Study shows that Finnish hospitals follow the quality assurance and patient dose monitoring regulations of computed tomography well.

Riina Kärnä from Aalto University wrote her thesis about “Quality Assurance and Patient Dose Monitoring Methods in Computed Tomography” in the field of Biomedical Engineering.

Since computed tomography (CT) utilizes ionizing X-rays, it is important ensure the functionalities of a CT scanner and pay attention to the radiation dose absorbed to the patient. The goal of the conducted study was to obtain an overall understanding on the quality assurance (QA) and patient dose monitoring methods in CT. The study was conducted by sending a survey to selected hospitals.

In Finland, the legislation, safety regulations, and guidelines related to radiation safety are supervised by the Radiation and Nuclear Safety Authority (Säteilyturvakeskus, STUK). STUK provides a good variety of manuals and instruction of how to adequately follow the given legislation, regulation, and guidelines. The study shows that the hospitals follow legislation and STUKs regulations well and that they see the current amount of QA tests adequate. However, certain specific tests are suggested.

Patient dose monitoring is done in half of the hospitals by using a dose management software. The other half monitors the doses manually. Since manual supervision of patient doses is quite time consuming and can be hard to execute, the hospitals currently without a software are discussing on acquiring one. Therefore, the dose management software seems to be the method of choice.