## CL2 – The service implements and monitors systems to ensure the acquisition of optimal diagnostic quality images.

a. For effective diagnosis and management of patients, all images acquired should be of optimal diagnostic quality according to current best practice, and provide essential image characteristics. Image acquisition should be comprehensive in scope and quality, avoiding the need to subject the patient to unnecessary image acquisition procedures and making effective use of resources.

b. The use of radionuclide pharmaceuticals for therapeutic purposes is beyond the scope of this accreditation scheme.

c. Protocols should be developed, agreed, maintained and applied for all image acquisition, including radionuclide imaging. Individual imaging acquisition protocols are rarely appropriate, unless part of an approved research project. Protocols used for image acquisition should be grounded in current best practice and reflect relevant professional guidance and statutory requirements. Where a service images children, specific paediatric protocols should be in place, taking account of their particular needs. Image acquisition protocols involving the use of ionising radiation should ensure maximum diagnostic information for minimal dose exposure and conform to the As Low As Reasonably Practicable (ALARP) principle (see also standard statements SA1 and SA3). Protocols should be regularly reviewed by clinicians, clinical teams and experts from a range of specialities and disciplines and experts outside the service including Medical Physics Experts.

d. Processes should be in place to ensure the correct identification of patient images. All images should be marked with: the correct patient name, date of birth and unique identifier; the site, date and time of examination; a permanent side marker; and, when appropriate, the time or number sequence of the image. The name of the person responsible for acquiring the images should be recorded.

e. Processes should be in place to manage non-medical imaging exposures including assessment of requests for examinations for medico-legal purposes, research trials, on asymptomatic individuals and non-diagnostic purposes such as ‘family bonding pictures’ of fetuses.

f. Staff should be aware of protocols and how to access them. Evidence should be available to show that staff are conversant with current protocols relevant to their responsibilities. Robust systems should be in place to ensure that staff are notified quickly of changes to protocols and only the latest agreed version of a protocol is used (see also LM2C1).

g. For all imaging modalities, images should be evaluated periodically by appropriate individuals or a team, to ensure that image quality is maintained. There should be a formal system of image review, focusing on essential image characteristics, technical performance and parameters used to acquire the image. Findings should be disseminated to all imaging staff and, where appropriate, others who use the service. These findings should be used to inform service development and changes made to image acquisition protocols where appropriate. Staff should be supported in carrying out enough examinations and procedures to maintain their range of competence in image acquisition. Image display systems used for diagnostic reporting and for clinical review should be subject to regular quality assurance. Printers should be checked regularly to ensure they are calibrated to produce printed images that match exactly images sent for printing.

h. Reject analysis mechanisms should be in place for evaluating and categorising rejected images to identify faults/errors in each modality. Reject analysis should be performed on a regular basis. By reducing the number of rejects, services may reduce the need for repeat examinations, and hence radiation exposure and costs. In services that use digital systems, such as direct digital radiography (DDR) or computed radiography (CR), there should be a clear policy and procedure for categorising and storing images that are rejected and not sent to picture archiving and communication systems (PACS).

i. Major errors should be reported to the relevant authorities and communicated to affected patients as quickly as possible in a sensitive manner and in accord with Organisational policy. (See also standard statement PE4).

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## Legislation

*The Ionising Radiation (Medical Exposure) Regulations 2017* SI2017 No1322 http://www.legislation.gov.uk/uksi/2017/1322/pdfs/uksi_20171322_en.pdf

*The Ionising Radiations Regulations 2017* SI2017 No1075 http://www.legislation.gov.uk/uksi/2017/1075/pdfs/uksi_20171075_en.pdf

*The Ionising Radiation (Medical Exposure) Regulations (Northern Ireland) 2018* SI 2018 No17 http://www.legislation.gov.uk/nisr/2018/17/pdfs/nisr_20180017_en.pdf

*The Ionising Radiations Regulations (Northern Ireland) 2017* SI2017 No229 http://www.legislation.gov.uk/nisr/2017/229/pdfs/nisr_20170229_en.pdf

**The Colleges will aim to update the reference list regularly to ensure that the information provided is as current as possible. Please note these links refer to external organisations and, as such, the Colleges are not responsible for the content or maintenance of these external sites.**