Accreditation in Adult Level 1 (L1) Echocardiography Information Pack

This pack is for the use of all candidates undergoing the accreditation process and becomes effective as of

1st June 2024

This document supersedes all previous versions.

This document is a guide to completing BSE accreditation

Submission, assessment criteria and portal user guide are included

Contents

Welcome message from the Chair of Accreditation

Dear Candidate,

Welcome to the British Society of Echocardiography (BSE). Level 1 Echocardiography is designed to be accessible to echocardiography practitioners from a wide variety of backgrounds. Its ultimate aim is to achieve and maintain high standards of clinical echocardiography to rule out life-threatening and immediately reversible pathology in a time frame appropriate to the acute emergency patient.

Level 1 studies are not intended to fulfil the minimum BSE transthoracic echocardiography dataset; it is vital that the practitioner understands that Level I exists only within the umbrella of a supporting Level 2 service and that the knowledge of when to ask for Level II review is both key to safety and criteria for passing the accreditation process

The accreditation process is regulated to ensure high proficiency and professional standards. We aim to enable as many members as possible to achieve accreditation. A list of accredited members is maintained on the BSE website.

Please remember that we are here to support you throughout this process. If you need any assistance or have constructive feedback to offer the accreditation committee, please don't hesitate to let us know. We are committed to your success.

Good luck with your accreditation process.

Best wishes,

SBennett

Sadie Bennett

Chair, BSE Accreditation Committee

Introduction & aims

➢ Accreditation is a service for BSE members and is not a compulsory or regulatory certificate of competence or excellence.

- Accredited members are expected to be able to perform and report echocardiographic studies unsupervised.
- The Accreditation process consists of a written theory examination and a practical assessment. This pack provides further instructions for both.
- Accreditation is a minimum requirement and cannot be regarded as a guarantee of competence.
- Echocardiography skills can only be maintained by continued education and practical involvement in echocardiography. This is underlined by limiting accreditation to five years, after which re-accreditation must be sought. Further details surrounding re-accreditation are available on the BSE website.
- Accredited members are expected to uphold the BSE code of conduct standards. Where concerns about an accredited member's echocardiography practice arise, this should be dealt with locally in the first instance and should only be escalated to the Accreditation Chair if improvement in echocardiography practice has not been demonstrated.
- Return to practice routes for re-accreditation are not available for Level 1 re-accreditation.

Summary of process requirements

1. The candidate must be a member of the BSE.
2. Candidates must have a designated mentor to assist them through the accreditation process.
3. The accreditation process has one compulsory element: a practical assessment comprising three components: a logbook, a practical scanning assessment, and an image interpretation examination of echocardiographic findings relevant to a patient cohort of Level 1 accreditation.
4. The candidate must collect all logbook cases (within a 12-month timeframe) before registering to attend the practical assessment.

Any queries regarding the accreditation process should be addressed to the BSE Accreditation Department; contact details and registrations are available at www.bsecho.org.

Tel: 0208 065 5794 (lines open from 09:00-17:00 Mon-Fri), mail: accreditation@bsecho.org.

Exam fees
A fee of £67.50 is payable upon registration for the practical assessment. Candidates are entitled to one re-attempt at the practical assessment, which is subject to an additional fee of £67.50.

Fee increases may occur annually.

Extensions

Extensions to the 12-month deadline may be granted per the extensions policy. Extension request forms must be submitted before the submission deadline. Requests received after the case deadline may not be granted.

Less-than-full-time extensions are available for up to 12 months for candidates working less than full-time as stipulated by their contracted hours. Further information can be found on the BSE website's extension request page.

Appeals

Candidates can appeal the decision on a practical assessment result. Further information on applying for an appeal can be found on the practical assessment page of the BSE website.

Mentor

A mentor is an experienced echocardiographer who can successfully guide a candidate through the BSE level I accreditation process. The mentor must have one of the following accreditations to supervise a level I candidate:

➢ BSE ACCE or TTE level II
➢ BSE TOE if the supervisor has sufficient TTE skills to teach image acquisition
➢ BSE Level I with 12 months of experience post accreditation
➢ EACVI TTE
➢ EDEC
➢ Other qualifications will be considered by the BSE Level 1 committee on a case-by-case basis

The mentor should have a clear understanding of the accreditation process including the training syllabus (see Appendix 1) and all relevant assessment criteria (see remainder of this accreditation pack for more details).

The mentor must assess the candidate's ability to undertake a level I echocardiogram to a proficient level. Once a proficient level of ability is achieved, the mentor must complete the curriculum-based competency tool and the mentor statements. These can be accessed and completed via the online logbook portal. The curriculum-based competency tool can also be found in Appendix 2.

Candidates who cannot find a mentor should contact us; we will do our best to help them find a suitable mentor.

Practical assessment

The full training syllabus for this accreditation process is available in Appendix 1. A recommended reading list is available in Appendix 3

The practical assessments are held up to four times per year (subject to candidate demand). Dates, locations, and online registration instructions are announced on the practical assessment section of the BSE website.

The practical assessment has three parts:

1. A 75-case logbook (within a 12 month period)
2. Practical scanning assessment on a live volunteer (or a simulator)
3. An image interpretation examination on pathologies relevant to Level 1 studies.

All candidates will be required to attend the practical assessment within 18 months of starting the accreditation process (i.e. within six months of their case collection deadline).

Registration should **ONLY** be sought after collecting the logbook.

It is the candidate's responsibility to ensure they enter the correct information on registration forms (all online). Incorrect information will lead to a rejected registration.

Logbook submission

The logbook should demonstrate the candidate's ability to meet the competencies, as shown in Appendix 2. The specific case mix of the logbook is shown below.

- It should consist of 75 reports personally performed and reported by the candidate during the specified period of 12 months. There is no reduction in logbook numbers if the candidate holds another form of certification (e.g. FICE, FEEL, FATE).
- Level I accreditation is aimed at acutely unwell emergency patients. The logbook should reflect this with no more than 25 studies from non-acute or outpatient departmental studies to be included.
- The mandatory report format is seen in Appendix 4. BSE will not accept reports that are to TTE level II standard as these are not reflective of the scope of level I accreditation. Reports are to be uploaded and submitted via the BSE logbook portal. Please see the portal user guide in Appendix 5. Non-portal logbooks will not be accepted.
- Duplicate reports are not acceptable.

Please see Appendix 6 for full details of what is expected in reports and how the logbook is marked.

If the candidate has problems finding enough specific cases, this should be discussed with their mentor who may consider arranging the candidate to attend a nearby centre.

Competencies and mentor statements are to be completed via the BSE logbook portal.

