Victorian Heart Hospital Focused Echocardiography in Life support (FELS)

Purpose of Document

This document describes credentialing Emergency Physicians and Australian College of Emergency Medicine (ACEM) trainees working at the Victorian Heart Hospital (VHH) to perform limited echocardiography.

This document should be read in conjunction with Australian College of Emergency Medicine (ACEM) documents:

- Number G25, October 2021, version 9: Ultrasound Education Programs
- Number P21, July 2022, version 6: Policy on the use of Focused Ultrasound in Emergency Medicine
- Number P733, August 2023, version 6: Credentialing for emergency medicine ultrasonography
- Number COR742, August 2023, version 6: Provision of focused ultrasound training and governance.

Summary

The use of ultrasound has evolved over the last 25 years into a crucial first-line test for the cardiac evaluation of symptomatic patients. The advancements in ultrasound machine technology and the incorporation of updated educational curriculum in residency training programs have streamlined the integration of focused cardiac ultrasound into specialised practices. In the specialty of emergency medicine, FELS has become a fundamental tool to expedite the diagnostic evaluation of the patient at the bedside and to initiate urgent treatment and triage decisions by the Emergency Department (ED) physicians (1).

ACEM supports the use of FELS in ED with ultrasound imaging being shown to enhance the clinician's ability to assess and manage patients with a variety of acute illnesses and injuries leading to improved patient outcomes.

The Victorian Heart Hospital (VHH) is Victoria's premier cardiology service. As such, VHH ED physicians are encouraged to include FELS in their normal practice in its extended Limited Echocardiographic scope.

Definitions

Focused echocardiogram: used in specific clinical settings to recognise a narrow list of potential diagnoses. These examinations may have lower requirements for training and equipment and can be performed more quickly.

Limited echocardiogram: an echocardiogram is performed using the skill and equipment suitable for a comprehensive scan but does not use the full protocol of a comprehensive examination.

Comprehensive: following a recognised protocol to obtain high-quality images interpreted by a physician with advanced ultrasound training. It would usually be associated with a comprehensive report (1)

Structure of the VHH ED Limited Echocardiography training program

Completion of FELS training (Module 1) is mandatory for all VHH ED medical personnel, while Modules 2 and 3 are optional. By successfully completing all three modules, medical staff can attain credentialing in limited echocardiography.

Module 1

FELS Training program

1. Introductory course
    a. Recognition of prior learning (RPL)
2. Skill development
3. Assessment/credentialing
4. Auditing
5. Skill maintenance

Module 2

- Additional imagining views and interpretation

Module 3

- Colour Doppler

Module 1 – Basic program FELS training

Completion and credentialing for eFAST is highly recommended prior to commencing this program.

Introductory course

A one-day introductory course is required prior to commencing the skills development component of FELS training. Pre-reading and completion of an online physics module will be necessary before starting this course. Details for these requirements will be provided.

The introductory course will include didactic presentation of machine and ultrasound probe orientation (knobology), FELS protocol familiarisation, integration and basic interpretation of ultrasound image findings as well as hands on training on a model and or ultrasound simulator.

Recognition of Previous Learning (RPL)

MH acknowledges introductory courses conducted by external training organisations. If a physician provides evidence of introductory course completion within the past two years, they might qualify for RPL. In such cases, they would need to fulfill credentialing requirements by undertaking 25 scans and completing two summative assessments, as outlined in Appendix 4.

Similarly, external graduate certificates and diplomas may also be subject to RPL consideration. Physicians may need to complete five scans alongside a summative assessment. Regardless of whether it pertains to RPL for introductory courses or the overall credentialing process, it's crucial that all physicians comply with skill maintenance stipulations.

Skill development

After completing the introductory course, the development of ultrasound scanning skills are further developed through bedside one-on-one training sessions with the sonographer educators or ED faculty[#]. During these sessions a minimum of five scans must be completed. Additionally, physicians are expected to engage self-directed learning, including viewing FELS learning tools, studying cases, reading journals and utilising other online resources. Refer to Appendix 1 for recommendations and targets regarding FELS training timelines.

**Please note that if there are three cancellations of one-on-one sessions without reasonable notice, physicians will need approval from ED governance to re-enter the program.*

[#]ED faculty members approved by governance

During the skill development phase, physicians must perform a minimum of 25 examinations, with at least 5 of these being clinically indicated (e.g., must include at least two cases each of tamponade, right heart failure or massive PE, hypovolemia or distributive shock and left ventricular failure). All FELS images should be stored in an image storage system and reviewed by the sonographer educator (this

may be done retrospectively using recorded images or loops). Findings should be compared with clinical data, and accuracy noted.

