



Medical Physics acceptance tests in Radiology

The last few months, several members notified the BHPA board about the following scenario.

During their routine QC visits, medical physicists were confronted with the presence of newly installed x-ray equipment that was “accepted for commissioning” by a medical physicist from another group/company. This happens sometimes with, sometimes without their knowledge. Apparently, this commissioning test is provided on demand by the x-ray manufacturer that installs the equipment in the hospital.

When medical physics commissioning tests are performed, without the knowledge of the regular medical physicist who is responsible for the site, following immediate concerns can be addressed:

Commissioning test follow up and subsequent testing

Who is responsible for the follow up in case of minor or major unresolved issues that are encountered during the commissioning test? Who is responsible for subsequent routine testing? For example, mammography equipment used for breast cancer screening should be monitored daily.

Baseline values

For almost all modalities, several critical baseline values are defined during an acceptance test at commissioning and are monitored during subsequent testing. If the subsequent QC is performed by the regular physicist, then he or she has no other choice than to repeat the commissioning test to define these values.

Patient dosimetry

Does the commissioning test include patient dosimetry? Who is responsible for the patient dose monitoring/optimization of the equipment?

Commissioning test or acceptance test?

Does the test include equipment commissioning according market specifications or is it merely a conformance test according ARBIS/RGPRI? Is the equipment tested against minimum legal requirements or is it tested against the requirements of the institution.

In order to prevent quality assurance and dosimetry issues, BHPA advises that all medical physicists who perform commissioning at sites where other physicists are active get in contact to clarify the above concerns.

The BHPA board
and
BHPA working groups Radiology and Professional matters