The logbook should reflect the normal case-load of acutely unwell patients with the following constraints:

➢ At least 5 cases should be for impaired left ventricular systolic function
➢ At least 5 cases should be for impaired right ventricular systolic function

- ➢ At least 3 cases should be of aortic valve disease
- ➢ At least 3 cases should be of mitral valve disease
- ➢ At least 3 cases should be of tricuspid valve disease
- ➢ At least 3 cases should be for hypovolaemia
- ➢ At least 2 cases should be for pericardial effusions
- ➢ At least 1 case should be for aorta root dilatation
- ➢ A maximum of 20 cases should be for no significant abnormality

Other information regarding the logbook:

- All patient-identifiable data needs to be removed. This may require the manual removal of identifiable data. See Appendix 7.
- At least the final 50 cases should be reported primarily by the candidate, although they may be checked by another operator.
- The logbook should reflect unwell patients in an acute setting. Therefore, no more than 25 non-acute or departmental studies should be included. Please note that only the level I reporting template, as seen in Appendix 4, can be used for the logbook.
- Logbook reports should reflect the latest BSE guidance. Where local policy deviates from this, a supporting letter and current standing operating procedure from the departments echo lead stating local policy should be included. This should be submitted under the "optional supporting information" section on the BSE logbook portal.
- The department's echo lead completes the logbook's final sign-off / validation. Please see the portal user guide in Appendix 5.
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Practical scanning assessment

Consists of a candidate acquiring up to 10 different echocardiographic imaging views within 20 minutes. A real-life model or simulator may be used.

This part of the assessment is designed to assess a candidates practical scanning ability along with their ability to perform basic image optimisation.

All imaging views used in this assessment are taken from the minimum BSE level I echocardiography dataset.

A pass mark / trigger score of 83 is used. Once obtained, the candidate will be deemed successful at this part of the assessment process.

The candidate is not expected to be familiar with the equipment. The Assessor will alter equipment setting as directed by the candidate.

For full details of the practical scanning marking criteria, please see Appendix 8.

Image interpretation examination

It consists of an examination of the candidate's interpretation skills of pathologies relevant to the level I studies. See Appendix 9 for more details.

The candidate will be presented with a number of pathologies which the candidate will need to correctly interpret to pass.

The pass mark for the image interpretation station is 100%.

Candidates have 10 minutes to review all the images and write a report for each echocardiogram they are presented.

The following pathologies may be presented:

- Normal studies containing no abnormalities
- Hypovolaemia
- Severe aortic stenosis
- Significant aortic regurgitation
- Disrupted or dysfunctional mitral valve
- Disrupted or dysfunctional tricuspid valve
- Aortic root dilatation
- Left ventricular impairment
- Right ventricular impairment
- Pericardial effusion +/- signs of hemodynamic compromise

Practical assessment - outcomes and process for re-attempts (resubmissions)

A candidate will have two attempts at passing the practical assessment part of the accreditation process. A second attempt (referred to as resubmission) at the practical assessment is subject to a fee of £67.50.

- ➢ **If a candidate is successful** in all three parts of the practical assessment, the candidate will be awarded BSE accreditation and will join the accredited member list.
- ➢ **If a candidate is unsuccessful** in any of the three parts of the practical assessment, the candidate will be deemed unsuccessful at this first attempt. The candidate will be given constructive feedback to facilitate a re-attempt. The candidate may be requested to resubmit logbook reports. **These must be new reports / patient case studies**. A candidate is not permitted to resubmit previously assessed work under any circumstance.
- ➢ If a candidate fails the second attempt (resubmission), the accreditation process must start over with a new logbook within a 12 month period.

In the event of an unsuccessful attempt, the candidate is required to:

Attend another practical assessment and re-attempt **ONLY** the parts of the assessment that the candidate was unsuccessful at in the first attempt. The pass marks from the remaining practical

assessment elements will be upheld.

The timescale allowed for re-attempts (resubmissions) will depend on which elements were unsuccessful and the candidates' current and future work commitments. This will be discussed with the candidate during the first attempt. Typical timeframes may include 3-9 months and can be up to 12 months following the first attempt.

Our feedback consistently demonstrates that non-face-to-face feedback does not adequately equip a candidate to pass at the next sitting. Therefore, all re-attempts at the practical assessment require the candidate's attendance in person to facilitate adequate and helpful face-to-face feedback*

*We may authorise virtual or remote submissions, subject to committee approval.

Appendix 1: Training syllabus
The following sections form the minimum suggested training syllabus for this accreditation process.

Candidates should use this as a guide to prepare for the written and practical assessments of this accreditation process.

General Concepts

1. **The role of TTE in the emergency setting**

- Awareness of the potential for TTE to guide first-line management in the emergency setting
- Awareness of important pathology that can be missed by Level I TTE
- Appropriate action and inaction in relation to clinical findings
- Awareness of indications for immediate expert assistance
- Knowledge of the indications for Level I echocardiography in acutely unwell patients

1.1 Service Provision

- Awareness of the role of Level I echocardiography within the acute hospital service.
- Awareness of the role of Level I echocardiography within the parent service, including local mechanisms for immediate support and review.
- Awareness of equipment maintenance including infection control.

1.2 Professional relationships

- Awareness of providing patient explanation relevant to the clinical setting
- Awareness of maintaining professional interdepartmental relationships with colleagues

1.3 Reporting and Documentation

- Knowledge of standard report structure for Level I echocardiography
- Awareness of the distinction and importance of both a technical and clinical report
- Awareness of the Data Protection Act with respect to echocardiography reporting
- Awareness of the need for appropriate storage systems for Level I echocardiograms to facilitate immediate remote review, storage and audit.

2. **Imaging Physics & Instrumentation**

2.1 Ultrasound Transducers

- Knowledge of the piezo-electric effect

2.2 Imaging physics

- Knowledge of appropriate imaging frequencies in adults
- Knowledge of the effect of harmonics on imaging quality
- Knowledge of 2D mode and M Mode imaging methods

- Awareness of 'parallel processing' and influence on frame rate and image quality
- Knowledge of reverberation artefacts
- Knowledge of factors limiting detection of small targets

2.3   Echo Instrumentation

Knowledge of machine controls including:

- Depth, width focus
- Overall gain & compression
- Time gain compensation
- Lateral gain compensation
- Colour flow Doppler (box position, sizing, baseline and range)

2.4   Optimising Images
- Awareness of the importance of optimal patient positioning
- Appreciation of the importance of the use of echo gel and the relevant infection risk
- Knowledge of all standard Level I views
- Awareness of other standard TTE views (not Level I)
- Knowledge of optimisation of resolution: axial, lateral and temporal
- Knowledge of appropriate focus position (even if you have trained on a machine with automatic focus)

3.   Doppler

3.1   Principles of Doppler

- Knowledge of the generation of the Doppler effect by red blood cells and ultrasound waves
- Knowledge of the effect of beam angle errors on Doppler velocities
- Knowledge of the effect of aliasing when using colour Doppler
- Appreciation of the effect of packet size/colour mode/sector size on frame rate
- Knowledge of the colour display: 'BART' convention
- Knowledge of the use of colour maps to show velocity scales

