to review and credential your images

First the Good News. You can use the machines! After we've shown you the ropes and as long as you follow the commandments, all ED doctors including JMOs are encouraged to use the US machines at least for cannulation.

Now the Bad News. You need to follow the rules or you will be penalised. That's because you need to demonstrate commitment to ongoing learning as part of our department's commitment to US quality improvement.

The ED staff members will report anyone who is not following the rules.

If you are the one reported, you will be 'kindly' reminded about the rules and the importance of following them. If you are reported a 2nd time your US privileges will be suspended until you attend a new orientation session and show commitment to abiding by the rules of the programme.

The ED US Rules in Detail

1. Ask someone to show you how to use the machines. Each machine is different, so please take time to familiarise yourself with functionality of each type of machine in the department. This is important!
2. Access the pre-reading / pre-watching provided
 - Read the manual and recommended reading material on physics / knobology / EFAST, AAA, vascular access and BELS (basic echo in life support).
 - Watch the online recommended PoCUS educational videos
 - Trainees also need to enrol in the US guided central line insertion package on the HETI online website (<http://www.heti.nsw.gov.au/Courses/Central-Venous-Access-Devices/>).

Online videos and MCQs must be completed followed by practical training in US guided CVC insertion.

3. Attend accredited teaching.
 - Ideally attend an ASUM CCPU accredited course (e.g. ASMI in Sydney, UTS in Melbourne, AIU on Gold Coast, Ultrasound Village in Broome)
(This can be a locally run ultrasound training workshop provided it has been approved as meeting the required standards for credentialing or accreditation by ACEM and ASUM respectively)
[ACEM policy on the Minimum Requirements for an Ultrasound Workshop](#)
[ASUM requirements for an Ultrasound Workshop](#)
 - Trainees must attend an ED US orientation session and PoCUS teaching sessions provided.
4. Clean the machines before & after use. 'Tuffie' wipes are a good option for maintaining cleanliness.
5. Put the machines back where they belong and plug them in.
6. Take care of the probes and cords. They are really expensive and do not handle being run over.
7. Report all damage to the ED equipment officer.
8. Enter patient name & MRN & your initials, save the images to the hard drive, Enter a 'POCUS note' on Firstnet, Ask one of the trainees or specialists how to do all this.
It's mandatory to make a note in the clinical record and save the images.
9. Make a record in your own logbook for training purposes (one day it will be compulsory for ACEM trainees but not yet).
We have an 'Excel spreadsheet' system of logbooks for you to use.
10. Find someone accredited to review your images for your logbook and ASUM sign-off.

Still have questions? Come and talk to any of the specialists that are partaking in the ED US programme who will explain what's required.

Thanks and welcome.

References:

- [ACEM policy on the use of Bedside Ultrasound by Emergency Physicians](#)
- [ACEM policy on Credentialing for ED US in Trauma and Suspected AAA](#)
- [ACEM policy on Credentialing in Basic Echocardiography in Life Support](#)
- [ACEM policy on the Minimum Requirements for an Ultrasound Workshop](#)
- [Australasian Society for Ultrasound in Medicine](#)

An Example of ED US Credentialing Guidelines

This is an example adapted from locally produced ED US credentialing guidelines in a NSW Hospital. Some of the included content may not be universally accepted or agreed upon by ED US practitioners.

This policy is designed to ensure best practice in the use of point-of-care ultrasound in the ED.

Scope of practice:

- Procedural guidance: vascular access, nerve block, draining effusions, suprapubic catheter placement
- Abdominal aorta: for abdominal aortic aneurysm (AAA)
- Extended Focused Abdominal Sonography in Trauma (EFAST) for: pleural / pericardial / abdominal fluid and pneumothorax
- Basic echocardiography in life support (BELS)
- Other domains (optional):
 - Early pregnancy: for free abdominal fluid and rule-in intrauterine pregnancy
 - Gallbladder and common bile duct
 - Renal tract
 - Blood vessels: for DVT

Who can perform these scans?

ED specialists and trainees:

- Who have completed an introductory course recognised by ACEM / ASUM in one or more of the above modules
 - You may only scan in those domains where you have completed the course
- Who are enrolled in the ED US credentialing & QA programme (see separate document *How an ED US credentialing & QA program works*)

Who can act on these scans?

ED doctors who are:

- Credentialed in one or more of the above modules (see ACEM or ASUM guidelines for details)
- Approved by the ED director, supervisor of ED US training and hospital clinical privileges process to provide PoCUS an a credentialed domain.

N.B. US guidance is encouraged for vascular access, and a process of formal credentialing is not required.

Note: for **EFAST, AAA & basic echocardiography in life support** an un-credentialed ED doctor may act on his/her scan in the following circumstances:

- Clinical urgency demands immediate action (e.g. suspected tension pneumothorax, or shocked multi-trauma patient)
- A credentialed ED doctor is not on site
- The doctor performing the scan is enrolled in the ED US credentialing & QA programme (see below for details) & informs other clinicians relevant to the case that s/he is not credentialed
- The doctor performing the scan is satisfied that the images obtained rule in / rule out the pathology in question (if there is significant doubt, the ED doctor will urgently discuss the case with the FACEM on call).
- *Note – this is contentious area regarding the application of ED US and has been agreed upon in this establishment ONLY. Many other healthcare facilities will not agree with this course of action where ED US scans may only be acted upon by credentialed practitioners*

