

Pioneering competency-based curriculums in the U.S.

By Paul Snyder

It might seem like big talk, but there's a key word that Robert Weber, MD, Temple, Texas, uses when talking about the competency-based education program launched July 1 at Baylor Scott & White (BSW) Health.

"What we are describing here is truly revolutionary," he says.

In addition to BSW, the University of Pittsburgh Medical Center (UPMC) has also begun its own competency-based training program, and the University of Michigan and Johns Hopkins Medical Center will begin their own such programs next year. The initiative, which was recently approved by both ABPS and the Resident Review Committee (RRC), is the culmination of four years of combined efforts from Dr. Weber, along with Joseph Losee, MD, and Vu Nguyen, MD, also at UPMC; Steven Kasten, MD, at the University of Michigan; and Scott Lifchez, MD, at Johns Hopkins.

The idea disrupts the medical training programs that use a fixed time-limit for graduation, instead basing the decision to graduate a resident on his or her ability to demonstrate competency. Although the practice has been put into place in Canada in the University of Toronto's orthopedic surgery program, this trial by four plastic surgery departments represents the first attempt in the United States to provide a competency-based curriculum.

"We're definitely one of the longest-duration clinical training programs of any specialty," Dr. Kasten says. "Even longer than neurosurgery. It simply begs the question: Can we be more efficient about it?"

It doesn't mean the four institutions are now pushing to graduate every resident in five years – although Dr. Weber points out that statistical evidence already demonstrates the feasibility of a five-year curriculum. Canada's plastic surgery programs last five years, and in the mid-2000s, an ACAPS presentation considered board pass-rates between residents who had done two-year residencies after general surgery; three-year residencies; five-year integrated; and six-year integrated, with the ultimate result being no major statistical difference between the residents in the five- and six-year programs.

"The goal of a competency-based residency is not necessarily to train residents in a shorter period of time," Dr. Weber says. "The

goal is to train residents as long as they need until they're done. It's important that people recognize that. We want to train residents in a way so that they're done and achieve competency at their pace. It just so happens that in plastic surgery, there's a lot of evidence that suggests it can be done in five years instead of six – perhaps even shorter."

Matter of perspective

Of course, it could also mean seven years for some students, or perhaps longer, according to Dr. Nguyen.

"Accelerated graduation is the sexy, easy metric, but it's the wrong thing to focus on," he says. "What we want is to get everyone to a similar level of competency, recognizing that

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– Scott Lifchez, MD*

on an individual basis, everyone achieves that competency somewhat differently. With a more-focused program, we can identify those who are accelerated for one reason or another, who learn faster, or are more technically competent – whatever that combination is – and potentially shorten their training.

"Similarly, the people who take more time to learn those same concepts are not 'bad' or 'failing' residents," Dr. Nguyen continues. "Now you can assess those people earlier, figure out where they need more help and give them more focus in their area of need."

The benefit isn't just for the resident, either. The institution has the opportunity to be more efficient in educating its residents and, at the end, the patient can be satisfied knowing their doctor has demonstrated the competency necessary to graduate.

"We don't make judgments based on whether someone's going to be an Olympic sprinter if they walk at 9 months or 14 months," Dr. Lifchez says. "We just care that they get there. Shouldn't we be thinking about teaching doctors the same way? Is it really fair to assume a doctor is better because they graduated faster – or that they're worse because they got there a little slower? All we really want to know is that they have the skill set to provide good, quality care for us or our loved ones."

Great minds think alike

Although Dr. Kasten authored a *PRS* piece on competency-based education in 2009, and Drs. Losee, Nguyen, Weber and Lifchez all worked on similar proposals at their own institutions, it was actually the ACGME's creation of the Advancing Innovating in Residency Education (AIRE) program that brought the doctors together.

"There was a little anxiety on ACGME's part about it," Dr. Losee recalls. "The AIRE Committee felt we should have a consortium, so we spoke with these other doctors and institutions, and redid our proposal."

Even with approvals from ABPS and the RRC, Dr. Losee says a lot of details and logistics remain for each institution to work

out. A competency-based training program will require more rigorous assessment, which requires a greater time commitment on the part of staff. At a more granular level, there might be a need for the creation and refinement of scoring systems, mechanisms to ensure that no bias enters into decision of which residents move faster through programs, as well as later potential hiring issues – such as if a hospital system declines to hire a graduate of the competency-based program because it observes a stipulation that plastic surgeons must have six years' training and the applicant only has five.

"There's a very long list of ways that this could create a problem," Dr. Lifchez says. "Our approach to it is to think of as many issues as we can and preemptively address what we think we would do, so if any of these issues were to come up, it's not the first time we thought about it."

Dr. Kasten says he's heard some pushback against the idea, but he says that mainly comes down to a general resistance toward change. He says plastic surgeons led the way in establishing integrated programs – which also faced resistance when they started but are now widespread throughout the country. In addition to putting residents in a position to learn more at

their own pace, he says the additional benefit is that it makes academic programs more invested in their students' success.

