Physician extenders bolster productivity of practices

Musculoskeletal Imaging [1], Interventional Radiology [2], MRI [3]

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Political differences abound as radiology practitioner assistants, radiologist assistants help imaging departments save time and money

With pediatric radiologist Dr. Zubeir Jaffer observing, Michael Odgren, a radiology practitioner assistant, demonstrated how steady hands and focused training enable him to do what radiologic technologists dare not do. Accompanied by two neonatal ICU nurses and a respiratory therapist, a 700-gram newborn was brought in September 2006 to the interventional suite at Presbyterian St. Luke's Medical Center in Denver. Under fluoroscopic guidance, Odgren performed an esophagram and gently inserted a nasogastric tube up the infant's nose and down its throat. During a normal shift, Odgren performs up to a dozen upper GI exams, modified barium swallows, barium enemas, voiding cystourethrography exams, and other routine diagnostic and interventional procedures on mainly pediatric clientele. His work spares the radiologist from these routine procedures, so Jaffer can concentrate on the department's more complex interventional cases. Jaffer estimates that Odgren's work annually saves his group, Diversified Radiology of Colorado, the equivalent of one radiologist full-time equivalent.

Odgren's experience is typical for the 280 radiology practitioner assistants (RPAs) who practice in 42 states, and the estimated 15 registered radiologist assistants (RAs) who have entered the field. In the face of a radiologist shortage, RPAs and RAs are helping radiologists become more productive. They are extending the scope of professional practice for experienced radiologic technologists, while creating a new class of skilled and well-paid medical imaging professionals. While radiologist extenders have gained institutional acceptance in many quarters, the underlying politics have been fractious. Differences between RPA and RA factions stem from years of unsettled relations between the originators of the RPA concept at Weber State University in Ogden, UT, and the backers of the RA approach at various organizations, among them:
- the American College of Radiology;
- the American Society of Radiologic Technologists, an association representing the professional interests of registered RTs; and
- the American Registry of Radiologic Technologists, the primary credentialing agency for RTs.

The RPA concept was born in 1993 when the U.S. Army contracted with the Weber State radiologic sciences department to develop a curriculum for a new kind of supertech. The RPA program moved forward under the guidance of Jane Van Valkenburg, then director of Weber State's radiologic technologist training program, even after the Army decided against implementation. Weber graduated the first RPAs in 1998. An independent professional infrastructure, including the Certifying Board for Radiology Practitioner Assistants and National Society of Radiology Practitioners, followed. The RPA movement grew as it became apparent that residency programs could never graduate radiologists fast enough to address increasing imaging utilization. Only 29,500 registered radiologists are available to interpret the 25 million medical imaging exams performed this year in the U.S., according to Jonathan H. Sunshine, Ph.D., senior director for research at the ACR. The imaging total is expected to grow an estimated 6% next year, while the number of radiologists will increase only 1.5%.

The ACR could have allied with the RPA group to help relieve radiologists of this growing pressure, but hard feelings arose within the organization over its perceived lack of involvement in the formation of the RPA infrastructure. In addition, the ACR had turf concerns about the possible involvement of RPAs in image interpretation, which led it to join the ASRT and ARRT in 2002 to support an alternative RA model.
The ASRT developed RA standards of practice, while an eight-member ARRT advisory group defined development certification standards for RA training sites. The RA's role was limited to 42 of 80 possible clinical activities, ranging from reviewing patient records to performing imaging procedures. Each was assessed in terms of the type of supervision needed to practice safely: personal, direct, and general, according to Jerry Reid, executive director of the ARRT. Personal supervision was deemed necessary for nine of 26 radiologic exams, including myelograms and some line and needle placements. In these situations, a radiologist must be in the room with the RA during the procedure. Other radiologic exams, including upper GIs, barium enemas, and arthrograms, require direct supervision, meaning the radiologist can quickly intervene without actually being present in the room.

The ASRT awarded $25,000 in grants to four universities to establish training programs. Unlike early prerequisites enforced at Weber State for RPAs, the RA training programs require incoming students to hold baccalaureate degrees and also to pass the ARRT certification exam, obtain advanced cardiac life-support certification, and practice as a registered radiologic technologist for at least three years. Weber State has adopted a baccalaureate requirement for incoming RPA students this year.