4.   Cardiac Anatomy and Physiology

4.1   Anatomy of the thorax

- Knowledge of thoracic anatomy including vascular structures

4.2   Gross anatomy of the heart

- Knowledge of the nomenclature of the cardiac chambers and valves

- Knowledge of the relationships between the cardiac chambers, valves and blood vessels
- Knowledge of the pericardial reflections

4.3 Cardiac anatomy and physiology as demonstrated by echocardiography Knowledge of echocardiographic anatomy:

- Chambers
- Valves
- Great vessels
- Pericardium
- Inter-atrial septum

4.4. Coronary anatomy and relationship to LV function

- Knowledge of the anatomy of the major coronary arteries
- Knowledge of the derived regional blood supply to the cardiac walls
- Knowledge of the standard left ventricular wall nomenclature
- Knowledge of the appearance of normal and abnormal left ventricular systolic myocardial function, including large territory regional wall motion abnormalities

4.5 The Cardiac Cycle

- Knowledge of the temporal relationships of the ECG/chamber pressures/valve movements
- Knowledge of the relationship of valve movements to heart sounds
- Knowledge of the effect of spontaneous unsupported ventilation on the cardiac cycle

5. Cardiac functional measurements
5.1 2D and M-mode measurements

- Awareness of the effect of off-axis images on 2D and M-mode measurements
- Knowledge of normal range for:
- Awareness of the effect of off-axis images on 2D and M-mode measurements
- Knowledge of normal range for:

5.2 Methods for determining systolic function and cardiac work

- Knowledge of the visual qualitative differentiation between normal and impaired LV systolic function including the appearance of large regional wall motion abnormalities
- Awareness of the influence of volume status/vasoactive medication on the above

5.3 IVC

- Knowledge of the normal patterns of IVC movement with the respiratory cycle
- Knowledge of the effects of acute pathologies on the IVC
  - Hypovolaemia
  - Obstructive shock of any cause

6. Mitral valve
6.1 Normal Mitral Valve

- Knowledge of the 2D and colour Doppler characteristics of the normal mitral valve

6.2 Mitral stenosis

- Recognition of valvular calcification
- Recognition of restricted mitral valve leaflet opening

6.3 Mitral regurgitation

- **Recognition of:**
  - Mitral valve prolapse
  - Flail leaflet
  - Failure of leaflet coaptation
- **Assessment of severity**
  - Colour jet size in relation to LA

7. Aortic Valve

7.1 Normal aortic valve

- Knowledge of the 2D and colour Doppler characteristics of the normal aortic valve

7.2 Aortic stenosis

- Recognition of valvular calcification
- Recognition of restricted aortic valve leaflet opening

7.3 Aortic regurgitation

- Visual assessment of severity (distance travelled by colour jet in relation to LV cavity size)

7.4 Aortic root

- Visual assessment of aortic root size: either normal or larger than normal

8. Tricuspid valve

8.1 Normal Tricuspid Valve

- Knowledge of the 2D, and colour Doppler characteristics of the normal tricuspid valve

8.2 Tricuspid stenosis

- Recognition of valvular calcification
- Recognition of restricted tricuspid valve leaflet opening

8.3 Tricuspid regurgitation

- Visual assessment of severity (distance travelled by colour jet in relation to RA cavity size)

9. Myocardial ischaemia

9.1 Early post-infarction complications
- Recognition of post-infarction complications
  - LV dysfunction
  - Papillary muscle rupture and flail mitral valve leaflet
  - Free wall perforation and tamponade

10. Pericardial fluid

10.1 Echocardiographic features of pericardial fluid

- Recognition of a pericardial effusion as distinct to a pleural effusion
- Appreciation of the importance of speed of fluid accumulation rather than volume size

10.2 Features of tamponade

- Recognition of the progressive signs of cardiac tamponade
  - Collapse of the RA
  - Diastolic and then systolic collapse of the RV free-wall
  - Splinting of the IVC

11. Assessment of right heart

- Knowledge of pathological causes of acute right heart dysfunction
- Knowledge of RV size and functional assessment by
  - visual assessment
  - TAPSE

- Appreciation of the effect on septal motion of volume and pressure overload including:
  - 'D' deformity
  - paradoxical septal motion
  - Visual assessment of RV free wall thickness and its association with chronic increase in RV afterload

12. The post cardiac arrest patient

- Awareness of the technical considerations inherent in peri-arrest echocardiography
- Knowledge of the relationship between peri-arrest echo and the ALS algorithm
  Knowledge of the process and role of focused peri-arrest echocardiography in excluding:
    - Cardiac tamponade
    - Gross left ventricular overload and failure
    - Gross hypovolaemia
    - Massive pulmonary embolus
    - Gross RV impairment
- Limitations of the technique

13. **Findings/clinical settings in the critically ill which should trigger expert help**
- Echo windows insufficient to answer the clinical question
- Significant regional or global LV dysfunction
- Evidence of post myocardial infarction complications
- Mitral valvular dysfunction
    - 2D evidence of poor opening or other leaflet dysfunction
    - Significant colour flow Doppler jet
- Tricuspid valvular dysfunction
    - 2D evidence of poor opening or other leaflet dysfunction
    - Significant colour flow Doppler jet
- Aortic valvular dysfunction
    - 2D evidence of poor opening or other leaflet dysfunction
    - Significant colour flow Doppler jet

- Presence of pericardial fluid
- Any unexpected 2D finding, for example, intra-cardiac mass or a visually enlarged aortic root.

Appendix 2: Curriculum-based competency tool
The following competency assessment tool should be used to ensure all knowledge and practical experience are covered during the candidates' training period.

The competency tool is now required to be completed by the candidate's mentor via the BSE online logbook portal.

Principles of using Level I TTE	Date	Signed
Demonstrates theoretical knowledge of the role of TTE in the emergency patient		
Relays clinical findings to the critical care team in an appropriate and timely manner		
Demonstrates consistent and appropriate referral of echo findings requiring expert help as per Level I Echocardiography syllabus		
Imaging physics and instrumentation		
Demonstrates theoretical knowledge of ultrasound physics to allow full and accurate use of imaging equipment		
Knows how to and routinely optimise all images in accordance with this		
Doppler instrumentation		
Demonstrates accurate use of colour Doppler with attention to: Box size and position, gain setting, scale and baseline		
Anatomy and physiology		
Demonstrates knowledge of cardiac anatomy		
Measurements and calculation		
Measures 2D distances from point to point accurately		
Demonstrates accurate qualitative assessment of ventricular performance		
Demonstrates correct interpretation of chamber sizes and IVC behaviour for volume Assessment		
Myocardial infarction		
Recognises and assesses large territory regional wall motion abnormalities		
Knows and recognises complications of myocardial infarction correctly		
Valve pathologies		
Demonstrates assessment of the aortic and mitral valve structure		
Demonstrates accurate recognition of gross mitral valve pathology		
Demonstrates accurate recognition of gross tricuspid valve pathology		
Demonstrates accurate recognition of gross aortic valve pathology		
Pericardial disease		
Can recognise pericardial fluid as distinct from pleural fluid		

Visually recognises the progressive signs of cardiac tamponade in the non-ventilated Patient		

Right heart function		
Visually recognises a dilated right heart		
Visually recognises a hypertrophied right heart		
Recognises the PSAX features of pressure and volume overload of the right heart		
Other important pathology		
Recognises the 2D features of severe hypovolaemia		
Recognises an abnormally large aortic root		
Recognises the A4C shape and movement of inter-atrial septum and how this can reflect elevations in left and right atrial pressures		

Appendix 3: Reading list

The reading list is provided by the Accreditation Committee of the British Society of Echocardiography and represent only a handful textbooks that are available for candidate to learn from.

