Avoiding Preventable Surgical Mistakes Using the AORN Surgical Checklist

Saint Francis Hospital and Medical Center is a 617-bed comprehensive care facility and teaching hospital affiliated with several schools of medicine, dentistry and nursing.

Saint Francis’ surgical services include bariatric, cardiothoracic, cosmetic and reconstructive, general, gynecologic, minimally invasive, neurologic, obstetrical, oncologic, orthopedic and vascular. More than 25,000 inpatient and outpatient surgical procedures are performed annually. Saint Francis also has urgent care centers, community-based clinics and community outreach education and screening programs targeting underserved communities.

Project summary:
Saint Francis Hospital has a long history of dedication to patient safety. Patient outcome data submitted to the American College of Surgeons’ National Surgical Quality Improvement Program (NSQIP) show an excellent record of successful outcomes following surgery. Saint Francis is also committed to continuous improvement. In this project, Saint Francis reviewed procedures, protocols and perioperative team communication to further minimize the risk of human error during surgery.

Dr. Scott Ellner, president of the Saint Francis Medical Group and director of Surgical Safety, received an E-3 grant from the Cardinal Health Foundation to establish a Surgical Safety Task Force and to administer the Agency for Healthcare Research and Quality’s (AHRQ) Safety Attitudes Questionnaire, Operating Room Version® to all perioperative teams. The survey uncovered the areas that would benefit most from procedural changes. The E-3 grant supported training sessions in these areas.

Perioperative team training focused on the universal use of the Association of Perioperative Registered Nurses’ (AORN) Comprehensive Surgical Safety Checklist. In addition, TeamSTEPPS, developed by AHRQ, was used to improve intra-team communication, situational awareness and empower all team members to alert other team members to potential problems.

Leadership:
Dr. Scott Ellner,
President, Saint Francis Medical Group,
Director, Surgical Safety

$7,504,255
in avoided OR costs using survey data and projections achieved from 2009 to 2013

+400 hospital readmissions averted
2,500 hospital days prevented
150 lives saved

Saint Francis Hospital in Hartford, CT achieved these numbers from the implementation of a Surgical Safety Task Force to administer TeamSTEPPS and SBAR protocol.
Objectives:
1. To institute the AORN Comprehensive Surgical Safety Checklist and ensure its proper use
2. To reduce human error in the perioperative surgical process by better coordinating intra-team communication and improving teamwork
3. To improve patient outcomes and the culture of patient safety

Results:
Using NSQIP data, the following was achieved from 2009 and 2013:
• Patients experiencing any post-operative morbidity decreased from 21.97 to 9.19 percent
• 30-day post-operative mortality decreased from 1.83 to 0.22 percent
• All-cause post-operative morbidity decreased from 12.9 to 9.19 percent
• Superficial surgical site infection rates decreased from 2.89 to 2.19 percent
• Pneumonia rates decreased from 1.36 to 0.66 percent
• Unplanned intubation rates decreased from 1.83 to 0 percent
• Rates of ventilator time greater than 48 hours decreased from 2.36 to 0.22 percent
• Septic shock rates decreased from 1.83 to 0.44 percent

Using survey data and statistical projections, the hospital’s OR also achieved from 2009 to 2013:
• a reduction from 20 to 6 percent in perioperative personnel who believed overall patient safety was failing or poor
• more than 400 hospital readmissions averted
• 2,500 hospital days prevented
• $7,504,255 in costs avoided
• an estimated 150 lives saved

Project continuation:
Dr. Ellner will focus on training new staff and medical and nursing students in these proven patient safety methods. In addition, Dr. Ellner will extend patient safety training to other areas of the hospital, focusing on transitions between multidisciplinary teams, provider groups and shift changes. To improve these transitions, he will help implement a proven communication handoff protocol: the Situation, Background, Assessment, Recommendation (SBAR), developed by the U.S. Navy for use on nuclear submarines and adapted by Kaiser Permanente for healthcare.

To extend the project’s success statewide, Dr. Ellner founded the Connecticut Surgical Quality Collaborative, a coalition of 21 hospitals that will work together to improve patient safety in ORs. Using a recently awarded $227,000 grant, Dr. Ellner will help train perioperative teams in these 21 hospitals in the use of the AORN checklist, TeamSTEPPS and SBAR. The grant also supports the purchase of technology for three state-of-the-art “Smart ORs” education and training facilities. Saint Francis Hospital will use some of the funding to build a Smart OR in the Saint Francis Simulation Studio.

“In order to affect change, we had to better understand our operating room culture and participating in the American College of Surgeons’ NSQIP helped to validate the use of the AORN Surgical Safety Checklist,” said Dr. Scott Ellner. “Ultimately, the real value of this grant was demonstrated by the 150 patient-lives saved.”

- Dr. Scott Ellner, President, Saint Francis Medical Group, Director, Surgical Safety

At Cardinal Health giving back is fundamental — a commitment focused on improving healthcare and building stronger and healthier communities. The E3 Patient Safety Grant Program was established in 2008 to reduce healthcare errors, save dollars and, most importantly, improve patient outcomes. In the past six years the Cardinal Health Foundation has invested $6.15M in E3 grants with the most recent grantees reporting an 11:1 return on our investment.