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The establishment of computed tomography diagnostic reference levels in Portugal (Article)

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Abstract

The aims of this study were to investigate the frequency of Portuguese computed tomography (CT) examinations, identify protocol application and establish diagnostic reference levels (DRLs). CT departments (n5211) were surveyed nationally (June 2011-January 2012) and CT protocol information and dose data were collected, as were retrospective age-categorised paediatric CT data from three national paediatric centres. The proposed national CT DRLs (CTDI_{vol}) for adults were 75, 18, 14, 18, 17, 36, 22, 27 and 16 mGy for head, neck, chest, abdomen, pelvis, cervical, dorsal, lumbar and joints, respectively. The levels for paediatric head and chest examinations were as follows: 48 and 2 mGy (newborns), 50 and 6 mGy (5y olds), 70 and 6 mGy (10y olds) and 72 and 7 mGy (15y olds). A limited number of current paediatric protocols aligned to recommended international age categorisations. Portuguese DRLs were generally higher than European recommendations, suggesting potential for optimisation. The need for greater standardisation of age-categorised paediatric protocols was identified. © The Author 2013. Published by Oxford University Press. All rights reserved.

Indexed keywords

EMTREE medical terms: adolescent; adult; article; child; computer assisted tomography; female; human; infant; male; methodology; newborn; Portugal; preschool child; radiation dose; radiometry; risk; standard

MeSH: Adolescent; Adult; Child; Child, Preschool; Female; Humans; Infant; Infant, Newborn; Male; Portugal; Radiation Dosage; Radiometry; Reference Standards; Risk; Tomography, X-Ray Computed
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