

## A New Approach to Electrophysiology Education

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**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.

### 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.<sup>1</sup>

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.<sup>2,3</sup>

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

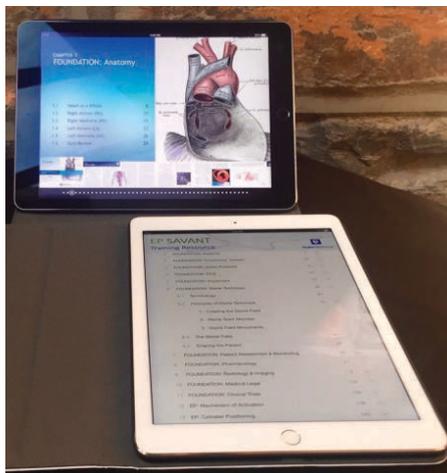
To launch this effort, Duke's leadership and staff worked side-by-side with SpringBoard to assess clinical knowledge and training opportunities. Utilizing customized multi-level assessments of Duke's EP department, including individual self-testing and peer observations, as well as physician and management 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

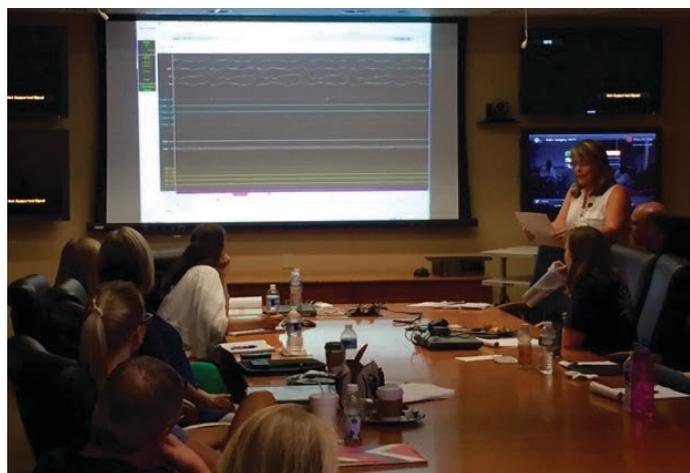
EP educational curriculum, they put the following learning opportunities and best practices into place:

- *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



**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.

conference room setting for additional training. This training was made available to all staff including more novice staff members who might be reluctant to run the system on a live case. Staff could scroll through the electrogram, run calipers, and make measurements and point to specific signals on the screen. After each workday, at least one or two people stayed for one-on-one training and a Q&A session with the trainer.

- *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

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).

- *Created a customized site-specific quick reference guide to enhance job efficiency.* A reference section was added to the tablet version of the curriculum. It included a list of physician preferences (similar to Kardexes) complete with photographs of all equipment and supplies used for a particular procedure. The section also contains an equipment connectology guide displayed through an interactive room schematic. Common troubleshooting issues and the related solutions are addressed through the interactive room schematic as well. (Figure 3)

- *Established a mentorship committee to provide ongoing training.* The staff selected motivated individuals with extensive EP knowledge and leadership skills to conduct orientation programs, monitor new employee progress, and plan additional learning events. In addition, physicians also mentored participants as a part of the broader training program. "One of my favorite aspects of the program is the mentorship committee," said Vanessa Guzman, RN, who completed the training program. "I enjoy having the opportunity to mentor other staff members, provide group training, and review cases. It's a great way to get questions answered and keep learning."

- *Conducted additional Saturday conferences.* To provide additional training, Duke chose to offer employees an opportunity to participate in case review and learning sessions. Duke's administrative leadership felt so strongly about the training that they approved overtime pay and provided breakfast for employees. Staff members and physicians were so committed to learn, that attendance for the voluntary training was over 95

percent. Duke EP allied staff delivered the case reviews, while the SpringBoard trainer provided additional support and fielded questions. This format helped build "presentation confidence" among staff and forged a model for continued case reviews. (Figure 4) "It's great to see upper management putting more time and resources into the EP department," said Jennifer Gillen, CVT, RCES. "That's encouraging. The staff is more engaged. They ask more questions. And they are even willing to attend training sessions on Saturdays."

