Departmental Accreditation Standards 2019

This document is an updated version of the previous Departmental Accreditation documents issued in 2004, 2007, 2009 & 2012

Introduction

The Departmental Accreditation Committee aims to raise the quality of practice and equipment nationally and to provide standards against which departments can be benchmarked. This is in recognition that not only should echocardiography staff be individually accredited as competent to perform studies but that departments also need to be well organised with appropriate facilities, equipment and processes to ensure the services they deliver are clinically adequate to provide safe and effective patient care. Accredited departments benefit from national recognition of the quality of their echocardiography service. Although accredited departments will need to demonstrate a high-quality service through adherence to these standards, the Departmental Accreditation application is intended to be supportive and non-judgemental. The Departmental Accreditation process is separate but linked with the British Society of Echocardiography (BSE) Echo Quality Framework (EQF) in that departments seeking accreditation are expected to participate in EQF, details of which can be found at https://www.bsecho.org/education/echo-quality-framework/. For the first time the BSE has also incorporated departmental accreditation standards for emergency echo which have been developed in association with the intensive care society (ICS). In addition, it is assumed that all Departments that are of sufficient quality for accreditation will be actively involved in training and therefore meet the requirements for accreditation in training.

The British Society of Echocardiography is offering any Echocardiography Department in the UK the opportunity to apply for accreditation in accordance with these guidelines. These standards for accreditation are a guide and in practice, applications will be considered by the BSE's Departmental

Accreditation Committee on the basis of the overall impression of the applicant department. References in this document to 'the BSE' include the Departmental Accreditation Committee where applicable. The BSE grants such accreditation on a purely voluntary basis ("Accreditation").

This document sets out the terms upon which BSE is able to consider an application for accreditation. References to "Applicant" below refer to any Echocardiography Department that elects to apply for Accreditation. Any such Echocardiography Department that applies for Accreditation agrees to be bound by the terms of this document.

For the avoidance of doubt, there may be other Departments which have not sought Accreditation but which offer an excellent echocardiography service. The decision of the BSE to grant accreditation to a Department is only an indication of the BSE's assessment of the standard of that Department. The BSE does not intend the outcome of the Departmental Accreditation process to be relied upon by any person under any circumstance. This shall include, but not be limited to, any Department, any individual medical practitioner, including GPs, any patient, referring health authority and any member of the public. The Accreditation shall be based on sufficient information being provided to the BSE by Applicants using application forms and an inspection of a Department.

General

1.1. The BSE cannot guarantee, or be liable in respect of, the quality, efficacy or performance of an Applicant either prior to Accreditation or otherwise.

1.2. Accreditation of an Applicant shall be determined by all relevant information provided by the Applicant and it is the responsibility of the Applicant to ensure that such information is accurate and up-to-date.

1.3. Departmental Accreditation may be applied for in respect of any or all of the following five modules (must include transthoracic echo):

1.3.1. Transthoracic echocardiography

1.3.2. Transoesophageal echocardiography

1.3.3. Stress echocardiography

1.3.4. Training to BSE adult proficiency standard

1.3.5. Emergency Echocardiography

If the Department is carrying out any Transoesophageal Echocardiography ("TOE"), Dobutamine Stress Echocardiography ("DSE"), Training or emergency echo then the relevant module form must be completed irrespective of whether specific accreditation in these areas is being sought.

1.4. BSE has absolute discretion whether to give Accreditation to any Applicant. The minimum requirements that any Applicant must fulfil in order to be considered for Accreditation under each of the five modules above are set out in sections 4-8 below, together with examples of those aspects of an Applicant's operation that the BSE would ordinarily consider relevant. Further guidance on the standards by which each application for Accreditation shall be considered are set out in the Schedules to this document, entitled 'Criteria for Grading'. The 'Criteria for Grading' for each of the modules may be subject to change without notice at the discretion of BSE.

1.5. Department Accreditation will be given at only one level. Departments currently holding advanced level accreditation will continue with this until reaccreditation at 5 or 10 years. Thereafter, there will only be "Accredited" departments, with no advanced status.

1.6. Throughout this document, the term ‘healthcare scientist’ (HCS) is used to mean a non- medical echocardiographer and subsumes the terms ‘clinical physiologist’, ‘clinical scientist’, ‘sonographer’, ‘cardiac or echocardiography technician’ and ‘radiographer’.

1.7. It should be noted that Echocardiography is changing rapidly and it is expected that this document will be reviewed in response to developments including screening (point of care) echocardiography, portable systems and the training of GPwSI and other non-cardiologists in echocardiography. The guidelines set out in this document should therefore only be viewed as a general guide and will be reviewed after 5 years but may be subject to change without notice at the ultimate discretion of the BSE.

1.8. The registration fee for Departmental Accreditation is published on BSE website. This fee is non- refundable as it is a payment towards BSE’s costs of administration and also of organising accreditation visits where applicable.

