carotid artery stenting and peripheral artery stenting. However, in PCI, simulation-based training is not yet established and thus we have no previous experience in this area. The aim of this study is to assess the utility of the new arthritis based simulation system for PCI.

Methods: We reconstructed the whole body type PCI simulating vascular model from the imaging data of 64 raw MDCT, including coronary arteries with a significant stenosis (type A of the AHA/ACC classification) which consisted of materials which can be diluted and can preserve the dilated lumen. We enrolled 14 interventional residents who had no experience in performing PCI but who received lectures for the techniques of PCI and 5 interventional cardiologists who had experienced more than 350 PCI procedures. We divided them into 3 groups: Group A (only lecture), Group B (lecture plus training with the simulator) and Group C (experienced interventionists). Practical examination using the simulator was performed. Results of examination were graded by one attending interventional cardiologist, using the scoring system of Cardiovascular Intervention and Therapeutics (CVIT). Procedural time, contrast volume, fluoroscopy time were measured.

Results: The score was significantly higher in Group B (112 ± 50; p < 0.01) and Group C (121 ± 25; p < 0.001) compared with Group A (101 ± 10). There was significant more use of contrast dye in Group B (94.9 ml; p < 0.001) and Group C (174 ± 12.9ml; p = 0.008 ) compared to Group A (129.2 ± 35.0ml). Group C significantly reduced procedural time, contrast volume, and fluoroscopy time compared to Group A and B.

Conclusions: New arthritis based simulator is very useful tool for training and evaluating PCI techniques.

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Patients skin radiation doses in a contemporary cohort of patients undergoing percutaneous interventional cardiology procedures.

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Background: The field of interventional cardiology has drastically developed over last years, currently evolving into more complex procedures with increasing image quality requirement. These procedures result in substantial patient radiation doses.

Methods: To evaluate this fact, we analysed radiation doses exposure in 2417 patients undergoing interventional cardiology procedures: diagnostic coronary angiography (DCA): 1328 (54.9%); percutaneous coronary intervention (PCI): 1043 (43.2%); structural heart intervention (SHI) 42 (1.7%); and renal denervation (RD) 4 (0.2%). These patients were divided into 3 groups: Group A (new arthritis based simulator) and 5 interventional cardiologists who had experienced more than 350 PCI procedures. Group B (usual procedures), and Group C (experienced interventionalists). Practical examination using the simulator was performed. Results of examination were graded by one attending interventional cardiologist, using the scoring system of Cardiovascular Intervention and Therapeutics (CVIT). Procedural time, contrast volume, fluoroscopy time were measured.

Results: The score was significantly higher in Group B (112 ± 50; p < 0.01) and Group C (121 ± 25; p < 0.001) compared with Group A (101 ± 10). There was significant more use of contrast dye in Group B (94.9 ml; p < 0.001) and Group C (174 ± 12.9ml; p = 0.008 ) compared to Group A (129.2 ± 35.0ml). Group C significantly reduced procedural time, contrast volume, and fluoroscopy time compared to Group A and B.

Conclusions: New arthritis based simulator is very useful tool for training and evaluating PCI techniques.