

Radiation Dose Assessment of Patients undergoing Lumbar Spine Radiography

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Abstract

Patient dose measurement is an important tool for dose optimization and patient protection in diagnostic radiology. It is to safeguard both the medical personnel and patient from undesirable effect of radiation. The present study examines the entrance surface air kerma (ESAK) and effective dose of 150 patients undergoing routine lumbar spine radiographic examinations in nine health care centers consisting ten radiological units in Southern part of Nigeria. Patient dose were evaluated using mathematical equations based on exposure factors. The estimated mean ESAK values ranged 1.68 mGy to 12.66 mGy for lumbar spine AP and ranged from 1.91 mGy to 10.53 mGy. The mean effective dose ranged from 0.10 mSv to 2.15 mSv for lumbar spine AP and ranged from 0.04 mSv to 0.22 mSv for lumbar spine LAT. The results obtained in this study were higher than the doses reported in UK 2010 review in some health care centers. The higher doses obtained can be attributed to the use of higher tube load (mAs) during examinations, which shows lack of optimization of exposure settings.

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Biography:

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