

Process improvement

PACU patient flow improves with CRNA assistance

Throughput inefficiencies are a growing problem in surgical services departments. Patients are held in the OR because there is no room in the postanesthesia care unit (PACU), and patients are held in the PACU because there are no beds available in the patient care unit or because outpatients having major procedures are staying longer before being discharged.



Mary Korte,
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Declining PACU throughput and increasing OR hold times at the Akron, Ohio-based Summa Health System prompted the establishment of a Lean-Six Sigma multidisciplinary team to investigate the root cause and then implement a strategy to reduce OR hold times. The team included vice presidents, physician leaders, a Lean team member, and staff from the PACU, same-day surgery, OR, anesthesia department, and information technology.

“We found that we had unclear processes for getting patients through the system, and we had inconsistent communication,” says Mary Korte, MSN, MHA, RN, CNOR, unit director of preadmission testing, same-day surgery, and PACU at Summa Health.

Summa Health has 18 ORs and 30 PACU bays. The PACU is divided into three areas. The main PACU has 14 bays, which are used primarily for Phase I recovery. The annex has six bays, and there are 10 bays in an overflow area that are being converted to Phase I and Phase II blended recovery.

OR holds ballooning

“We recognized we had an issue with patients being held in the OR and not being able to move to the PACU, either because of staffing or recovery space,” says Kaye Reiter, MSN, RN, NE-BC, vice president of surgical services at Summa Health.

Part of the reason OR holds were ballooning was that the OR had significantly improved its turnover time, says Korte. This created bottlenecks because the patients were leaving the OR sooner, and PACU space utilization remained constant.

Another reason was that for outpatient procedures such as same-day discharge hysterectomies, Phase II recovery took longer than for other outpatient procedures. “These patients were taking up bed space for up to 6 hours in Phase II recovery prior to discharge,” says Reiter.

In addition, Summa Health, like other hospitals, was going through the process of right-sizing nursing units and converting some shared patient rooms into private rooms to improve patient satisfaction. This made bed availability on the units less abundant than in the past, notes Reiter.

Crunching the numbers

“We began investigating and improving the process by reviewing our baseline data for the first quarter of 2015,” says Di Li, MS, senior business intelligence analyst at Summa Health.

The data showed that 175 cases, nearly 5% of total case volume, had OR to PACU delays for a total of 2,671 minutes in the first quarter of 2015.

That equaled an average OR hold of 17 minutes per impacted case. The holds affected on-time starts for the to-follow cases, causing surgeon dissatisfaction and wasted, expensive OR time and resources, says Li.

“Using these data, we estimated that reducing OR holds could garner us an annualized cost savings of around \$40,000,” she says.

The Lean-Six Sigma multidisciplinary team met weekly. During one of these meetings, the certified registered nurse anesthetists (CRNAs) suggested that they transport the patients out of the OR, instead of holding up the OR, and that they would begin to recover the patients in the annex area until a PACU nurse could take over.



Kaye Reiter,
MSN, RN,
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The annex area consists of six patient bays and is adjacent to the PACU. It is a flex area used for procedures such as administering blocks to pain patients.

“Because there is a CRNA on every case, and because there are almost always bays open in the annex area, this was a very workable idea,” says Reiter. “The CRNAs really stepped up,” she says, “and gave us a novel, innovative way to improve our flow.”

The average OR turnover time is about 23 minutes, which gives a CRNA about a half hour to care for a patient in the annex until a PACU nurse can take over. If recovery bed availability takes longer than that, another CRNA or anesthesiologist goes for the next patient and gets the case started in the OR.



Di Li, MS

“What we have found is that a patient is in the annex between 11 and 14 minutes on average prior to the PACU nurse taking over care,” notes Korte.

CRNAs also now transport patients from the preoperative area to the OR. Patients cannot be put on the OR table, however, until the circulating nurse has completed the ‘hard stop,’ reviews the patient’s chart, and makes sure it is complete (sidebar, p 17).

“The circulating nurses wanted this ‘hard stop’ implemented so they could do their patient assessments and ensure that all documents, supplies, and equipment were in place before the patient was moved to the OR table,” says Reiter.

Keeping circulating nurses in the OR and having the CRNAs transport patients has improved turnover time, flow, and efficiency, and it has added an element of safety and patient satisfaction.

The CRNAs now have an opportunity to talk to the patient and family in greater detail than they did in the past, says Reiter.

Previously, the anesthesiologist talked to the patient and family before surgery, and the circulating nurse took the patient to the room.

Better communication

In addition to using CRNAs in a different role, the PACU nurses’ role also changed in terms of their collaboration with the OR, notes Korte. The triage RN for the PACU used to communicate more with anesthesia personnel than with the OR control desk about how to use the flex bays in the annex, how to staff the flex bays with the CRNAs, and how the patients were moving through the process.