Documentation of findings for ALL examinations MUST be completed on the patients Electronic Medical Record (EMR) under the adhoc tab (refer to Appendix 6). A scan is only considered valid if the physician is the person performing the scan and multiple entries of the same patient in the same episode of care by that physician are not counted towards the total numbers.

To ensure understanding of normal and abnormal echo appearances, physicians should interpret an additional 25 examinations prepared by the sonographer educator. This interpretation may occur as part of practical supervision or as a separate component, such as online image interpretation.

During this training and skills development stage, physicians will receive support and feedback as needed.

Assessment/credentialing

Following the skills development phase, physicians should demonstrate proficiency in both image acquisition and interpretation (refer to Appendices 2 and 3). Assessments are essential for skill development, offering valuable feedback to both learners and trainers and highlighting areas for improvement. During FELS training, it's advised to undergo at least one formative and two summative assessments.

Successful credentialing in FELS requires completing two in-person, practical summative assessments (refer to Appendix 7), conducted by either a sonographer educator or ED faculty. There is no limit on the number of attempts for summative assessments.

Upon completion of 25 scans and 2 summative assessments, physicians become credentialed to perform FELS at MH.

Auditing

Auditing is conducted and data maintained by the PoCUS sonographer educator with quarterly audit reports provided to the ED Governance committee. Auditing consists of assessing clinician scans using a simple system (see below) evaluating the technical adequacy and diagnostic accuracy of the scan, concerning correlative imaging, surgical or clinical findings where available.

eLOGBOOK QUALITY AUDIT - FEEDBACK	
3	Good scan, minor technical errors at least 3 images of diagnostic quality
2	Moderate technical errors - gains, focal zone and depth but no misdiagnosis 2 or less images of diagnostic quality
A	Extensive technical errors rendering the scan non-diagnostic OR suboptimal imaging due to patient body habitus/status
1	False negative
0	False positive

Audit results and comments for clinician feedback will be provided in personal eLogbook's maintained for clinicians. A minimum 25 FELS examinations will be audited until a clinician achieves MH credentialing in FELS.

Auditing will continue at a reduced capacity during the skills maintenance phase.

Skills Maintenance

1. After receiving MH credentialing, the physician can perform FELS scans within MH. To maintain MH credentials, they are required to:
2. Perform and log a minimum of 25 FELS scans annually (no required number of positives after credentialed). A random audit of a minimum of 10 scans per annum will be conducted, with feedback provided where required, to ensure the maintenance of skill and quality.
3. Undertake 3 hours of ultrasound education annually. A one-hour session with a sonographer educator to receive ongoing feedback through review of their own logged cases, audit scores and practical scanning is highly recommended.

Module 2 – Advance imaging and interpretation

Once credentialed in Module 1, FELS VHH ED Physicians can progress to advanced imaging. This involves incorporating additional images and measurements (see Appendixes 2 and 4) into the FELS scan, as well as advancing their understanding of interpretations, such as regional wall motion abnormalities. The additional images include apical 2 chamber, apical 3 chamber, ascending aorta and tricuspid annular plane excursion (TAPSE) measurement.

A minimum of five scans must be completed during a one-on-one training session before conducting advance scans independently. A further 10 scans with EMR documentation are required before advancing to module 3.

Module 3 – Colour Doppler

After completing Module 2, VHH ED Physicians can advance to adding colour Doppler imaging and assessment of the aortic and mitral into their protocol. A minimum of 15 scans must be completed during a one-on-one training session before conducting advance scans with colour Doppler independently.

At this stage of the training, clinicians will have the capability to execute a limited echocardiography protocol (refer to Appendixes 2 and 5). This includes FELS, apical 2 chamber, apical 3 chamber, ascending aorta measurement, TAPSE and colour Doppler assessments across the aortic and mitral.

Clinicians should demonstrate competence in image acquisition (refer to Appendix 5) and record adequate limit echocardiography series of images as described in examination protocols**.** All images will be transferred to an image storage system. Documentation of findings for ALL examinations MUST be completed on the patients Electronic Medical Record (EMR) under the adhoc tab (refer 2 Appendix 6).

Additionally, the clinician should showcase expertise in understanding normal anatomy and advanced interpretations of images. This demonstration may occur either as part of practical supervision or as a separate component, such as online image interpretation.

Clinicians will be provided with support and feedback during this training and skills development stage as required.

Successful credentialing in modules 2 and 3 requires a minimum of 25 VHH limited echocardiography scans and completing two in-person, practical summative assessments (refer to Appendix 8), conducted by either a sonographer educator or ED faculty. There is no limit on the number of attempts for summative assessments.