2. Process

2.1. An Applicant who wishes to be considered for Accreditation must first submit an expression of interest via BSE department accreditation website www.accredityourdepartment.org and confirm that they have read and understood the terms of this document and agrees to be bound by them.

2.2. The Applicant should then complete an electronic application form via the Departmental Accreditation website and pay the registration fee. Following receipt of that fee and confirmation that the Applicant agrees to be bound by the terms of this document, BSE will consider the application according to the following procedure.

2.3. BSE may require the Applicant to allow an inspection in accordance with 3.1 below.

2.4. The BSE will consider the application and notify the Applicant once it has reached a decision, confirming whether or not Accreditation has been given, in accordance with 3.2 below. A decision regarding accreditation is given for each of the modules for which the applicant sought Accreditation.

2.5. An unsuccessful Applicant will be notified of the reasons why the BSE did not give Accreditation and of those areas requiring improvement. Any Applicant may make a further application for Accreditation at any time. The BSE will use its best endeavours to offer advice and support to help unsuccessful Applicants to improve those areas. An unsuccessful applicant may Appeal the decision of the BSE by following the procedure set out in section 9.

2.6. Occasionally, the BSE may decide that Accreditation should be deferred to allow certain remedial measures to be implemented within a set time (usually 6 months). These will usually be within a focused area and achievable within a few weeks. If so, then the BSE will notify the Applicant of the remedial measures that need to be carried out and the time limit within which the Applicant must submit evidence of this. A decision regarding Accreditation will be made upon submission of remedial measures evidence.

2.7. Accreditation lasts for 5 years and will then lapse automatically. It is the responsibility of the accredited department to submit their application for reaccreditation before their accreditation expires. An Applicant may make a further application for Accreditation at any time, whether or not its existing

Accreditation has lapsed. Reaccreditation can be applied for 4.5 years after accreditation has been awarded and the application for reaccreditation should be submitted 3 months before accreditation expires. Reaccreditation will be assessed under the current departmental accreditation standards even if these differ from the standards used for initial accreditation.

2.8. If there is a change of Head of Department, HCS or Medical Lead during an Accreditation period, the Applicant should inform BSE of that change within 6 months.

2.9. The BSE has the right to suspend Accreditation under the following circumstances:

2.9.1. It believes that that the safety of the public, or the public interest is endangered;

2.9.2. It believes that the reputation of the BSE is being damaged or is likely to be damaged in any way whatsoever as a result of that Accreditation;

2.9.3. It considers that the Applicant has breached any of the terms of this document.

2.10. The BSE may withdraw Accreditation in the following circumstances:

2.10.1. It has reason to believe that that the safety of the public, or the public interest is endangered;

2.10.2. It believes that the reputation of the BSE is being damaged or is likely to be damaged in any way whatsoever as a result of that Accreditation;

2.10.3. It considers that the Applicant has breached any of the terms of this document;

2.10.4. It does not consider a department to be worthy of Accreditation, for any reason whatsoever.

2.11. A Department for which Accreditation has been suspended or removed may appeal the decision, following the procedure laid down in section 9.

2.12. The BSE may inspect an Accredited Department at any time during the period of Accreditation upon giving reasonable notice.

2.13. By applying for Accreditation, the Applicant undertakes that it has complied with and will at all times comply with the provisions of the General Data Protection Regulations (GDPR) 2016 in relation to all material or information supplied to the BSE as part of an application for Accreditation, that the Applicant is authorised to supply that material or information to BSE and that the Applicant will indemnify the BSE in full in respect of all or any liability or other loss or damage to BSE resulting from any breach by the Applicant of its obligations under GDPR or under this document.

2.14. The Applicant and the BSE acknowledge that, in respect of any personal data included within the Applicant's application for Accreditation, the Applicant is the Data Controller and BSE is the Data Processor for the purposes of GDPR.

2.15. The BSE will process all information it receives from an Applicant only to the extent and in such manner as is necessary for the purposes of considering the application for Accreditation and the BSE will keep a record of all such processing.

2.16. The BSE will comply with any reasonable request by the Applicant to amend, transfer or delete any information or material the BSE has received from the Applicant. The Applicant acknowledges that if the Applicant makes such a request, then the BSE shall be entitled at its discretion to reject the Applicant's application for Accreditation without considering it further.

2.17. The BSE shall ensure that access to any personal data supplied by an Applicant is limited to those employees who require access to that data in order for the application to be considered. The BSE shall ensure that all such employees are informed of the confidential nature of the personal data, have undertaken training in the laws relating to handling personal data and are aware of the BSE's obligations and their own in relation to that data.

2.18. The BSE shall take reasonable steps to ensure the reliability of any employees who have access to any such personal data.

2.19. The BSE warrants that it will process all such personal data in accordance with all applicable laws, enactments, regulation and other instruments, and that it will take appropriate technical and operational measures against the unauthorised

or unlawful processing of personal data and against the accidental loss of or damage to personal data.

