A New Approach to Electrophysiology Education

Greg Shelton, MBA, RRT,1 Elizabeth Watts, MSN, BS, RN,2 and Rebekah L. Morrison M.Ed., BS3
1 Administrative Director of Cardiovascular Invasive Labs and Heart Center Communications, Duke University Hospital, Durham, North Carolina; 2 Adult Electrophysiology Lab, Duke University Hospital; 3 Director of E-Learning, SpringBoard Healthcare

Understanding the High Demand for Trained EP Talent

Electrophysiology (EP) is a rapidly growing segment within the healthcare industry. In fact, approximately 2.8 million people in the U.S. are affected by atrial fibrillation, and this number is expected to double by 2050.1

For hospitals, this growth provides an opportunity to serve more patients. According to a recent report, about 2,000 hospitals (or less than half of all hospitals in the U.S.) offer electrophysiology services, and fewer than half of those perform ablations. This creates a potential opportunity for hospitals to expand their cardiovascular service lines to better meet patient needs.2,3

However, with the increased demand for these services, there is a shortage of professionals. The issue is a lack of formal education programs. In fact, only two schools in the country offer electrophysiology programs and graduate as few as 20 students per year.

Furthermore, new allied professionals can often become overwhelmed if orientation programs don’t adequately prepare them for the fast-paced environment full of technology and procedure changes. With limited access to continuing education, many professionals get frustrated and leave the field, creating even more demand for this much needed skill.

A greater emphasis on training and education may provide an opportunity to draw more individuals to the field. It may also help hospitals across the nation improve retention and enhance the expertise of staff to better meet the electrophysiology needs of patients.

Building Greater EP Expertise at Duke

With a passion for providing continuous improvement and delivering high-quality care, hospital leaders at Duke University Heart Hospital decided to put more resources behind this important service area and place a greater focus on enhancing the expertise of their EP staff.

In January 2015, Duke (one of the top five cardiovascular departments in the U.S.) collaborated with SpringBoard Healthcare, a leading training firm with an expertise in cardiology, to develop an electrophysiology curriculum and training program.

Using their combined strengths, they developed a comprehensive EP curriculum designed to prepare allied professionals for the Registered Cardiac Electrophysiology Specialist (RCES) certification. Leveraging mobile and web technologies, the training provided convenient continuing education tools for EP lab workers, and addressed the problems facing many EP labs today.

Developing a Multi-Faceted Training Program

To launch this effort, Duke’s leadership and staff worked side-by-side with SpringBoard to assess clinical knowledge and training opportunities. Utilizing customized multi-level assessments of Duke’s EP department, including individual self-testing and peer observations, as well as physician and management assessments, a customized curriculum was subsequently developed to address the needs of all levels and licenses of allied health professionals. (Figure 1) SpringBoard’s expert EP consultants and trainers then delivered the curriculum through a series of one-on-one and group learning sessions.

As the team worked to build out the EP educational curriculum, they put the following learning opportunities and best practices into place:
• Delivered customized onsite training for six months. This included working side-by-side, providing teaching and training during cases, break time, and in several after-work group sessions.
• Weekly staff meetings also provided another training opportunity. (Figure 2) Each training moment was based on the questions and learning needs of the individuals or groups present at the time, creating a more tailored approach both academically and clinically.

“Having the SpringBoard consultant, Joe Hejlik, there pointing out things while cases were going on was one of the most helpful parts of the training program,” said Stuart Catto, CVT. “It really helped increase my personal knowledge. And it provided a great opportunity to ask questions and learn even more.”
• Conducted hands-on EP recording system computer training. With the EP recording system computer, the trainer was able to load actual cases and review them in a weekly staff meeting.

Figure 1: With assessments complete, the collaboration between Duke University Hospital and SpringBoard Health turns to the curriculum. (Pictured from left to right: Joe Giron, Director of Clinical Education, SpringBoard Healthcare; Greg Shelton, Administrative Director of Cardiovascular Invasive Labs, Duke University Hospital; and Joe Hejlik, EP Clinical Educator, SpringBoard Healthcare.)

Figure 2: Joe Hejlik, SpringBoard Educator, holds one of the many custom onsite training sessions during a weekly staff meeting.
allow for updates as new techniques and technologies emerge. Going forward, the Duke physicians plan to add advanced content for fellows and physician extenders such as nurse practitioners (NP) and physician assistants (PA).

- Developed an EP curriculum based on the RCES certification exam. The exam matrix guidelines, multi-level assessments, and training materials were used to create a comprehensive curriculum to better prepare allied health professionals for the RCES credentialing exam. This was a major step toward meeting Duke’s goal to have all staff earn their RCES certification. One highly motivated staff member went one step further and obtained the International Board of Heart Rhythm Examiners (IBHRE) Certified Electrophysiology Specialist (CEPS) certification.