Upon completion of 25 scans and 2 summative assessments, physicians become credentialed to perform limited echocardiography at VHH/MH.

Appendix 1

Cardiac FELS training timeline recommendations/targets

This document is intended to be used as a reference guide only. Learners will vary in training and learning characteristics and timelines should be adapted to individuals as required.

Introductory course

- Book in first 1-on-1 training in the introductory course

Skills development and Assessments

1 month – 1-2 sessions of 1-on-1 training

- Knobology
- Patient positioning
- Protocol review
- Demonstration before scan if needed
- 1-2 scans per session

1-3 months – 3 sessions of 1-on-1 training onwards

- Demonstration usually not required
- Reinforce probe movements
- Encourage independent practise
- 3 scans per session

3 months – ~10-15 scans

- Formative assessment to assess independent scanning
- Schedule "Echo Interpretation" session

3-6 months – ~20-25 scans

- Independent practise
- Focus on clinical application and pathology assessment
- +/- formative assessment

6 months – ~25-30 scans

- Auditing review
- Summative assessment

Eligible VHH ED trainees may elect to proceed to Module 2 post credentialing in FELS

Post credentialing

3 – 6 months

- Remind of maintenance requirements, updated auditing feedback

9-12 months

- Review status of maintenance requirements, updated auditing feedback

Appendix 2

Module 1, 2 and 3 Training & Evaluation

*Indicates steps additional steps for modules 2 and 3

A competent VHH ED physician is expected to adhere to the following steps:

System Set-up

- Turn machine on, enter patient UR, surname & Dr initials
- Select the correct transducer
- Select Cardiac pre-set

Transducer Positioning

- The orientation of transducer and correlation with the image
- Demonstrates the ability to manipulate the transducer to achieve the required images (sliding, fanning, rocking, rotating)

Image optimisation

- Overall gain
- Time Gain Compression (TGC)
- Depth
- Frequency

Anatomy and Physiology

- Identification of normal cardiac anatomy
- Assessment of gross left ventricle (LV) and right ventricle (RV) function
- Assessment of RV size in relation to the LV
- Assessment of RV to aortic root to the left atrial ratio
- Recognition of the presence of fluid in the pericardium
- Differentiation between free fluid, thrombus and epicardial fat pad
- Recognition of any other gross cardiac abnormalities
- Recognition of pleural effusions and ascites

Recognition of artefacts and how to modify image accordingly:

- Increased attenuation of ultrasound beam due to patient habitus
- Patient movement or respiration
- Shadowing from ribs and air-filled bowel
- Artefacts from air-filled lung

Parasternal Long Axis (PLAX)

- The transducer in the left parasternal region at 3rd to 5th intercostal space oriented to right shoulder (10 o'clock position) depth should be adjusted as necessary
- Visualise the RV, LV, mitral valve (MV), aortic valve (AV), ascending aorta and left atrium (LA).
- Assess LV and RV size as a ratio to each other (LV 2/3 RV 1/3)
- Assess RV to aortic root to LA size ratio (roughly 1:1:1)
- Assess overall LV function: normal vs abnormal
- Identify pericardial effusion
- *Colour Doppler over the mitral and aortic valves
- *Slide up an intercostal space to assess ascending aorta
- Identify fluid in the pleural cavity

Parasternal Short Axis (PSAX)

- The transducer in the left parasternal region at 3rd to 5th intercostal space oriented to left shoulder (1 o'clock position), depth should be adjusted as necessary
- Aim to have the LV in the middle of the sector looking like a doughnut with the two papillary muscles visible in the LV cavity
- Assess overall ventricular function normal vs abnormal
- Assess the shape of the LV, round vs D shaped
- Assess for pericardial effusion
- Fan superiorly and identify MV, AoV and RV

Apical 4 Chamber

- Patient position left lateral if possible. Supine imaging can also be done, but it will be more challenging.
- Start low and lateral; the heart is "proud" in the chest wall so have a shallow angle on the chest wall
- The marker should be facing the between 2 and 3 o'clock, depth should be adjusted as necessary
- Demonstrate the left and right ventricles, atria and AV valves
- Assess overall ventricular function normal vs abnormal
- Assess LV and RV size as a ratio to each other
- *Assess the MV and AoV with colour Doppler
- Identify a pericardial effusion and right heart inversion if present

***Tricuspid Annular Plane Systolic Excursion (TAPSE)**

- From the apical 4 chamber view, rock the probe towards the RV, bringing the RV annulus more into the centre of the screen
- Zoom up onto the annulus

