

High-performing anesthesia practices continually strive to improve patient outcomes and operational efficiency. The Practice Quality Improvement Committee (PQIC) of the Anesthesia Quality Institute (AQI) is charged with facilitating this process. The Committee will contribute occasional pieces to the ASA NEWSLETTER that highlight a real-world quality improvement challenge and the steps taken by the anesthesia practice to resolve it. We hope these case studies will be useful to other groups experiencing similar issues. Feedback regarding these presentations can be sent to the PQIC care of Ashley Kieta: a.kieta@asahq.org.



LEARNING FROM OTHERS:

A Case Study From the Anesthesia Quality Institute

Collection of data is all well and good, but improvement in patient outcomes requires the ability to turn information into action. The AQI Practice Quality Improvement Committee (PQIC) will collect and present examples of this principle so that all of us can learn from those who are doing it well. Learn more about quality improvement at www.aqihq.org/quality.aspx.

Case 2015-1: SCIP This!

The Problem

This case study is set at a large community hospital. Like many physicians, the members of the anesthesia group receive feedback from administration related to performance on the national Surgical Care Improvement Project (SCIP) measures (Table 1).¹ From the hospital's perspective, this makes sense: SCIP measures are a core component of Hospital Compare – Medicare's pay-for-performance program – and are publicly reported. The hospital's reputation and payments are on the line and they have a strong incentive to get it right. Not surprisingly, this desire is passed on to all relevant provider groups.

Unfortunately, performance was not good. The risk-adjusted rate of surgical site infections was higher than the national benchmark, especially for patients having colorectal surgery. This prompted a look at the suite of process measures captured in the SCIP data. Erratic performance on presurgical antibiotic administration and intraoperative patient warming were identified as potential contributors. The chairman of anesthesiology was "invited" to a meeting to discuss solutions.

The Data

The quality management (QM) department had reviewed the records of the last 40 patients to have an elective colectomy. Only 32 charts documented timely administration of an antibiotic, and in three of those cases it was the wrong antibiotic for the surgical procedure. Several reasons for failure were noted: medication orders were not standardized in the electronic health record (EHR) and were usually written by a junior member of the surgical team. These orders were often

late to reach the patient's preoperative record, with little time for delivery of the antibiotic from the pharmacy. In one case when they did arrive on time, the drug did not get passed from the circulating nurse to the anesthesiologist, so it was not administered prior to surgical incision.

A second problem was observed in the PACU, where the first temperature recorded was less than 35 degrees Celsius in 16 out of 50 patients. Not surprisingly, hypothermia was more common in the longer cases as well as in the seven out of eight patients who received an intraoperative transfusion. Review of the anesthesia and nursing records showed absent or inconsistent documentation for the use of intraoperative warming techniques.

The Solution

The chairman took the matter to the next anesthesia department meeting and asked for a discussion. The first round of comments from the staff reflected a certain amount of denial:

"It's not our fault the surgeons can't write the orders on time."

"I'm not an expert on antibiotics."

"How do they expect us to keep the patient warm with all that bleeding?"

"Look," said the chair. "This is a problem we can fix. The hospital respects our commitment to patient safety and wants us to take ownership of this issue. What can we do to make it better?"

The first step, as in many quality improvement campaigns, was an educational program about the two clinical problems. "The right drug for the right patient at the right time." SCIP guidelines were distributed to all providers and reviewed with

the group in a morning meeting. Things got better for a month, but the good news was not sustained and failures in the process returned. Recognizing that education by itself was necessary but not sufficient, the anesthesiologists then reached out to other members of the team (surgeons, nurses, pharmacists and IT staff) to find ways to standardize the antibiotic administration process so that it was automatic and foolproof in elective cases. Working with the colorectal surgeons and IT staff, the department created a preoperative order set that included the correct antibiotics and timing, making it easier for the surgical interns to do the right thing. Common antibiotics were stocked in the O.R. pharmacy, where the pre-op nurses could easily get them to place on the patient's stretcher on the way to the O.R. Checks were inserted in both the preoperative preparation process and the post-induction surgical time-out to confirm the correct antibiotic, the correct dose and timing. SCIP compliance for antibiotic administration quickly began to improve.

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To reduce the risk of hypothermia when patients arrived in the PACU, a pilot program was authorized using disposable forced hot air warming blankets placed on the patient preoperatively, and kept on throughout induction, positioning and surgical prep. There was some grumbling about the “wastefulness” of this approach, but this was offset by an observation from the O.R. nursing director that they were actually spending less money on laundering reusable blankets. These savings were more than the added cost of the disposable warming blankets! Not surprisingly, the hospital administration was highly supportive. This fact, combined with increased patient satisfaction reported in both pre-op holding and PACU, moved the new warming practice from pilot into permanent. Here, too, the data rapidly improved: the number of patients who were hypothermic at the time they reached PACU dropped to near zero.

The Results

It took six months for the improved processes to translate into improved outcomes, but the rate of surgical site infections dropped steadily, and the hospital passed its next inspection with flying colors. Ironically, however, in 2015 the Joint Commission “retired” SCIP-2, SCIP-3 and SCIP-6 from its mandatory reporting program, as performance nationwide was approaching 100 percent successful. The Centers for Medicare & Medicaid Services has since followed suit. It remains to be seen whether hospitals will de-emphasize measurement of these processes going forward and whether this might lead to a rebound in surgical site infections.

One thing about this hospital’s experience is certain, however. The ability to benchmark individual practice data against external standards will become increasingly important in an era when value must be publicly demonstrated.

Table 1: Short versions of measures intended to prevent surgical site infection, from the Joint Commission’s Surgical Care Improvement Project	
SCIP Inf-1	Prophylactic antibiotic received within one hour of incision
SCIP Inf-2	Correct prophylactic antibiotic selection
SCIP Inf-3	Prophylactic antibiotics discontinued within 24 hours
SCIP Inf-4	Cardiac surgery patients with controlled post-op glucose
SCIP Inf-6	Appropriate hair removal for surgical patients
SCIP Inf-9	Prompt removal of urinary catheter
SCIP Inf-10	PACU temperature > 36 degrees or use of active warming technology intra-op

Reference:

1. Surgical care improvement project. The Joint Commission website. http://www.jointcommission.org/surgical_care_improvement_project/. Published October 16, 2014. Accessed April 25, 2015.