3. Departmental Accreditation Visit ("visit")

3.1. Purpose

The purpose of a visit is solely to determine whether or not information submitted on Accreditation Application forms is currently accurate. Visits will be undertaken at the discretion of BSE.

3.1.1. Process

3.1.2. Visits will form part of the Accreditation process but may also be undertaken if BSE considers that an Accredited Department has changed significantly since the original application.

3.1.3. At least 42 working days' notice will be given of a visit. Proposed visits will be re-scheduled only in special circumstances (e.g. HCS Head on leave)

3.1.4. Visits will normally be undertaken by two people nominated by the BSE Departmental Accreditation Committee, one of whom will normally be a doctor who has an interest in Echocardiography, and the other an HCS who works in an accredited department. On occasion two senior HCS may undertake the visit with later review of findings by a doctor.

3.1.5. BSE will bear its own costs of any visit it has initiated.

3.1.6. Assessors will bring with them copies of all Accreditation Forms submitted, together with any amendments. They will check submitted evidence against the standards set out in this document.

3.1.7. A BSE patient representative may be asked to advise DA assessors on patient experience.

3.1.8 At the end of the visit, assessors will hold a meeting with the Medical and HCS and QA Leads, at which any apparent discrepancies between data on the Accreditation Application and observed practice will be highlighted. A final accreditation decision will be made once the report has been and agreed and finalised.

3.2. Assessment

3.2.1. The DA assessors will submit a written report of their findings to the BSE Accreditation Committee. After discussion within the Committee, the Chair will contact the Medical and HCS Leads of the department concerned. This will be sent within 60 days of the visit and will offer one of the following conclusions for each category of Accreditation applied for or held:

3.2.1.1. Accreditation awarded

3.2.1.2. Remedial measures required before Accreditation may be awarded

3.2.1.3. Accreditation not awarded

4. Standard 1 - Transthoracic Echocardiography

An Applicant seeking Accreditation for Transthoracic Echocardiography must ensure that it fulfils the minimum requirements set out in 4.1-4.3 below.

4.1. Requirements for staffing and training

4.1.1. All centres must have a designated Head of Department (HoD). The HoD may be either a Specialist Registered Physician or a Specialist Healthcare Scientist (see 1.6 above). The HoD must spend at least 3 sessions each week within the Applicant department.

4.1.2. There must be defined leadership roles for both the Medical and Scientific teams within the Department: the 'Medical Lead', 'Healthcare Scientist Lead' and "Quality Assurance Lead"

4.1.3. The Medical lead must be trained in clinical cardiology and specialist echocardiography and be registered with the GMC. He/She should hold individual BSE/ EVACI accreditation. He/she must set up a system for reviewing requests and reports, audit, quality control, protocols for imaging and urgent clinical review in response to findings at echocardiography.

4.1.4. The Healthcare Scientist Lead must hold individual BSE accreditation (or equivalent) and be graded at least Band 7. They should spend at least 5 sessions directly related to echo per week.

4.1.5. The Quality Assurance lead for the echo department must hold individual BSE accreditation and be graded at least band 7.

4.1.6. Any HCS who performs and reporting studies unsupervised should have individual BSE/EVACI accreditation (or equivalent) and be graded at least band 6, ideally band 7.

4.1.7. Attendance at BSE Conference for HCS should be enabled to ensure re-accreditation where necessary.

4.2. Requirements for organisation and equipment

4.2.1. Echo rooms used for inpatients on beds should be at least 20 m^2 in area.

4.2.2. Ventilation, heating, lighting and ancillary facilities must be appropriate (see Appendix).

4.2.3. Echo machines must have stand-alone continuous wave Doppler and tissue Doppler. 3D capability is recommended on at least one machine in the department as suggested in BSE minimum dataset.

4.2.4. The machines must be serviced regularly, and be replaced or have a major upgrade at least every 5 years. No machine, in regular use, should have been purchased or last upgraded more than 10 years ago.

4.2.5. There must be an electronic report database with facilities for storing and retrieving specific echo studies.

4.2.6. There must be appropriate storage space.

4.2.7. A patient information leaflet must be available including information on chaperones. The patient information leaflet should outline whether or not the patient could expect to be given any information or not regarding the result of the scan at the time of the appointment, subject to local departmental rules.

4.2.8. There should be evidence of ongoing user satisfaction surveys in accordance with the echo quality framework (EQF), including both patients and those receiving reports.

4.3. Requirements for performing studies

4.3.1. A list of indications for echocardiograms must be agreed.

4.3.2. Evidence must be presented that prioritising and filtering of inappropriate requests is performed supported by HCS / Medical Lead.

4.3.3. Minimum standards for studies must be established. Study protocols appropriate to specific clinical conditions must be used. All protocols must be reviewed regularly and updated when appropriate. There must be processes in place to update staff of new protocols or protocol updates.

4.3.4. A format for reports must be established, including who should issue conclusions and who is qualified to sign reports.