Otherwise, the similarities between RA and RPA training outnumber the differences. The RA curriculum at Midwestern State University is covered in five semesters, with most of the clinical work completed in the field under the guidance of a certified radiologist who serves as the student's preceptor. Students accumulate 1536 clinical hours of experience and spend two weekends per semester on campus for classroom courses. The university plans to eventually make RA training a part of a master's level education program, said Donna Lee Wright, Ed.D, director of the radiologist assistant program.

Weber State RPA candidates receive about 1800 hours of clinical training, coordinated by their local radiologist preceptors during five 15-week semesters. Class work is limited to 2-1/2 days per semester to teach students how to perform basic interventional procedures. Didactic training is provided on the Internet.

After 10 years, Weber State remains the sole center for RPA training. Loma Linda University in California graduated the first RA class in June 2005. In addition to its 10 graduates, Midwestern State University in Wichita Falls, TX, graduated four RAs this spring. Overall, eight universities now operate RA training programs. The ARRT administered the first registry exam for RAs in October 2005. The RPA movement remains the dominate force in terms of participation in clinical radiology, but because of ACR, ASRT, and ARRT backing, the RA movement has more political clout.

Yet when applied to radiology practice, educators have a hard time discerning how RPAs would perform differently from RAs.

"I don't see a difference," said Laura Alipoon Ed.D, director of the RA program at Loma Linda. Distinctions between RA and RPAs have blurred over time, according to Diane Newham, Ed.D, director of Weber State's RPA program.

"If you go to the ASRT Web site, the RA practice standards look exactly like those posted on the Certifying Board for Radiology Practitioner Assistants' Web site for the RPA scope of practice," she said.

The demand for RAs and RPAs far exceeds supply. Most RPAs and RAs are hired by the group practices that supported and often paid for their education. A 2004 ASRT survey found the average assistant earned between $90,000 and $95,000. Some salaries can reach as high as $140,000. Still, the existence of two separate classifications of radiologist extenders has caused problems. The ACR has lobbied for legislation in several states, for example, that allows RAs to perform therapeutic procedures but excludes RPAs from the privileges. RAs in Florida and California have delayed performing the more advanced procedures associated with their positions until their state's regulatory problems are resolved.

Faced with being regulated out of their jobs, some baccalaureate-level RPAs are taking advantage of an ARRT exemption that allows them to take the RA certification test. Those without a bachelor's degree are scrambling to earn one before the exemption expires in December 2007.

Some of these problems may have been resolved in October during a summit meeting involving all of the stakeholder organizations. With luck, the groups will attempt to devise a unification strategy, said Dr. Allen Ellenbogen, chair of the ACR's Human Resources Commission.

"We hope to resolve this problem this year. We would very much like to end the confusion," he said.

**SAVING TIME AND MONEY**

Beyond political bickering, evidence shows that RPAs and RAs save time for radiologists and money
for their hospitals and group practices. Based on 336 hours of documented activity, four RA students at Midwestern State saved radiologists an average of 100 minutes per day or $300,000 per year when time savings were converted to financial figures, a study found. The RA students performed lumbar punctures, upper GIs, fluoro imaging, small bowel imaging, barium enemas, joint injections, paracentesis, thoracentesis, tunneled catheters placements, cystograms, feeding tube placements, and peripherally inserted central catheter replacements. The study, pending review for publication in Radiologic Technology, the ASRT journal, also cited dividends paid in quality of patient care based on the students' involvement in acquiring patient histories and physicals, obtaining informed consents, and completing follow-up calls to check for complications.

"The survey verifies that radiology assistants really do have an important role in patient management and departmental efficiency," Wright said. The results also suggest how practicing RAs are making professional life easier for radiologists. Despite earning her ARRT certification, Patricia Dycus has been stymied by regulatory issues in Florida that will keep her from fully applying her clinical skills until 2007. In the meantime, she performs administrative duties for her preceptor, Dr. Alexandria Osario, at Florida Hospital Fish Memorial in Orange City. Her work screening the appropriateness of requests by referring physician for biopsies saves the practice time. And the sophistication acquired during her training is evident in her approach to obtaining informed consents.

"She can go a little deeper with patients into risks and benefits and what to expect from a procedure," Osario said. "I have to spend less time explaining procedures."

