

OR throughput

Ways to break loose from OR holds

OR holds slow the entire hospital's throughput. "What happens in the OR doesn't stay in the OR—it affects the whole system," says Christy Dempsey, RN, MBA, CNOR, senior vice president of clinical operations for PatientFlow Technology, Inc, Boston.

The emergency department (ED) and ICU are particularly hard hit.

Holds can cause OR cancellations, delayed admissions, and unhappy staff due to overtime. All this adds up to money.

Avoiding bottlenecks in the OR requires dissecting the complexity of holds, working through a team with the power to refine processes, and using technology to help. First, you need to understand what causes OR holds, and then your team can develop strategies to address the issues.

Realities of OR holds

Why do OR holds occur? The answer might surprise you, as it did Tammy Straub, RN, MSN, CNOR, director of perioperative services at Lehigh Valley Hospital.

Straub advises OR managers not to assume causes of holds but to gather data first. She used data analysis to dispel several common theories for OR holds – not enough PACU beds to accommodate postoperative patients; too many OR procedures ending at the same time, leading to surges based on acuity; and lack of PACU staff. Although sometimes too many patients in the PACU were waiting for inpatient beds, this, too, had a weak effect on OR holds. Instead, staffing patterns in the PACU needed to change to meet patients' care needs, and real-time monitoring of bed status was needed.

Dempsey, who has consulted with many ORs, says variability in the elective OR schedule is the number one reason for OR holds: "It has the biggest impact on hospital census." Research by Eugene Litvak, PhD, and his colleagues from Boston University supports this, showing that nearly 70% of diversions from the ICU were associated with variability in scheduled OR time. When elective surgery peaked, so did diversions.

Here are some strategies to help you determine causes of holds and develop solutions that fit your needs.

Form the best team

Taking time to select the right team members will save you time in the long run.

"Get the right people on the bus," says Straub. "Have people who want a positive end result."

In addition to PACU and OR leadership and staff representation, other team members should include the chief of anesthesiology, a surgeon (if you cannot find a surgeon to serve, be sure to keep surgeons informed of your progress), patient logistics (bed management) staff, a representative from the preop area, and a nursing supervisor. Straub says it's also important to support the team with resources, particularly a person who can analyze data.

Define the problem

The team needs to define and track OR holds. After data analysis showed a hold time of 913 hours (equal to about 300 laparoscopic cholecystectomies) in one fiscal year, Straub knew she needed to act. First, nurses simply marked hold times on a calendar; later they developed a form to document reasons for the holds. This information can be retrieved from the hospital's information system.

To ensure consistent data collection, it's important to define hold time. Lehigh Valley defines a short hold as 15 minutes or less, and it's usually not significant; a long hold is anything beyond 15 minutes. Here is where to concentrate your efforts.

As you begin to develop solutions, align yourself with other hospital initiatives rather than reinvent the wheel. For example, Lehigh Valley's team used the model of their ED's paging alert system to create one of their own.

Be proactive

The best strategy, of course, is to resolve situations before an OR hold occurs.

"The key piece is to deal proactively with external and internal barriers to ensure efficient, yet safe flow of patients," says Mary Jane Neri, RN, MSN, administrative manager, Beaumont Hospital, Royal Oak, Michigan. Neri says close collaboration among PACU, OR, and preop area staff is key, along with keeping a close eye on multiple factors such as number of PACU beds and mix of inpatients and outpatients.

A good person to keep a close eye is the PACU charge nurse. At Lehigh Valley, the position is rotated among a cadre of nurses who have been selected and trained for the position to ensure consistency.

PACU nurses interested in being a charge nurse apply and are interviewed by a committee of staff nurses and the patient care coordinator. The nurse receives an educational packet and works with another charge nurse for 1 month.

"Nurses view these as empowering, leadership positions," says Straub, noting there is no associated pay differential.

One duty of the PACU charge nurse is to assess and adjust assignments. PACU patients require differing nurse-patient ratios depending on where they are in the recovery process. According to the American Society of PeriAnesthesia Nurses standards, the nurse-patient ratio should be no higher than 1:2 for Phase I, 1:3 for Phase II, and 1:3 to 1:5 for extended observation.

The higher nurse-patient ratio can be a hard sell to staff. Straub says she and her team focused on the benefits for patients and made reducing OR hold time a goal for everyone on the perioperative team. An added benefit was a lasting partnership between the OR and PACU.

PACU charge nurses also determine readiness for transfer and serve as the hub of communication by keeping the major players for patient flow informed: PACU staff, OR charge nurse, patient logistics staff, lead anesthesia provider, and charge nurses on key inpatient units.

