The Inside of a Time Out

The Case

A 65-year-old man was scheduled for an elective endovascular repair of an abdominal aortic aneurysm. The patient had an allergy to "IV contrast dye" that was noted during his preoperative clinic visit with an anesthesiologist. The surgical physician assistant (PA) documented in a preoperative note that hydrocortisone should be used before surgery, but no such order was written. On the day of surgery, a different anesthesiologist expressed concern about the reported allergy and planned to discuss with the surgeon—mostly to understand the nature and severity of the allergy. Fighting time pressures, driven at least in part by a new policy that tracks and reports delays into the operating room (OR), the anesthesiologist and his resident induced general anesthesia, and the resident remained in the room as the attending left the OR to address an issue regarding another patient.

In the OR, the patient was surrounded by an attending surgeon, two surgical residents (but not the PA), two medical students, nursing staff, and a surgical device sales representative. A "time out" was conducted, during which a nurse raised concern about the alleged allergy. Everyone else in the room looked to the anesthesia resident for input. The resident, probably intimidated by the situation he found himself in, haltingly began to discuss the allergy, but the surgeons in attendance quickly came to a "consensus" to administer hydrocortisone and proceed. The anesthesiology attending returned to the room, upset not to be included in the time out. He felt that his resident didn't speak up to adequately address the allergy concern, in part because of the atmosphere in the OR. While the patient did well during the surgery, with no evident allergic reaction, the experience raised concerns about whether time out procedures were serving their intended role.

The Commentary

by David L. Feldman, MD, MBA

In 2003, the Joint Commission made the elimination of wrong site surgeries a National Patient Safety Goal and the following year required compliance with a Universal Protocol.(1,2) The Universal Protocol requires three separate steps: the proper preoperative identification of the patient by the three members of the team (surgeon, anesthesiologist, nurse), marking of the operative site, and a final "time out" just prior to the surgery or procedure regardless of where it is being performed.(2) Despite the spirit of these guidelines, controversy surrounds the Universal Protocol, and in particular the time out portion of it, since there continues to be little scientific evidence of its ability to eliminate wrong site surgery.(3-5)

Wrong Site Surgeries

Debate over the exact incidence of wrong site surgery cases in the United States stems from conflicting data, which suggest rates varying from 1 in 5,000 to 1 in 113,000 surgical cases.(1,3,4) Most would agree
that determining a true number is difficult due to underreporting, difficulties in defining exactly what constitutes a wrong site surgery, and understanding what is the "denominator for potential opportunities."(1) Regardless of the actual numbers, public opinion, regulatory agencies, and organized medicine have all identified the reduction of wrong site surgeries as a high priority patient safety initiative. Past analyses of wrong site surgeries reveal that most emanate from the OR itself, but it is clear that mistakes made prior to the day of surgery also account for some of these errors.(3) Therefore, even an optimal time out will not prevent all wrong site surgeries, forcing physicians and institutions seeking to reduce the incidence of these events to look outside of the OR. This may include addressing what happens in physicians' offices as well as in radiology and laboratory settings.

**Anatomy of a Time Out**

From a practical perspective, the exact manner in which the time out is conducted varies considerably from institution to institution—in timing, content, and documentation. The time out portion of the Joint Commission Universal Protocol requires an "[a]ctive communication among all members of the surgical/procedure team, consistently initiated by a designated member of the team, conducted in a 'fail-safe' mode," so that the planned procedure is not started if a member of the team has concerns.(2) In some institutions, the time out occurs just prior to induction, since it is at that time that the anesthesia team is most attuned to that patient's particular needs. Unfortunately, in many teaching facilities, the surgical attending may not yet be physically present, and performing the time out at induction leaves potential for error between induction and incision. For this reason, New York State now requires that the time out take place immediately prior to the incision, a practice performed in many other institutions across the country as well.(6) In this scenario, the entire surgical team is present, but the anesthesia attending, who may be "double covering" more than one operating suite (as occurred in the present case), may be in an adjacent room supervising the induction of another patient. This creates two problematic issues. The first is a delay waiting for the anesthesiologist to arrive, potentially pushing the busy surgeon to begin without the attending (as in the case presented). Second, when the anesthesiologist does arrive, s/he is hurried and potentially thinking more about the patient who s/he just intubated rather than the patient in question.

