

The College should be instrumental in adapting simulators to education

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As part of its major reorganization, the American College of Surgeons has rededicated itself to the education and training of surgeons everywhere. A significant part of the education of the surgeon of the twenty-first century may well involve the use of simulators. To gain insight into the value of simulators in medical education, the College sponsored a two-day symposium on the subject. This meeting was held in conjunction with the National Board on Educational Testing and Public Policy April 20-21 at Boston College, Chestnut Hill, MA.

Issues discussed

A cross-section of individuals—including surgeons, educators, engineers, and experts in educational testing—participated in this important discussion. Invited participants were divided into four discussion groups, including clinical, technical, assessment, and organizational.

The clinical group was asked to enumerate the qualities and skills that define surgical competency. In addition, this group considered simulation's relationship with the initial development of these competencies and their lifelong maintenance.

The technical group was asked to try to determine the technical possibilities of surgical simulation and the focus of our efforts to use simulation to improve surgical education.

The assessment group was asked to determine the role that simulation might play in evaluating the clinical skills and outcomes that define surgical competency. In addition, this group was asked how an organization might validate the metrics and assessment techniques used.

Lastly, the organization group concentrated on conceiving a structure that might best support the focused effort to advance surgical education through simulation. This group also was asked to consider the key dimensions of a strategic plan and the management and financing of such an effort.

All groups met individually and then jointly to engender cross-fertilization of ideas and strategies. These sessions were unique in that they brought together multiple disciplines that before this meeting rarely interacted. This sort of collaboration led to a broadening of ideas, which brought the concept of the use of surgical simulators to a single proposition with four supporting recommendations.

Conclusions

The composite group concluded that the overwhelming need facing all surgeons is to improve patient safety and that simulation may play a major role in advancing that goal. Therefore, the conference participants have made the following recommendations to the Board of Regents.

- The American College of Surgeons should establish itself as the steward and leader for improving the safety of the surgical patient. This role should be promulgated as a service to the public and to the College membership. This effort would require the establishment of a center or repository for stewardship related to all aspects of patient safety. In so doing, the College would establish itself as a visible educational resource that would evaluate new techniques, new technology, and surgical outcomes. The College also would assume the role of integrator of research objectives and funding related to simulation in surgical education and training. This work would relate to surgeons at all levels of development. The College would also advocate the use of simulation education/training in the professional growth and assessment of surgeons.

- In relation to patient safety, the working premise would be that medical simulation would reduce surgical error by way of: (1) screening of potential surgeons for demonstrable aptitude; (2) providing initial training in surgical experiences; (3) promoting ongoing education of surgeons through a consistently reproducible process; (4) enabling periodic assessment of acquired surgical skills; and (5) maintaining proficiency through rehearsal of complex, patient-specific procedures.

- The College would: (1) identify targets for simulation; (2) research, write, and implement the plan for medical simulation training; and (3) investigate sources of funding for the plan. The College would need to embark on an immediate national fund-raising effort to promote the use of simulation in surgical training, education, and assessment. Potential sources of funding would include federal agencies (such as the National Institutes of Health and the Department of Defense), industry, and private philanthropy.

- The College should seize the opportunity to become the visible leader in patient safety initiatives. In promoting a comprehensive educational program that would include simulators as a critical piece and housing this effort in a visible center, the College could quickly be identified as a crucial patient advocate.

The participants in this meeting concluded that simulators should be used well into the future to teach, refine, and test surgical skills.

Assessment techniques may be developed to validate these skills and relate them to patient outcomes with a high level of certainty. In addition, simulators may be joined with techniques that assess judgment and decision making. Finally, organizational structures and initiatives may be designed to place the College at the center of the patient safety issue in the U.S. while simultaneously enhancing the role of simulation in surgical education and training. □

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