Using Lean Tools to Improve On-Time First Start Cases in the Operating Room

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Background
A delayed first start surgical case can easily cascade into a multitude of inefficiencies throughout the day and total number of completed cases will decrease. Operating rooms typically generate approximately 42% of a hospital’s patient revenue (Clinical Advisory Board, 2001). Even incremental improvements to increase the number of first start cases can generate significant revenue. Just one additional case daily can result in up to $1.8 million in additional annual revenue (Nursing Economics, Sept-Oct 2002).

Team Members
Sponsors: Michael Brown MD, Jerry Rogers MD, Mark Jackson MPA
Team Leader: Pam Holliday RN, Assistant Manager Surgical Services
Co-Leader: Amy Tinsley RN, Manager Surgical Services
Members: Jordan Magdits, MBA, Steve Gentzler, RN, Teresa Thompson, Sara Guilford RN, Pam Holliday RN, Laura Burnett MBA, Michael Brown MD, Archana Ramaswamy, MD, Koby Clements MBA, Don Baker, Kristin Harlan MBA, MHA, David Clark
Facilitators: Doug Wakefield PhD, Eric Rosenhauer MBA, MHA

Aim Statement
To increase the number of first start cases wheeled out of Main OR holding by the scheduled start time to a room ready operative suite to 100%.

Lean Methods

Data Collection
The team collected data to identify and resolve many process issues that reduced the delays in getting a first-start case in on time.

Improvements
Weekly Percent of Cases Wheeled Out of Holding by the Scheduled Start Time

Lessons Learned
1. Not all evolution is good. No one deliberately designed the current system…it evolved.
2. Daily management is focused on individual silos. Breakthrough improvement focus is on flow across the silos.
3. Breakthrough improvement is not about BIG changes…it is about a lot of coordinated changes across all areas.

Next Steps
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On-time first start cases increased from 8% in September 2009 to 62% in November 2010

1. 29% of the process steps were non-value added to the patient
2. 29% of the process steps were non-value added to the patient

Assumption: 1 minute delay = $75 lost revenue
Reduction in Total Delay Minutes = $110,000 in soft savings

For delayed first start cases, the median number of minutes of delay decreased from 10 in October 2009 to 2 in November 2010

• Time clock check-in location
• Registration open at 5:30am
• Surgeon Arrival Time
• Anesthesia Arrival Time
• Nursing Arrival Time
• Standard definition: ‘wheels out’
• Standard definition: delay reasons
• Storyboards
• Identifying cases that should or should not be first starts
• Standard Pre-Op completion of necessary tests
• Used 5 S’s to standardize work stations in Sterile Processing
• Updated case cards to ensure proper instrumentation available for case

• Sustain forward momentum of data collection and continuous process improvement to increase on-time first start cases in the OR.
• Expand team members and efforts to reduce room turnover time between cases using Lean tools.