



Digital Radiography Re-exposure Analysis: Quality Assurance in Srinagarind Hospital

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Background and objective : Re-exposure analysis is a part of quality assurance (QA) programs in clinical radiography and radiology services in order to provide an acceptable image quality. The analysis program consists of a framework that used to examine the exposure techniques, monitor equipment performances, the effectiveness of quality assurance program, and more importantly is to control the patient radiation dose.

This study aims to evaluate the radiographic re-exposure analysis in Srinagarind Hospital, Khon Khan University.

Methods: Analyzed data were from five digital x-ray rooms, obtained from October 2013 to July 2014 in Srinagarind Hospital, Faculty of Medicine, Khon Khan University. The images -that were not sent out for health care practitioner reading were collected and analyzed. The re-exposure images were collected and counted with respect of x-ray rooms and the reasons of rejection were recorded.

Results: There were six reasons of re-exposure images which were poor positioning, poor technique, wrong detector, un-cooperating patient or patient movement, images artifact, and error. The analysis showed that the overall re-exposure was 3.8% of 103,984 exposures from 71,826 patients. The top three highest percentage of re-exposure were 2.3%, 0.5%, and 0.4% from poor positioning, wrong detectors, and artifact, respectively.

Conclusion: The results of this study showed that the main reasons of re-exposure of radiographs are due to the poor positioning (2.3%) and wrong detector (0.5%) errors. It was found that human error was the main causes of the mistakes. The improvement of the safety culture, QA program, and staff training should be performed to reduce the rate of re-exposure.

Key word: Re-exposure analysis, quality assurance, digital radiography

