OR managers facing challenges of gaps in the surgical schedule

Staffing smart is more crucial than ever. Many ORs find themselves suffering from “gaposis”—gaps in the middle of the day. Surgeons want to work early, go to the office or surgery center, and return for cases later in the day. Though gaps have always been an issue in ORs, some managers say they are more common than they used to be. As surgeons face tighter reimbursement, they need to see more patients to generate the same revenue. They also may want to spend more time at a surgery center where they have an ownership interest.

At the same time, the administration is pressing managers to keep OR utilization high, overtime low—and surgeons and staff happy.

Staff satisfaction is a competing priority. In a time of shortage, the staff can vote with their feet if they’re burdened with extra shifts, excess call, or forced overtime.

Anesthesia providers may be in short supply and disinclined to cover what they may consider undesirable hours late in the day.

It’s the manager’s job to try to balance these interests.

High-level diplomacy

When orthopedic surgeons decided to double the size of their surgery center, administrators at Kadlec Medical Center in Richland, Wash, found it was time for some high-level diplomacy. Kadlec has 153 beds, 6 ORs, and an annual surgical volume of 8,000 cases.

“They wanted to operate there in the day time and come to the hospital in the evening, which meant they had a lot of prime time they weren’t using,” says Suzanne Richins, RN, MBA, DHA, FACHE, chief operating officer. The orthopedic surgeons were big users of the hospital ORs, with 4 days of 8-hour blocks.

A joint-venture surgery center had been built across the street from the hospital, and several physicians purchased shares. Next, an anesthesiologist built an ambulatory surgery center. Then, when an orthopedic group across the street from the hospital decided to expand its outpatient ORs in the nearby medical office building, the OR committee asked the surgeons to give up some block time and consolidate their prime time. The 4 surgeons agreed to reduce their 4 OR days to 3; 2 days have 8-hour blocks, and the third day has two 4-hour blocks. One of the blocks is in the afternoon.

“It was a win-win for us and them,” Richins says. “We still want their business, but we needed to open up their prime-time blocks. We have been able to bring in other business, and our volume has grown by 10%.” When the orthopedic surgeons relinquished some of their time, other surgeons were able to come who were working at competing hospitals.

A grip on the numbers

As OR utilization becomes more uneven, it’s more important than ever for managers to have a firm grip on their staffing numbers, says Pamela Hunt, RN, MSN, administrative director of perioperative services and critical care at 172-bed Marion General Hospital in Marion, Ind.

“I see nurse managers and leaders more pressed to justify their staffing,” she says. “I remember the time when if you had the staff working some overtime, and your volume was up, you could say, ‘We need to add a partial or full FTE.’ Now that is not enough. We need to justify our staffing with productivity figures.”

(A method for adjusting staffing in the afternoon is in the sidebar.)

Several years ago, Hunt saw the OR’s overtime percentage go “sky high” after a surgery center opened nearby.

“We found we were doing little surgery in the middle of the day, then a lot at the end of the day,” which meant more nurses were working beyond their scheduled
hours. The hospital performs 3,500 cases a year in its four ORs, with a fifth used exclusively for cesarean sections.

Adding shift options

Both hospitals have found ways to adjust OR staffing to changing conditions without alienating their staffs. A key strategy is to have staggered shifts and longer shifts that run into the evening to minimize overtime.

“We have all sorts of shifts, for example, 10 am to 10 pm,” says Richins. “We bring in some staff later in the morning to relieve for breaks and lunch, then they stay through the afternoon.

“We’ve had staff request those shifts,” she adds. “A lot of them are golfers, and they like to have the early morning free.”

She suggests managers look at the pattern of cases running past 3 pm to see what adjustments might be needed.

“If you don’t have software that tracks this, look at how much overtime and call you are using,” she suggests. “If you have several rooms running late consistently, and you can’t relieve those people, you know you need longer shifts. Obviously, if you are routinely running 3 rooms from 7 am to 7 pm, and you use a traditional staffing pattern, you will have 4 hours of overtime or call, so it makes sense to adjust your staffing to pay straight time.”

More straight-time coverage

At Marion General, managers asked some staff to volunteer to work four 10-hour days so there would be straight-time coverage until 5:15 pm to cover for late add-on cases.

“We trend our volume so we know what days we will have a higher number of add-ons,” Hunt says. For example, Monday is a low add-on day so fewer staff work a 10-hour schedule. Friday is a high add-on day so 10-hour staffing is increased.

“It’s more difficult to get the 8-hour staff to stay over on Friday, so we try to make sure we have enough 10-hour staff scheduled,” Hunt says.

“When we made that change, our overtime immediately dropped. And the staff was happier because they had a day off during the week.”

Hunt also took steps to reduce the call burden after the department downsized from 45 FTEs to 25 FTEs when the surgery center opened.

