Value of Procedural Checklists

Cut here: Study finds operating-room checklist can cut surgical deaths in half

By Mike Stobbe
Star Tribune, Minneapolis, Minnesota - January 15, 2009

ATLANTA - Scrawl on the patient with a permanent marker to show where the surgeon should cut. Ask the person's name to make sure you have the right patient. Count sponges to make sure you didn't leave any inside the body. Doctors worldwide who followed a checklist of steps like these cut the death rate from surgery almost in half and complications by more than a third in a large international study of how to avoid blatant operating room mistakes.

The results — most dramatic in developing countries — startled the researchers.

"I was blown away," said Dr. Atul Gawande, a Harvard surgeon and medical journalist who led the study, published in Thursday's New England Journal of Medicine.

U.S. hospitals have been required since 2004 to take some of these precautions. But the 19-item checklist used in the study was far more detailed than what is required or what many institutions do.

The researchers estimated that implementing the longer checklist in all U.S. operating rooms would save at least $15 billion a year.

"Most of these things happen most of the time for most patients, but we need to make it so that all these things happen all the time for all patients, because each slip represents an opportunity for harm," said Dr. Alex Haynes of the Harvard School of Public Health, one of the study's authors.

The checklist was developed by the World Health Organization and includes measures such as these:

_ Before the patient is given anesthesia, make sure the part of the body to be operated on is marked, and make sure everyone on the surgical team knows if the patient has an allergy.

_ Before the surgeons cut, make sure everyone in the operating room knows one another and what their roles will be during the operation, and confirm that all the needed X-rays and scan images are in the room.

_ After surgery, check that all the needles, sponges and instruments are accounted for.

That checklist was tested in 2007-08 in eight cities around the world: Seattle; Toronto; London; New Delhi; Auckland, New Zealand; Amman, Jordan; Manila, Philippines; and Ifakara, Tanzania. (Heart and pediatric cases were excluded.)

Before the checklist was introduced, 1.5 percent of patients in a comparison group died within 30 days of surgery at the eight hospitals. Afterward, the rate dropped to 0.8 percent — a 47 percent decrease.

The biggest decreases were in developing countries, with the combined death rate for Jordan, India,

Tanzania and the Philippines falling 52 percent. There was no significant difference in deaths in the wealthiest countries.

Overall, major complications dropped from 11 percent to 7 percent. Again, the biggest decreases were in the lower-income countries.

"What we're seeing is the benefits of good team work and coordinated care," Haynes said.

The results were so dramatic that Dr. Peter Pronovost, a Johns Hopkins University doctor who proved in a highly influential study a few years ago that checklists could cut infection rates from intravenous tubes, said he was skeptical of the findings.

One possible flaw, he said, is that "you had people who bought into the system collecting their own data."

The researchers acknowledged it is possible that the results were partly because people perform better when they know they're being watched.

However, the 19-point checklist is already being adopted. Ireland, Jordan, the Philippines and Britain have recently established nationwide programs to have the checklist used in all operating rooms.

In the U.S., the Joint Commission, which accredits most hospitals and sets standards for them, said it is considering adopting more of the steps. The agency already requires three of them, including marking the incision site and pausing before surgery to make sure everything is in place.

At least one patient in the study at the University of Washington Medical Center in Seattle welcomed the checklist.

Darrell McDonald, 63, had a hernia operation in March. A longtime bush pilot in Alaska, he followed a checklist before every takeoff, including checking the controls and walking around the propeller-driven plane "to make sure nothing is getting ready to fall off."

So McDonald was fine with his doctor writing on his body where the incision would be. He had no problems with repeated inquiries about who he was and why he was there. He applauded measures such as a poster-size checklist hanging from an IV pole in the operating room.

"It eliminates the little bit that could possibly go wrong," he said.

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