

RADIATION DOSES IN COMPUTED TOMOGRAPHY IN SERBIA

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Abstract – There are 90 CT units operating in Serbia, with tenfold increase in the last decade, resulting with annual total of approximately 350000 procedures. The objective of this paper is to assess typical patient dose from adult CT examinations. Initially, two hospitals with high workload were enrolled into the study. Both multi detector CT (MDCT) and single detector CT (SDCT) were included, to represent typical practice. Typical patients exposure parameters based on predefined protocol for CT examinations of head, chest and abdomen were collected. Data were taken from CT unit display. This includes exposure parameters and volumetric CT dose index (CTDI_{vol}). For MDCT dose length product (DLP) was also available on the display, while in case of SDCT the value was calculated from CTDI values and information on typical scan length. DLP values were 1020 mGy•cm, 590 mGy•cm and 890 mGy•cm for head, chest and abdomen respectively using SDCT and 1050 mGy•cm, 570 mGy•cm and 1000 mGy•cm for the same examination using MDCT. The assessed patients' doses in terms of CTDI_{vol} and DLP were below or slightly above the reference levels and in accordance with surveys from other countries, although the scope for dose reduction through optimisation of the examination protocol was observed.