“We took many of the full-time positions and divided them into 2 part-time positions when we replaced staff,” she says. “They still take their share of call, but it multiplied the number who share the call responsibility. Now we have 35 to 40 who take call, compared to 25 previously.”

Part-timer trade-offs

The part timers are a trade-off, she acknowledges.

“A full-time person is easier to orient, but you can’t have a department this size with all full-time staff and keep them satisfied with the amount of call they have to take,” Hunt notes.

A statistical method for determining whether to have staff members on call or in-house for weekend urgent cases was described in an article by Dexter and O’Neill in the November 2001 AORN Journal.

Hunt enlists help from the medical director in making decisions about add-ons. The medical director is not a paid position at Marion, a community hospital.

“We have strong guidelines for add-ons,” she says. “If a case is added on, and there is a question if it is a true emergency, the record is pulled and reviewed with the medical director. Often this is retrospective, and the case is still done, but if the surgeons know there will be questions, they may be more careful the next time.

“This is something we struggle with. You constantly need to reevaluate,” she says. The emergency may not be because the person is blue or bleeding—the surgery might need to be expedited for reimbursement reasons and to decrease the length of stay.
Finding anesthesia coverage for late cases also can be a challenge. Much depends on how the anesthesia providers are organized and paid. Those who are salaried employees don’t have an incentive to work late and perform added cases because there is no additional pay. Those who belong to contracted groups also may not have an incentive to take on more cases if all of the revenue goes into one pool to be shared equally with the group. Those who are independent may be more inclined to do additional cases because the more cases they do, the more revenue they receive, provided the cases are well reimbursed.

“We have had to develop a structure to help meet their needs,” says Richins. Kadlec’s anesthesiologists are independent.

“We have been able to recruit 6 in the past 2 years, because payment is good in this area. We also are committed to providing enough locum tenens to help with lifestyle issues. One of the complaints we hear from the anesthesiologists is that they don’t have enough personal time.”

Under the system they have worked out, there are policies to guide the scheduling of anesthesia coverage. The anesthesiologist on call makes up the schedule. The physicians then rotate coverage taking turns for long and short days.

The anesthesiologists worked out a system so they now have the day off after taking call. This gives them a day to schedule personal appointments like dental visits or car maintenance. They know which days they have a short schedule and which days they have a long schedule.

As with nurses, managers say they see generational differences in anesthesia providers’ attitudes toward work-life balance.

“Some are Gen Xers. They are making enough to support their needs, and don’t want to work more,” says Hunt. Some are older, and their kids have finished college, so they also are not as motivated to work long hours.

Reference
Adjusting afternoon staffing

This is a method for adjusting afternoon staffing to maximize productivity and minimize costs.

The choice of afternoon staffing should not affect how many ORs are run. If too few OR teams are scheduled, other on-call teams work late on overtime. If too many OR teams are scheduled to work after the end of regularly scheduled hours (eg, 3 pm), there are unnecessary costs.

Taking the following approach, matching staffing to existing OR workload to minimize staffing costs is identical to matching staffing to maximize productivity. These are the steps:

**Step 1**
Make a list (eg, in Excel) of every possible staffing plan. For example, 10 OR teams are scheduled from 7 am to 3 pm. Then after 3 pm, all cases are performed with overtime. For example, 8 OR teams are scheduled 7 am to 3 pm, and two 2 OR are scheduled from 7 am to 5 pm. Then if more than 2 ORs are used from 3 pm to 5 pm, those additional ORs are covered with overtime.

**Step 2**
From the start times and end times of historical cases, calculate the maximum number of ORs with a case running at any time during each 1-hour period between 3 pm and 11 pm. I prefer using 3 years of historical data. (See step 4.)

Although anesthesia and OR nursing workloads differ, optimal staffing for OR cases is generally identical regardless of whether the anesthesia information system, OR information system, or anesthesia billing data is used.

**Step 3**
For every combination of possible staffing plan and workday, calculate what the workday’s staffing cost would have been if the staffing plan had been used.

Staffing cost = (average cost per scheduled hour) x scheduled hours + (average cost per overtime hour) x overtime hours.

**Step 4**
Calculate the average of the daily staffing cost for each combination of possible staffing plan and 4-week period. Graph the average daily cost (Y axis) versus the 4-week period (X axis). The graphs permit identification of trends and seasonal variation that commonly occur in afternoon OR workload. Using the graphs, choose the staffing plan providing the lowest average staffing cost for the upcoming season of the year.

Examples are in an on-line lecture at http://www.franklindexter.net/Afternoon_Staffing.htm. For samples of graphs and more details of the calculations, see the April 2003 *AORN Journal*, p 829.

