

Reducing Instrumentation in Major Operating Room Sets for Abdominal Colectomies and Proctectomies at University of Texas M. D. Anderson Cancer Center



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About University of Texas M. D. Anderson Cancer Center

- Located in Houston
- Cancer treatment and research center with 510 beds and 17,000 employees
- Project initiated in the Department of Surgical Oncology



The Project Team

- John M. Skibber, M.D. (Surgery) **Leader**
- Garrett Walsh, M.D. (Surgery) **Facilitator**
- Vijaya Gottumukkala, M.D. (Anesthesiology)
- Carla P. Willis, R.N. (Nursing)

The Problem

- Excessive amounts of instruments complicate the count process and may have a negative impact on patient safety in the operating room.
- Before the project, one major instrument set was routinely provided for all major abdominal/pelvic cases in M. D. Anderson Cancer Center's Department of Surgical Oncology. Many instruments were not used in the surgeries.
- Because of the great number of instruments in a set, there is a greater chance of counting errors, which can lead to retained foreign objects.
- Reducing the number of instruments on the surgical field may yield cost savings of labor and instrumentation.



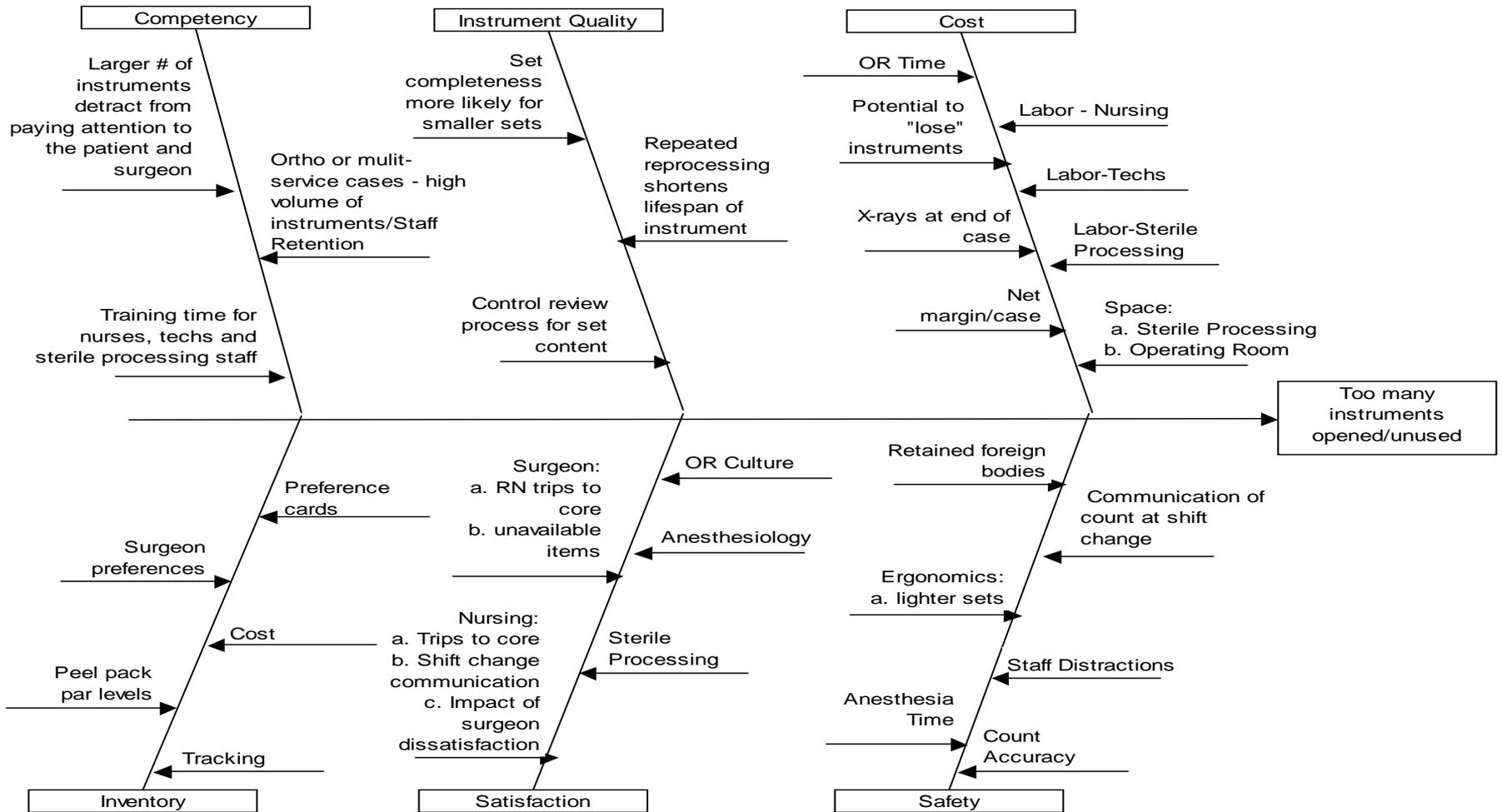
Project Goals

- To reduce the number of instruments in major operating room sets by at least 50 percent over a four-month period (October 2005–January 2006) for abdominal colectomies (removal of a portion of the colon) and proctectomies (resection of the rectum).

Root Cause Analysis

- The team tracked the types of incorrect counts for two days of surgery. Of 148 incorrect counts, 91 dealt with instruments and 31 involved needles.
- Reasons for incorrect counts included:
 - Not enough time
 - Opening too many supplies
 - No standard method of counting
 - Nurses feel rushed
 - No team effort
 - Inattentiveness

Root Cause Analysis (cont'd.)



Addressing Root Causes

- Nurses and surgical technicians surveyed surgeons' instrument use in 12 cases.
 - Many instruments were opened, counted, and then not used.
 - There was very little variation in instrument use among the three surgeons that were part of the project team.
- The surgeons agreed on a proposed set comprising any instrument they had used even once during the 12 cases surveyed.
- Over the course of the project, the team reduced the number of instruments used in proctectomies from 158 to 83, a 47.5 percent reduction. Instruments used in colectomies were reduced from 200 to 93, a 53.5 percent reduction.

Return on Investment

- It was estimated that instrument processing time would be reduced by 46 percent for proctectomies and 51 percent for colectomies based on the projected procedures volume for Fiscal Year 2006.
- Labor costs per case were reduced by 46 percent for proctectomies and 51 percent for colectomies.
- Along with the reduction in items, there were also savings in labor, supplies, and sterilization cost.



Monitoring and Evaluating Over Time

- After implementation of the reduced sets, the team documented instances where additional instruments were needed and made adjustments to the sets.
- The Perioperative Enterprise has expanded the project to look at other surgical sets.
 - For example, a cart with instruments and supplies for a mastectomy had 108 line items with total quantity of 148 pieces before improvement.
 - Now the cart has 20 percent fewer line items with a reduction of 34 percent in total quantity of pieces.



Instrument Set for a Colectomy Before and After Project

Colectomy



**Original Set:
200 Instruments**



**Current Set:
93 Instruments**

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- Learn more about University of Texas M. D. Anderson Cancer Center: www.mdanderson.org.
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