- ➢ Leeson P. (2012). Echocardiography (Oxford Specialist Handbooks in Cardiology). Oxford University Press.
- ➢ Colebourn C, Newton J. (2017). Acute and Critical Care Echocardiography. Oxford University Press.
- ➢ Kaddoura S. (2016). Echo made easy. Elsevier.

Protocols and the most up-to-date BSE guidelines are available under the Education tab of www.bsecho.org.

Please note that only fully subscribed BSE members are granted full access to all education and exam content.

Appendix 4: Logbook report format

The logbook should represent good examples of a candidate's daily workload in order to meet all competencies of this accreditation process.

The following document should be used for the purpose of documenting a level I study and should be used by the candidate for their logbook. The report is also available as a PDF and word document on the BSE website ()

All parts of the report should be completed.

For "Focused Findings" one option per row should be selected.

The 'Additional Findings' box should contain important findings that are not easily described within the "focused findings" section. These may include, but not limited to; intra cardiac masses and pacing wires.

The 'Conclusions' box should be used to highlight the most significant findings in the case and should answer the clinical question.

For 'Reviewer's comments' section must be completed for all reports with the exception of the sections for "Feedback for Image Acquisition" and "Feedback for Image Interpretation". It is not essential that these sections are completed for every level I study; however, candidates should be ensuring they have a record of the feedback they receive, and logbook assessors will expect to see feedback being documented here in a proportion of submitted reports.

Level 1 Echocardiogram Report		
Patient name:	MRN:	DOB:
Sonographer's name:	Date of scan:	Log #:

Age:		Sex:	Background and clinical question:
Location:			
Rhythm:		Rate:	
Systemic BP:		CVP:	
CVS support:			
Ventilation:			

Patient details

Focused findings
(select one option per row)

		LVIDd (mm):		TAPSE (mm):	
LV wall thickness	Normal	Abnormal			U/A
LV cavity size	Normal cavity size	Small	Dilated		U/A
LV systolic function	Normal or borderline low	Impaired	Severely impaired		U/A
RV wall thickness	Normal	Abnormal			U/A
RV cavity size	Normal	Small	Dilated		U/A
RV systolic function	Normal	Impaired			U/A
IAS position	Normal (mid-position)	Fixed from the left towards the right	Fixed from the right towards the left		U/A
Aortic root	Normal	Dilated			U/A
AoV morphology	Normal	Abnormal			U/A
AoV structure	Normal or mild thickening	Heavily thickened or calcified (unrestricted opening)	Heavily thickened or calcified (restricted opening)		U/A
AoV competence	Normal (no regurgitation)	Regurgitation present (not significant)	Significant regurgitation		U/A
MV structure	Normal or mild thickening	Heavily thickened or calcified (unrestricted opening)	Heavily thickened or calcified (restricted opening)		U/A
MV competence	Normal (no regurgitation)	Regurgitation present (not significant)	Significant regurgitation		U/A
TV structure	Normal or mild thickening	Heavily thickened or calcified (unrestricted opening)	Heavily thickened or calcified (restricted opening)		U/A
TV competence	Normal (no regurgitation)	Regurgitation present (not significant)	Significant regurgitation		U/A
IVC size	Normal IVC size	Small	Dilated		U/A
IVC variability	Normal variation with patient's respiration/ventilation	Excessive respiratory variation (collapse or distension)	Reduced respiratory variation (collapse or distension)		U/A
Pericardial fluid	Normal (none or physiological)	Small volume (and tamponade not suspected)	Significant volume (and/or tamponade suspected)		U/A
Right pleural fluid	Normal (no fluid)	Small volume	Significant volume		U/A
Left pleural fluid	Normal (no fluid)	Small volume	Significant volume		U/A

Appendix 7: BSE logbook portal user guidance

1. User Login Details:

British Society of Echocardiography

- o Request login details by emailing the accreditation team- accreditation@bsecho.org.
- o Provide your BSE ID number, the type of *accreditation you are pursuing.
- o Also, inform us of your mentor's name and email address- we will assign them to your logbook.
- o An automated message from the portal will be emailed to you with your login details.
- o Link to the portal: https://logbook-v2.bsecho.org/login

a. If you have forgotten your password, please click the link titled Forgot your password?

2. Update your profile

- Click on your name, then **'Profile'** to update your name, email and password.

Enter new password and click 'save.'

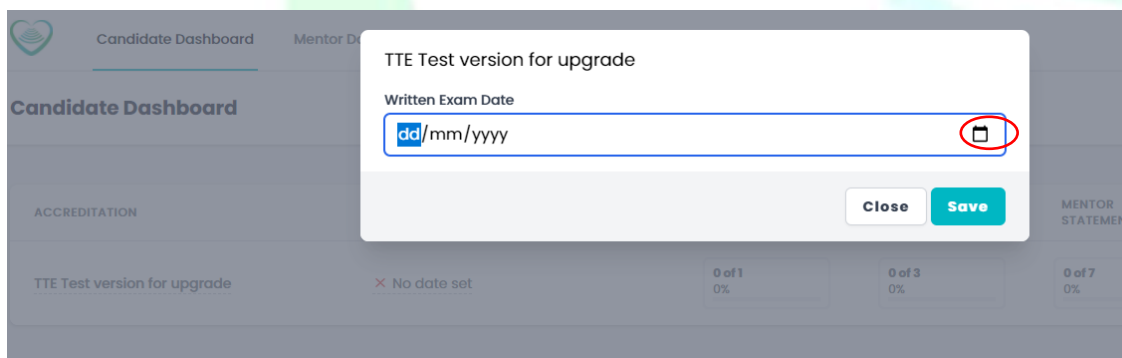### 3. User dashboard (e.g. Candidate, Mentor or Assessor)
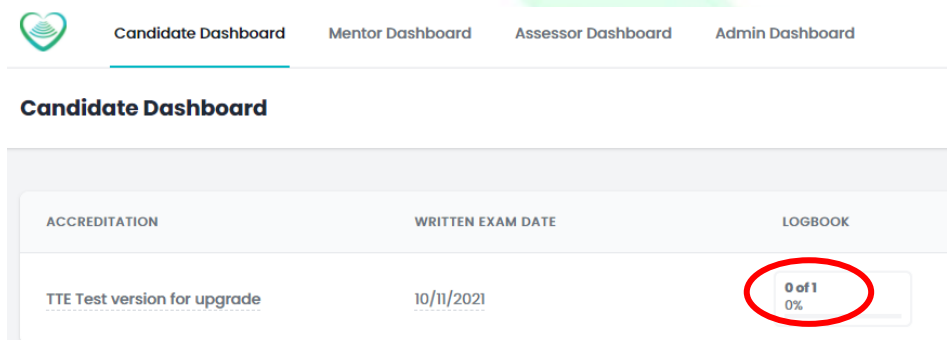
Click on the visible heading to access your dashboard
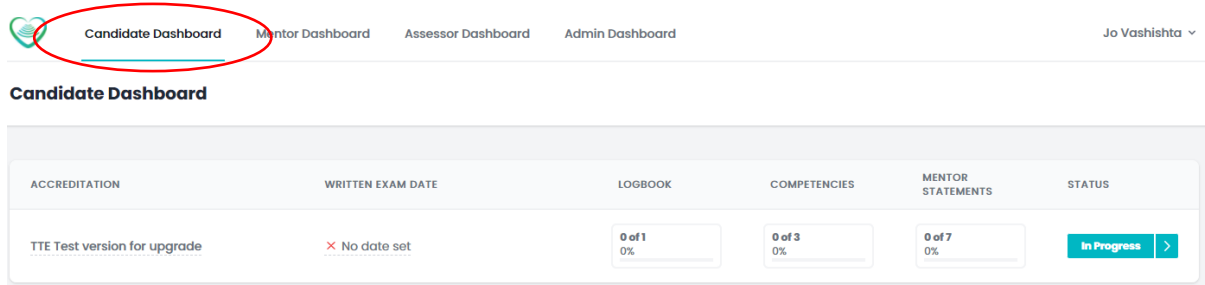
a. Enter Written Exam Date

