Australasian College
for Emergency Medicine

EMUGs

Guide for Health Service Credentialing Image Requirements

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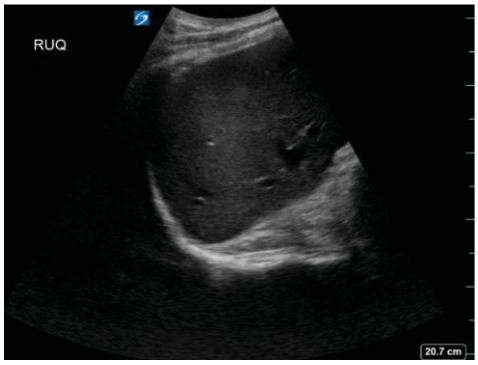
This document has been provided by the ACEM and EMUGs Collaboration Working Group to assist Clinical Leads in Ultrasound in developing ED ultrasound training programs. ***ACEM does not credential practitioners to perform emergency medicine ultrasonography; this is the responsibility of each health authority. The suggestions outlined are not required for accreditation for the FACEM Training Program****. Due to the variation in size and resources available at sites throughout Australia and Aotearoa New Zealand, the guidance provided in this document may or may not be appropriate for your site.*

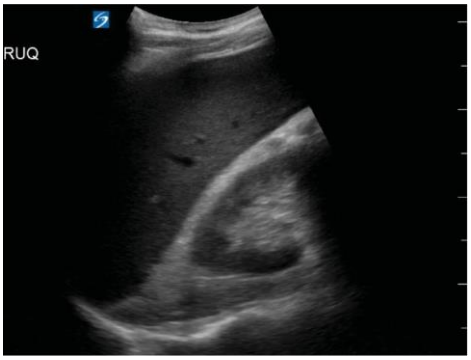
WHICH images to save: eFAST

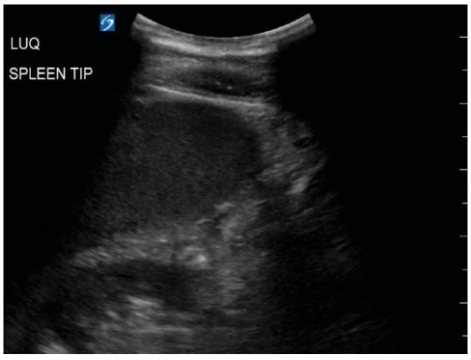
Example acceptable image set (negative)

The upper quadrants RUQ & LUQ:

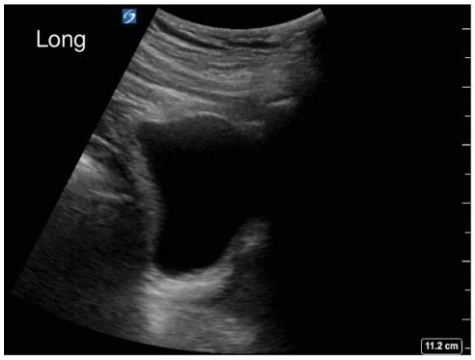
No spine sign/ No FF beneath diaphragm, No FF in hepato-renal or spleno-renal angle, no FF at liver/splenic tip.