4.3.5. The requirements of the EU General Data Protection Regulations must be complied with regarding data storage.

4.3.6. A protocol must be in place for reporting and escalating cases that require urgent clinical attention. If this protocol incorporates parties which are not under the umbrella of the host institution applying for accreditation then evidence must be present of formal collaboration between different parties (e.g. a service level agreement document).

4.3.7. Regular meetings, ideally weekly, must be held to review unusual, challenging or otherwise difficult cases. There must be established processes issuing appropriately revised reports as a result of multi-disciplinary team discussions. This should include aspects of BSE Echo quality Framework (EQF).

4.3.8. Departments are expected to participate in EQF and achieve a minimum of amber in all areas.

4.4. Indicative factors

In addition to the minimum factors set out in 4.1-4.3 above, the BSE will consider the following when considering whether to grant Accreditation to an Applicant seeking Accreditation for Transthoracic Echocardiography:

4.4.1. Continuing education should be given (including funding) to fulfil BSE re-accreditation requirements or to a similar level. There should be a small library of relevant reference textbooks within the Department.

4.4.2. The job profile of a HCS should include training, self-education, audit, and quality control in addition to performing echocardiograms.

4.4.3. In an institution performing 3000 studies per year, it is recommended that the Medical Lead has at least one PA per week allocated directly to echocardiography. In a large volume centre the medical lead may be supported by other named clinicians to ensure an appropriate level of clinical input. There must be evidence of a clear and regular commitment and involvement in running the echo department. For example, audits, revision of standards, presentations as well as a commitment to clinical work.

4.4.4. Reports from routine studies should usually (approx. 95%) be issued within 24hrs of the examination. For urgent or inpatient studies, at least a preliminary report should usually be issued immediately.

4.4.5. The Medical Lead's responsibilities would ordinarily include providing medical input to departmental guidelines and policy, performing studies, training doctors and the Healthcare Scientists, medical audits, medical triage, quality control and providing clinical input at review meetings.

4.4.6. The HCS Lead's responsibility would ordinarily include the day to day running of the echo service including first line triage, performing studies, organising audit, service improvement and training doctors. They are usually responsible for the implementation of local occupational health policies, equipment safety and maintenance processes and ongoing risk assessment. They are usually responsible for the maintenance of quality standards and the effectiveness of patient pathways. They should lead the Scientist team on a day-to-day basis.

4.4.7. There should be awareness of health and safety issues especially relating to back and eye problems and adequate liaison with occupational health and risk management departments (see Appendix).

4.4.8. A single echo machine can ordinarily handle up to a maximum of 2500 studies each year but this figure will be lower if there is a significant ward-based or complex workload.

4.4.9. Appropriate consideration should have been given to patient comfort, privacy, dignity and the provision of adequate information.

4.4.10. A separate viewing room is recommended for reviewing studies and off-line reporting.

4.4.11. A standard transthoracic study slot (including reporting time) should be at least 40 minutes. A complex study may require 1hr. As an ideal a HCS should perform no more than 1800 studies per year.

5. Standard 2 - Transoesophageal Echocardiography (TOE)

An Applicant seeking Accreditation for TOE must meet the requirements set out in 4.1-4.3 above and the following.

5.1. Requirements for staffing and training

5.1.1. All centres must have a designated Head of TOE. The TOE lead must have BSE/ACTACC or EACVI TOE accreditation.

5.1.2. Outpatient TOE studies must have one operator with appropriate training whose role is to control the probe and obtain a full image dataset, a healthcare professional with experience in patient monitoring whose responsibility is the patient, and a healthcare professional whose responsibility is to acquire optimised images by controlling the echo machine. Further detail is given in "BSE Dataset for a Standard Transoesophageal Echocardiogram".

5.1.3. Continuing education must be provided for the operators.

5.1.4. Each operator must perform or directly supervise at least 25 studies per annum. Where clinical needs demand that a patient has a TOE undertaken by an operator who does not perform regular lists, those images should be reviewed by a BSE TOE accredited practitioner as soon as is practically possible.

5.1.5. All operators should have, or be working towards, BSE/ACTACC or EACVI TOE accreditation.

5.1.6. A list of indications for TOE must be agreed.

5.2. Process

5.2.1. Minimum standards for studies must be established and the head of TOE must be responsible for ensuring that all operators adhere to them.

5.2.2. A preoperative checklist must be used, following a LocSIPP or WHO format.

5.2.3. Written, informed consent should also be documented and ideally obtained before the patient attends the exam in accordance with the recommendations given in GMC guide to consent. https://www.gmc-uk.org/-/media/documents/consent

5.2.4. Whenever sedation is used, it must be in accordance with the recommendations given in BSE Recommendations for safe practice in TOE https://www.bsecho.org/recommendations-for-safe-practice-in-sedation

5.2.5. The TOE probe must be regularly serviced including electrical safety testing. A log of these checks must be kept.

5.2.5. The TOE probe must be cleaned regularly as directed in 'BSE TOE Probe decontamination' https://www.bsecho.org/probe-decontamination/

5.2.7. Formal TOE audit processes must be in place. Departments are expected to participate in EQF and achieve a minimum of amber in all areas. In relation to TOE, this should include external validation of studies and reports, either by review from another Department or through validation against an external finding, eg surgical results.

