

Peruvian Diagnostic Reference Levels for Patients Undergoing Different X-Rays Procedures

Authors : Andres Portocarrero Bonifaz, Caterina Sandra Camarena Rodriguez, Ricardo Palma Esparza, Nicolas Antonio Romero Carlos

Abstract : Reference levels for common X-rays procedures have been set in many protocols. In Peru, during quality control tests, the dose tolerance is set by these international recommendations. Nevertheless, further studies can be made to assess the national reality and relate dose levels with different parameters such as kV, mA/mAs, exposure time, type of processing (digital, digitalized or conventional), etc. In this paper three radiologic procedures were taken into account for study, general X-rays (fixed and mobile), intraoral X-rays (fixed, mobile and portable) and mammography. For this purpose, an Unfors Xi detector was used; the dose was measured at a focus - detector distance which varied depending on the procedure, and was corrected afterward to find the surface entry dose. The data used in this paper was gathered over a period of over 3 years (2015-2018). In addition, each X-ray machine was taken into consideration only once. The results hope to achieve a new standard which reflects the local practice, and address the issues of the 'Bonn Call for Action' in Peru. For this purpose, the 75% percentile of the dose of each radiologic procedure was calculated. In future quality control services, those machines with dose values higher than the selected threshold should be informed that they surpass the reference dose levels established in comparison other radiological centers in the country.

Keywords : general X-rays, intraoral X-rays, mammography, reference dose levels

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