RPA Sean Wiley is subject to the same Florida law that is keeping Dycus from making use of all her skills. His work at the University of Florida Shands in Gainesville, however, has not been affected because of his hospital's interpretation of the law. Wiley has worked with radiology residents and fellows as an RPA in the university hospital's interventional lab for four years. The IR procedures he performs fall under the state delegation act, he said. It allows section director Dr. James Caridi to delegate procedures to Wiley that he is deemed qualified to perform.

That option may end when regulations associated with the law go into effect next year, Wiley said. In the meantime, he is monitoring the situation to determine if he will need RA certification to retain his privileges.

Until that time comes, Wiley's typical day brings at 7 a.m. He checks the board for procedures to be performed that day. He looks for cases requiring special instruments or interventional expertise. He and the clinical nurse review imaging and medical records with an interventional radiologist before turning them over to residents and fellows. An attending physician then briefs the students on case strategy and procedure.

Depending upon case complexity, Wiley will either assist an attending physician or perform the procedure himself with attending physician support in one of the department's five interventional suites. Wiley performs up to 15 procedures per day, most involving central venous access, such as infused ports, Hickman catheters, tunnel dialysis catheters, and nontunnel venous lines. The attending physician is either in the control room or by Wiley's side when he performs procedures. The attending physician takes charge of arterial work, complicated nephrotomy tube placements, and biliary tube placements.

To qualify to work in an academic setting, Wiley earned a bachelor of science degree and an RT degree and accumulated 15 years of IR experience. He graduated from Weber State and was certified in 2002.

The work performed by James Abraham and Tom Carter for the 10-member Northwest Imaging radiology group in Kalispell, MT, illustrates that no two RPA jobs are alike. Abraham saves time for Dr. Hugh Cecil by performing routine interventional procedures at Kalispell Medical Center. Cecil estimates that every 45 minutes of hands-on work done by Abraham gives him 35 minutes to read images. During a typical day, Cecil gets about three extra hours to pile up lucrative relative value units.

"Sending James to school was a very smart move financially because he makes me a more productive reader," Cecil said. "His value is probably worth 50% of a radiologist."

While Abraham is performing paracenteses and cholangiograms, Carter is practicing miles away. Several far-flung rural hospitals in eastern Montana contract with Northwest Imaging. Carter performs routine scans and arthrograms preceding shoulder MRI. The images are transmitted to Kalispell via teleradiology. He also performs routine fluoro-guided interventions. The costs he saves the practice are measured in the long hours a radiologist would have spent traveling from hospital to hospital.
REAL-LIFE PRACTICE

About 50 miles north of Dallas, Bhawna Oberoi has found that the reality of RPA practice differs from the theories she learned at Weber State five years ago. She has found that the boundaries of what RPAs can do have expanded as radiologists have grown more comfortable with their existence.

"By the time we were certified, radiologists were becoming more comfortable with the idea of having a physician extender, and they wanted to teach us more," she said.

In Oberoi's case, that means much more—including interpretation of some radiological images. She practices under the guidance of Dr. Charles R. Phelps II, a partner with Sherman Radiology Associates, in Parker, TX. Her assignments alternate between North Texas Medical Center in Gainesville and Wilson N. Jones Medical Center in nearby Sherman.

Oberoi is given free rein when performing arthograms and myelography. Phelps performs biopsies and abscess drainages with Oberoi assisting.

Multiple side-by-side PACS make Oberoi's participation in dictation possible. Phelps works at one station, while Oberoi sits at a neighboring one. Her workload is limited to plain films and fluoroscopy from the IR studies she has completed. The interplay between radiologist and RPA is similar to that between an academic radiologist and a resident, Phelps said.

"We examine the images and agree or disagree and talk about interesting aspects of the case," he said. "She dictates a report, and we make sure it correlates with our findings."

In other instances, the radiologist will dictate the key findings. Dictation is then turned over to Oberoi to add details about patient demographics, history, and possible limitations of the study. Phelps confirms the accuracy of Oberoi's notations.

While stretching the limits of RPA practice, Oberoi still recognizes the need for direct supervision for invasive procedures, especially when needle manipulation is involved.

"We are a supplement to a radiologist and not a substitute," she said.

Mr. Brice is senior editor of Diagnostic Imaging.

Disclosures:

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