5.3. Requirements for organisation and equipment

5.3.1. There must be appropriate provision of:

Room (should be > 25 m^2 in area)

Couch with facility for head-down tilt

Facilities for cleaning and sterilising the probe

Appropriate storage of TOE probes in accordance with TOE decontamination guidance.

Resuscitation apparatus and drugs

Lockable drug cupboard

Suction

Oxygen

Pulse oximeter

Sphygmomanometer

Facilities for recovery of the patient

Protocols for patient care

Adequate ventilation

6. Standard 3 - Stress Echocardiography

An Applicant seeking Accreditation for Stress Echocardiography must meet the requirements set out in 4.1-4.3 above and the following.

6.1. Requirements for staffing and training.

6.1.1. All centres must have a designated Head of Stress Echocardiography. The Lead for Stress echocardiography must hold BSE TTE accreditation and at least one operator should be working towards BSE DSE accreditation (HCS or medical staff).

6.1.2. Stress echocardiography studies require an experienced operator and an HCS or trained nurse. A Doctor must be immediately available if not in the room.

6.1.3. The study reporter must be specially trained in stress echocardiography ideally with BSE DSE accreditation.

6.1.4. Formal DSE audit processes must be in place. Departments are expected to participate in EQF and achieve a minimum of amber in all areas.

6.1.5. Each operator/reporter must perform or report at least 100 studies per annum.

6.1.6. Continuing education must be provided for the interpreter.

6.1.7. At least one member of staff performing the study must possess at least Immediate Life Support (ILS) Training or be a specialist cardiologist.

6.1.8. A list of indications for stress echocardiograms must be agreed.

6.1.9. Patient information should be provided.

6.1.10. Appropriate protocols for studies must be established and the Head of Stress Echocardiography is responsible for ensuring that all operators adhere to them.

6.2. Requirements for organisation and equipment

There must be appropriate provision of

- Designated room (size should be >20 m^2)

- Stress echocardiography software
- Contrast agents and contrast specific software
- Infusion syringe for pharmacological stress or equipment for exercise stress e.g. bicycle
- ECG monitor and recorder
- Sphygmomanometer
- Resuscitation apparatus and drugs readily available

7. Standard 4 –Training to BSE Proficiency Standard

An Applicant seeking Accreditation in Training to BSE Proficiency Standard must meet the requirements set out in 4.1-4.3 above and the following.

7.1. Requirements for staffing and training

7.1.1. There must be a BSE Accredited individual responsible for training. This person may be from a Medical or HCS background.

7.1.2. Staffing levels and workload must be appropriate to the number of trainees to ensure adequate clinical capacity. (As a guideline rather than an absolute requirement, BSE would usually expect to see two BSE accredited staff and 2000 echoes p.a. for a department to accommodate one trainee)

7.1.3. At least one protected half-day training sessions must be provided each week.

7.1.4. Both trainer and trainees should be supported to attend local, national and international meetings.

7.1.5. There must be regular weekly Departmental case review sessions. Departments are expected to participate in EQF and achieve a minimum of amber in all areas.

7.1.6. There must be a formal training package. A log of trainees must be kept.

7.2. Requirements for equipment

7.2.1. There must be a core library containing at least 3 up to date echo textbooks and 1 general cardiology textbook in the Department and internet access including access to cardiology journals electronically or within the hospital.

7.2.2. There should be a history of success in passing candidates for individual BSE accreditation (eg TTE, TOE, DSE, Level 1, FICE) appropriate to size of the department.

8. Standard 5 - Emergency Echocardiography Service

An Applicant seeking Accreditation in Emergency Echocardiography must meet the requirements set out in 4.1-4.3 above and the following;

8.1 Requirements for staffing and training

8.1.1. All individuals who scan and report independently should be trained to their level of clinical practice (i.e. Focused Intensive Care Echo (FICE), Focused Echocardiography in Emergency Life Support (FEEL), BSE Level 1 or Level 2).

8.1.2. An Emergency Echocardiography Service Lead should be identified. This person should be BSE Level 1 or Level 2 accredited. This person will have responsibility for ensuring the ongoing training of staff, maintenance of equipment, and co-ordination of a formal out of hours Emergency Echocardiography Service rota (if this service is available). They will have time in their job plan for emergency echo.

8.1.3. If the Emergency Echo service lead is not a Cardiologist, alink-person from the host institution's Cardiology department should be identified. This will usually be either a Senior Echocardiographer or a Consultant Cardiologist.

8.1.4. Ideally, regional networks and electronic image transfer systems should be created to allow for prompt access to over-reading of scans by a BSE Level 2 accredited (or equivalent) individual when requested.