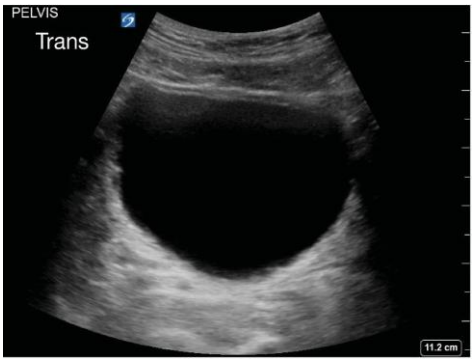




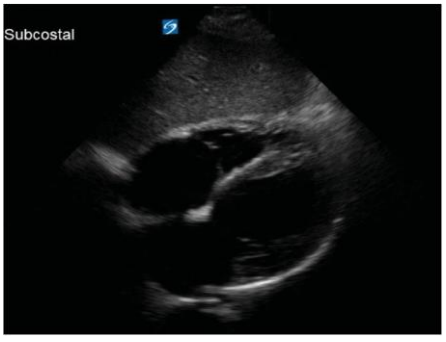


Pelvis - ensure you demonstrate pubic symphysis on Long



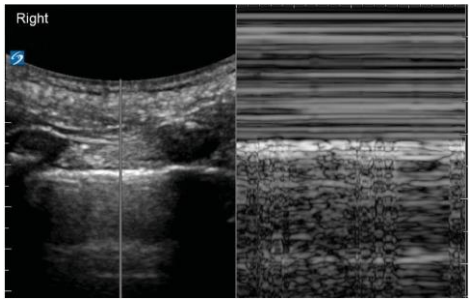


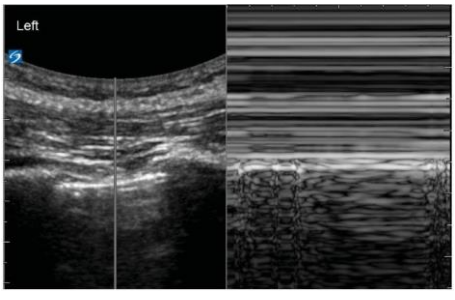
Subcostal - ensure most dependant / posterior pericardium visualised.



Least dependant area of the chest / Lungs:

Cineloop and/or M mode demonstrating pleural slide:





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WHICH images to save: AAA

ACEM protocol for NORMAL aorta:

- Minimum 3 transverse and 1 longitudinal images.
- Measurements: If normal, only one measurement in transverse and one longitudinal measurement, ideally taken at the same level and as proximal as possible (as this is where it is the widest).

If ANEURYSM is present:

- Minimum 1 transverse image and 1 longitudinal images.
- Take multiple images/clips to demonstrate its position/size.
- Measure an aneurysm's largest diameter from anterior to posterior, outer wall to outer wall, both in transverse and longitudinal.

Example acceptable image set (negative)

And/Or

Some aortas can be difficult to visualise and may need a few measurements

TIPS

- Perform a scout scan first, then go back and take images / measurements.
- Ensure you're at 90° to Aorta = bright & echogenic walls.
- The scan can rule out AAA, but it CAN'T rule out rupture.
- Side to side (transverse) versus AP measurement?
  Side to side is prone to edge artefact, less accurate.
- Don't press too hard if AAA - risk of rupture/bleeding,
  can distort AP measurement of AAA.

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WHICH clips to save: FELS

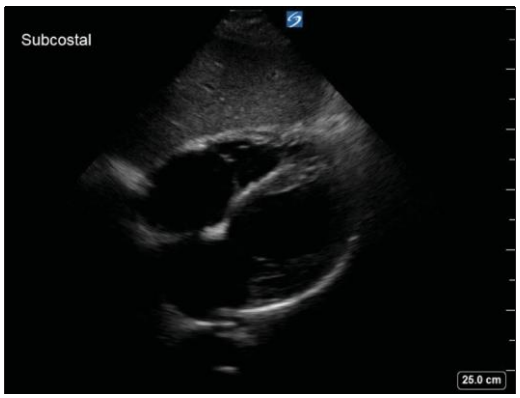
Directed towards following the cardiac arrest/peri arrest scenario. Views may include subcostal, parasternal long axis, parasternal short axis, apical 4 chamber, and will be dictated by the clinical scenario and patient factors. It is recognised that in many patients, not all views will be of good quality. In addition, some echocardiographic windows may be inaccessible due to other factors such as contemporaneous procedures (e.g. CPR).

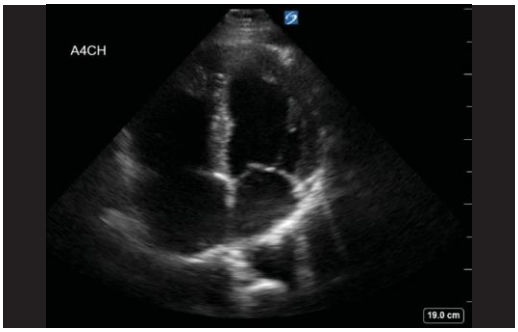
Information to be obtained in the arrest/haemodynamic compromise setting:

- Detection of pericardial effusion.
- Assessment of left ventricular (LV) size and systolic function (as a 2D qualitative assessment).
- Assessment of right ventricular (RV) size and systolic function.
- Gross estimate of fluid status (may require integration with other imaging e.g. lung/IVC).

