Optimizing Patients for Elective Surgery

**Triggers:** After reviewing the root causes of several recent surgical cases with poor outcomes, our hospital decided it was time to bring attention to the clinical drivers of poor outcomes. Our Chief Medical Officer and Patient Safety Specialist conducted interviews with 25 key stakeholders to learn about the clinical importance of risk identification, the barriers to doing it well, and ideas for improvement. What we learned was unsettling – there was significant variation in how patient’s medical risk factors were identified and then managed during the pre-op period! Our affiliated surgeons each worked from different sets of guidelines and the hospital had grown accustomed to allowing this type of variation. Our CMO declared that his top priority was to create an evidence-based, standardized process for managing elective surgical patients. The CMO assembled an interdisciplinary team which included the Pre-Admissions Testing Nurse, OR Nurse Clinical Specialist, Patient Safety Specialist, OR Scheduling Technicians, and an Information Technology Specialist.

**Research:** Anchoring our project in the literature was a daunting challenge. We were unable to find even one published study that addressed the kind of problem we were faced with. We were trying to improve a process by making it consistent and reliable; we were unable to find any literature that would support this kind of idea. Instead, what we found was a plethora of well-controlled research that examined the impact of one or two narrowly defined clinical risk factors. We decided to use these studies to build a short check-list of patient risk factors that could be easily identified during the surgical work up and deserving of evaluation by a medical specialist. The dialogue to construct the list flowed between medical, surgical, and nurse specialists until it felt “right”. After all stakeholders had been briefed on these new risk identification guidelines, we launched a pilot study.

**Baseline Data:** We worked from two sets of data to measure our current performance.  

a) Metrics from an earlier effort in 2009 showed us that surgeons identified 131 of 1338 elective surgery patients as high risk (9.8%). When we asked our stakeholders what their best estimate of the rate of medically high risk patients had elective surgery in our facility, they estimated that number at 30%. This, along with the poor clinical outcomes, nudged our team further along the road toward standardized risk identification.

b) We next carried out a retrospective chart review of 128 elective surgery cases and noted those that the surgeon identified as “high risk” according to the guidelines they were using at the time. Using the same set of guidelines, a nurse abstractor reviewed the same cases and identified 25 additional cases that the surgeons had missed. This helped us realize that the surgeons were not uniform and consistent in identifying patient risk factors. Using this same set of cases, we determined that only 75% of the patients identified as “high risk” ever made it to a pre-op medical evaluation.
**Design of an Evidence-Based Process:** The project team had developed a process map of the key steps of the information flow during the pre-op process and used the baseline data to target where the process most frequently broke down. Putting evidence into practice is not as easy as it sounds, we wrestled with several give-and-take types of conversations until we were able to settle on a set of improvements:

- Simplify and standardize the definition of high risk
- Establish PAT nurse & anesthesiologist as “double check” for surgeon risk identification
- Run reports from date of booking, so PAT nurse can review each new booking for clinically high risk conditions
- Ensure that every high risk patient gets a medical evaluation
- Require surgeons to get H&P, consent, orders to hospital within 48 hours of booking
- Provide guidance for medical physicians in requirement for pre-op evaluation
- Modify computer fields and telephone scripts for OR schedulers
- Lengthen the booking window to allow more time for vital clinical information to be compiled
- Provide feedback to surgeons on accuracy of risk identification

We began with a two-month pilot study to ensure that we were seeing the results we expected. We had several design modifications during that time. For example, the surgeons told us that if they “missed” a patient’s risk factors, they were not getting informed of that. So we built a feedback loop into the process, where the PAT nurse faxed the missed risk factors to the surgeon.

Because several of the improvements had a direct impact on the workflow of the PAT nurse; administration slightly increased the FTE allotment of the PAT nursing staff. One of the most significant role changes is the nursing assessment of each newly booked surgical patient to determine if the patient meets any of the risk criteria that the surgeon might have missed. This double check redundancy is a key component of patient safety.

**Findings**
One year following the implementation of the new process, surgeons are getting their H&P’s/consents/orders to the hospital within 48 hours of booking most of the time. This makes it easier for the PAT nurse to carry out her risk assessment and pre-op teaching. As a group, the surgeons now correctly identify patient risk 88% of the time; and the redundant role of the PAT nurse/anesthesiologist picks up the other 12%. We no longer have the surprise of a high risk patient showing up the day of surgery. And because we implemented a “hard stop” at the time of booking, all high risk patients scheduled for elective surgery now benefit from a medical evaluation. Perhaps most significantly, our process now recognizes 26% of the surgical patients as high risk, up from the previous level of 9.8%. This means that more patients benefit from a medical
work up (primary care or specialists) prior to day of surgery, with the opportunity to optimize any medical conditions that might put them at risk for poor surgical outcomes.

Conclusions
This improvement project demonstrates that community hospitals can implement a reliable and evidence-based risk identification and management program to reduce the likelihood of poor surgical outcomes.