Click on × No date set to bring up the calendar and select the date you sat the written exam.

Level 1 candidates should add the date they started the accreditation.
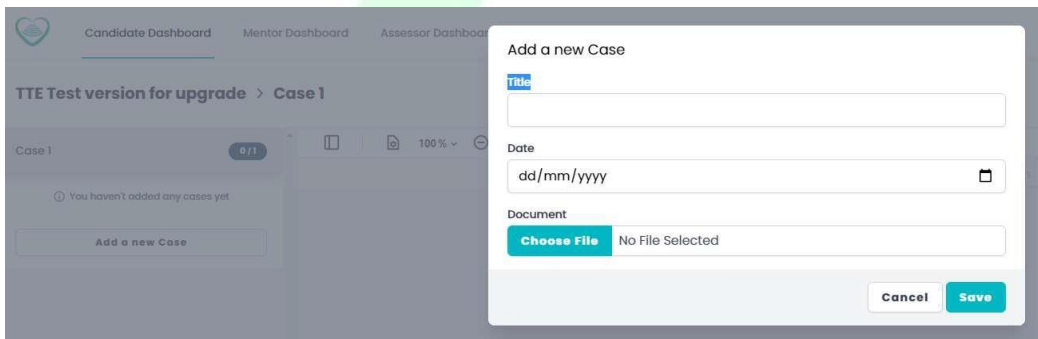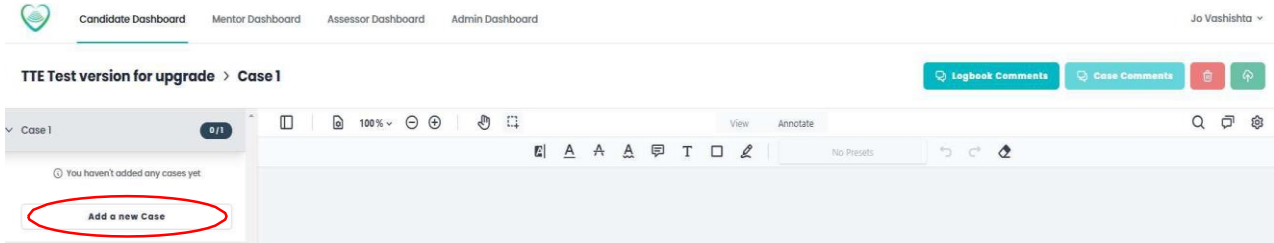

b. Click the box under the Logbook title to begin uploading PDF reports. The portal will take only PDF uploads.

To add a new case, click on 'Add a new Case', give it a Title, enter the date of the case and Choose File.
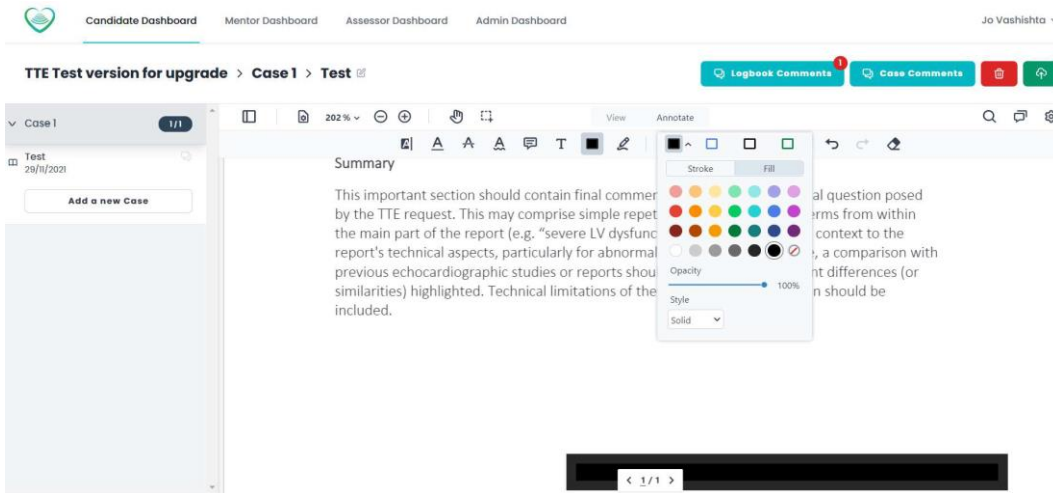

- Explore the features and tools by hovering over the icons to find what they can do.
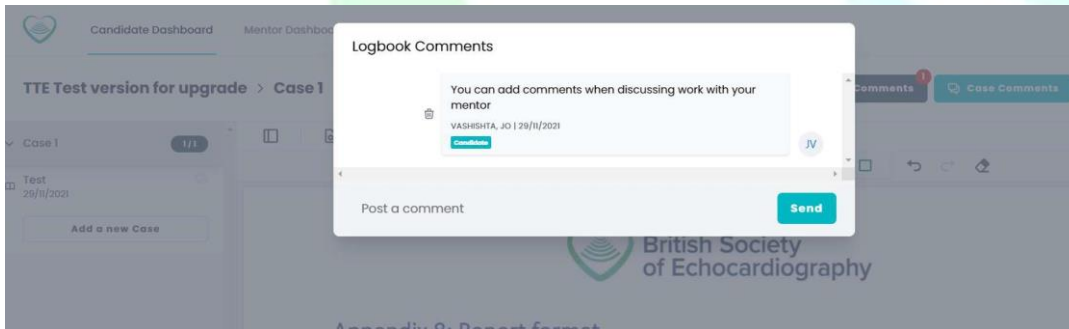- To **save** your work, click [save icon], to **delete** click [delete icon]