- Bring the cursor down onto the annulus
- Hit MM (m-mode)
- Freeze and measure a single continuous line from the lowest point (Diastole) to the highest point (Systole)

***Apical 2 Chamber view**

- Rotate the probe approximately 45 degrees anti-clockwise to between 12 and 1 o'clock, depth should be adjusted as necessary
- Elongate the LV as much as possible to open the LV and LA
- Assess LV function

***Apical 3 chamber/long axis view**

- Rotate the probe approximately 45 degrees anti-clockwise. The probe marker should be in the same orientation as the parasternal long-axis view at 10 o'clock depth should be adjusted as necessary
- Open the AV and LA – the image should appear like a parasternal long axis with the apex up.
- Assess LV function

Subcostal Long Axis

- Patient position preferably supine and no more than 30 degrees erect
- Probe marker pointing towards the patient left side (3 o'clock) place the probe over the liver and point to the heart, depth should be adjusted as necessary
- Obtain a four-chamber view maximising LV length and minimising RV foreshortening
- Observe any free fluid over the right atrium (RA), RV and LV
- Identify any 2D signs of RA and/or RV inversion
- Assess the size of the RV in relation to the LV
- Assess LV and RV function

Subcostal Short Axis at the level of the mid LV

- Rotate the transducer 90^{o} (12 o'clock) anti-clockwise keep the heart in the image
- Fan the transducer towards the left shoulder and obtain an LV short-axis image at the level of the papillary muscles
- Assess overall LV function
- Assess the shape of the LV as round versus D shaped

Inferior Vena Cava (IVC) longitudinal

- Maintaining the probe marker position (12 o'clock) fan the probe towards the patient's right shoulder. Identify the IVC entering the RA and traversing the liver

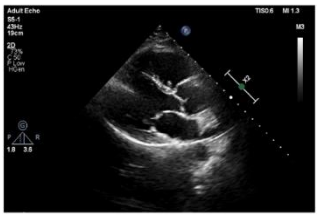
- Freeze image and use callipers to measure the diameter of the IVC before the mouth of the hepatic vein (>2.1cm dilated)
- On live imaging ask patient to sniff-in forcefully and assess the IVC for collapse.

Integration of results to management of the patient

- Recognise the limitations of a scan.
- Recognise patients requiring formal imaging assessment
- Incorporate ultrasound findings with the rest of the clinical assessment

Appendix 3 – Module 1 protocol

VHH ED Limited Echo Module 1



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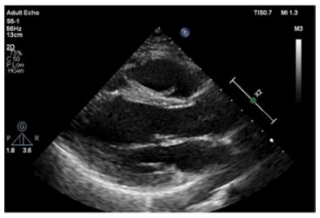

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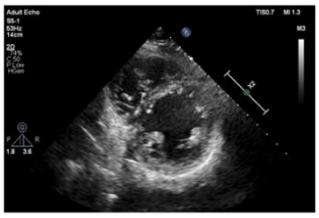

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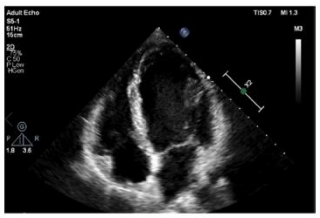
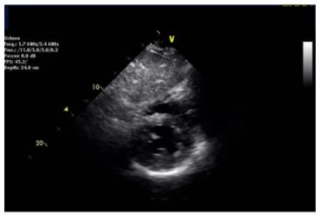


4. AP4

5. SUB LAX



6.SUB SAX

7.SUB IVC

Appendix 4 Module 2 protocol

VHH ED Limited Echo Module 2

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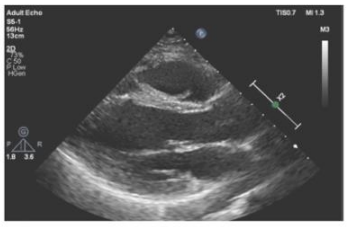

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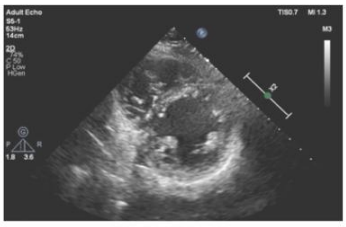
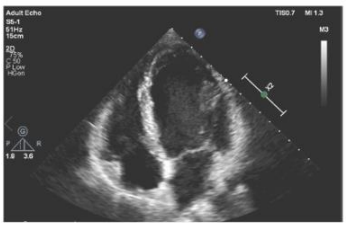


