



CSOP 031 – Ultrasound

Version No: 1.0

Effective date: 26/04/2021

APPROVALS

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Next Review Date:	April 2023		

HISTORY

Effective Date	Version No.	Summary of Amendment
April 2020	1.0	New SOP Amendments to location of equipment, and SOP phrasing.
April 2021	1.1	Introduction of pneumothorax and traumatic tamponade indications. Update on training & COVID implications. Reference to iPad vs iPhone use, and introduction of Best Practice POCUS governance statement.

REFERENCES

Document Reference Number	Document Title
1	European Resuscitation Council Guidelines 2021
2	Best practice statement on recording and storage of point-of-care ultrasound examinations (BMUS Council)



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DEFINITIONS/ACRONYMS:

Abbreviations/Acronym	Definitions
TAAS	The Air Ambulance Service
SOP	Standard Operating Procedure
CSOP	Clinical Standard Operating Procedure
HEMS	Helicopter Emergency Medical Service

ANNEX/APPENDIX

Document Reference Number	Document Title
Appendix 1	Specific clinical questions from the Standard Modalities
Appendix 2	Training

1. Purpose

This SOP defines the use of medical ultrasound at TAAS. Pre-hospital ultrasound has the potential to bring benefit to selected patients, accepting there's some controversy as to its clinical significance, and potential to prolong scene times if used indiscriminately.

2. Scope

All aspects of ultrasound indication, training and governance are discussed. The details of how to undertake a focused ultrasound assessment of a patient is beyond the scope of this SOP.

3. Equipment

The Butterfly iQ ultrasound scanner is used by TAAS. Further information is available at <https://www.butterflynetwork.com/>





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The scanner and ultrasound gel are stored in a protective Pelicase, in the lower front pocket of the secondary bag. The TAAS iPad, which forms part of the ultrasound system must also be carried to scene by the duty crew. Duty crews should ensure that both the scanner and the iPad are charged as necessary as part of daily checks.

The ultrasound should be used with the iPad as the display interface whenever possible. Base iPhones have the Butterfly application installed for emergency use only.

4. Indications for use of ultrasound

Use of ultrasound is at the discretion of the clinician treating the patient. Factors that could be taken into account include clinician experience with ultrasound, technical factors relating to the patient/environment, and the potential for the scan to guide treatment.

Use of ultrasound for the clinical applications stated in the Royal College of Emergency Medicine Level 1 system is supported by TAAS and will be explicitly covered in training (Appendix 2) and governance.

Clinical Applications:

1. Focused Echocardiography in Life Support
2. Extended Focused Assessment with Sonography in Trauma (eFAST)
3. Ultrasound guided vascular access
4. Assessment of the Abdominal Aorta for Aneurysm

These are discussed further in Appendix 1.

5. Other indications

Other indications are acceptable at the discretion the operator with suitable training and experience. For example, the assessment of undifferentiated shock states, volume status, endotracheal tube position verification, front of neck access landmarking , peripheral nerve blocks and assessment of cardiac output in the severely hypothermic patient. It is appreciated that many colleagues have significant experience in these and other more advanced ultrasound studies.



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Any use outside the standard clinical applications above should be discussed at M&M. The operator needs to accept any scanning outside of standard indications bring additional responsibility, as these will not be explicitly covered by TAAS training and governance.

6. Training

All clinicians using ultrasound should be qualified and experienced in its use. The basic standard is RCEM level 1 or equivalent. Colleagues can judge their level of training and/or equivalence themselves. If guidance is required, this can be sought from a deputy clinical lead. TAAS intends to train our HEMS paramedics to this standard (Appendix 2). Additional ultrasound training opportunities relevant to our clinical context, will be provided as practice develops.

7. Governance

All images/clips should be saved to the scanner and uploaded to the Butterfly network cloud based encrypted storage system. This upload should only occur once safely on the ground and not in-flight to avoid interference with the aircraft systems. All uploads should be saved to the cloud with both the TAASbase database number, and the patients name (if known) or unique identifier.

Cases will be stored for a minimum of 5 years. The use of ultrasound should be reviewed at the next M&M, to facilitate learning throughout the organisation.

BMUS best practice states that all imaging, with the exception of training scans, should be recorded. Reports must include at least: Time, date, location, practitioner name and grade, clinical area (e.g. pelvis, lung or FAST), outcome, complications if any, and subsequent action/recommendation. These details should be recorded on the TAASbase entry, currently by addition of a note to the finalised case. A future development of TAASbase will include a pre-populated section to capture this data which will appear when the use of ultrasound has been indicated.

If hospitals request access to images, this should be facilitated via the usual formal system of sharing patient information. Images must not be transferred without formal request and approval via the airbase manager

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