The above findings are integrated with other clinical information, to consider causes of haemodynamic instability, for example hypovolemia, cardiogenic shock, tamponade, massive pulmonary embolism. Notably this examination is not comprehensive and does not evaluate valves, spectral doppler or diastolic function. It should not be used in lieu of comprehensive echocardiography, where clinically indicated.

Example acceptable image set (cineloops)





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WHICH clips to save: Lung

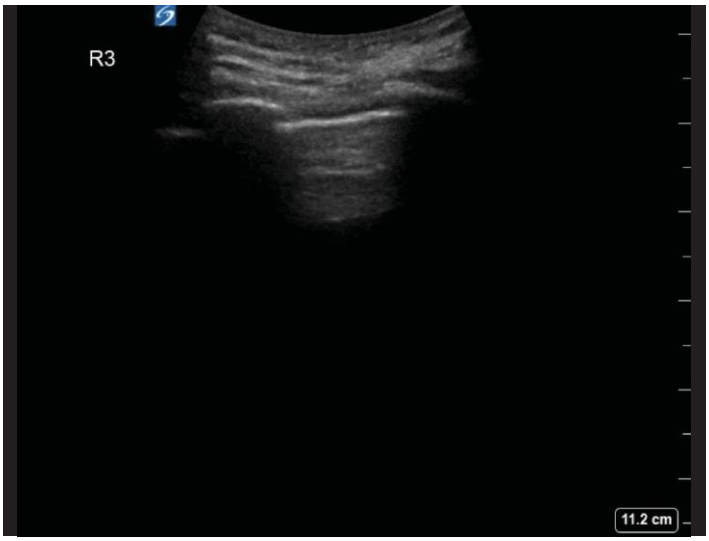
Lung scan

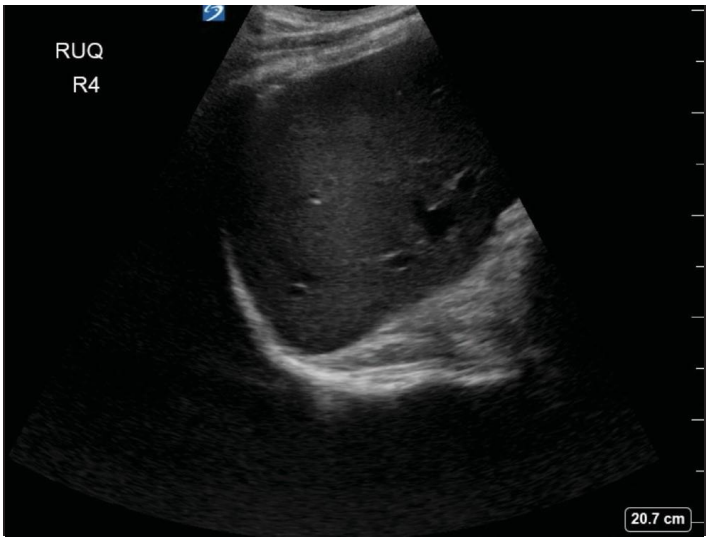
A scan that includes labelled loops or images (if cineloop not available or data an issue) of **both** sides of the thorax.

Minimum records will be dependent upon the pathology that is being demonstrated but would usually include two to four zones bilaterally. These should be labelled as per local protocol.

Example acceptable image set (cineloops) for right side - repeat same for left.

(Please note that the views recorded are patient and situation dependent. Exactly which lung scanning protocol you use will be decided on by each individual clinical case and local lung scanning protocols. This is a commonly used protocol but will need to be extended or adjusted if you are looking for more lateral/posterior pathology.)





Australasian College for Emergency Medicine
34 Jeffcott St
West Melbourne VIC 3003
Australia

t +61 3 9320 0444
e policy@acem.org.au

acem.org.au

Emergency Medicine Ultrasound Group Australia
Level 2, 431 St Kilda Road
Melbourne VIC 3004
Australia

e central@emugs.org

emugs.org