

# Implementing program for operating room staff emphasizing teamwork appears to reduce surgical deaths

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Hospitals that had operating room personnel participate in a medical team training program that incorporates practices of aviation crews, such as training in teamwork and communication, had a lower rate of surgical deaths compared to hospitals that did not participate in the program, according to a study in the October 20 issue of *JAMA*.

Adverse events related to surgery continue to occur despite the best efforts of clinicians, according to background information in the article. In 2006, the Veterans Health Administration (VHA), the largest national integrated [health care system](#) in the United States, with 130 hospitals that provide surgical services, implemented a nationwide Medical Team Training program, which includes 2 months of preparation and planning with each facility's implementation surgical care team. "This is followed by a day-long onsite learning session," the authors write. "Using the crew resource management theory from aviation adapted for health care, clinicians were trained to work as a team; challenge each other when they identify safety risks; conduct checklist-guided preoperative briefings and postoperative debriefings; and implement other communication strategies such as recognizing red flags, rules of conduct for communication, stepping back to reassess a situation, and how to conduct effective communication between clinicians during care transitions."

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Safety, Department of Veterans Affairs, Hanover, N.H., and colleagues analyzed surgical mortality for facilities that received the VHA training program compared with those that had not received it. Outcome data were obtained from the VHA Surgical Quality Improvement Program and from structured interviews in fiscal years 2006 to 2008. The analysis included 182,409 sampled procedures from 108 VHA facilities that provided care to veterans.

The risk-adjusted [mortality rates](#) at the beginning of the study were 17 per 1,000 procedures per year for the trained facilities and 15 per 1,000 procedures per year for the nontrained facilities. At the end of the study, the rates were 14 per 1,000 procedures per year for both groups. "After controlling for baseline differences, the 74 trained facilities experienced a significant decrease of 18 percent in observed mortality. Mortality decreased by 7 percent in the nontrained facilities," the researchers note. Analysis indicated an almost 50 percent greater decrease in the annual surgical mortality rate in the trained group than in the nontrained group.

After adjusting for surgical risk and volume, the researchers also found that for every quarter of training, the mortality rate decreased 0.5 per 1,000 procedure deaths. And for every increase in the degree of briefing and debriefings at the facilities, the mortality rate was reduced by 0.6 per 1,000 procedures.

"It is our hypothesis that conducting preoperative briefings is a key component in reducing mortality because it provides a final chance to correct problems before starting the case. The use of conducting briefings and debriefings requires a more active participation and involvement than sometimes occurs when a checklist is used by itself. During follow-up interviews, facilities provided specific examples of having avoided adverse events because of the briefing," the authors write. They add that teams also shared the value of voicing problems in the debriefing and that resolving issues in a timely manner was an

improvement attributable to the team training program.

**More information:** *JAMA*. 2010;304[15]:1693-1700.

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