Example of How an ED US Credentialing & QA Programme Works

1. If you would like to continue being part of the ED US training programme please email the director / supervisor of ED US training. This is not compulsory to practise in emergency medicine BUT it is necessary for those doctors who wish to use ultrasound for anything other than vascular access in the ED.
2. Attend an ACEM/ASUM recognised US course (eg EFAST, AAA).
3. For every scan, save the images onto the machine's hard drive, and document the patient's name, MRN & your unique ID (e.g. your initials) in the 'Accession number' section of the patient demographics menu (N.B. this can be done AFTER you obtain the images, to save time in those resus room cases).
4. Enter a note of your findings in the patient medical record with a comment that you are not yet credentialed (you can write it in the progress notes).
5. Enter a note in your Excel logbook or in the hard copy of the logbook provided at your ED US orientation.
6. Review your images SOON after scanning: approach a credentialed person / ED US assessor / any radiologist or sonographer to review your scans for your logbook. Saving the images on a thumb drive is an option but is not required.
7. Perform a minimum of **10 scans every 3 months**. These can be in any modality for which you have attended a course. (N.B. this will be considered on a case by case basis when you attend your regular review, with a lower number expected if you are working part time or have been on leave for an extended period etc.)
8. Every 3-6months your director / supervisor of ED US training will review the log book of each trainee on the US training programme. If you have not reached the necessary number of scans then this will be addressed and methods of improvement in productivity will be explored.
9. If this occurs a second time, then your clinical privileges to use ultrasound in the ED will be suspended for anything other than vascular access, until you sit another course and begin the process again.

Focused US is not a compulsory part of ACEM training requirements. Therefore if you decide that focused US is really not for you, we can take you off the US training & QA program and this will have no effect on your ACEM standing.

References:

- [ACEM policy on the use of Bedside Ultrasound by Emergency Physicians](#)
- [ACEM policy on Credentialing for ED US in Trauma and Suspected AAA](#)
- [ACEM policy on Credentialing in Basic Echocardiography in Life Support](#)
- [ACEM policy on the Minimum Requirements for an Ultrasound Workshop](#)
- [Australasian Society for Ultrasound in Medicine](#)

Example of a Memorandum of Understanding for ED Ultrasound

Between: Emergency Department & Department of Radiology

Background:

Emergency Department Ultrasound (EDUS) scans are limited, goal directed examinations used to answer specific clinical questions. These examinations are **not** comprehensive and do **not** replace formal sonography offered by the Department of Radiology.

ACEM policy on the use of Bedside Ultrasound by Emergency

Physicians. <https://www.acem.org.au/getattachment/797900b1-8d0d-40f7-887a-6cccb3ba7d6c/Policy-on-the-Use-of-Bedside-Ultrasound-by-Emergen.aspx>

ACEM policy on Credentialing for ED US in Trauma and Suspected

AAA. <https://www.acem.org.au/getattachment/80ef1048-ec68-482f-a2b0-e518407ff253/P22-Policy-on-Credentialing-for-Emergency-Departm.aspx>

ACEM policy on Credentialing in Basic Echocardiography in Life Support

. <https://www.acem.org.au/getattachment/2cbfdee3-dd4e-48fe-9e42-f77d2f145893/Policy-on-Credentialing-for-Echocardiography-in-L.aspx>

Key points:

- The Emergency Department will introduce an EDUS programme that will encompass the following areas:
 - E-FAST (extended focused assessment with sonography in trauma)
 - Assessment for AAA (abdominal aortic aneurysm)
 - Basic echocardiography in life support (BELS)
 - Ultrasound guided vascular access
- This program will include teaching, credentialing & ongoing quality assurance in accordance with ACEM guidelines.
- Only ED doctors who fulfil the following criteria can **perform** such scans:
 - Enrolled in the EDUS credentialing & QA programme
- Only ED doctors who fulfil the following criteria can **report or act on** such scans:
 - Enrolled in the EDUS credentialing & QA programme
 - **Completed** the EDUS credentialing programme or otherwise recognised by ACEM and ASUM (e.g. completed a DDU or CCPU)
 - **Approved** by the director of Emergency Medicine and supervisor / director of EDUS training, **prior** to scanning
- Every patient who receives such a scan will also receive a verbal and written explanation that the EDUS is not comprehensive and does not replace formal sonography offered by the Department of Radiology.
- If the indication for a given scan is **non-urgent**, Radiology will be asked to perform the scan in the first instance.
- No obstetric Ultrasound
- No ultrasound will be performed out with the scope of practice of the individual ED doctor.

Example of an EDUS Patient Information Sheet

Your Emergency Department (ED) doctor has performed a Point of Care Ultrasound (PoCUS) Scan

PoCUS scans are limited, goal directed examinations used to answer specific clinical questions. These examinations are not comprehensive and do **not** replace formal ultrasound offered by the Department of Radiology.

For example, although the ED doctor may scan your abdomen, s/he is **not** performing a formal ultrasound such as those ordered by your family doctor.

How are these scans different from a formal ultrasound?

- They answer very limited questions only.
- Images from the scan are not routinely stored.
- There is no formal written report after the scan.

An Emergency Medicine_Sonologist is an Emergency Medicine practitioner who has successfully completed a specified training process in PoCUS, or who possesses DDU (Diploma of Diagnostic Radiology) or CCPU (Certificate in Clinician Performed Ultrasound) in that particular aspect of ultrasound.

S/he is not a radiologist.

Even though the scan may not show what the ED doctor is looking for, this does not mean 'the scan is normal'. **You may still need to have a formal ultrasound** performed by the radiology department to complete your investigation.

ED Ultrasound Training Programme Resources

- Free open access online accredited [US training course material](#)
- Recommended [US educational resources](#)
- Resources for [keeping track of your trainees](#)
- US [logbook and assessment documentation](#)
- [List of ASUM Accredited US Course Providers](#)
- [ECI ultrasound resources](#)