

## PATIENT DOSES DURING INVASIVE CARDIAC PROCEDURES

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The goal of this study was to make initial dose estimation for patients undergoing invasive cardiac procedures. Patient doses in cardiac catheterization labs are known to be very high. It is one of the rare radiological procedures where deterministic doses can be achieved.

Clinical Centre of Sarajevo University has one cardiac fluoroscopy/DCM x-ray unit – Siemens Coroscope. It works in two different operational modes: fluoroscopy (25 fps) and digital cine mode (25 and 12.5 fps). Modes have different beam quality, 10.7 and 3.7 mmAl, respectively. Prior to measurements quality control test were performed and no significant discrepancies were found. Doses for 33 patients were measured using KAP-meter RTI Doseguard 100. Patients examined in this cardiac lab go through diagnostic and/or therapeutic procedures. Depending on complexity and type of procedures they may receive lower or higher doses ranging from 9.4 Gy $\text{cm}^2$  to 222 Gy $\text{cm}^2$ . Mean value of KAP was 38.04 Gy $\text{cm}^2$  with standard deviation of 41.31 Gy $\text{cm}^2$ . Values of KAP speed during the procedures were compared to patients' body-mass index. Using various assumptions and correlation between KAP/t and BMI we have managed to get simple formula that gives us KAP from BMI and irradiation time. This formula is very useful since KAP-meter is not permanently installed on this x-ray unit.

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