Can any more efficiency be achieved in cataract surgery? For years, ambulatory surgery centers (ASCs) have fine-tuned their process for this high-volume but reimbursement-challenged procedure. With Medicare payment tight, they have to count pennies and minutes.

Recently, a reader asked about staffing for cataract surgery—are ASCs finding ways to economize on labor costs?

In talking with ASC managers and other experts, we learned that centers performing a high volume of cataract surgery actually seem to use more staff, not fewer, to help move cases along.

We also discovered a couple of other innovations ASCs say have helped—a “slurry” dilating method that eliminates giving a series of eye drops and an online buying service that expedites paperwork.

Benchmarking findings

A 2003 benchmarking study of 62 centers found that participants with the shortest procedure times also used more staff. That is because high-volume centers often employ 2 operating rooms for 1 cataract surgeon in a day. That enables them to schedule more cases and keep them flowing: As soon as the surgeon finishes in 1 OR, the next patient is ready in the second OR. For this approach to work effectively, the ASC needs enough staff and instrumentation to expedite cases.

“In the study, most of the organizations that did well on procedure time spent more on staffing” because they use 2 ORs per surgeon, notes Naomi Kuznets, PhD, director of the Accreditation Association for Ambulatory Health Care (AAAHC) Institute for Quality Improvement.

The best-performing centers had “their preop team review the patient information well before surgery, either when the patient is scheduled or 3 days before the surgery, not at the last minute,” says Kuznets. That avoids last-minute surprises that could delay surgery.

The AAAHC Institute did not collect data on staffing during the OR phase of the procedure, except for sedation monitoring. For most participants, anesthesia providers monitored sedation (chart).

The 5 centers we interviewed for this article all assigned 1 circulating RN and 1 surgical technologist (ST) to scrub.

OR Benchmarks, in a 2001 study involving 11 facilities (both ASCs and hospitals), found 9 facilities used 1 RN and 1 ST during the procedure. The remaining 2 used 2 RNs.

A staffing study by OR Manager and the Association of periOperative Registered Nurses published in April 2001 found that for cataracts, 87% of facilities used 2 staff in the OR, 2% used 1 staff, and the rest used 3 to 5 staff.

Keeping up the pace

Two centers with a high volume of cataract surgery described how they manage staffing and patient flow on a day when a surgeon operates in 2 ORs. These centers may do 24 or more cases a day, 12 in each OR.

Scottsdale Eye Surgery Center schedules cataract cases 15 minutes apart on busy days when 2 ORs are available. OR time, patient in to patient out, is approximately 20 minutes.
“Each OR is staffed with 1 circulating RN and an ST,” says Lynn Dugan, RN, BSN, CNOR, director of nursing. All RNs are cross-trained for the preoperative, postoperative, and intraoperative areas. Staffing for the preop and postop areas consists of 2 to 3 RNs who rotate between these areas and assist as needed.

In addition, a full-time housekeeper is cross-trained to assist patients preoperatively and to help with OR turnover. She helps the admitting RN by bringing the patient to the preop area and assisting with the surgical gown (tops only are removed) and the preop face wash. A full-time certified nursing assistant also facilitates cases.

“Cross-training is key,” Dugan says. “It helps prevent burnout and allows staff to assist in every area.”

Surgeons help move cases

El Camino Surgery Center in Mountain View, Calif, also uses 2 ORs for the same cataract surgeon on high-volume days. The multispeciality center has an annual volume of 10,000 cases, of which 2,500 are cataracts.

The average procedure time for most of the surgeons is 15 minutes, patient in to patient out, with a turnover time of 2 to 3 minutes.

Surgeons assist in keeping cases moving.

“Probably 80% of our surgeons bring the patient into the room,” says Lisa Cooper, RN, BSN, clinical director.

The circulating RN and ST stay in the room to get ready for the next case while the surgeon and an orderly take the patient to the recovery area. While the surgeon talks to the family in recovery, the orderly goes to the preop area and places the electrocardiograph leads on the next patient. The surgeon then comes to the preop area, and he and the orderly bring the patient to the OR, where the orderly assists with positioning. That leaves the circulator free to finish setting up the case.

Cataract days are so fast paced that Cooper rotates the staff to avoid burn-out. The clinical staff is cross-trained, and all are expected to do eye cases in addition to other specialties.

Enough instruments

Enough instrument sets and standardized supplies contribute to rapid case turnover.

On days when 2 cataract rooms are running, the Scottsdale Eye Surgery Center uses 4 instrument trays so a tray is always ready for the next case.

“This is a big deal,” Dugan says, “because if the tray isn’t ready, your turnover time will be about 12 minutes” to wait for the sterilizer.

