# Great Expectations

Mike Schmidt, Editor, Surgical Products

*This article appears in the September/October issue of* Surgical Products*.*

Any project with great potential often comes with immense expectations, some level of uncertainty, and risk of  failure. To be able to transform potential into tangible results, the individual or group undertaking the project must embrace those expectations and accept the uncertainty and risk.

A multi-year project by Chicago's Rush University Medical Center to construct two hybrid operating rooms featuring state-of-the-art technology concluded in January of 2012. With one located in the facility's tower and another in its atrium, staff from a number of different specialties – Pediatric/Adult Congentital/Structural Heart, Interventional Cardiology, Interventional Radiology, Neurosurgery, Neuro-Endovascular, Vascular Surgery, and Cardiac Surgery –  immediately began to utilize cutting-edge technology and interact with one another on a number of hybrid surgical procedures.

Dr. Demetrious Lopes, Director of Neuroendovascular Surgery, Rush University Medical Center, says the first few days and weeks after the project concluded left staff members feeling both nervous and excited about the potential of the the technology housed in the  the two rooms, which were constructed as a means to create tremendous synergy among different specialties, allow surgeons and staff easier access between an imaging area and an operating room, and improve safety during procedures.

"For surgeons or staff, if you are doing cases in another room, for example, you can quickly go into the hybrid area and participate," says Lopes. "In general, a lot of

these procedures you are not going to be the one surgeon staying throughout the procedure. You may have parts of the procedure where you come in, depending on your level of expertise."

**Image Is Everything**

The technology employed in the rooms gives surgeons immediate access to a mobile, robotic C-arm that provided high-quality imaging in a conventional operating room. Stationed in an isolated spot in the OR until it is needed, the equipment moves around the operating table and into positon, giving staff easy visualization of small details.

"You have to know where folks are going to be and where this equipment is moving," says Lopes. "This is a robotic arm. It is not going to stop."

Surgeons do not operate inside the imaging equipment, as with some MRIs and CT scans, says Lopes. Instead, the equipment comes in and out of the operating area and can be used independently or in a hybrid procedure. The staff at Rush immediately recognized the benefits this technology had to offer.

"We were quite excited about the ability to see how specialties like neurosurgery, vascular surgery, and cardiothoracic surgery would interact," says Lopes.

**Working Together**

The cost and complexity of the technology left Lopes believing it was not meant to be dedicated to one line of service, but rather a shared resource between specialties. As a result, it was critical for everyone affected by the project to provide input throughout the planning and construction processes.

Furthermore, there was a need for staff to be trained to work in an operating room environment containing equipment usually found in different suite areas. Faced with a new surgical setting, personnel needed to determine where they were supposed to be in relation to fellow staff and equipment, as well as how the new arrangement affected how they conduct their job responsibilities.

"You can imagine to stock a room like this becomes quite challenging when you talk about different specialties," says Lopes. "It's almost unrealistic to try to do that in this room. You'd crowd your room so much, so you need to have easy access to the areas that you can obtain, even for safety. If anything goes in an unpredictable way in the open side or in the endovascular side, you should be able to get those resources to help you very fast."

The staff worked diligently to learn how to work together in the new environment. It was a learning experience for everyone involved, and each member of the staff was acutely aware of potential challenges.

"The first two weeks, there were no pointing fingers," says Lopes. "At the end of the day, we would huddle and ask how the day was and what were the things that

happened. The responsibility was shared among all of those who contributed on the project."

**Looking Ahead**

The ability for the hospital to leverage the technology and achieve a desired return on investment remains very much a work in progress. Now a year-and-a-half since the project was completed, the facility has established a goal to utilize the navigation technologies in the operating room to see if there is a way to improve accuracy with intraoperative imaging.

More so than anything, however, the staff at Rush is focused on determining what the best measures are to prove the initial concept of the room has an advantage.

"That will be something that is very important for the long term," says Lopes. "To predict where the next step is going to be depends on the results of initial assessments and improvements of workflow, and these things are difficult to measure. You look at outcomes, workflow efficiencies, and cost, and there are many things that are going to have to be positive to justify the cost of these new concepts."

According to Lopes, hybrid operating rooms like those at Rush are not a worthy investment for any and all hospital facilities. In fact, he states, they may be best fit for institutions with the full breadth of surgical services, because they will need to leverage the full multi-disciplinary room to justify the overall investment. While the hybrid environment can be used for any type of procedure, it benefits a facility to be smart and selective with regards to how the room and equipment is used. That, says Lopes, is a task that is continually ongoing at Rush University Medical Center

"There's no question there's an excitement around the technology," he says. "It's a very cool concept. But the proof comes with a lot of trial and error."

**Source URL (retrieved on *10/23/2014 - 7:33am*):**
http://www.surgicalproductsmag.com/articles/2013/09/great-expectations