- Leveraged technology to make the curriculum accessible across multiple platforms. To encourage self-study and ongoing education, Springboard and Duke worked together to deliver the curriculum via a web-based Learning Management System (LMS) and tablet-based format. The curriculum provides a variety of interactive tools including 3D illustrations/images, lectures, practice tests, glossary, and references. With digital access, including mobile, Duke employees were able to access educational content from anywhere, review material before a case, listen to online lectures on the go, or watch an advanced case review video for more traditional classroom-style training. Additionally, the digital tools

Figure 3: A tablet-based educational program serves as an easy-to-use training textbook and clinical reference, allowing for more effective self-study and ongoing education.

Figure 4: A staff member presents to the rest of the EP staff during a group training session.

Figure 5: A staff member receives valuable one-on-one training from SpringBoard’s EP expert, Joe Hejlik.

ACHIEVING RESULTS

With the new training program in place, morale is high and employees are more engaged and eager to continue advancing in their careers. In fact, in Duke’s most recent employee satisfaction survey, the EP lab ranked in the top tier. Duke’s investment in its allied health employees has provided other benefits as well. It has enhanced the teamwork between physicians, fellows, and allied support, and has led to a culture where staff members are encouraged to ask questions and keep learning. Physicians recently commented that they believe their current staff is the best they’ve ever seen. Additionally, turnover has been reduced down to zero. This frees the department from getting bogged down with costly and time-consuming new employee orientations, which can take up to six months. The lab can now focus on continued learning, efficiency, and productivity.

KEYS TO SUCCESS: THE BENEFITS OF ONSITE, CUSTOMIZED TRAINING

The EP lab leadership believes that having the right combination of resources has made a big difference in the overall experience and results they were able to achieve. In the search for a training

Continued on page xx
in developing the program, they found that it could be linked or paired with other hospital programs such as their fellow training and credentialing board. In addition, they decided to capitalize on the staff interest and offer dedicated, offsite training on Saturdays, which took more time. The program kept growing and expanding, and soon six months went by very fast.

- Having buy-in from senior leaders and physicians is a must. To commit to a program of this magnitude, senior leadership buy-in and physician support is needed from the very beginning. It helps to form a committee to oversee the program development and adhere to a timeline.

- Carving out training time is needed to ensure success. Labs are busy departments within any hospital, making it difficult to find training time. Onsite training during or upon case completion, break time, and at end of day, as well as dedicated offsite training, was key to Duke’s success. The dedicated training was so important, that senior leadership paid employees overtime and provided breakfast for the Saturday morning event. (Figure 8)

**LOOKING FORWARD**

Duke is well on their way to meeting their goal of enhancing the expertise of their EP staff and providing more support for this important service center. The organization will continue to refine its program and plans to have all their EP staff sit for the RCES certification tests within a few months.

With a knowledgeable lab and excellent continuing education platform in place, Duke is well positioned for the future. Advanced technologies will come. New employees will come. More patients will come. Duke will be ready to deliver high-quality EP services in line with their highly respected reputation and position as one of the top hospitals in the U.S.

**References**


---

**Greg Shelton, MBA, RRT, Administrative Director of Cardiovascular Invasive Labs and Heart Center Communications, Duke University Hospital**

Greg serves as the Administrative Director for Duke’s Cardiovascular Invasive labs and Heart Center Communications, where he has been for 2 years. He has over 20 years of healthcare experience, where he has held leadership roles in various departments and organizations. Prior to Duke, he managed the cath program at Wake Forest Baptist Health. He is a certified, registered and licensed Respiratory Therapist. He holds an MBA and bachelor of science degree from Gardner-Webb University.

**Elizabeth Watts, MSN, BS, RN, Adult Electrophysiology Lab, Duke University Hospital**

Elizabeth is a registered nurse in the electrophysiology lab at Duke University Hospital. Her extensive nursing clinical competency spans a broad range of specialties, including electrophysiology. She serves on the Heart Center Clinical Practice Committee, Mentorship Committee, and Chair of the EP Lab Advisory Committee at Duke University Hospital. Elizabeth holds a Masters of Science in Nursing Education and a Bachelor of Science in Health Services Management from East Carolina University.

**Rebekah L Morrison M.Ed., BS, Director of E-Learning, SpringBoard Healthcare**

Rebekah serves as Director of E-Learning for SpringBoard Healthcare Education Division. She oversees all aspects of education including analysis, design, development, implementation and support for e-learning solutions. Rebekah holds a Masters of Education in Instructional Design and a Bachelor of Science in Health Policy and Administration from Pennsylvania State University.