Physician Assistants Make Their Mark in Surgery

The 2003 restriction on residents' work hours has led to bigger roles for PAs and other midlevel staff.

BY ALICIA AULT
Contributing Writer

Among other changes engendered by the 80-hour workweek restrictions, more hospitals appear to be allowing physician assistants, nurse-midwives, and other midlevel staff to take over some duties from residents in the operating room.

"I absolutely think it's a trend," said Dr. Richard L. Prager, head of the division of adult cardiac surgery at the University of Michigan in Ann Arbor. But he sees it as a slow-simmering trend that has been given a boost by the declining number of residents in rotation in the surgical suite.

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DR. PRAGER

In July 2003, the Accreditation Council for Graduate Medical Education said residents' work hours should be limited to 80 per week and continuous duty limited to 24 hours, with a 6-hour extension if needed for continuity of care or for educational reasons. Also, residents should be on call in-house only once every 3 nights, the ACGME guidelines state.

Physician assistants (PAs) and nurse-practitioners are also expanding their roles in the critical care unit, said Dr. Prager. He views this as a positive development for residents. They should be on the floor or in the operating room "for educational aspects, and not simply to do chore work," he said.

"It is reasonable to guess that when the 80-hour workweek restrictions went in, a lot of programs looked into ways of supplementing the service component of what residents do," said Dr. Roger P. Smith, chair of the Council on Resident Education in Obstetrics and Gynecology Committee for the American College of Obstetricians and Gynecologists.

Dr. Smith said some of the surgical services provided by residents may be of questionable educational value. As a result, some hospitals have decided to shift the workload to people with the skills to perform the job who aren't under a restriction on hours, he added.

"Smaller programs with a busy service are a lot more likely to put in alternative ways to providing the care," said Dr. Smith, who is also director of the residency program in the department of obstetrics and gynecology at the University of Missouri–Kansas City.

But he said that there is no hard evidence that a big shift has occurred.

A systematic review of approaches taken by hospitals to reduce residents' work hours found a mixed bag on how the increased use of PAs and nurses affected residents across specialties, including their presence in the operating room (JAMA 2005;294:1088-100).

According to the authors, three programs increased residents' OR experience. Another program that added night float and weekend cross-coverage significantly boosted the number of cases for the chief residents. A program that added health technicians to the surgical service increased residents' average operating room time from 3.3 hours per week to 9.8 hours per week. Several studies found no change in residents' OR hours, and three found that the number of their operative cases decreased.

Meanwhile, the number of residency slots available in the United States has remained stable, according to the Association of American Medical Colleges. In 2005, of the available 24,012 residency positions in the United States, 22,221 of them were filled, the AAMC said. First-year residencies in general, orthopedic, and plastic surgery have generated a lot of interest. From 2001 through 2005, the number of general surgery slots offered remained pretty steady at about 1,050, and orthopedic positions offered hovered around 600. The number of plastic surgery positions grew from 58 in 2001 to 81 in 2005.

The path taken by PAs generally follows that of medical students and physicians, said Nancy Hughes, vice president of communications and information services for the American Academy of Physician Assistants. According to AAPA's survey data, over the past 7 years there has been little change in the percentage of respondents who say they work in surgery or a surgical subspecialty, perform invasive procedures, or assist with surgery. But the growing number of practicing PAs has meant an overall increase in their presence during this same period.

In 1999, 3% of the 15,000 or so respondents said they practiced in general surgery and 17% in surgical subspecialties. A total of 44% said they performed invasive procedures, and 25% said they assisted with surgery. In the 2004 survey, 3% of the 20,500 respondents said they practiced in general surgery and 21% in surgical subspecialties; 42% performed invasive procedures, and 26.5% assisted with surgery.

Judith Zaczek, a certified physician assistant (PA-C) in the ob.gyn. department at Oakwood Hospital and Medical Center in Dearborn, Mich., believes there has been a trend toward more PAs replacing residents in the OR. At her facility there are 16 residents total per year, with 4 on the ob.gyn. service. But there are three PAs and two midwives to help with the 6,000 deliveries per year. The attending physicians are happy to have the help, Ms. Zaczek said. "I think they've seen what continuity of care is, and they appreciate that."

