Hissa Mohammed, OMICS J Radiol 2017, 6:4(Suppl)
DOI: 10.4172/2167-7964-C1-012

The efficiency of applying the radiology technologist of the radiation dose monitoring technique during the fluoroscopy procedures for oncology pediatric aged between 4–7 years old

Hissa Mohammed
National Center for Cancer Care and Research, Qatar

Fluoroscopy is one of the radiation sources used in diagnostic processes in radiology. Owing to the diagnostic approach that entails observation of the affected anatomy using radiation in real time, harmful effects may potentially occur. Therefore, safety measures in the radiographer's use of equipment and effective monitoring and management are essential in diagnostic processes. Additionally, patients in the age group of four to seven years have less anatomy and tissue development, which presents higher levels of health risks. The study will focus on analyzing the pre-procedure requirements and the set of guidelines, which enable the enforcement of the safety of the concerned patients within the pediatric practice. For example, the study will observe the potency of undertaking the reduction of the fluoroscopic times and improving the communications between the health specialists. The study will also evaluate methods and techniques employed in achieving efficiency in fluoroscopy radiation dose management. Direct and indirect methods will be employed to monitor the dosage effects. Direct methods would entail performing a skin dose test on the target area of fluoroscopic radiation. Detectors would be employed, for example the photographic films and thermoluminescent dosimeters. The indirect methods will employ the use of the dose area product meter to ascertain the effects of radiation on the patients. Some of the dose reduction techniques involve the manipulation of equipment operation, for example beam quality adjustment, dose level setting, and dose spreading. The results used to evaluate the dosage level will entail analyzing measurements of the skin exposure unit of the fluoroscopic equipment. Additionally, results from the change in beam quality and the effect on the skin will be analyzed in the study. These results will be achieved through the use of different operational voltage levels on the fluoroscopic equipment. Skin dose will be determined through a combination of several measurable factors in fluoroscopic equipment operation. Due to the wide adoption of the fluoroscopic radiation technique in the pediatric oncology diagnostic process, dose monitoring is important in ensuring patient safety. Direct monitoring such as the skin dose procedure is effective, due to the reduced risk, which would otherwise result from other methods. Notable measures for efficiency in dose monitoring require adequate training of fluoroscopic operators on appropriate equipment use and continual observance of quality control procedures. These interventions and procedures should not compromise the quality of imaging and dose specification.

Biography

Hissa Nasser Mohammed completed his Diploma in Medical Radiography from Health Science School, College of North Atlantic, Qatar in 2008. He worked as Radiology Technologist at Hamad Medical Corporation, Qatar for two years. In 2014, he completed his Bachelor degree in Medical Radiography from Queen Margaret University, Edinburgh. He was Technical Supervisor at National Center of Cancer Care and Research.

hmohammed6787@gmail.com