

Study of Economic Efficiency of Digital X-ray Diagnostics

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Abstract

In order to evaluate the cost-effectiveness of digital x-ray diagnostics we performed a calculation of material expenses for analogue and digital x-ray examinations per year as well as timing of 438 x-ray procedures in nine anatomic regions. The prices for the consumables: x-ray film, thermal film, processing chemicals and hard disk drives were taken into consideration. We compared the time spent for the analog and digital X-ray examinations. The cost of one analogue x-ray image was 38,6 RUR, compared to 4,8 RUR per one digital image. We determined that the digital x-ray unit operation is 8 times more economically profitable compared to analogue, due to the cost of consumables. The measurements of the time spent for one x-ray study showed that digital imaging required significantly more time than analogue. This is the result of the additional time spent for the image post-processing and extra document flow due to the radiological information system malfunction and the absence of a hospital information system. Time for both analogue and digital examinations did not exceed the established standards for the procedure according to the Ministry of Healthcare Order № 132.

Key words: Digital X-ray Diagnostics, Economic Efficiency, X-ray Examination Time.

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