Dr. Prager agrees that advanced practice PAs and nurse-practitioners are invaluable to a surgical team because they know the routines and are committed and efficient. At University of Michigan Hospital, four PAs provide first and second assistance for cardiothoracic surgery. They are more skilled in harvesting arteries endoscopically than are the junior-level residents, who are on staff for only a month, he said.

An advanced practice team of 10 PAs and nurse-practitioners manages the floor, generally covering 30-32 patients and freeing residents from rounds. Dr. Prager sees this as a boon to both the hospital, which gets more efficient patient care, and the residents, who spend more time on education.

A similar evolution has taken place at St. Joseph Mercy Hospital in Ann Arbor. Before workweek restrictions were in place, the cardiothoracic service had seven PAs. With the reduction in residents' hours, the hospital had to double that number to cover critical care 24 hours a day, 7 days a week, and to assist both during and after operations, said LaWaun Hance, a PA-C and education coordinator for the cardiothoracic PA residency program at St. Joseph.

The PAs provide first and second assists, including endoscopic vein harvest, and if necessary they open or close the chest. They also conduct preoperative patient evaluations and postoperative management in the intensive care unit, "troubleshooting from minute to minute," Ms. Hance said. ■

High Procedure Volume Is No Gauge of Hospital Quality

BY TIMOTHY F. KIRN
Sacramento Bureau

SAN FRANCISCO — The generalization that the more procedures a hospital does, the better it is, may be an oversimplification at best and misleading at worst, according to two studies presented at the annual clinical congress of the American College of Surgeons.

In one study, Dr. Melissa A. Meyers and her coinvestigators compared colectomy mortality in rural hospitals with that in urban hospitals, using Medicare data on 279,385 patients who had surgery between 1994 and 1999.

Overall mortality was the same in the two groups. In small rural hospitals with a low volume of procedures, the mortality rate was 6.7%. In urban hospitals, most of which had higher volume, the rate was 6.4%, said Dr. Meyers of the surgery department at Dartmouth-Hitchcock Medical Center, Lebanon, N.H.

Analysis of the data did show some evidence that the more colectomies a hospital performed the lower the mortality, but that held only for the urban hospitals. Rural hospitals had no such correlation between volume and mortality, though 90% of the rural hospitals had a low volume. And mortality at the rural hospitals was not much different from that at the best urban hospitals, where the rate was 5.6%.

"Hospital procedure volume is a poor proxy for quality in a rural setting, and we need to develop better ways to gauge quality in hospitals overall," Dr. Meyers said.

In the second study, Dr. Dharam Kumbhani and his colleagues looked at 30-day mortality for 10 different surgical procedures in the Veterans Administration system. The study was a repeat of an earlier, highly controversial investigation that the authors decided to revisit with more recent data. Both studies used data from the Veterans Affairs (VA) National Surgical Quality Improvement Program.

The earlier study found no relationship in the VA system between surgical volume and outcome for eight different surgical procedures. The present study, which looked at procedures ranging from carotid endarterectomy and total hip arthroplasty to pancreaticoduodenectomy, again found no relationship between low volume and worse outcome, said Dr. Kumbhani of the VA Boston Healthcare System.

In 8 of the 10 surgical procedures, there was a statistically significant relationship between low volume and the observed-to-expected ratio of 30-day mortality. However, this difference was not clinically significant, Dr. Kumbhani said. Moreover, when the data were analyzed using a hierarchical model that accounted for patient and hospital factors, no relationship was found between volume and 30-day mortality.

"We believe that systems of care are much more important than volume in determining the quality of surgical care," he said. "A lot of high-volume centers have better risk-adjusted outcomes, not because they have higher volumes but because they have better systems in place."

The findings of his study are probably more accurate than other studies of volume and surgical outcome, because the VA program collects all of its data prospectively and was designed for just this type of analysis, Dr. Kumbhani added.

Most of those who attended the presentations were gratified by the results. During the animated discussion period, it was suggested that the studies should serve as a cautionary note to efforts to measure quality solely in terms of volume, because the volume–quality equation perhaps only holds for very sophisticated procedures such as transplants.

But Dr. Justin Dimick of the Veterans Affairs Medical Center in White River Junction, Vt., a designated discussant for the VA study, took issue with generalizing its results. The study's findings are at odds with an extensive body of research showing that the more a surgeon or a hospital does a particular procedure the better they are at it, he said. ■