With respect to the "content" of a time out, the Joint Commission requires confirmation of the correct patient, correct side and site, agreement on the procedure to be performed, correct patient position, and availability of needed equipment/supplies/implants. Some states, including New York, also require the presence and review of relevant radiologic images (if applicable).(6) Furthermore, many institutions have begun to include broader patient safety practices into the time out, since it's an opportune time for the entire team to confirm that important (and often preventive) steps have been taken. The so-called expanded time out (7) can include procedures to ensure the administration of prophylactic antibiotics, venous thromboembolic prophylaxis, beta-blockers, the use of a neutral zone (a designated container used to pass sharps, rather than from hand to hand) and blunt suture needles, and other pertinent patient and staff needs depending on the nature of the procedure. Clearly, this process may be more complicated and lengthy for an open heart surgery case than for a routine tonsillectomy. While the typical time out (whether limited or expanded) may essentially be the review of a checklist, some have argued that asking open-ended questions, such as those that occur in a briefing (or if at the end of a procedure, a debriefing), may help make "operative hazards more visible."(8,9) As an example, in a briefing the surgeon might ask the anesthesiologist if there are any particular patient care issues or concerns, and ask the circulating
nurse if there are any supply issues. While the Universal Protocol currently mandates that a time out occur immediately prior to the procedure, some have suggested that a debriefing occur after the procedure as well.\( ^1 \)

Finally, documentation of time outs also poses difficulties, particularly given the wide number of variations on the theme. If the time out occurs at the time of incision, the surgeon is already scrubbed in, leaving only the anesthesiologist and nursing staff available to document that the time out has taken place. This places responsibility for the time out in the hands of the designated documenter, who may later be blamed if a subsequent retrospective chart review discovers that one was not performed. The intent of the time out is for the team to collectively discuss the case, but, given the requirements to ensure it occurs, best practices must also address the issue of who documents the communication—the individual responsible for having it (e.g., a surgeon) or the one already documenting other aspects of the case.

**Are Time Outs Actually Happening?**

Time outs are mandated by the Joint Commission, and hospitals have an obligation to ensure they are being performed. The simplest way to ensure this is through retrospective chart review. Most hospital charts contain a special form, which includes all components of the Universal Protocol with the final time out signed-off on by a member of the team. Unfortunately, complying with the letter of the law can be radically different than complying with its spirit. Furthermore, in hospitals where time outs occur regularly and with meaning, it is the attending surgeon who initiates the process with the active involvement of the anesthesia and nursing staff.\( ^{10} \)

It is likely that the traditional culture found in surgical settings does little to enable the kind of communication that the Universal Protocol and time out encourage. Lingard and colleagues point to three cultural barriers to effective time outs, including that the members of the OR team are used to working independently, that they embrace individual excellence, and that they are "overwhelmed by chronic staff shortages, educational duties, and economic pressures."\( ^{11} \) Others suggest that the need for respect amongst the members of the team is a crucial determinant of the success of time outs; without it, the ability of people lower on the totem pole to speak up may be lost.\( ^{12} \) At selected institutions, a process is being put into place that addresses the issue of respect and frustrations that cause members of the team to lash out at one another.\( ^{12} \); D. Dull, Spectrum Healthcare, oral communication, February 6, 2008) In one example, a surgeon became angry and disrespectful when a scrub nurse, upon relieving another, spent valuable OR time reorganizing a set of complicated orthopedic instruments on the back table. The surgeon was confronted about his behavior and apologized to the nurse, but was also told that the nursing staff would be establishing new guidelines to ensure standardization of the orthopedic tables so that nurse exchanges could be more efficient.

**Best Practices for a Time Out**

While real incorporation of the Universal Protocol's time out into the daily surgical schedule of a typical American hospital is far from complete, a few best practices have emerged. With regard to timing, it seems that the closer to actual incision time the time out occurs, the less likely a mistake can be made that is irreversible. This does not preclude having additional time outs at other critical points prior to incision, such as just prior to placement of a spinal anesthetic, and this is a practice that truly expert teams take the opportunity to have. Similarly, when multiple surgeons are performing different procedures during the same operative session, multiple time outs should also be occurring. Expert teams will also tailor the
content of their time out to the specific procedure—using a combination of checklists and debriefings to 
maximize the amount of information communicated to team members before, during, and after a 
procedure. As more evidence-based practices become known, an increasing number of items will be 
reviewed in these expanded time outs. Finally, it would seem appropriate for all members of the team to 
perform documentation of the time out: nurses and anesthesiologists documenting its occurrence in their respective records and surgeons documenting in the operative report. In the future, all documentation 
should be electronic, making it easy to confirm retrospectively that the time out has occurred.

Take-Home Points

- All health care providers performing invasive procedures must adopt the Joint Commission Universal Protocol, including performance of a time out immediately prior to the procedure.
- Best practices suggest that the time out be led by the physician responsible for performing the procedure with active involvement by all members of the team caring for the patient during the procedure.
- A checklist format is acceptable, but the use of open-ended questions may be helpful.
- Each institution should decide how the Universal Protocol and time out are documented, but care must be taken to not make one member of the team feel responsible for the process when it clearly must be a joint endeavor.
- Every facility needs to examine the pervasiveness of traditional cultural barriers that prevent some members of the team from speaking up, since this will significantly hamper any patient safety effort, especially the performance of a quality time out.

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