

---

## ICU Volume 6 - Issue 4 - Winter 2006/2007 - Management

### The Use of Simulation as a Tool for Improving Teamskills

---

#### Authors

**Torben Wisborg**, M.D., D.E.A.A.

*The BEST Foundation: Better & Systematic*

*Trauma Care (www.bestnet.no)*

*Department of Anesthesia and Intensive Care*

*Hammerfest Hospital, Hammerfest, Norway*

[twi@barentsnett.no](mailto:twi@barentsnett.no)

**Guttorm Brattebø**, MD

*Department of Anaesthesia and Intensive Care*

*Haukeland University Hospital*

*Bergen, Norway*

Teamwork in time-critical and high stake settings is challenging and often deficient. Improved teamwork has been shown to improve treatment quality and safety.

#### Introduction

Intensive care medicine is characterized by a need for time-critical decisions and interventions, often in cooperation with changing co-workers. Available research indicates that many highly skilled professionals are unable to interact and function as a team, but it is possible to improve teamwork by training.

Intensive care personnel training has, so far, largely focused on psychomotor skills and task management. Collecting a group of highly skilled professionals does not secure a well functioning team. In aviation, simulation has been used for training leadership, cooperation and communication in a team setting for years.

#### Simulation and Team Training

Simulation encompasses activities in which real life is replicated and is useful for a number of educational activities, both for individuals and teams. Team training was initially a mixture of skills training and crisis management. Teams are now trained using carefully planned educational activities. Team training should be based on an analysis of the training objective. The competencies of the personnel involved should be assessed before training to determine the appropriate training level. On the basis of this, the goal of the training can be determined. Scenarios may be made either from real patient cases adapted to the training setting, or developed according to the need of the training goals. It is wise to make flexible scenarios, which can be adapted to different possible choices made by the team in training.

Teamtraining may take place in simulator centers or in real-life treatment areas. It has been debated whether one needs to employ high fidelity simulators, or if less can do. This should be decided after careful analysis of the educational goals. Team training with simulation may be done with the trainees' ordinary colleagues or with strangers. Participants may play their own professional role during simulation or roles may alternate. If the main goal is to train seldom-assembled teams (e.g. trauma teams) in teamwork, they should probably play their own professional roles, as close to real life as possible. It can be useful to video-record trainees or to use systematic recording of behavioral markers during the simulation.

#### Assessment and Debriefing

© For personal and private use only. Reproduction must be permitted by the copyright holder. Email to [copyright@mindbyte.eu](mailto:copyright@mindbyte.eu).

Teamtraining and simulation has to be assessed in order to permit feedback to the team. This should be an integral part of the planning before simulation takes place. On the other hand, doing formal assessments of professional competency during team training seems to be difficult and may also hinder participation, especially from physicians.

Learning takes place mainly after the simulation, when the team and the facilitator are reflecting on what happened during simulation. This is the most important and demanding phase of team training. Our experience is that teams shielded from nonparticipating observers in a supportive environment are able to do a large part of the debriefing themselves, when carefully guided. During debriefing, all participants should be encouraged to speak up, and the group should define improvement areas for a second training session.

#### **Organizational Framework for Team Training**

Team training is so far in its early phases in hospitals, although it has been used for decades in the aviation industry. The organization's attitude and culture are important in achieving full benefit from training. Leaders should be supportive to training; the cooperation of all departments involved is important, and transfer of knowledge from simulations to real life should be facilitated by easing the implementation of experience gained during training into clinical practice.

#### **How to Start – Where to Go?**

Before setting out for teamtraining, it is necessary to define the training goals. After an analysis of the desired outcome, one should define the present skills and knowledge status of the trainees. Then, it is possible to choose educational strategies. Measurements or assessment instruments should be defined when scenarios are developed, and learning should be guided carefully. This demands cooperation between expertise in the medical field in question and educational expertise. Feedback must be given to training participants, emphasising the educational goals. This concerns the team as a whole, but often also individuals. Our experience is that two repeated simulations, with increasing complexity based on initial performance, are appreciated by the trainees. The training activities should be evaluated, not only on the day of training, but over the course of time to assess impact on the original goal.

Published on : Thu, 15 Aug 2013