The 'Rectangle' tool allows masking over unwanted data. Click the Save button to keep the anonymise changes.
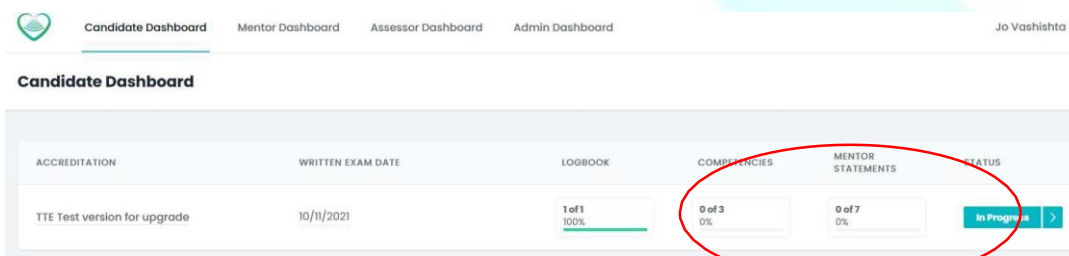

You can add a logbook or case comments to share with your mentor only.

4. Competencies

Your mentor will access your portal via their login and sign off each of the competencies. Candidate can view the progress in the dashboard.

a. Mentor view:

The mentor clicks the sections below the' DATE SIGNED OFF' header to sign off competencies by clicking on 'Sign off.'

TTE Test version for upgrade – Vashishta, Jo

COMPETENCY	SIGNED OFF BY	DATE SIGNED OFF
Received correctly		
1a. Basic Echocardiography – Knowledge		
a. Basic principles of ultrasound		Sign Off ✓
b. Basic principles of spectral Doppler	Vashishta, Jo	29/11/2021 ✕
c. Basic principles of colour flow Doppler	Vashishta, Jo	29/11/2021 ✕

When the mentor has completed the competency sign-off, they must do the same for the 'Mentor statement.'

1. I certify that the candidate has undergone a programme of training in echocardiography.	Vashishta, Jo	29/11/2021 ✕
2. I certify I have observed the candidate scanning and I am satisfied that he/she is competent at completing a full transthoracic echo study.	Vashishta, Jo	29/11/2021 ✕
3. I certify that the candidate has reached a standard of training to be able to independently perform and report a transthoracic echocardiographic study. He/she has reached all of the mandated competencies. I have signed off the candidate's competency sheet.	Vashishta, Jo	29/11/2021 ✕
4. I certify that the candidate above has performed and reported the cases included in the accompanying Log Book within a 24-month period (or the timeframe as agreed by the BSE).	Vashishta, Jo	29/11/2021 ✕
5. I certify that this is a demonstration of the logbook portal for testing purposes only and does not constitute BSE TTE accreditation and that this is understood by myself and the candidate.		Sign Off ✓

5. Candidate logbook submission

Candidates can check the progress of their logbooks in the dashboard by clicking the arrow after 'In Progress'.

Candidate Dashboard

ACCREDITATION	WRITTEN EXAM DATE	LOGBOOK	COMPETENCIES	MENTOR STATEMENTS	STATUS
TTE Test version for upgrade	10/11/2021	1 of 1 100%	3 of 3 100%	7 of 7 100%	In Progress >

a. Verify and submit

Check you have completed the requirement before clicking **'Continue.'**

b. Enter the Head of Department Email Address and click submit:

a. Contact accreditation@bsecho.org to inform you that you have entered your HOD's email address and clicked submit.
b. We will send the email to your HOD so that they can validate your logbook. Please ask your HOD to check their junk mail if the email is not visible.

6. Validate logbook: Your Head of Department must click the link to accept the statement.
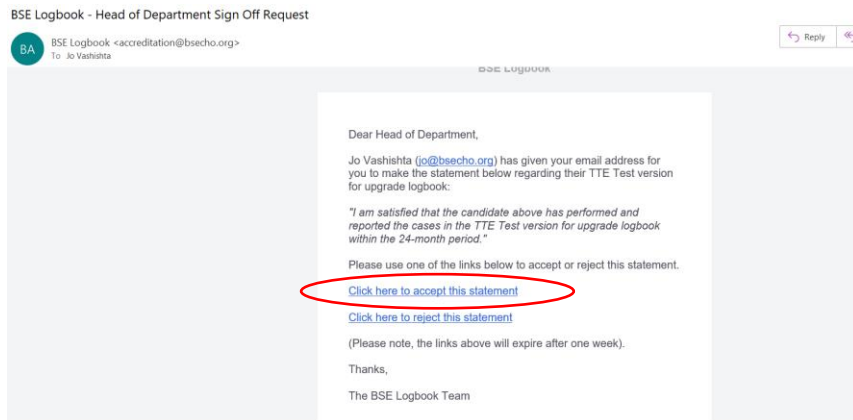
a. Head of Department validated: After clicking the statement, the Head of Department receives the message below.

Some NHS emails may block messages from the logbook portal- *accreditation@bsecho.org*. In this case, candidates should consider providing an alternative email address, e.g. non-NHS email addresses.

7. Logbook submitted: Once the logbook has been validated, it is ready for an assessor to mark.

- No further action is required from this point.
- Candidates will be notified when marking is complete.

Appendix 6: Logbook guidance and marking criteria

In order to meet all competencies of this accreditation process the logbook should represent good examples of a candidate's daily workload.

The following marking criteria is used when assessing each logbook report

Does the report meet the following criteria?	Yes / No (if no, state reasons why)
Fully Anonymised	
Indication for echo present	
Appropriate measurements present	
Appropriate Doppler calculations present	
Do measurements / Doppler calculations match descriptions	
All parts of heart described	
Descriptions complete	
Appropriate to request	
Conclusion present	

Logbook outcomes include:

Satisfactory logbook for BSE accreditation OR Unsatisfactory at present and a resubmission is required.

If a logbook is unsatisfactory, the candidate will be asked to resubmit reports to demonstrate the candidate's ability in achieving the learning outcomes of this accreditation process.

Appendix 9: Guidance for the removal of patient identifiable data

The duty of confidentiality arises from the common law of confidentiality, professional obligations and staff employment contracts. Breach of confidence may lead to disciplinary measures, question professional reputation and possibly result in legal proceedings.

Guidance is provided to Healthcare Professionals in the 'NHS Code of Practice on Confidentiality' (November 2003):
http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4069254.pdf

Patient information that can identify individual patients is confidential and must not be used or disclosed in any part of the submission required for this accreditation process. In contrast, anonymised information is not confidential and may be used.