8.2. Requirements for equipment

8.2.1. 90% of Emergency Echocardiograms should be performed within an hour of their request.

8.2.2. The appropriate minimum data-set of images should be stored electronically for each case (depending on the level of practice of the individual).

8.2.3. A structured report should be produced in a timely manner and stored in the patient records for each scan performed or verified by an accredited practitioner.

8.2.4. Unverified training images and reports should be stored for subsequent review, but not in the patient records.

8.2.5. Echo machines should be easily portable, less than 10 years old (ideally less than 5yrs old) and regularly serviced.

8.2.6. Echo machines should be stored in a secure location that is readily accessible at any time and geographically close to the site(s) where emergency echocardiograms are most likely to be performed.

8.2.7. Echo machines should be easily attachable to a network which allows for the uploading of images to the same archive that is used by the host institution's Cardiology department.

8.2.8. Reporting workstations should be readily available in areas where it is anticipated that emergency echocardiograms will be performed.

8.3. Requirements for Governance

8.3.1. Every individual who participates in an Emergency Echocardiography Service should regularly attend a clinical governance forum, for example their host institution's Cardiology department echocardiography meeting. Ideally this should be job-planned.

8.3.2. There should be a process of quality assurance in place for the Emergency Echocardiography service. It is expected that departments will utilise the Echo Quality Framework to achieve this and achieve a minimum of amber in all areas.

9. Appeals (“Appeals”)

9.1. Where a Department considers that the BSE has unfairly refused, regraded, suspended or removed Accreditation, a written appeal can be made to the BSE Council. Appeals may be made only on the following grounds:

9.1.1. That the decision was affected by bias or breach of the Society’s guidelines for Departmental Accreditation

9.1.2. At a DA visit, the assessors did not carry out the inspection in accordance with the procedure set out in section 7.

9.1.3. That conditions prevailing at the time of the visit were unusual and temporary (e.g. several key staff off sick)

An Appeal will be considered by the BSE Council at its discretion (or a panel nominated by the Council for this purpose and containing at least 3 elected Council members). No member of the Appeal panel shall have taken part in the visit, or have any current or past association with the Centre concerned. The findings of the Appeal panel will be sent to the Department within 90 days of the Appeal being lodged and shall be final.

Appendix

Room Specifications

Summary of Workplace Health, Safety and Welfare Regulations, 1992 (Published by Unison, Unison Centre, Holborn Tower, 137 High Holborn, London WC1V 6PL)

The Workplace Health, Safety and Welfare Regulations 1992

These regulations apply to existing echo scanning rooms and all new rooms. They arise out of the European Workplace Directive and are mainly concerned with minimum standards for the work place. Regulations with relevance to an echo scanning room or Department concern:

1 Ventilation (Regulation 6). In enclosed workplaces you must be provided with effective and suitable ventilation, which does not cause uncomfortable draughts e.g. ceiling-mounted.

2 Temperature (Regulation 7). During working hours the temperature in the workplace must be reasonable. The approved codes of practice (ACOP) do not give a maximum temperature but still recommend air cooling plants and shading windows. The minimum working temperature is at least 16 degrees C (The NHS Estates ultrasound room data sheets specify a minimum temperature of 20^{O}C. This is also covered in the EEC Display Screen Equipment Regulations, 1992) . A thermometer should be provided in the scanning room if the temperature is uncomfortable.

3 Lighting (Regulation 8). Every workplace should have suitable and sufficient lighting[2] and where possible natural light.

4 Room dimension and space (Regulation 10). Every workroom should have sufficient floor area height and unoccupied space allowing for a minimum of 11 cubic metres per person (assuming the room is 3 metres high). Area taken up by equipment or furniture is additional to this space allowance.

5 Workstations and seating (Regulation 11). Every workstation must be suitable for the worker using it and the work being carried out. The echo machine and the patient on the couch are classed as the workstation. Suitable seating (with height

adjustment and back support) should be provided when this work is done sitting down with a foot rest if necessary.

6 Toilets (Regulation 20). Staff toilets should be provided in readily accessible places. One toilet with washbasin should be provided for 1 to 5 members of staff. This may be more applicable to a suite of scanning rooms and may already be provided when the scanning rooms are situated in a cardiac Department.

7 Washing facilities (Regulation 21). Suitable and sufficient washing facilities should be provided at readily accessible places. Ideally a washbasin with hot and cold water, soap and a means of drying can be situated within the scanning room itself.

Health and Safety

Extracts from the Display Screen Equipment Regulations 1992

Published by Unison, Unison Centre, Holborn Tower, 137 High Holborn, London WC1V 6PL Under these regulations the echo machine is classed as the workstation (and any PC used in the room e.g. for reporting echo scans) and the user is the employee who habitually uses the display screen equipment as part of his/her job. Within the definition of the workstation other equipment and factors are taken into account such as: telephones, printers and the environment around the display screen such as the noise, lighting, temperature etc. The particular regulations that are relevant to an echo scanning room or Department are:

1 Assessment of workstations (Regulation 2) The employer must carry out suitable and sufficient assessment of the workstation to identify risks to the user. This is usually done on a regular basis or when there has been a significant change in the workstation such as a new user of piece of equipment. Following the assessment the employer must act to reduce the risks identified. Particular emphasis is given to eyesight, stress and upper limb disorders.

