

What's the Connection Between Lego People, Paper Dolls, and Operating Rooms?

The answer to this question was revealed during an April 2012 3P* Kaizen Event focused on envisioning a new Operating theater for the Beth Israel Deaconess Medical Center (BIDMC) campus in Needham, Massachusetts. A cross functional group of employees supporting Operating Room activities at BIDMC Needham joined facilitator, Bruce Hamilton of GBMP, for a 1.5-day event focused on developing “patient-centered” processes that also meet the needs of the many people who care for patients undergoing surgery. In Bruce’s words, “These are the folks who are actually touching the patient, both knowledgeable and deeply compassionate.” BIDMC had already selected JACA Architects of North Quincy, Massachusetts to design the new surgical space, and GBMP was asked to help employees and JACA work together to analyze existing processes and develop improved flows so that effective floor plans for the new area could be created.

With the support of the BIDMC steering team, a cross functional group consisting of eight clinicians – doctors, nurses, technicians and housekeepers – with support from facility managers and architects was selected to participate in the event. The composition of the team alone was energizing. Holly Sousa, Director of Perioperative Services, and a participant in the event, explained it this way: *“I know that my staff who were able to be a part of this event really gained valuable perspectives and were engaged in “thinking outside the box”. I must admit that I was unsure how we could begin to make change but count me in as a true believer in the process. I have always believed that if you need change to happen, it needs to happen with the caregivers first- it needs to be their ideas, or the change never happens. I think this is only the beginning for us and I hope to be able to use what I learned from now on every day.”*

The event opened with a short training by Bruce on the principles of 3P (**P**roduction **P**reparation **P**rocess-- a powerful means of taking a big-picture look at how a product or process is designed in order to create breakthrough “out of the box” solutions.) The 3P process uses a creative method called “try-storming” (combining brainstorming with rapid prototyping) that is based upon fundamentals of Lean such as flow, pull and waste elimination. It encourages multiple possible designs, but then helps the team to narrow choices to those that provide the best patient and provider workflow and quality of care. A goal was set to have at least one consensus image for an improved design to present to the steering team by the end of the event.

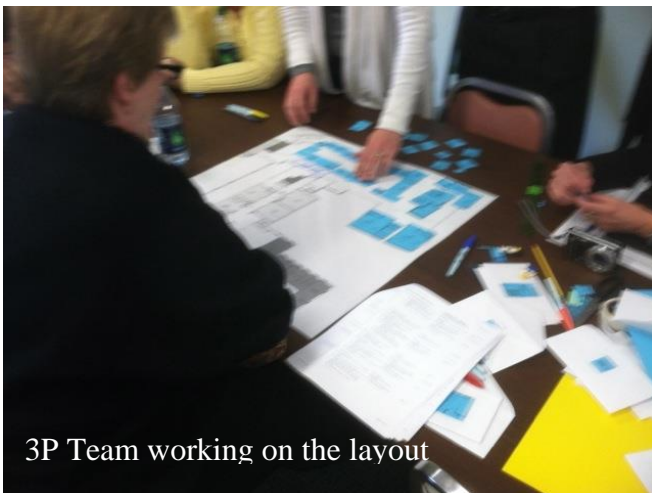
Cross functional team working together



The group was first charged with mapping the current processes from the patient’s point of view. The team visualized their processes with simple stick figure drawings to collectively track the flow of the patient. From their “process at a glance” worksheets the team was able to see many opportunities for improvement in the current processes. Everyone had a new appreciation for what patients go through based on the mapping exercise. And it was from this perspective that Lego People were introduced.

The next steps included providing the team with a toy Lego person to serve as the patient. The team was asked to use the Lego Person to test their ideas and to verify the impact of their designs on patient flow during the balance of the event. In other words, move the Lego Person through the design layout as if it were the actual patient, to ensure the patient’s perspective in the overall design process.

Bruce also introduced a set of functional requirements for “ideal patient flow” gathered through interviews with Needham staff members, as well as items summarized from employee wish lists. Participants were asked to consider these items when *try-storming* designs for the surgical area. After lively discussion of their many ideas, they were asked to play “paper dolls”, using miniature blank layouts of the proposed new space in Needham to consider adjacencies (what functions/activities should be next to each other) and flow patterns. They inserted to-scale size components needed for patient care into the layout, such as pre-operative bays, operating rooms, supply rooms, and post-operative care areas to come up with a variety of layouts that reflected improved patient flow and enhanced care. Next, they had to move their “Lego Patient” through the processes to get a feel for how their designs and layouts served patients under a variety of common patient scenarios.



3P Team working on the layout

As the event unfolded, the team was thinking deeply about the issues and, at about one day into the activities, struggling mightily to develop a breakthrough design. After lunch that day, one participant lamented, “If we can’t fix the recovery area problem, the rest of this expansion won’t matter.” “Go with that idea,” Bruce suggested. A new layout developed quickly working back from an ‘ideal patient recovery area.’ The principle was right: patient-focused. Ideas were popping now: *trystorming* and more *trystorming* took place. Within an hour, the team was sensing a breakthrough, and anxiety turned to excitement. By four o’clock, an operationally superior plan emerged that was, in the

architect’s words, “totally different from what we would have drawn.”

The group presented this common vision for an improved layout/flow to the steering team at the end of the event. *“The team did a great job presenting and I thought they had a really nice final result! In fact, I was so pleased by what I heard I told Holly Sousa I thought they should make their presentation to our board of directors”*, said BIDMC Needham CEO, John Fogarty, after attending the end-of-event report out.

Another event participant, Dr. Brett Simon, of the Department of Anesthesia, Critical Care, and Pain Medicine, agreed the 1.5 days was time well spent. *“I thought we had great participation, very thoughtful input, and a very impressive result! I can't wait to see the designs that come out of this!”* he said.

After the event, facilitator Bruce Hamilton offered a new take on the concept of 3P as a result of the BIDMC Needham team's efforts. *"This team reminded me that if the right people (in this case the direct patient providers) have the passion to improve, then the keystone to improvement is the right principle. The technical side of lean is important, but the people side is essential. The event at Needham suggested another definition for 3P:*

3P = People + **P**assion + **P**rinciple

*3P, "Production Preparation Process," is a method introduced to the US in the mid-80's by Chihiro Nakao, a contemporary of Mr. Ohno of Toyota, and founder of Shingijutsu consulting.

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