Key identifiable information includes:

    a.   Patient's name
    b.   Address
    c.   Full post code
    d.   Date of birth
    e.   NHS number and local identifiable codes

Key identifiable information may also include information that can be used to identify a patient directly or indirectly. For example, rare diseases, drug treatment, or statistical analyses involving very small numbers within a small population may allow individuals to be identified.

Guidance to candidates submitting Logbooks and Cases for Accreditation

The NHS Code of Practice on confidentiality means that evidence submitted for this accreditation process must have removed **ALL** patient identifiable information beyond gender and age/year of birth.

Reports – Please use the BSE online portal and electronically delete all patient information except age and gender.

We advocate against using other electronic anonymisation methods as sometimes data is still present. If in doubt, manually remove patient identification information before use.

The final decision remains at the discretion of the Chair of the Accreditation Committee.

Appendix 10: Practical scanning mark scheme

The marking criteria used for the practical scanning assessment can be seen below.

2 minutes:	• Familiarisation of echo machine / equipment. • Assessor will be on hand if assistance is required.
20 minutes:	• Candidate to have 2 minutes to obtain and acquire each image. • The Assessor will instruct the candidate on the images to acquire. • The Assessor can alter echo machine / equipment setting to optimise images at the direction of the candidate.

The pass mark is set at 66%. Once this mark is achieved, the candidate will be deemed successful at this station.

Each image the candidate acquires is scored as per the marking scheme below.

F = Fail = 0 points: unable to demonstrate appropriate skill set

BF = Borderline Fail = 1 point: unable to demonstrate appropriate skill set, is able to describe reasons how improvement could be achieved

BP = Borderline Pass = 2 points: able to acquire/demonstrate skill set although fails to optimize image acquisition quality

P = Pass = 3 points: able to fully demonstrate high quality image acquisition with appropriate optimization of images

All images used in the practical scanning assessment are taken from the BSE Level 1 minimum dataset. An example of the imaging list used in this assessment can be seen below.

Appendix 9: Image interpretation examination

In order to pass the BSE level I accreditation, you must demonstrate your ability to consistently and independently, produce accurate focused reports, using a standardised reporting template and 'real-life' datasets provided by the examiners.

You will be provided with 3 datasets, each contained within a separate PowerPoint presentation.

You are provided with the patient's sex, but no other clinical information.

You are provided with a blank reporting template, with one reporting template to be completed for each dataset.

Cases have been selected by the examiners to test your ability to identify those pathologies described within the accreditation pack. Cases may contain multiple pathologies. Cases may be entirely 'normal' and contain no pathologies.

Once the examination begins you have 10 minutes to review and report each of the case studies. This time can be spent as you wish and you may move back and forth between slides.

You should select ONLY ONE answer per row on the reporting sheet (select the 'best fit'). If you consider a finding to be bordering two possible answers, select the ONE best answer, but elaborate on this in the 'Conclusions'.

It is your responsibility to ensure that the report is legible and unambiguous. If the examiner feels no answer has been selected, then your answer will default to 'Unable to Assess'. If the examiner feels that more than one answer has been selected, then your answer will default to 'Unable to Assess'.

The 'Additional Findings' box may be used to highlight obvious pathologies that are not covered by the reporting matrix (examples might include: intra-cardiac masses; replacement heart valves). The 'Conclusions' box may be used to highlight what you consider the most important findings AND to clarify your selected answers (when you feel clarification would be useful for the examiner).

In order to pass this component of the practical assessment you must obtain a pass mark in all 3 cases that you review. For the purposes of the examination, the marking criteria is shown below.

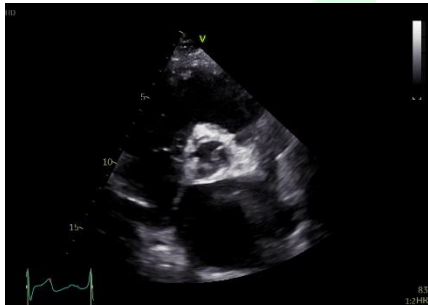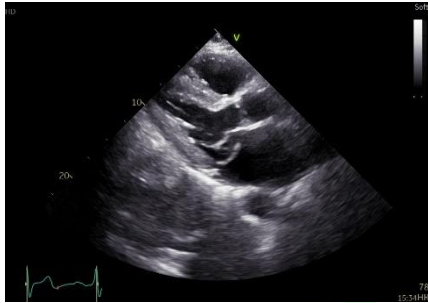In order to 'Pass' a case, you must avoid selecting 'Major Incorrect' and 'Minor Incorrect' answers. A 'Fail' is awarded if ANY 1 'Major Incorrect' answer is selected OR, if ANY 3 'Minor Incorrect' answers are selected (within the same case).

Major Correct	
Minor Correct	
Incorrect (no penalty)	
Minor Incorrect	Fail if any 3 selected
Major Incorrect	Fail if any 1 selected

An example of case study and ideal answers is shown below.
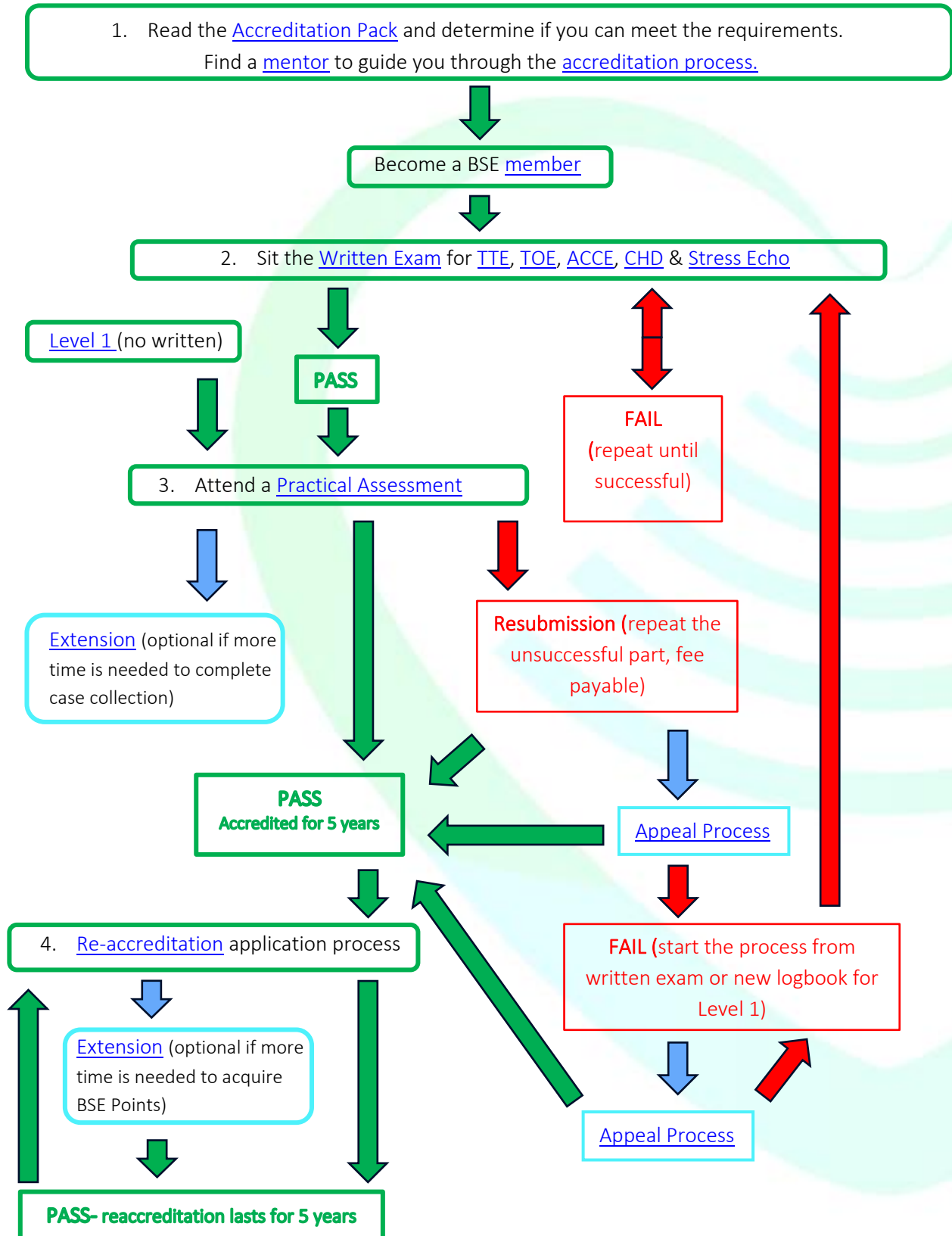
Male patient. LVIDd: 6.1cm, TAPSE: 1.2cm

