## 1. Objectives

The aim of this Quality Assurance (QA) Programme is to ensure robust procedures/plans are in place within NHS GG&C to comply with IRMER17 (Regulation 15 and Schedule 2, 1(d)) and IRR 17 Regulation 32 , and associated Guidance.

## 2. Responsibilities

Service Leads will ensure that procedures are in place detailing the QA programme for each modality, consistent with National & Professional Standards & Guidance.

## 3. Equipment Testing prior to first clinical use

This will include Critical Examination, Electrical Safety Testing, Acceptance, Commissioning and user Baseline tests prior to training and clinical use. It is the responsibility of the installer to perform a Critical Examination, however Health Physics are commonly asked to perform this on the installer's behalf. It is the LSL's responsibility to confirm that all equipment and accessories have been delivered in line with the purchase order.

Acceptance and commissioning tests will be carried out by Health Physics and/or Nuclear Medicine physics staff in order to confirm the equipment is functioning as intended. The installers must provide GG&C Service Leads (SL) with adequate information about proper use, maintenance, QA testing of the equipment, safety features (e.g. use and checks of emergency stops) and contingency actions (e.g. use and checking of UPS). Baselines will be set following acceptance and commissioning test results. Other aspects, such as clinical protocols will be determined with involvement from the supplier, Practitioners and MPEs. GG&C will be provided with the equipment acceptance handover from the installer/Physics before clinical use.

## 4. Servicing and maintenance programme

Local service leads will ensure that appropriate arrangements are made for service and maintenance of equipment used in connection with medical exposures.

## 5. Equipment survey

Equipment surveys are undertaken at intervals by health physics / Nuclear Medicine as recommended by an MPE. Any recommendation made must be recorded and actioned appropriately.

## 6. Patient Dose Survey

Patient dose surveys for each modality are undertaken at intervals as recommended by the relevant MPE. These dose surveys are to ensure all X-ray equipment used in connection with medical exposure is within the recommended Diagnostic Reference Levels (DRLs). Any recommendation made must be recorded and actioned appropriately.

## 7. QA testing schedule

Testing schedules for all equipment involved are based upon manufacturer recommendations, national guidelines and MPE advice (taking into account the function, workload and age of equipment). Relevant QA testing must take place following equipment service/maintenance.
Further detail regarding testing schedules for X-Ray equipment is covered in HP-RQA-GUID-003 and HP-RQA-PROC-032.

Further detail regarding testing schedules for nuclear medicine is covered in Level 3 documentation and is overseen by the Local Service Lead.

Suitable QA test equipment will be provided and maintained.

Engineering controls (i.e. safety features of equipment such as emergency power offs) must be tested as part of a robust QA programme.

## 8. Responsibility for QA testing and recording

Local Service Leads are responsible for ensuring the QA programme is undertaken in accordance with the relevant documentation and that all equipment used in connection with medical exposures is safe to use.

LSLs will ensure there is appropriately trained staff to carry out the QA testing and that it is performed and documented routinely, post-maintenance, and when otherwise required.

## 9. Malfunction and Reporting Procedures

In the event that results of QA testing are out with defined tolerances, the operator performing the test should inform the modality lead/LSL/duty physicist as appropriate. Further testing may be performed, and an MPE should be consulted who will determine whether the malfunction is serious enough to justify removing the equipment from clinical use. A log of the fault and any associated equipment down-time will be logged. Written arrangements must in place for investigating any QA failure, including the actions required should the equipment need to be taken out of use.

For nuclear medicine in the event that the equipment required to complete a patient examination has been taken out of clinical use after the patient has been administered with a radiopharmaceutical, arrangements should be sought to use equivalent equipment. If required, LSLs can liaise with others across the city to arrange for patients or samples to be transferred across sites.

## 10. Handover Procedure