Entrance Skin Exposure from Radiographic Examinations: A Pilot study at Taksin Hospital, Bangkok Metropolitan Administration

Pongnapang N.1, Jaengsri N.2

1 Department of Radiological Technology, Faculty of Medical Technology, Mahidol University
2 Department of Radiology, Taksin Hospital, Bangkok Metropolitan Administration

Abstract
To optimize risks from radiation exposure to patients undergoing radiographic examination. Entrance Skin Exposure (ESE) is an important factor to be determined. A pilot study was aimed to evaluate level of ESE from radiographic examinations taken at radiology department, Taksin hospital. Two routine radiographic rooms and one emergency room were under investigated. Data of routine exposure factors for all radiographic exams were collected for calculation of EXE. The AAPM standard protocol was employed to measure ESE. Results showed ESE values as the followings, Chest PA 8.33-16.49 mR, Lateral 30.32-58.50 mR, Skull AP 52.98-62.5 mR, Lateral 241.65-309.31 mR, Pelvis AP 56.05-83.25 mR, Thoracic spine AP 56.05-66.60 mR, Lateral 107.04-140.47 mR, Cervical spine AP 27.58-35.12 mR. Results were then compared with data obtained by other international organizations namely, AAPM Report N. 31, NEXT, NRPB, CRCPD and TRCR. We found that ESE values from our study were generally less than those obtained from western countries. Smaller size of average Thai population is the main factor for this considerably lower radiation level. Our results suggested that database of ESE for Thai population should be established to adjust appropriate exposure levels.

Keywords: Entrance Skin Exposure, radiation dose, radiation protection

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