British Society of Echocardiography

Level 1 Echocardiogram Report - Examination				
Examination number: **0101**				
Candidate's name: **John Smith**		Candidate number: **12345**		Exam date: **01/01/24**

Focused findings (select one option per row) — LVIDd (mm): **61** — TAPSE (mm): **12**

LV wall thickness	**[Normal]**	Abnormal		U/A
LV cavity size	Normal cavity size	Small	**[Dilated]**	U/A
LV systolic function	Normal or borderline low	Impaired	**[Severely impaired]**	U/A
RV wall thickness	**[Normal]**	Abnormal		U/A
RV cavity size	**[Normal]**	Small	Dilated	U/A
RV systolic function	Normal	**[Impaired]**		U/A
IAS position	**[Normal (mid-position)]**	Fixed from the left towards the right	Fixed from the right towards the left	U/A
Aortic root	**[Normal]**	Dilated		U/A
AoV morphology	**[Normal]**	Abnormal		U/A
AoV structure	Normal or mild thickening	**[Heavily thickened or calcified (unrestricted opening)]**	Heavily thickened or calcified (restricted opening)	U/A
AoV competence	**[Normal (no regurgitation)]**	Regurgitation present (not significant)	Significant regurgitation	U/A
MV structure	**[Normal or mild thickening]**	Heavily thickened or calcified (unrestricted opening)	Heavily thickened or calcified (restricted opening)	U/A
MV competence	Normal (no regurgitation)	Regurgitation present (not significant)	**[Significant regurgitation]**	U/A
TV structure	**[Normal or mild thickening]**	Heavily thickened or calcified (unrestricted opening)	Heavily thickened or calcified (restricted opening)	U/A
TV competence	**[Normal (no regurgitation)]**	Regurgitation present (not significant)	Significant regurgitation	U/A
IVC size	**[Normal IVC size]**	Small	Dilated	U/A
IVC variability	Normal variation with patient's respiration/ventilation	Excessive respiratory variation (collapse or distension)	**[Reduced respiratory variation (collapse or distension)]**	U/A
Pericardial fluid	**[Normal (none or physiological)]**	Small volume (and tamponade not suspected)	Significant volume (and/or tamponade suspected)	U/A
Right pleural fluid	Normal (no fluid)	Small volume	Significant volume	**[U/A]**
Left pleural fluid	Normal (no fluid)	Small volume	**[Significant volume]**	U/A

Additional Findings: (important findings not covered within the reporting matrix)		Conclusions: (most important findings and clarification where required)	**Severe LV impairment. Significant eccentric MR.** **AoV is calcified, but appears to open well in PLAX view.**

Accreditation Process Overview

1. Read the Accreditation Pack and determine if you can meet the requirements. Find a mentor to guide you through the accreditation process.

⬇

Become a BSE member

⬇

2. Sit the Written Exam for TTE, TOE, ACCE, CHD & Stress Echo

Level 1 (no written)

PASS

FAIL (repeat until successful)

3. Attend a Practical Assessment

Extension (optional if more time is needed to complete case collection)

Resubmission (repeat the unsuccessful part, fee payable)

PASS Accredited for 5 years

Appeal Process

FAIL (start the process from written exam or new logbook for Level 1)

4. Re-accreditation application process

Extension (optional if more time is needed to acquire BSE Points)

Appeal Process

PASS- reaccreditation lasts for 5 years

Useful Links & Contacts

Some pages are restricted to BSE paid members only and require login before accessing.

- o **Accreditation process**- https://www.bsecho.org/Public/Public/Accreditation/Personal-accred/Process.aspx
- o **Education resources (protocols & guidelines)**- https://www.bsecho.org/Public/Public/Education/Protocols-and-guidelines.aspx
- o **Extension requests**- https://www.bsecho.org/Public/Public/Accreditation/Personal-accred/Extension-requests.aspx
- o **Level 1 online resources**- https://www.bsecho.org/Public/Public/Accreditation/Personal-accred/L1-accred.aspx?
- o **Logbook portal**- https://logbook.bsecho.org/
- o **Practical assessments**- https://www.bsecho.org/Public/Public/Accreditation/Personal-accred/Practical-assessment.aspx
- o **Re-accreditation**- https://www.bsecho.org/Public/Public/Accreditation/Personal-accred/Re-accreditation.aspx
- o **Regional representatives map**- https://www.bsecho.org/Public/About-Us/Governance/Council-committees/Regional-representatives.aspx
- o **Written examination dates**- https://www.bsecho.org/Public/Public/Accreditation/Personal-accred/Written-examination.aspx

Join the Accreditation Clinics on the first Thursday of the month at 1 pm to ask your questions about accreditation. The Clinics are hosted by the Accreditation team with the support of a committee member involved in the assessment process.

Sign up for a clinic- https://www.bsecho.org/Public/Public/Events/Events_List.aspx

Contacts

- All accreditation queries (including exam registrations) and requests to access the portal should be made to accreditation@bsecho.org
- Membership questions should be sent to membership@bsecho.org
- Events, education and e-learning questions should be sent to events@bsecho.org
- Concerns or complaints should be directed to admin@bsecho.org
- Phone number for all areas: 0208 065 5794 (Mon-Fri 9 am-5 pm)