



ADVANCED PATIENT SIMULATORS IN TEACHING ANESTHESIOLOGY AND EMERGENCY SITUATIONS

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D2.1 TECHNOLOGY-ENHANCED LEARNING AND TEACHING IN ACUTE MEDICINE

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Simulators and the use of simulation have become an integral part of medical education, training, and research. The developments and applications are very fast. Different types of simulators can be distinguished: computer-based or screen-based microsimulators versus mannequin-based simulators. Realistic simulations are a useful method to show mechanisms of error. The anesthesia crisis resource management is the standard for human factor-based simulator training.

Clinical excellence is not achieved by the medical knowledge alone. Human factors and the interaction of team members, as well as organizational conditions in the system of care, also play major roles. Therefore, the study of human performance is very important. The health clinical institutions must provide appropriate organizational characteristics to allow safe patient care practices (e.g. improve safety culture, integrate effective incident reporting and analysis systems). The introduction and spread of crisis resource management training, including the application of realistic simulation exercises, is likely to improve patient safety in anesthesia and other acute care domains.

Observation of anesthesiologists during routine operations or in the handling of adverse events (using realistic patient simulators) has improved our knowledge of critical decision-making and team interactions. Future progress on patient safety in anesthesia will require interdisciplinary research and training, improvements in systems safety and organizational learning, and the involvement of all levels of the health care industry.

The most important part of simulator training that goes beyond specific technical skills is the self-reflective (often video-assisted) debriefing session after the scenario. The debriefing is influenced most strongly by the quality of the instructor, not the fidelity of the simulator. Simulators are just the tools for an effective learning experience. The education and training, commitment, and overall ability of the instructors are of utmost importance.