3. PSAX mid LV



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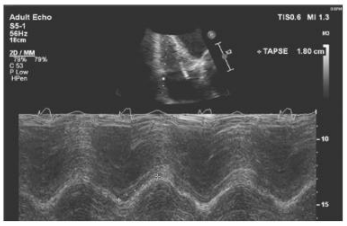

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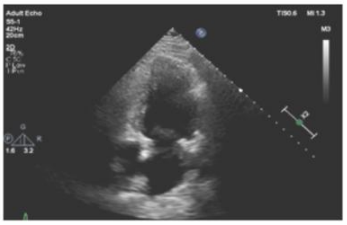

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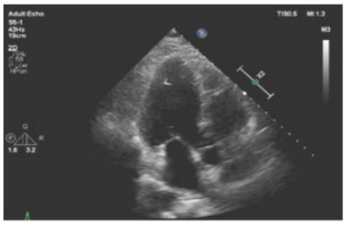

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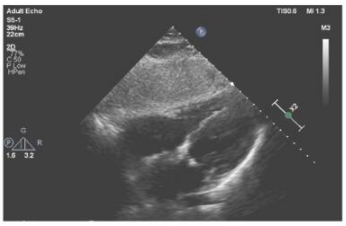

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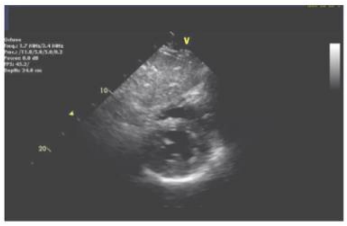

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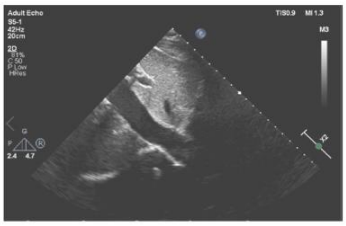
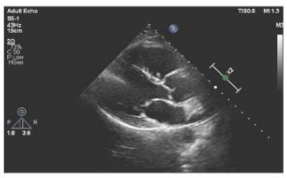


9. SUB IVC

Appendix 5 – Module 3 protocol

VHH ED Limited Echo Module 3



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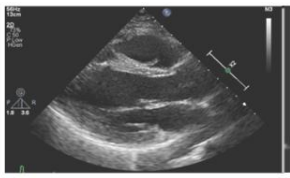

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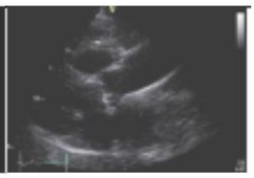
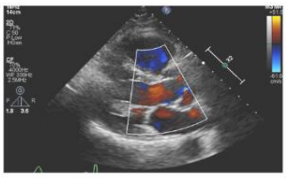
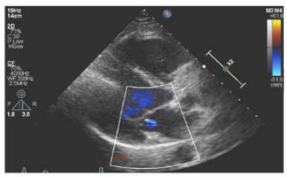


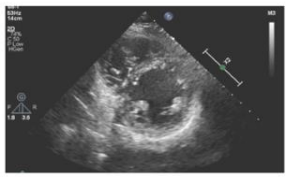
3. PLAX Asc Ao



4. PLAX AoV Colour



5. .PLAX MV Colour



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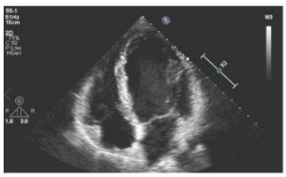

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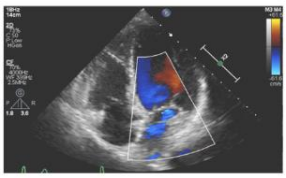

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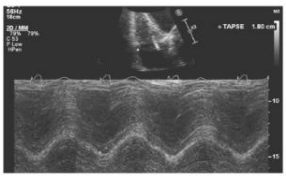

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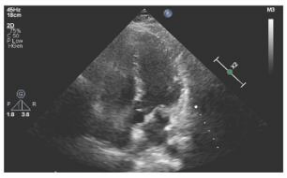

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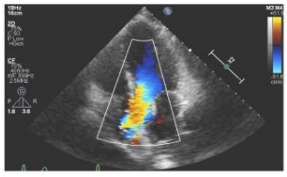
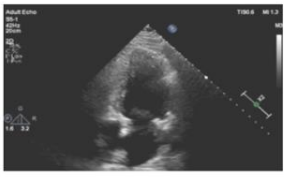


11.. AP5 Colour



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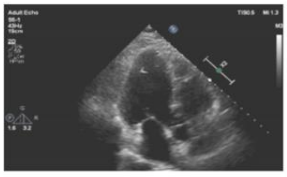