2 Eye and eye sight tests (Regulation5) Employers must provide on request and offer at regular intervals a free professional full eyesight test (not a simple ‘Keystone’ vision test) but the employer is not required to provide them automatically. Users must, therefore, request the tests if they experience sore eyes or headache during scanning or reporting on a PC. If the eyesight test reveals a problem the employer must provide special and normal corrective appliances

such as spectacles. If the eyesight test does not reveal a problem then the workstation standards must be checked.

3 Health and safety training (Regulation 6) Adequate health and safety training must be provided for users of echo scanners and PCs. The training should cover recognition of hazards such as screen flicker and screen glare, the importance of good posture and regular breaks and how to request an eye test and report problems with the equipment etc. The user should be encouraged to contribute to the assessment of the workstation as well.

Provision and Use of Work Equipment Regulations, 1992

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Extracts from the Provision and use of Work Equipment Regulations, 1992

Work equipment includes the echo machine and any PC used in the room and also the couch or bed and any wheelchair or aids used to get the patient in a position to be scanned (see also Appendix f). The following extracts are relevant to echocardiography:

1 Suitable work equipment (Regulation 5) Employers must ensure that all work equipment is suitable for the work it is provided to do. This is confirmed by means of a risk assessment which should cover: The design and condition of the equipment e.g. could it cause strain injury or could it be modified or replaced with a better designed piece of equipment to prevent injury to staff or patients

The working conditions where the equipment is used e.g. is the scanner electrically safe or is the floor where the scanner is used uneven making the heavy scanner prone to toppling over. This also applies to transferring a patient from a wheelchair to a scanning couch or transferring the patient from a bed following a transoesophageal scan.

The purpose of the equipment e.g. older fixed frame wheelchairs should not be used with an immobile patient; a lightweight deconstructable wheelchair would be needed in this situation.

2 Maintenance (Regulation 6) The work equipment must be maintained in an efficient working order and a maintenance log must be kept up to date. This may also include the power sockets to ensure a stable electrical supply and secure earth as the patient may have ECG cables attached during a scan. A calibration log of syringe drivers used in stress studies should also be kept.

Information and instructions (Regulation 8) All staff who use the work equipment must have available to them comprehensive and adequate health and safety information. The information should cover:

- Conditions and method of use e.g. most echo scanners cannot be used in the presence of inflammable anesthetics

- Foreseeable and abnormal situations e.g. emergency echo scan in cardiac arrest situations

- What to do in if there is an accident, breakdown or emergency e.g. patient falling because wheelchair brakes were not effective.

4 Training (Regulation 9) All staff who use the equipment must have adequate health and safety training. This training should cover the health and safety risks and precautions to be taken as well as supervisors receiving risk assessment training on the work equipment.

5 Controls for starting equipment (Regulation 14) The equipment used must have one or more controls for the starting and controlling of the equipment e.g. a syringe driver used in stress echo scans.

6 Control for stopping equipment (Regulation 15) Where appropriate the equipment must have a one or more controls to stop the equipment e.g. as above.

7 Controls (Regulation 17) All controls for work equipment must be clearly visible and identifiable e.g. resuscitation equipment, syringe drivers, drip pumps etc.

8 Stability of equipment (Regulation 20) The equipment should be stabilised to prevent it falling or overturning but this will also apply to additional equipment added to the scanner such as video recorders and printers. This can also apply to portable oxygen saturation monitors for transoesophageal echocardiography as

well as resuscitation equipment and syringe drivers or drip pumps used in stress echocardiography.

9 Lighting (Regulation 21) Suitable and sufficient lighting must be provided. Problems may be encountered outside the normal scanning room such as the Intensive Care Unit. In these situations the control of ambient light may be difficult if there are inadequate blinds. Additional blinds may need to be installed for subsequent scans or the use of a temporary anti glare screen may help.

10 Markings (Regulation 24) The work equipment must carry clearly visible health and safety markings. These marking may indicate machine weight, whether the machine should not to be used with inflammable anaesthetics, prudent use of transducer power levels or maximum wheelchair carry weight.

11 Warnings (Regulation 25) Work equipment must incorporate warning or warning devices as appropriate. Audible warnings are usually present on syringe drivers, drip pumps and defibrillators and staff should be made aware of them. The addition of an emergency call button is advised in an echo scanning room especially if transoesophageal and stress studies are performed there.

Manual Handling Policy

Manual Handling in the Health Services. HMSO. Second edition, 1998. St Clement's House, 2-16 Colegate, Norwich NR3 1BQ.