—Franklin Dexter, MD, PhD
Associate professor and director
Division of Management Consulting, Department of Anesthesia, University of Iowa, Iowa City

**References**

Explaining salary variances

OR managers typically receive salary and productivity reports from the administration. These reports generally list productive hours (hours worked and staff education) plus nonproductive hours (paid time off).

In turn, managers must often report to their superiors on variances in the salary budget; that is, the difference between what was budgeted and what was actually spent. This task is much easier if the report is broken down by category of staff. (See chart.)

Here are some typical reasons for salary variances.

**Surgical schedule variations**

Salary variances can occur because of the way surgical cases are booked and performed. These scheduling issues can lead to poor productivity, which means there is not a good match between the salary dollars spent and the amount of work produced (ie, surgical cases performed). This can happen when few cases are scheduled and performed during a shift, but no staff members are sent home. Or there may be long gaps between cases when the staff are idle while clocked in. Another example is a quiet weekend when there is not enough work to match the staffing provided.

Managers can improve productivity by flexing staffing so employees are sent home at the end of the scheduled cases and by creating a better balance between scheduled staff and on-call staff for off shifts and weekends. The disadvantage of sending staff home early is that if another case occurs and staff must be called back, they typically earn time-and-a-half for callback time. Too much overtime or callback time can result in a larger salary variance.

Some salary variances caused by scheduling variations may need others besides the manager to resolve. For example, if only the first 2 hours of a 4-hour morning block are used, with another surgeon to follow in the afternoon, there are 2 hours of unused, or unproductive, time.

**Pay-rate variances**

Salary variances can occur because of differences in salary rates paid to staff. Examples are using more overtime or callback than was budgeted or using more contract labor instead of employed labor.

If salaries for staff replacements are either very low or very high compared to the salaries of employees being replaced, a variance occurs.

A mix variance can occur if the ratio of RNs to surgical technologists (STs) changes. For instance, if there is a shortage of STs, the facility would use more RNs, and there would be a variance because RN salaries are higher. If the reverse were true, the total salaries would be under budget.

**Education variances**

At the time of budgeting, education and orientation hours are estimated based on the amount of required education plus orientation for expected growth or turnover. The total number is divided by 12 months. Because education time isn’t used evenly during the year, the manager can explain a variance by watching trends and comparing them to the previous year. Typically, senior management looks at the year-to-date figure. If the year-to-date figure is in alignment with the budget, there is no problem.

**Nonproductive time variances**

When budgeting, nonproductive time, such as sick time and vacation, is trended or compiled from historical data to estimate the time and salary

### Sample salary variances

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<th></th>
<th>Actual</th>
<th>Budget</th>
<th>Variance favorable or (not)</th>
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<tr>
<td>Management and supervision</td>
<td>$18,201.00</td>
<td>$16,994.00</td>
<td>($1,207.00)</td>
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<tr>
<td>Professional-clinical</td>
<td>$51,163.00</td>
<td>$64,836.00</td>
<td>$13,673.00</td>
</tr>
<tr>
<td>Registered nurses</td>
<td>$90,316.00</td>
<td>$96,674.00</td>
<td>$6,358.00</td>
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<tr>
<td>Aides, orderlies</td>
<td>$19,149.00</td>
<td>$9,783.00</td>
<td>($9,366.00)</td>
</tr>
<tr>
<td>Surgical technologists</td>
<td>$18,272.00</td>
<td>$8,711.00</td>
<td>($9,561.00)</td>
</tr>
<tr>
<td>Office staff</td>
<td>$2,375.00</td>
<td>$4,999.00</td>
<td>$2,624.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$199,476.00</td>
<td>$201,997.00</td>
<td>$2,521.00</td>
</tr>
</tbody>
</table>
amounts needed to cover these activities. This number is then divided by 12 for a per-month estimate.

Variances in nonproductive time occur when paid leave is used at a different rate than was budgeted, or unpredictable events occur, such as an employee who needs to take Family and Medical Leave and must be replaced by a contract worker. The manager can review trends from previous years to see how the usage compares. As with education, senior management typically looks at the year-to-date figure to see if it is in alignment.

Some hospitals expense nonproductive hours as they occur, and some use a mix of accrual and immediate expense. Sick-leave variances occur when the dollars are expensed as used. Typically, expenses for funeral leave and jury duty occur when used.

The Family and Medical Leave Act (FMLA) allowance depends on the type of leave used. Under federal law, companies must grant eligible employees up to 12 work weeks of unpaid leave during any 12-month period for reasons such as the birth of a child, adoption or foster care, or a serious health condition. States may have additional requirements. For instance, Washington State passed a law that allows employees to use both vacation and sick time to care for a family member. Other states do not allow use of sick leave except for employees’ illnesses.

—Suzanne Richins, RN, MBA, DHA, FACHE
Chief operating officer
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