

Evaluation Method of Training Simulation on Biological Models for Cardiovascular Surgery Residents

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Abstract

Objectives: The goal of this study was to describe and evaluate our simulation training program on biological models for the cardiovascular surgery residency program at our institution. **Material and Methods:** Since 2016, with the purpose to develop better practical performance and evaluate the improvement of resident's surgical skills, it was implemented a simulation training program, composed of some elemental procedures in cardiovascular surgery. It was established one wet lab session weekly lasting 2 hours, coached by 2 expert cardiovascular surgeons. Bovine and porcine hearts were used as biological models. At the end of the hands on program, an objective assessment consisting of 2 practical modules was applied and performance was rated by way of a 5-point scale. In addition, to provide a subjective assessment, each resident filled out a questionnaire consisting of 3 items reviewing the overall quality of the workshops on a 10-point scale. **Results:** The objective evaluation applied at the end of the training program consisted by valve replacement and coronary artery bypass grafting (CABG) modules. The mean performance rating scores for valve replacement module ranged from 4.2 to 4.79, and to CABG, from 4.33 to 4.87. Regarding subjective assessment, all items evaluated, such as expert's didactics, simulation performance and biological simulator fidelity, received high grades (above 9 on a 10-point scale). **Conclusions:** Simulator training on biological models for cardiac surgery medical residents is a simple and effective learning method of surgical skills.

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