"In the past, you could certainly come across a learner who matched into a program and thinks, 'If I show up for six years and don't do anything bad, I'll be a plastic surgeon on the other end of it,'" he says. "Honestly, that's true. As long as you score average or slightly below average – but with a passing grade – and you're a professional person, you're going to get through. This takes away the 'you can just show up for six years' factor."

New frontier

With the initial two programs just a month old at *PSN* press time, the doctors agree that it's far too early to determine what works, what doesn't and even how competency-based education can ultimately be deemed a success. Although all the training programs will be eager to see how long it takes their residents to pass board exams as compared to the traditional six-year residency, the doctors involved with instigating this change say that no matter the outcome, they're proud to be at the forefront of a new frontier.

"This is what we do as plastic surgeons," Dr. Lifchez says. "We find the new way. Maybe it's not enough to cut out someone's breast cancer – maybe we should make them more whole when we're done. Maybe we can transplant more than a kidney – maybe we can transplant an arm or a face and make someone's life much better. This is just the educational next-iteration of that."

Dr. Weber says it's possible that other programs could adopt competency-based residency, but it's also going to be a determination based on staffing availability. Larger institutions that have more personnel available for rotations might have an easier time adapting to the change than those that are more tightly staffed. The concept doesn't have to be limited to plastic surgery, either – it could help move the needle in other specialties as well.

"Regardless of whether we succeed or fail – and I'm pretty sure we're going to succeed – it has been an absolute joy to work in such close cooperation with Dr. Losee, Dr. Nguyen, Dr. Kasten and Dr. Lifchez," Dr. Weber says. "Just learning the details of the three other programs has made each of our programs better, as we've learned from one another." **PSN**

Helping a patient restore her abdomen after 132-lb. tumor excision

By Jim Leonardo

ABPS member David Goldenberg, MD, Danbury, Conn., downplays his role in the successful removal of a 132-pound ovarian tumor growing within a 38-year-old Connecticut woman.

"It was fairly straightforward," Dr. Goldenberg tells *PSN* of the February procedure. "Mostly just about measuring and marking, removing stretched tissue, then reconstructing the abdominal wall – putting things back in an orderly fashion, restoring the anatomy and then closing this giant incision."

Dr. Goldenberg was asked by his colleague, surgical team leader and gynecologist Vaagn Andikyan, MD, with whom he's operated often in the past, to join the operative team to handle the abdominal reconstruction. As simple as Dr. Goldenberg makes it sound, mitigating factors made the process quite challenging – not the least of which was the sheer size and weight of the growth. The most delicate portions of the procedure came after the tumor had been removed, with the onus squarely upon the

anesthesiology team, he says.

"The anatomic challenge was straightforward, but the physiological challenge could've proven quite problematic – this wasn't just a plastic surgery or gynecology exercise," Dr. Goldenberg says. "This was way more complicated than it appeared on the surface. We saw in the preoperative report that the tumor was causing vascular blockage; she couldn't lie on her back, because the massive size of the tumor would impede the circulation to her lower legs. Therefore, she was placed on her side to start the procedure.

"Once we reduced the pressure from the tumor and drained all the fluid, she was put on her back," he continues. "I watched her circulation return to normal as she lay on the operating table."



David Goldenberg, MD

As one issue was mitigated, another arose: The patient's anesthesia could cause cardiac-related complications.

"There were possible cardiac effects that could result from removing this giant tumor in the incorrect manner," Dr. Goldenberg says. "If we hadn't been ready for those, the result could've proven life-threatening."

Life-changing result

Thankfully, he says, the anesthesiology team did a "stellar" job, bypassing that potential issue. The patient was understandably grateful for the outcome.

"She was about 320 pounds when we started the case and about 180 when we finished," Dr. Goldenberg says. "All the edema and blockages went away; all of the effects of an intra-abdominal tumor went away. Prior to surgery, she couldn't walk or work – she had become a hermit because she was so stigmatized by this. Afterward, she went back to her job.

"She now appears as a normal individual, instead of one carrying 140 extra pounds of tumor, tissue and fluid," he adds. "You'd pass

her on the street and think there was nothing abnormal in her appearance. So in this regard, we not only changed a life, we saved a life."

Such positive outcomes likely would be more difficult were it not for the expertise built through regular execution of unremarkable cases in the O.R., Dr. Goldenberg says.

"From a plastic surgery perspective, this case was straightforward because I've handled so many other disasters," he explains. "Experience and preparation allow us to handle a case of this magnitude at 8 a.m. on a Monday, and then go have office hours at 11 a.m."

"The whole point of difficult cases and challenges is that they make the routine procedures that much easier," Dr. Goldenberg continues. "If everything was easy, you'd never get better at 'easy.' Sometimes it should be difficult, challenging and weird, so that you push yourself and challenge yourself. That's what makes plastic surgery so interesting – every case is not the same. There are always new, weird and different things coming into your path. First, we say, 'Hmm' – then we take care of the problem." **PSN**