El Camino has 5 to 6 eye sets. As a multispeciality center, it can’t always count on having a sterilizer just for eye cases, so additional sets are needed for backup.

Both centers use standardized custom packs.

“The more you are able to standardize supplies, the more efficient and cost-effective you can be,” Dugan says. Most of the blades are multiuse, and phaco tubing is reusable. Items not in the pack are the prep solution, the BSS (the center does not use BSS-plus), viscoelastic, cloth towels, sterile water, the Mentor Eraser, eye shield, and custom blades.

Physicians’ orders and the dilating regimen also are standardized. At El Camino, cataract surgeon David Chang, MD, has introduced a gel mixture for dilating the eye that takes the place of multiple eye drops (sidebar).

Automating inventory

The Pennsylvania Eye Surgery Center in Harrisburg, Pa, shaves minutes off its cases by using a personal digital assistant (PDA) to scan information about the patient and intraocular lens (IOL) for implant tracking. The scanning module is part of Internet-based supply management and reordering from Suppleye.com.

Nurses save the time it used to take to fill out the implant card to be sent to the manufacturer, notes the center’s director of surgical services, Jill Stiteler, RN, CNOR.

The nurse simply scans barcodes with information about the patient, procedure, and lens. The data is sent over the Internet to Suppleye.com, which relays

Cataract surgery benchmarking

<table>
<thead>
<tr>
<th>Procedure Time (incision to dressing on):</th>
<th>14 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median turnover time:</td>
<td></td>
</tr>
<tr>
<td>Setup</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Cleanup</td>
<td>3 minutes</td>
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<tr>
<td>Monitoring for sedation:</td>
<td></td>
</tr>
<tr>
<td>CRNA 52%</td>
<td></td>
</tr>
<tr>
<td>Anesthesiologist 28%</td>
<td></td>
</tr>
<tr>
<td>RN with anesthesia provider or surgeon 18%</td>
<td></td>
</tr>
<tr>
<td>Surgeon 2%</td>
<td></td>
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</tbody>
</table>


| Procedure Time (incision to close):      | 19 minutes |
| Median turnover time:                    | 24 minutes |
| Setup                                     | 16 minutes |
| Cleanup                                  | 7 minutes  |

it to the manufacturer.

The barcode technology is part of Suppleye’s Internet-based inventory management and reordering system for eye centers.

“All you need is a computer with Internet access; you don’t need to invest in hardware or software,” says John Meeks, president of the privately held Akron, Ohio-based company. There is a small transaction fee.

He estimates the company has about 100 customers, 90% of which are eye centers.

—Pat Patterson

‘Slurry’ method for dilation

Using a gel mixture to prepare and dilate the eye for cataract surgery has been a satisfier for patients and surgeons and a time saver for nurses at El Camino Surgery Center in Mountain View, Calif.

“Basically, the idea is to use a system that provides prolonged and concentrated administration of the preop medicines,” explains David Chang, MD, the cataract surgeon who introduced the method at the center.

The gel consists of lidocaine jelly mixed with dilating drops, an antibiotic, and a nonsteroidal inflammatory drug to make a “slurry.”

When the patient arrives for surgery, a nurse starts the process by instilling one set of dilating drops. Once the patient is seated or lying down, the nurse inserts the slurry and tapes the eyelid closed. While the patient waits for surgery, the slurry medicates and numbs the eye and keeps the cornea moist.

In the OR, residual gel “immediately rinses off with a few drops on the cornea, and we get a clear surgical view,” Dr Chang says. “In addition, the prolonged contact with the gel seems to give a little better anesthesia to the conjunctival surface compared to topical anesthetic drops alone.”

The slurry has replaced the pledget method for most of El Camino’s surgeons. For the pledget method, a nurse soaks a small pledget in a similar eye-drop mixture and places it underneath the lower lid to dilate the eye. The pledget method has similar advantages to the gel-slurry: The one-time administration does not interrupt patients and saves nurses’ time. The pledget’s prolonged contact with the eye’s surface improves drug delivery. It also minimizes the amount of medication entering the tear duct and thus the systemic circulation.

But the pledget method also has some minor disadvantages. It can be hard to insert the pledget in patients with tight lids, and it tends to ride up as patients blink or squeeze their eyes. It can also cause a corneal abrasion, which interferes with the surgical view and causes patient discomfort postoperatively. And inserting the pledget requires more nursing skill and experience than the other methods.

The slurry overcomes these drawbacks, Dr Chang says, because it is easy to administer, cannot cause an abrasion, and patients do not blink it out with their eyelid taped.

“When you take the tape off, you can see some gel is still there, proving that you have prolonged contact time,” Dr Chang says. “Overall, we have found patients are comfortable with it.”

Information about the slurry method and the formula are on Dr Chang’s web site at www.changcataract.com.