Editor's Note: The following abstracts are the Top 3 abstracts selected jointly by the JGME and the International Conference on Residency Education (ICRE) for the 2012 ICRE meeting in Ottawa, Canada. A full listing of submitted abstracts appears on the JGME website at www.jgme.org. Underlined author names indicate the presenting author at the conference.

A Fresh Look at Simulation: Reconsidering Fidelity

In health care education, the concept of simulator fidelity is usually understood as the degree to which a simulator looks, feels, and acts like a human patient. While these sensory and physical attributes can be a useful guide in designing simulators, true educational effectiveness in simulation arises more from design features of the scenarios and their interaction with contextual and learner characteristics. In fact, several empirical studies have shown that the degree of fidelity appears to be independent of educational effectiveness.

We conducted a comprehensive systematic review and meta-analysis of the literature on technology-enhanced simulation, including virtual reality, mannequins, plastic models, animal models, and human cadavers.

From an initial pool of 10 904 articles published from 1966 to May 2011, we identified 985 original comparative studies of simulation-based medical education. One of the issues that arose as we tried to code for fidelity was the definition of high-fidelity vs. low-fidelity. Both occurred in terms of structural and functional aspects.

Our review concerning the definition of fidelity suggests it is much more multi-faceted and complex than a simple distinction of low- vs. high-fidelity would suggest. Several concepts that are typically associated with fidelity can be used to explain educational effectiveness, such as learner engagement, sensory augmentation, and suspension of disbelief.

Given that these concepts more directly influence properties of the learning experience, we recommend abandonment of the term fidelity altogether.

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