

Radioprotection during interventional cardiology procedures

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Background: The use of ionizing radiation during cardiac catheterization interventions adversely impacts both the patients and the medical staff. Traditional radiation protection equipment is only partially effective. The Cathpax® radiation protection cabin (RPC) has demonstrated to significantly reduce radiation exposure in electrophysiological and neuroradiology interventions. Our objective was to analyze whether the Cathpax® RPC reduces radiation dose in coronary and cardiac structural interventions in unselected real-world procedures.

Methods and results: In this non-randomized all-comers prospective study, 119 consecutive cardiac interventional procedures were alternatively divided into two groups: the RPC group (n=59) and the non-RPC group

(n=60). No significant changes in patients and procedures characteristics, average contrast volume, air kerma (AK), dose area-product (PDA) and fluoroscopy time between both groups were apparent. In RPC group, the first operator relative radiation exposure was reduced by 78% at the chest and by 70% at the wrist. This effect was consistent during different types of procedures including complex percutaneous interventions and structural procedures.

Conclusions: Our study demonstrates, for the first time, that the Cathpax® cabin significantly and efficiently reduces relative operator radiation exposure during different types of interventional procedures, confirming its feasibility in a real-world setting.

