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Evaluative simulation: An innovative approach to summative assessment in an anesthesia residency program

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Background: High-fidelity simulation is widely used as an educational tool for anesthesia residency training in North American medical schools. It is frequently discussed in the critical literature in terms of its effectiveness in improving resident skills, especially for high risk situations. However, simulation has not yet been used as an assessment tool in anesthesia training, despite the fact that it can be an accurate measure of residents' clinical competence. **Discussion:** This project involves the implementation of evaluative simulation as part of the summative assessment for anesthesia residents at Memorial University of Newfoundland. The assessment currently involves four stations: 1) an oral exam; 2) a simulated situation that is evaluated through a checklist, a global rating scale, and the anesthesia non-technical skills (ANTS); 3) a simulation debrief (not assessed); and, 4) a written exam. Preliminary evidence suggests that the results of the evaluative simulation are more representative of a resident's clinical competence than either the oral or written exams. By measuring clinical competence, evaluative simulation fills a gap in the current assessment process in place at North American medical schools which tests knowledge (the written exam) and the application of knowledge (the oral exam). Further research is planned to compare the results of evaluative simulation with resident success at the national exam. **Conclusions:** Evaluated simulation provides a more comprehensive assessment of anesthesia residents in preparation for their national exams. Further research is planned to compare the results of evaluative simulation with resident success at the national exam.