Lack of surgical checklist compliance suggests need to improve implementation

Surgical checklist compliance among 4 Canadian hospitals was around 60% in a large, retrospective study of acute care operations performed in 2010 and 2011. Although Alberta Health Services in Calgary, Alberta, Canada, had mandated checklist use starting in 2009, limitations such as instructional misuse, lack of perceived benefit, and lack of procedural understanding had led to misuse or nonuse of the checklist, according to Michael Laffin, MD, with the University of Alberta, Edmonton, Alberta, Canada.

Dr Laffin and his colleagues studied data from 4 hospitals in the Calgary region to assess checklist use and identify predictors of noncompliance. The database included information on regional demographics, American Society of Anesthesiologists (ASA) class, surgical factors, admission type, outcomes, briefings, time-outs, and debriefings.

Their multivariable logistic regression analysis showed that, of the more than 132,000 cases performed, compliance rates for the briefing, time-out, and debriefing were 62%, 63%, and 62%, respectively. Dr Laffin reported their results at the 2013 American College of Surgeons Annual Clinical Congress.

Factors associated with noncompliance included:
- patient age less than 40 years
- lack of general anesthetic (ie, local or regional anesthetic use) and conscious sedation performed in the OR
- urgent or emergent operations
- procedure duration of less than 30 minutes
- patient ASA class greater than or equal to 3
- presence of an anesthetic trainee or added absence of a surgical trainee.

Checklists were less likely to be completed during “the 2 extremes of operative risk,” ie, emergent or high-risk procedures as well as shorter, lower risk procedures, and compliance varied widely among facilities, he said.

“There’s a growing body of literature that shows although institutions are adopting the checklists, surgical teams are not,” said discussant Harry Papaconstantinou, MD, FACS, a colorectal surgeon at Scott & White Healthcare in Temple, Texas. Sixty percent compliance may sound low, he noted, but the original paper on surgical checklists had a 57% compliance rate.

Dr Papaconstantinou raised several questions:
- Does compliance improve outcomes, and if so, is there a plateau?
- Were clinical outcomes assessed?
- Was there a difference in the type of procedures? For example, orthopedic surgery usually has a higher incidence of wrong-site surgery.
- Are we asking our nurses to document too much?

Because of the large sample size and use of the database, Dr Laffin said, his team did not look at specific outcomes. However, he noted that the literature supports use of the checklist; it is doing what it’s supposed to do.

He also said they did not find specific differences between teams performing different types of surgery.

“Documentation burden on nurses is huge in Canada, but I think documentation...
of all the operative materials is something that’s important from a research perspective, from an administrative perspective, and from a patient care perspective,” Dr Laffin said. “It needs to be a priority.”

E. Patchen Dellinger, MD, FACS, chief of general surgery at the University of Washington in Seattle, noted that studies have shown that fewer complications occur when checklists are completed. He also referred to an Annals of Surgery study showing that administrative databases indicated 100% completion of the checklist, but direct observation found it was much less than that.

“As much as making sure you’re doing the right operation on the right place, it’s the engendering of teamwork and discussion and communication in the operating room that makes the checklist really work,” Dr Dellinger said.

To help improve compliance in the future, Dr Laffin suggested, researchers may look at nursing notes to better understand what influences noncompliance. They may also interview OR team members to identify perceptions and beliefs around checklist use and barriers to its implementation.

—Elizabeth Wood