Manual handling includes lifting, lowering, pushing, pulling, carrying and supporting loads and also patient handling. Between 1992 and 1995 nearly 14,000 manual handling accidents were reported to the Health and Safety Executive of which over 60% involved patient handling. There should be a manual handling policy in operation in all hospitals. The hospital occupational heath Department should be to perform an assessment if the cardiology or echocardiography Department does not have a manual handling assessor or trainer. The health and safety officer and or manual handling assessor keep up to date with new manual handling devices and aids as well as improved techniques and regulations. They will be able to advise on changes to the Department based on the scientific study of ergonomics as well as staff training.

Risk assessment

The purpose of the manual handling risk assessment is to identify and extenuate possible problems e.g. install a more suitable scanning couch or have two people push the echo scanner to the ward. A

record will be made of the findings and a follow up review will be made with revisions if necessary. The four main factors considered in the assessment are:

1.1 The task Staff should be assessed as they perform echo scans in the Department and on the ward. Pushing and maneuvering the echo scanner as well as transferring the patient must also be assessed. Factors that should be taken into consideration are: Holding the load (transducer, TOE probe or patient) at a distance from the trunk,

Unsatisfactory body movements (e.g. twisting the trunk) Poor posture (e.g. stooping or over stretching), Excessive movement of the load over distance (e.g. pushing the echo scanner or transferring the patient), The risk of sudden movement of the load (e.g. patient falling) Prolonged physical effort including a fixed posture and insufficient rest or recovery periods. An aching back or limb at the end of the day should not be accepted as 'part of the job'.

1.2 The load The load that staff are likely to encounter should be assessed taking into consideration its weight, whether it is bulky or unwieldy, or difficult to grasp and whether it is or is likely to become unstable. When the object is a patient they may cooperate or hinder in the transfer or may find themselves suddenly unable to continue. Staff may react by trying to prevent the patient from falling which may cause injury to both. If staff are properly trained and positioned they may be able to allow a controlled fall by letting the patient slide down their body and onto the floor but with good risk assessment this situation should not arise.

1.3 The working environment The environment in which the scans are performed should be assessed taking into account: Prevention of good posture because of space constraints and inadequate work equipment e.g. un- adjustable couch

Slippery surfaces and uneven floors Extremes of temperature noise etc. Lighting condition Poor storage facilities

physical demands. Examples of questions that should be addressed are: Can the employee push a 200 Kg (400 lb.) echo machine to a ward across uneven surfaces Can the employee maneuver the machine into a suitable position by the ward

bed Can the employee reach the echo videos on the shelf - should a footstool be provided in the echo scanning room / Department. Is any member of staff at particular risk e.g. pregnancy or history of previous back problems.

2 Reducing risks

Following the assessment, action must be taken to reduce the risks identified. If at all possible the manual handling operation should be eliminated or minimized by reorganizing the task. Understanding the risks can help in finding the solution. Some factors contributing to risk are (Solanski *et al* 1997)

- Number of years spent in echocardiography

- Frequency of lifting

- Scanning with the machine on the left, the transducer in the right hand and the patient on the right

- Poor job satisfaction

The principles of the manual handling operations regulations is that the job should be adapted to suit the employee who should not be subject to unrealistic

1.4 The individual staff capabilities

A solution should be sought in consultation with the manual handling assessor and the staff member. No member of staff in the echo Department should be expected to handle patients or loads where there is likelihood that they or the patient may be injured. The use of manual handling equipment may reduce the risk of injury significantly. Many suppliers loan such equipment for trial periods and provide initial training in its use. Examples of these aids are:

- Electrically height adjustable couches

- Roll boards which help transfer patients from bed to trolley

- Two person sling for moving patient up beds / couches

- Floor turntables which allow a standing patient to be swiveled from a wheelchair to a seated position on a couch

- Adjustable wheelchair with removable sides

- Slide board allowing patients to slide from a seated position in a wheelchair for example to a seated position on the couch

- Grab handles on wall to allow patient to pull themselves onto their side for scanning (patients generally prefer to be independent and move themselves and this should be encouraged)

- Electric hoists may be useful with very heavy immobile patients.

3 Training Training of all staff (including agency staff) in manual handling techniques and use of equipment/aids must be undertaken following a baseline analysis of the needs. Information should be provided to staff enabling them to report faulty equipment and how to maintain the equipment. The training programme should include:

- Ergonomics looking at the tasks and the environment and encouraging staff to alter their own environment to make the work safer

- Spinal mechanics

- Mechanical handling techniques

- Demonstration of any mechanical equipment used in the Department. Monitoring Following risk assessment there must be follow up monitoring to assess the effectiveness of the arrangements for reducing the risk. This must be recorded. Such monitoring should identify problems before something goes wrong and can be referred to in the event of an accident. Information about any accident is useful for determining whether the manual handling policy failed or was not applied correctly.

References

*Solanski M, Carr D, Martin M. Back pain among echocardiographers. Heart 1997; 78 (Suppl): 23-8