## 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.<sup>4</sup> 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

firm, they explored all the options. Many training firms offered offsite training only, placing a limit on the learning time and making an ongoing sustainable model more difficult. Other companies also tended to offer online, lecture-style courses only. However, Duke concluded that customized in-person training, a shorter program length, ongoing/sustainable legacy digital education, and lower costs were the right combination to best meet their needs.

Benefits of this type of program included that it:

- *Better met staff education needs with a customized in-person training program.* This approach gave Duke 100 percent on-the-job, "shoulder-to-shoulder" training from a live EP expert. (Figure 5) Other programs offer standard online or lecture-only models with a focus on the basics, which most allied staff already know. Or they require the staff to come to them, placing a limit on the learning time and making an ongoing sustainable model more difficult. In a Duke survey, 75 percent were "very likely/likely" to recommend onsite training and education to others.<sup>5</sup>

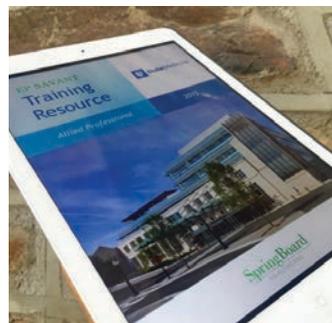
- *Improved learning efficiency with a customized assessment of EP lab staff.* Based on the findings, the training was tailored to the actual staff competency level, according to various assessments including those from physicians, management, and the consulting firm's trainers. Two-year programs often provide more general education, are costly, and logistically prohibitive for the full-time Duke employee.

- *Improved engagement and fostered a "culture of learning."* With Duke's investment in staff education, employees were encouraged to learn and take their skills to the next level. Survey results demonstrated that 79 percent rated their achievement and motivation levels

*continued on page xx*



**Figure 6:** Break time is turned into a learning opportunity for two EP staff members.



**Figure 7:** Having a customized ongoing education tool is one of the most critical parts of the program.



**Figure 8:** With a comprehensive training program in place, Duke University Hospital's EP lab staff (pictured here) is well positioned for the future.

## EP Education

Continued from page xx

following the training as “excellent/above average.” Additionally, 74 percent ranked the impact the training made on the department’s culture and goals as “excellent/above average.”<sup>5</sup> “The extra training and support gives people confidence,” Catto said. “I’m seeing positive changes in morale and engagement on a day-to-day basis. People like learning and having the opportunity to move forward in their careers.” (Figure 6)

- *Helped employees more quickly achieve greater competency and a sense of accomplishment with a shorter training program.* A six-month (versus a two-year) program allowed the hospital to train existing professionals with work experience instead of hiring new graduates with no real-world lab experience.

- *Achieved a significant cost savings with a shorter onsite training program.* In fact, a shorter program can result in up to 80% savings when comparing it to a two-year program at \$25,000–\$36,000 per student, depending on department

size and program level.<sup>6</sup>

- *Provided faster ability to make an impact on the job.* Since the staff was enhancing their expertise while on the job, they were able to achieve faster knowledge transfer.

- *Improved knowledge retention with a digital legacy training program.* (Figure 7)

- *Retained quality staff through the mentorship committee.* This committee provides leadership and growth opportunities to more experienced, high-competency team members.

### LESSONS LEARNED

In implementing any program, there are always unexpected twists and turns along the way, especially in a large healthcare organization. As Duke moved through the process of putting a new training program in place, they discovered several key findings or lessons learned that may help other organizations who are considering a similar training program:

- *Developing a program will take longer than initially thought.* Duke initially planned on taking six months to develop their training program. They quickly found out that six months was not long enough. As they moved forward

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.

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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.

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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.

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