

Patient safety

A cure for the distracted time-out before surgery

Does this ever happen in your OR? The circulating nurse calls for the time-out. But the team doesn't seem to be focusing. Music is playing, an assistant is draping the C-arm, and team members are talking about the football game. The circulating nurse tries again and gives up.

A cognitive psychologist from the University of Minnesota says she often saw distracted teams in OR observations at 8 hospitals in the state.

The psychologist, Kathleen Harder, PhD, used the findings to develop the Safe Surgery Process to prevent wrong surgery. She is presenting the findings and rationale in workshops as part of the Minnesota Time-Out Campaign. The campaign, sponsored by the Minnesota Hospital Association and Minnesota Department of Public Health, is part of a 3-year effort to end these adverse events.

Many time-outs were "completely dysfunctional. They just ticked off a list. People weren't listening," says Harder, who is director of the Center for Design in Health at the University of Minnesota. The observations at 5 hospitals were funded by the Minnesota Department of Health; the University of Minnesota Medical Center (UMMC), Fairview, in Minneapolis funded observations at its 3 facilities.



Progress in prevention

The project may be starting to bear fruit. The number of days between wrong-site events rose from an average of 11 days before the time-out campaign to about 30 days in the first 6 months afterward. Overall, wrong-site procedures in Minnesota fell by 23% to 24 in 2011.

"If this trend continues, it will mark significant progress towards eliminating this nearly always preventable event," the health department said in its January 2012 report. More facilities reported they are using the Minnesota Time-Out both in and outside the OR.

Root causes for wrong-site procedures in 2011 included:

- source documents that did not indicate laterality
- difficulty identifying the correct vertebra for spinal procedures because of unusual anatomy or multiple degenerated vertebrae
- lack of a policy for site marking or a time-out when administering regional blocks.

Engaging the team

The campaign's first phase was to reinforce the 5-step Minnesota Time-Out for every patient, every procedure, every time.

Harder says she developed the time-out steps to engage all team members cognitively. Each member has a specific role intended to engage him or her in verifying the correct patient, procedure, and site. The time-out steps are based on an analysis of the reported errors as well as on human and cognitive factors that come into play during

surgery, such as distractions, interruptions, and confirmation bias; that is, the tendency to see only information that confirms what we already think is true. The culture of the OR also plays a role, including a perceived hierarchy that inhibits team members from speaking up if they have a concern.

Harder says sharing the research findings and rationale from cognitive psychology has helped in discussing the purpose and merits of preoperative verification with skeptical surgeons.

Carol Hamlin, MSN, RN, director of departmental performance for perioperative services at UMMC, Fairview, says she has heard from staff firsthand that “the rationale makes a world of difference in willingness to practice the process as designed.”

These are the key verification steps with the rationale.

‘Sources of truth’

In the preop area, before marking the site, the surgeon verifies the correct site by consulting the “sources of truth”—the consent form, surgeon’s orders, and imaging if applicable. If able, the patient is asked to state the procedure and site. If there is a discrepancy with any of these information sources, the discrepancy is resolved before the surgeon marks the site.

Rationale: Marking the surgical site from memory can lead to errors. “Given the fallibility of human memory, relying on memory is not a good idea,” Harder says. Though surgeons “may think their memory is stellar, there’s a lot of evidence it’s not.”

Transport to the OR

Before moving the patient to the OR, the person doing the transport double checks that the site is marked correctly, comparing it with the consent form.

Rationale: “We found that sometimes the patient was not marked in the preop area and made it all the way to the OR, but nobody said anything,” Harder says. “That told me the process was not engrained.”

Introduce the patient

When the patient arrives in the OR, the transporting person introduces the patient, saying, “This is Sally Smith. She is here for a right hip replacement.”

The transporter confirms the patient’s identity with the circulating nurse and anesthesia provider. They check the patient’s ID band (medical record number and date of birth) with the consent form and anesthesia record.

Minnesota Time-Out

Step 1

The surgeon calls for the time-out just before the incision after the patient is prepped and draped.

“If the surgeon starts the time-out, it shows it is really important, and we are going to do this as a team,” says Kathleen Harder, PhD.

“Also, the surgeon knows when he or she is ready to begin the procedure.” When the surgeon calls for the time-out, the team ceases activity.

