Getting a handle on scope repair costs

When Greenspring Station Endoscopy, Lutherville, Md, noticed its endoscope repair costs had shot up by 54% in a year, the management team was worried.

The price of a repair had risen from $7.93 to $12.23 per procedure.

Why was this happening? Were other centers having the same experience?

Greenspring Station set out on a year-long quality improvement project starting in July 2003 that helped them track down the reasons, find out how their repair costs compared with others, and develop a plan that brought the costs down by 16% over a year, saving the center more than $12,000.

The center was recognized for its efforts at the Accreditation Association for Ambulatory Health Care Institute for Quality Improvement’s National Quality Forum in December in Las Vegas.

Digging into the problem

The first step was to involve the staff in identifying the problem. In a brainstorming session, RNs and gastroenterology technicians came up with 3 reasons they thought damage was occurring:

1. Because of a change in the staffing pattern during procedures, more personnel were handling the endoscopes. Previously, staffing consisted of an RN, who administered sedation (midazolam and fentanyl) and monitored the patient, and a GI technician. The center changed the staffing to have certified registered nurse anesthetists (CRNAs) administer and monitor propofol sedation for colonoscopies, with an RN to assist the physician. Nurses rotated in that role, which meant many more staff members were handling scopes.

2. Fluid invasion repairs had increased.

3. Many repairs were due to the mishandling of scopes. Some of the problems included laying scopes on counters or basins with the control knob face down; stacking scopes on counters; using excessive force when connecting fluid bottles; bumping the distal end of the scope, damaging the lens; or allowing the biopsy forceps to come in contact with the scope while transporting it.

Not only were repair costs mounting, but there also were patient safety issues. Damaged scopes and variations in scope reprocessing can lead to scopes that aren’t properly cleaned and disinfected, raising the potential for infection transmission.

What were others paying?

The team wanted to find out how its repair costs compared with others.

“We didn’t have a good baseline on what was acceptable,” notes Helen Rolf, RN, BSN, nurse manager for the center located in Lutherville, Md, which performs about 6,000 procedures a year.

A search for benchmarking information turned up little, so Rolf decided to call other nurse managers in the local area. As she talked to them, they began discussing the need for a networking group. That led to formation of the Greater Baltimore ASC Network, which now numbers 18 members.

The network decided to conduct its own benchmarking study on endoscope repair costs. The group developed a simple questionnaire, which asked participants for:

- number of scopes the center owned
- annual volume of procedures
Developing a strategy

Armed with the results, Greenspring Station developed a strategy for reducing its repair costs, which included:

- partnering with a vendor
- organizing an educational program
- introducing a preventive maintenance program.

Partnering with a vendor

The center researched endoscope repair vendors and selected one that offered not only repairs but also education and consultation. Rolf personally visited 2 companies—the original scope manufacturer and one that specializes in repairs.

She selected the repair specialist because, she says, the company “was going to give the most personalized service.” This includes analysis of repairs and education for the physicians and staff.

“Our rep is here 2 or 3 times a week and is always available to explain in great detail what the repair entailed—I’m a nurse, not a mechanical wizard!” she says.

The rep assessed the physical environment, including how the staff transported and stored the scopes. “It was like having a private consultant who knew scope repair inside and out,” Rolf says.

Organizing an educational program

The program was designed to review scope handling and reprocessing with the staff and physicians. The rep spent time with the cleaning-room staff and gave Rolf feedback about their learning needs. The rep also reviewed GI techs’ leak-testing competencies.

One in-service session included “dissecting” an endoscope so the staff could see where damage could occur. The center also asked the vendor to return broken parts so the staff could understand what had led to the breakage.

As part of this effort, the rep spent a morning discussing with physicians how their technique could decrease repair costs. For example, angulation adjustments were needed after a scope was held at the maximum angulation for extended periods. Other technique-related problems included twisting or applying excessive force to the insertion tube and forcing biopsy forceps through the channel.

Introducing a preventive maintenance program

Preventive maintenance is performed twice a year “to prevent inexpensive problems from becoming expensive ones,” Rolf notes.

Through the project, the center brought its repair costs down from $12.23 to $10.26 in the first year and since has lowered the cost to $8.50 per procedure.

Greenspring Station has expanded the project to include monitoring of scope utilization. The aim is to encourage physicians to use all of the endoscopes and even out wear and tear.

“The physicians want the latest and greatest, so it’s difficult to get them to use all of the inventory,” Rolf explains.

Lessons learned

In addition to lower costs, one of the project’s best results was formation of the nurses’ network. “It’s been invaluable,” Rolf says. The network consists primarily of endoscopy centers plus a few urology centers and 2 hospital departments. In addition to the endoscope repair survey, the group has benchmarked salaries and dis-
discussed performance evaluations. Also important was involving the staff in the repair project, she adds. Because the staff works with the endoscopes every day, they are in the best position to spot problems and propose solutions. She makes an effort to recognize and reward the staff for their contribution. Year-end bonuses at the center reflect overall cost savings. "Without the staff, it could not have happened," she says. Conducting an improvement project takes time and commitment, she adds. That’s true not only for the project itself but for the effort to sustain the results. ♦

Results of scope repair study

Participants included 7 freestanding endoscopy centers and 2 hospital departments.

• Number of procedures per year: Average 4,731 (range 800 to 8,534).
• Scope repair costs: Average $7.08 per procedure (range $1.73 to $15.81).
• Age of scopes requiring repairs:
  —< 1 year: 13%
  —1 to 3 years: 37%
  —3 to 5 years: 10%
  —-> 5 years: 40%
• For vendors, 6 centers each used 1 vendor, and 3 centers used a combination.

Source: Greenspring Station Endoscopy.