

Criterion 8.15: Each provider has a qualified medical physicist

Elements

- 8.15.1 The medical physicist's areas of responsibility include, but are not limited to:
- ensuring the quality assurance (MQA) programme is of the required standard and is operating effectively
 - ensuring all imaging and ancillary equipment is covered by the MQA programme (eg, X-ray equipment, reporting stations, CR plate readers, localisation devices, ultrasound imagers and hard-copy devices)
 - being a member of the breast screening site MQA committee, which will meet quarterly to review results and annually to review the QA programme
 - performing the medical physics quality control tests
 - ensuring the performance and calibration of quality control test equipment
 - performing acceptance testing on new imaging and associated equipment prior to its use on women
 - assisting the quality control MRT in the review of MRT quality control test data
 - advising the quality control MRT on all matters concerning image quality and the MQA programme
 - advising the designated MQA radiologist, specifically in the areas of image quality and all aspects of the MQA programme, safety and equipment purchase
 - advising the Lead Provider Manager and/or Clinical Director specifically in the areas of safety, quality control analysis and equipment purchase, including the preparation of equipment specifications
 - co-operating with all others involved in the programme
 - co-operating with other medical physicists working in BSA
 - providing radiation protection advice to the screening unit, particularly the licensee, and ensuring the radiation safety of the women, staff and members of the public
 - ensuring regulatory compliance.
- 8.15.2 Where a provider employs more than one medical physicist, there must be a designated lead medical physicist.
- 8.15.3 All medical physicists working in the programme are members of the Medical Physicists Unidisciplinary Group (UDG) and are required to take part in these meetings and other activities.
- 8.15.4 Medical physicists who are providing services to BSA must satisfy the following criteria.
- They must be explicitly trained in the physics of mammography and in the philosophy of breast screening.
 - Approved courses agreed by the Royal Australian and New Zealand College of Radiologists (RANZCR) and the Australasian College of Physical Scientists and Engineers in Medicine (ACPSEM) and practices are provided by the ACPSEM. Other internationally recognised courses (eg, those provided in the USA by the American Association of Physicists in Medicine / American College of Radiology (ACR) and in the UK by the Institute of Physics and Engineering in Medicine) are acceptable.

- To be acceptable, a course must contain a minimum of 20 contact hours of documented, specialised training in conducting surveys of mammography facilities. Time must also be spent visiting established screening units in order to gain practical experience working with physicists in the field, including a minimum of eight hours' training in digital mammography.

They must also:

- be an appropriately licensed medical physicist under the Radiation Protection Act 1965
- hold a master's degree or higher qualification in physics
- have recognised, documented, specialised training in conducting surveys of mammography facilities as per American College of Radiology (ACR) or RANZCR standards
- have experience of conducting surveys of at least six machines over a 12-month period (ie, six machines, two tests per machine, each six months apart within BSA) – experience conducting surveys must be acquired under the direct supervision of a medical physicist who meets all the requirements of the NPQS.

Where experience has been gained overseas, two supervised surveys are required as part of the orientation to BSA protocols and standards.

8.15.5 Medical physicists providing such services will participate in continuing professional development (CPD) in the area of mammography physics, including:

- attendance at at least one scientific meeting or refresher course, with content specific to mammography physics, every two years – only time spent on mammography physics may count towards the 15 hours of CPD
- attendance at relevant multidisciplinary or peer review and audit meetings
- review of current journals and authoritative material relevant to mammography physics.

The medical physicist must meet the RANZCR/ACR standard of 15 hours' CPD in mammography physics during the 36 months immediately preceding any facility survey. A record of medical physicists practising in New Zealand who meet this standard will be kept by the national physics coordinator. The national physics coordinator, in conjunction with the medical physicists UDG, will give advice on the attainment of CPD requirements.

8.15.6 To achieve and maintain an adequate awareness of current technology and techniques, the medical physicist must:

- during the 24 months immediately preceding any survey, conduct two full facility surveys, including review of the facility MQA programme, and either:
 - perform MQA surveys on six mammography units in the previous 12 months to RANZCR standards, or
 - perform MQA surveys on four mammography units, plus
 - have extensive experience, and
 - work in general diagnostic radiology
- participate in the review of MQA data from surveys on at least six mammography units at least once a year, and have access to such data when necessary

- liaise with other mammography physicists and attend national meetings on mammography physics organised by the medical physicists UDG, and support practical inter-comparison sessions associated with the UDG meetings
 - undertake visits to other centres active in mammography physics to compare techniques at least every two years ('buddy visits').
- 8.15.7 Staff in training can perform medical physics duties under the direct supervision of a qualified medical physicist currently practising within BSA. Staff in training must undertake the full range of tasks under the direct supervision of the medical physicist. Trainees must undertake duplicate surveys and be directly supervised for any procedure conducted within the programme. Until a medical physicist meets the accreditation requirement, the survey remains the responsibility of the supervising medical physicist and must be signed by them.
- 8.15.8 The medical physicist must participate in a planned, coordinated MQA programme covering all imaging equipment that will be used in achieving a diagnosis, as well as ancillary equipment. The MQA programme must also include the test and calibration of the MQA test equipment itself and the provision of the medical physics service. The service must be specified in a written agreement between a breast screening unit and the designated medical physics services.
- 8.15.9 The physics QA tests must be performed in a standardised manner and to the national protocols in order to facilitate the exchange of data. A national protocol of tests, based on those recommended by RANZCR, has been agreed, and will be continually reviewed by the medical physicists UDG. Additions to the RANZCR tests are necessary for regulatory compliance.
- 8.15.10 In accordance with the UK National Health Service Breast Screening Programme guidelines, and to promote compliance with CSP-5, there is a programme of dose measurements on women.
- 8.15.11 There must be an internal quality system to ensure that:
- all critical test failures are identified to the facility on the day testing is completed
 - 95% of preliminary reports are provided to the unit on the day testing is completed
 - 95% of final reports are provided to the unit within 20 working days of the day testing is completed
 - defects are reviewed when identified and the medical physicist specifies the timeframe in which they must be resolved in consultation with the Clinical Director.
- 8.15.12 The medical physicist must send medical physics quality assurance survey results to the national physics coordinator, who collates the results.
- 8.15.13 The medical physicists UDG must ensure the efficient exchange of information to ensure national protocols are maintained and revised on the basis of current evidence.