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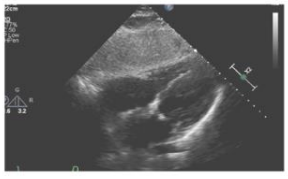
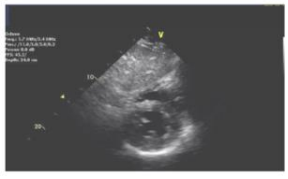
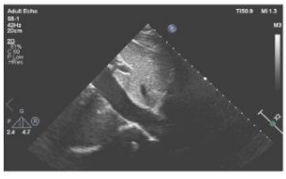


14. SUB LAX

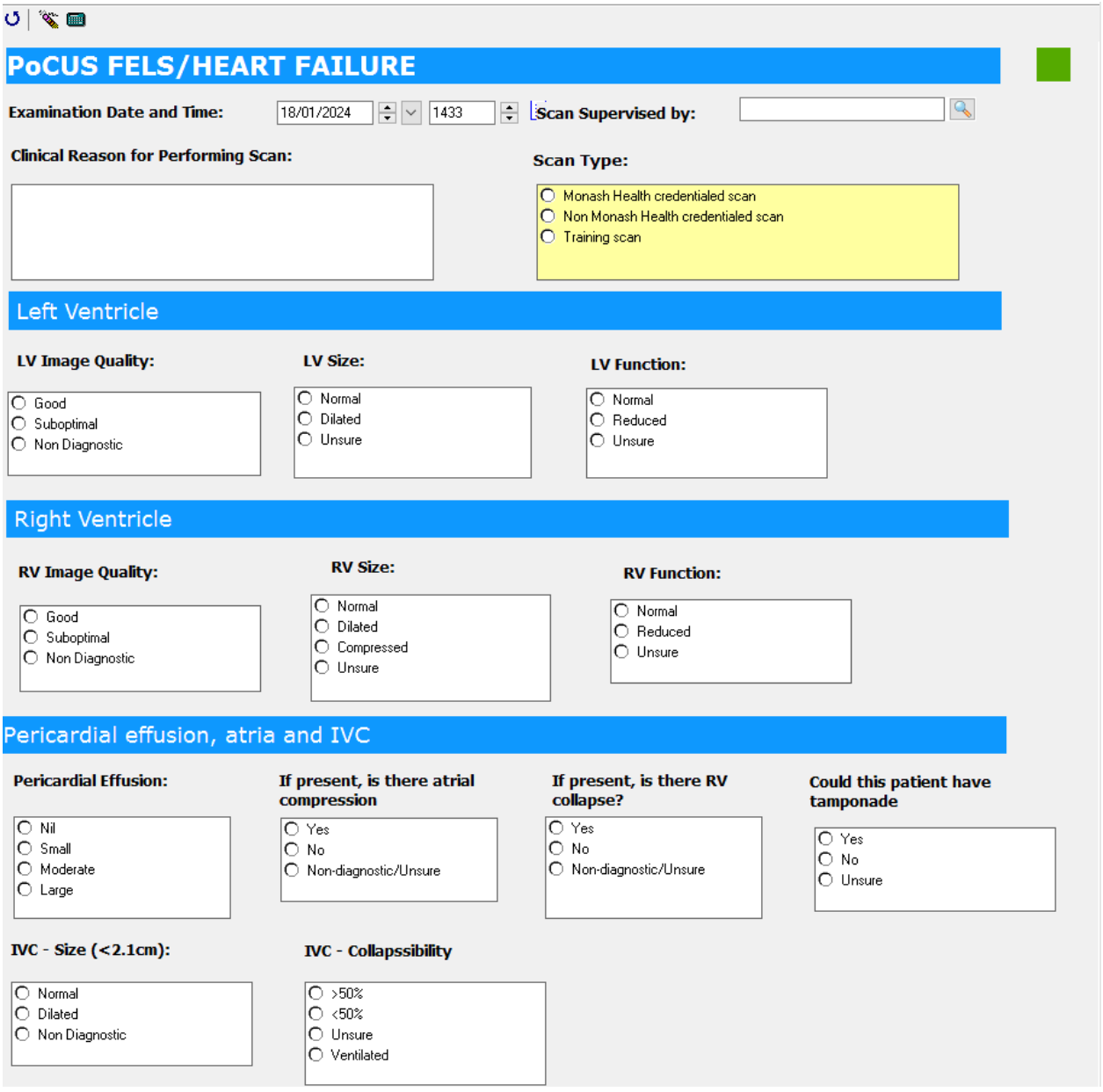


15. .SUB SAX



16. SUB IVC

Appendix 6 EMR form



PoCUS FELS/HEART FAILURE

Examination Date and Time: 18/01/2024 1433 **Scan Supervised by:**

Clinical Reason for Performing Scan:

Scan Type:
- Monash Health credentialed scan
- Non Monash Health credentialed scan
- Training scan

Left Ventricle

LV Image Quality:
- Good
- Suboptimal
- Non Diagnostic

LV Size:
- Normal
- Dilated
- Unsure

LV Function:
- Normal
- Reduced
- Unsure

Right Ventricle

RV Image Quality:
- Good
- Suboptimal
- Non Diagnostic

RV Size:
- Normal
- Dilated
- Compressed
- Unsure

RV Function:
- Normal
- Reduced
- Unsure

Pericardial effusion, atria and IVC

Pericardial Effusion:
- Nil
- Small
- Moderate
- Large

If present, is there atrial compression
- Yes
- No
- Non-diagnostic/Unsure

If present, is there RV collapse?
- Yes
- No
- Non-diagnostic/Unsure

Could this patient have tamponade
- Yes
- No
- Unsure

IVC - Size (<2.1cm):
- Normal
- Dilated
- Non Diagnostic

IVC - Collapssibility
- >50%
- <50%
- Unsure
- Ventilated

Appendix 7

Monash Health Practical Evaluation for FELS Credentialing

- **Name:**
- **Hospital:**
- **Assessor:**
- **Date:**
- **Start/finishing time:**

Evaluation

Completion in ≤ 15 minutes

Satisfactory or Non-satisfactory only

Any score of 0 = Non-satisfactory

Scores 1 or 2 = Satisfactory

2 levels of Pass scores are for feedback and to monitor areas for improvement

Explain Examination	**0** Incomplete or Misinformation	**1** Explanation Complete but Brief	**2** Full Explanation with Indication and Limitations
Patient and scanning environment setup Positioning patient, removing ECG dots, turning off lights.	**0** Not attempted	**1** Partial attempt of patient and environment setup	**2** Excellent patient and scanning environment setup
Entry of Patient Details, Selection of Transducer and Examination Presets	**0** Unable to complete task completely	**1** Task completed but with hesitancy	**2** Excellent knowledge of machine, accurate data input
Image optimisation (depth, gain, TGC, focus)	**0** Suboptimal image quality	**1** Optimises image but uncertainty in use of controls	**2** Optimises image appropriately with familiarity
PLAX – on axis LV and able to see Aortic root prox ascending Ao	**0** Incomplete demonstration	**1** Structures demonstrated but unsystematic approach	**2** Systematic approach in demonstrating all structures
PSAX – on axis doughnut shaped LV	**0** Incomplete demonstration	**1** Structures demonstrated but unsystematic approach	**2** Systematic approach in demonstrating all structures

Apical 4 Chamber	**0** Incomplete demonstration	**1** Structures demonstrated but unsystematic approach	**2** Systematic approach in demonstrating all structures
Subcostal View – Demonstration of heart in the 4 chamber view.	**0** Incomplete demonstration	**1** Structures demonstrated but unsystematic approach	**2** Systematic approach in demonstrating all structures
Subcostal View – Demonstration of heart in the subcostal short axis view.	**0** Incomplete demonstration	**1** Structures demonstrated but unsystematic approach	**2** Systematic approach in demonstrating all structures
Subcostal View – Pericardium including IVC sniff	**0** Incomplete demonstration	**1** Structures demonstrated but unsystematic approach	**2** Systematic approach in demonstrating all structures
Clean of gel, cover patient and turn on room light. Clean machine and probe thoroughly. Leave chords near and tangle free	**0** Not attempted	**1** Incomplete	**2** Complete
Interpretation and Documentation	**0** Absent/inappropriate documentation Incorrect interpretation	**1** Incomplete documentation Some inaccuracies without major errors in interpretation	**2** Systematic approach in documentation and accurate reporting

Result: Competent / Incompetent

Assessor/Signature/Date:

Appendix 8

Monash Health Practical Evaluation for Limited Echocardiography credentialing

- **Name:**
- **Hospital:**
- **Assessor:**
- **Date:**
- **Start/finishing time:**