"The charge nurse is the traffic cop and doesn't recover patients," says Pam Cipriano, RN, PhD, FAAN, chief clinical officer and chief nursing officer at the University of Virginia Health System (UVHS) in Charlottesville, Virginia. "This allows decision making on a patient-by-patient basis." Charge nurses may help out at the bedside with procedures such as reintubations or placing patients on an ECG monitor.

An electronic bed status system that gives real-time information will help you to be proactive, as can a bed-planning team, such as the one UVHS uses. The team, which includes the patient logistics area and units that routinely experience capacity issues, meets daily for 15 minutes in midafternoon for a planning session.

As Lehigh Valley did, examine your staffing pattern in the PACU. You may find you don't need more staff but rather need to realign staff so they are available at peak times. Consider other staffing resources, too. Neri says at Beaumont Hospital, nurses in the preop area care for patients who have been recovered in PACU and are waiting for beds. If necessary, the orthopedic unit provides additional staff to the preop area. UVHS set a standard requiring environmental services to complete all bed turnovers in 60 minutes or less.

Be creative when it comes to space. Cipriano says part of the PACU serves as a satellite ICU when demand is high; critical care float staff care for these patients.

Cipriano recommends identifying "artificial barriers" slowing the flow of patients. "For example, we've reoriented staff so that if a nurse who will be taking care of a patient can't take report from the PACU, someone else does." The PACU nurse provides a face-to-face update when the patient arrives on the unit.

Use technology

Developing a staged alert system, such as the one at Lehigh Valley, can help avoid holds and promote quick response should one occur. Alerts range from 0 (standard operating procedure) to 4 (OR hold is occurring) and are transmitted by an intranet paging system. The charge nurse pages several people at once, including the nurse supervisor on duty, senior administration, charge nurses on key inpatient units, and a patient flow coordinator, who serves as the liaison between patient logistics and clinical staff.

"The pagers allow us to give specific information like 'I need 5 female beds,'" says Straub. The real-time communication also cuts down delays due to back-and-forth questions between PACU and patient logistics. Lehigh Valley uses a grid listing actions for each resource person at each alert stage so there are no questions as to who does what.

The alert system, added to other strategies, helped the hospital reduce hold minutes by an impressive 75% in 1 year.

UVHS uses another technology option: wireless voice communication.

"It improves the speed and ease of contact between OR and PACU staff," says Cipriano. The system facilitates conferencing between, for example, the central nursing office, patient logistics, and the PACU charge nurse.

Discharge patients on time

Cipriano says an important factor in avoiding OR holds is inpatient discharge by noon.

"If we have 50% of patients out by noon it gives us the flexibility to move patients," she says. "When we have less than that, we have patient backups that ultimately affect the OR."

Planning for discharge begins within 24 hours of admission. Physicians are encouraged to write discharge orders the day before or by 9 am the day the patient is to leave the hospital. These steps provide time to coordinate resources and activate specific discharge pathways such as ones for the pharmacy and laboratory. Incentives for early discharge include financial support for resident and nursing education programs.

Cipriano says timely discharge and other strategies have reduced OR holds by one-third from 3 years ago, and the length of holds has decreased significantly.

Smooth your schedule

If your OR schedule has peaks on certain days of the weeks, smoothing the OR schedule may be for you. Dempsey of PatientFlow Technology explains that if, for example, total joint replacements are performed only on Tuesday and Wednesday, inpatient beds on the units receiving these postoperative patients are then full for that length of stay. Patients who arrive in the ED don't have access to beds on the appropriate units, so they are sent to other units or are kept in the ED or PACU until a bed is ready.

"You need to reduce artificial variability," she says. To do that, separate scheduled and unscheduled cases and analyze elective block utilization, defined as the case time within the blocks (patient in to patient out of the OR room plus turnover time) divided by the available block time. This will show you how usage needs to be adjusted.

Dempsey says changing a surgeon's schedule may not be as difficult as you think. "A relatively small group of surgeons working with the manager can make things happen. Surgeons need to be at the table and make decisions, not just give input."

Having the surgeons set and enforce the rules keeps OR managers out of the middle. You don't necessarily need the "titled" surgeons, such as the chief of surgery, on the committee.

"The best way is to have high-volume, relatively vocal surgeons who want to make a difference and are credible with their peers," says Dempsey.

Hospitals need to have services such as physical therapy available on the weekends and to adjust staffing in the PACU to match staff to demand.

Celebrate successes

OR holds should be discussed in every team meeting in all perioperative areas. As

you see OR hold time fall and throughput improve, Straub and Leader suggest sharing success stories with staff and letting them know how much you appreciate their efforts as a team. ♦

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