“For example,” says Reiter, “if we decide it is necessary to hold a patient in one of the ORs, OR and PACU personnel choose that room together according to the to-follow case. If

Surgical safety hard stop checklist

As part of a Lean-Six Sigma multidisciplinary team effort to reduce OR hold times, Summa Health System, Akron, Ohio, certified registered nurse anesthetists (CRNAs) began transporting patients to and from the OR.

Because of this change in practice, RN circulators were concerned that they wouldn’t have the opportunity to pause and do a complete assessment before moving patients to the OR table.

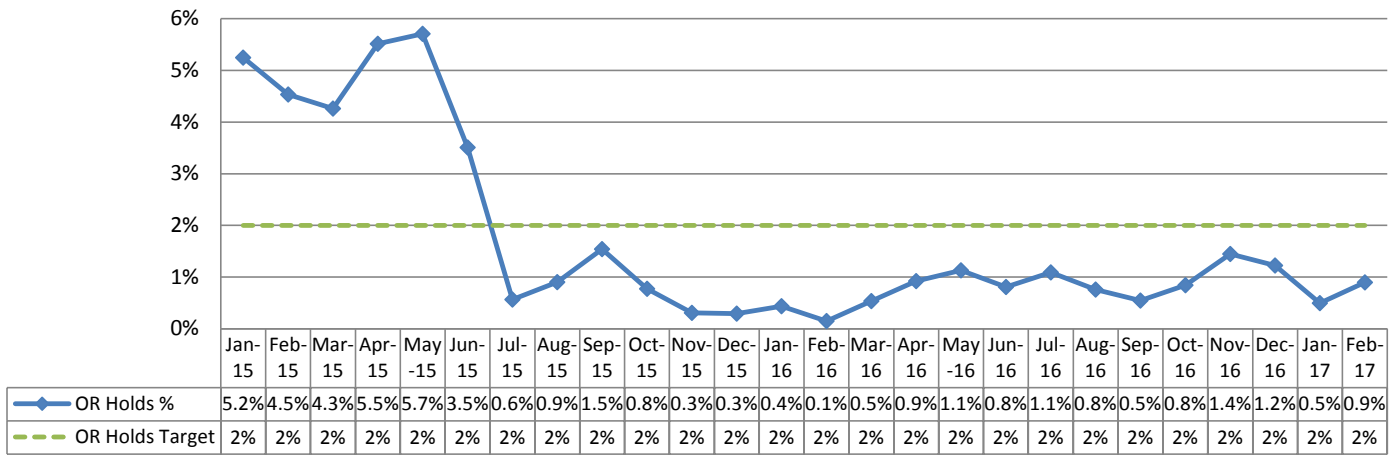
A patient safety checklist was created that follows the patient through the perioperative process.

A part of this multidisciplinary form is the “OR RN Circulator Intraoperative Safety Checklist (Hard Stop),” which includes:

- Patient identified
- Consent is signed and witnessed
- Physician attesting to completion of informed consent, a history and physical (updated the day of surgery if not inpatient), and surgical site is marked
- Allergies reviewed
- Blood products are available for the surgery
- Urine hcg reviewed
- Labs and x-rays reviewed
- Safety precautions reviewed based on patient history or medications (anticoagulants, diabetes, etc)
- Availability of implants, critical devices, and vendors confirmed
- All equipment in the room and working properly for the case.

Source: Summa Health System, Akron, Ohio. Used with permission.

OR Holds Rate



Source: Summa Health System, Akron, Ohio. Used with permission.

it's the last case in the room, that room will probably go on hold rather than one that has a line-up of cases." There is much better communication about this now, she says.

A multidisciplinary team daily huddle has also been added, during which team members review the next day's OR schedule and predict staffing needs according to projected surgery end-time volume.

Current OR holds are now consistently under 2% of total surgery volume. For the second quarter of 2017, there were 611 OR delay minutes, which is down 23% from the 2015 first quarter baseline of 2,671.

"This translates to a quarterly savings of about \$7,320 and an annual savings of about \$30,000," notes Li (sidebar, p 18).

Reiter adds that they are building a new same-day surgery area with eight ORs adjacent to the current ones. The expanded Phase I and Phase II recovery area with 30 more bays will be used by all outpatients. This will decrease the number of patients going to the main PACU.

"Our goal is to get the patients moved out of the OR," says Reiter. "If we hold up an OR 20 minutes because we can't move the patient out, it just snowballs from there, especially on very busy days. That's where we were in 2015." ❖

—Judith M. Mathias, MA, RN

References

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