Evaluation

Completion in ≤ 15 minutes

Satisfactory or Non-satisfactory only

Any score of 0 = Non-satisfactory

Scores 1 or 2 = Satisfactory

2 levels of Pass scores are for feedback and to monitor areas for improvement

Explain Examination	**0** Incomplete or Misinformation	**1** Explanation Complete but Brief	**2** Full Explanation with Indication and Limitations
Patient and scanning environment setup Positioning patient, removing ECG dots, turning off lights.	**0** Not attempted	**1** Partial attempt of patient and environment setup	**2** Excellent patient and scanning environment setup
Entry of Patient Details, Selection of Transducer and Examination Presets	**0** Unable to complete task completely	**1** Task completed but with hesitancy	**2** Excellent knowledge of machine, accurate data input
Image optimisation (depth, gain, TGC, focus)	**0** Suboptimal image quality	**1** Optimises image but uncertainty in use of controls	**2** Optimises image appropriately with familiarity
Colour optimisation (Box size, gain and scale)	**0** None / suboptimal colour optimisation	**1** Optimises colour but uncertainty in use of controls	**2** Optimises colour appropriately with familiarity
PLAX – on axis LV and able to see Aortic root prox ascending Ao	**0** Incomplete demonstration	**1** Structures demonstrated but unsystematic approach	**2** Systematic approach in demonstrating all structures
PLAX – Ascending Aorta	**0** Incomplete demonstration	**1** Structures demonstrated but unsystematic approach	**2** Systematic approach in demonstrating all structures

PLAX – Colour Doppler - AoV and MV	**0** Incomplete demonstration	**1** Colour Doppler demonstrated but unsystematic approach	**2** Systematic approach in demonstrating colour Doppler
PSAX – on axis doughnut shaped LV	**0** Incomplete demonstration	**1** Structures demonstrated but unsystematic approach	**2** Systematic approach in demonstrating all structures
Apical 4 Chamber	**0** Incomplete demonstration	**1** Structures demonstrated but unsystematic approach	**2** Systematic approach in demonstrating all structures
Apical 4 – Colour Doppler - MV	**0** Incomplete demonstration	**1** Colour Doppler demonstrated but unsystematic approach	**2** Systematic approach in demonstrating colour Doppler
TAPSE	**0** Inappropriate/ inaccurate imaging	**1** Measurement approach and result demonstrated with unsystematic approach	**2** Systematic approach in acquisition and measurement technique
Apical 5 chamber	**0** Incomplete demonstration	**1** Structures demonstrated but unsystematic approach	**2** Systematic approach in demonstrating all structures
Apical 5 – colour Doppler - AoV	**0** Incomplete demonstration	**1** Colour Doppler demonstrated but unsystematic approach	**2** Systematic approach in demonstrating colour Doppler
Apical 2 Chamber	**0** Inappropriate imaging	**1** Some inconsistency in imaging	**2** Consistently records correct images
Apical 3 Chamber	**0** Inappropriate imaging	**1** Some inconsistency in imaging	**2** Consistently records correct images

Subcostal View – Demonstration of heart in the 4 chamber view.	**0** Incomplete demonstration	**1** Structures demonstrated but unsystematic approach	**2** Systematic approach in demonstrating all structures
Subcostal View – Demonstration of heart in the subcostal short axis view.	**0** Incomplete demonstration	**1** Structures demonstrated but unsystematic approach	**2** Systematic approach in demonstrating all structures
Subcostal View – Pericardium including IVC sniff	**0** Incomplete demonstration	**1** Structures demonstrated but unsystematic approach	**2** Systematic approach in demonstrating all structures
Clean of gel, cover patient and turn on room light. Clean machine and probe thoroughly. Leave chords near and tangle free	**0** Not attempted	**1** Incomplete	**2** Complete
Interpretation and Documentation	**0** Absent/inappropriate documentation Incorrect interpretation	**1** Incomplete documentation Some inaccuracies without major errors in interpretation	**2** Systematic approach in documentation and accurate reporting
Comments:			

Result: Competent / Incompetent

Assessor/Signature/Date:

References:

1.Medicine ACfE. Guidelines for the Provision of Emergency Department Focused Ultrasound Training and Governance. COR742 https://acem.org.au/Content-Sources/Advancing-Emergency-Medicine/Emergency-Department-Ultrasound2021 [Available from: https://acem.org.au/Content-Sources/Advancing-Emergency-Medicine/Emergency-Department-Ultrasound.

2.Labovitz AJ, Noble VE, Bierig M, Goldstein SA, Jones R, Kort S, et al. Focused cardiac ultrasound in the emergent setting: a consensus statement of the American Society of Echocardiography and American College of Emergency Physicians. J Am Soc Echocardiogr. 2010;23(12):1225-30.

3.Medicine ACfEM. The use of focused ultrasound in emergency medicine. In: edicine ACfEM, editor. https://acemorgau/getmedia/000b84ee-378f-4b65-a9a7-c174651c2542/Feb_16_P21_Use_of_Focussed_US_in_EMaspx. V5 ed2019.

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