Step 2

The circulating nurse reads directly from the consent form that was verified during the preop process, stating the patient, procedure, site, and laterality. The nurse does not rely on memory.

Step 3

The anesthesia provider reads the patient’s name from the anesthesia record; states a shorthand version of the procedure, and states the antibiotic, dose, and time from administration. (This is the only part of the time-out not focused on the correct patient, procedure, and site.)

Step 4

The scrub person states a shorthand version of the case he or she has set up for and visualizes the site marking, stating, for example, “I see the site mark on the right knee.” Giving the scrub person a specific role helps to level the hierarchy.

Step 5

The surgeon finishes the time-out from memory, by stating: “This is Mrs Smith, and she is having a right knee arthroplasty.” The reason the surgeon concludes the time-out is to listen to what everyone else has said. At this point, reciting the patient and procedure from memory verifies that the surgeon is cognitively engaged with the correct procedure.

Rationale: This step ensures that the correct patient has arrived in the correct OR and that the documents actually belong to that patient. “Sometimes, patients can end up in the wrong OR, or the wrong documents arrive in the OR, and it’s not caught,” Harder notes.

An added benefit of the introduction: The patient feels more comfortable.

“I’ve gone into places where this is fully implemented, and there is such a difference. The patient is made to feel at home,” she says.

Prep the marked location

The site that is marked is the site to be prepped. When the surgeon marks the site in the preoperative area, the mark must remain visible after prepping and draping.

If the site can’t be marked, as with teeth or ureteral stents, the mark is placed on an anatomical diagram that accompanies the patient to the OR and is referenced during prepping and time-out.

Rationale: “We found in observations that the mark was not always near the site. [Sometimes] it was more of a laterality marking, for example, on the left arm for a left breast procedure,” Harder says. That can lead to errors.

Streamline the time-out

The briefing and time-out are separate processes. The time-out is held as the final check right before the incision. The briefing takes place earlier. The two were separated because the time-out was “flooded with information,” Harder notes. “The final safety check was not getting the due diligence it deserved.”

Conducting the briefing earlier also helps the case flow. “It’s a little late to discover just before the procedure that the necessary equipment isn’t in the OR or that an implant can’t be located.”

Rationale: The time-out is held right before the incision to “address memory confounds that can occur if the time-out is done before the surgeon scrubs,” Harder says.

In some cases she observed, the surgeon would do the time-out and then go out to scrub.

The surgeon might then chat with a colleague about another case.

“That can confound the information in the surgeon’s head,” she notes. “The surgeon can walk into the OR and do the wrong procedure. That has happened more than a few times.”

A role for each person

In the time-out’s 5 steps, each person has a specific role, with the aim of engaging each team member cognitively and avoiding multitasking (sidebar).

The ability to multitask “is a myth in complex systems,” says Harder.

Performing the steps in this order has caught more than one prospective error, she says. “In Colorado, where Banner Health has implemented the Safe Surgery Process, it caught an error in the first week it was used.”

When to do the briefing?

At UMMC, Fairview, “we had a lot of discussion about when to do the briefing,” Harder says. “We decided it could be done at any time from the case setup to just before the patient positioning.”

The point of the briefing is to ensure that the team has the “correct mental model,” she notes. Team members also introduce themselves if they don’t know each other. Research demonstrates that if teams do that, members are more likely to speak up if there is a concern.

The key to timing the briefing is that all 4 disciplines—surgeon, circulating nurse, anesthesia provider, and surgical technologist (ST)—must be present to share the same information.

Harder says some surgeons have asked why they can't do a roving briefing; that is, talk separately with the circulating nurse, anesthesia provider, and ST.

The reason: All parties may not hear the same relevant information.

She once saw an anesthesia provider get upset with a surgeon because the surgeon had shared information only with the circulating nurse that was also relevant to anesthesia. That led to a problem in the patient's care.

The briefing should not be confused with the case planning that comes earlier. The briefing is not the time to order equipment, for example.

"The preplanning needs to start when the patient is scheduled for surgery. The briefing is the last-minute verification of the plan," says Hamlin.

The Minnesota campaign has a collection of tools to help with implementation at www.mnhospitals.org/index/timeout. ❖

—Pat Patterson

Watch a 5-minute video with the model time-out at www.mha-apps.com/media/to.html

Have a question on the OR revenue cycle?

Keith Siddel will respond to questions in the column. Send your questions to editor@ormanager.com

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