

Performance Strength Summary

Saint Alphonus Medical Center- Nampa

Nampa, Idaho
General Hospital
100-499 Beds, Urban

Related Standard: LD.13.03.01 EP 11 and IC.06.01.01

Topic: Surgical Services and Infection Prevention and Control

Optimizing Robotic Surgery Instrument Processing Through Standardized Tray Design

- What They Did
 - Standardized robotic surgery instrument trays by identifying a core set of instruments used in the majority of cases
 - Engaged frontline staff and physicians to collaboratively redesign tray configurations and workflows
- Key Outcomes
 - Significantly reduced operating room turnover times, performing robotic cases approximately 10 minutes faster than the national average
 - Decreased sterile processing rework time and reduced costs and waste associated with robotic arm reprocessing life
 - Improved staff satisfaction and engagement by involving frontline staff in decision-making

OVERVIEW

The organization faced capacity limitations in sterile processing while launching a new robotic surgery service line. Robotic cases required additional numbers of instrument trays and robotic arms, creating delays in reprocessing, increasing turnover times, and straining

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staffing resources—particularly during on-call and weekend cases. To address this, the surgical services team redesigned instrument and robotic arm usage to ensure that only the items routinely required for most cases were opened and reprocessed, while still maintaining safety and physician flexibility.

OPERATIONAL PLAN

Leadership and Team Structure

Implementation relied on frontline expertise with managerial support, emphasizing staff-led design and physician collaboration.

- **Surgical Services Manager:** Oversaw the initiative, supported staff-led problem solving, and coordinated implementation without requiring executive-level approval.
- **Sterile Processing Department Supervisors:** Led the project, analyzed tray usage, coordinated physician feedback, and facilitated daily discussions in staff huddles.
- **Scrub Technicians:** Identified commonly used instruments, helped design standardized trays, and provided practical insights into daily workflows.
- **Robotic Surgeons:** Reviewed proposed instrument and arm configurations, provided case-specific feedback, and participated in trials to validate usability.
- **Robotic System Vendor Representative:** Supported education and trials by providing technical expertise on robotic arms and instrumentation.

Implementation Steps

The organization followed a structured, iterative approach that allowed rapid testing and adjustment.

- **Reviewed Instrument Utilization:** Convened SPD technicians and supervisors to identify instruments consistently used for opening and closing robotic cases.
- **Validated Changes with Physicians:** Met individually with robotic surgeons to confirm which instruments were essential and to incorporate physician-specific preferences when feasible.
- **Reduced Tray Size:** Redesigned trays to include approximately 14 core instruments, down from roughly 35 instruments previously opened.
- **Repurposed Existing Trays:** Reallocated underused trays from other service lines and added only a small number of new instruments.

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- **Standardized Robotic Arm Use:** Grouped robotic arms into standardized sets (e.g., gynecology/hernia vs. general cases) to avoid unnecessary reprocessing.
- **Conducted Simulation Trials:** Used robotic simulators and after-hours sessions to test alternative arm configurations with physicians to help transition into standardized options.
- **Educated Staff and Providers:** Delivered trainings focused on functional use of instruments and arms, enabling staff to confidently support standardized workflows.

Challenges and Solutions

Several challenges emerged during implementation, requiring deliberate engagement and communication.

- **Physician Instrument Preference:** Surgeons preferred different instruments and robotic arms for certain tasks. The team addressed this by meeting with physicians individually, consulting with the vendor representative to identify optimal instruments for each task, emphasizing efficiency benefits, and allowing case-specific exceptions when clinically necessary.
- **Risk of Reduced Clinical Flexibility:** Concerns arose that standardization could limit physician autonomy. The team reinforced that additional instruments or arms could still be opened when required, preserving safety and individualized care.
- **Staff Learning Curve with New Technology:** Robotic systems were new to staff. The organization partnered with the vendor representative to provide detailed simulation training that allowed physicians to become competent with the robotic arms and instruments prioritized for common use.

RESULTS

The initiative produced measurable operational and cultural improvements.

- **Improved Turnover Times:** Robotic surgery turnover times decreased significantly and now average approximately 10 minutes below national benchmarks.
- **Reduced Reprocessing Time:** Sterile processing time per robotic case dropped from approximately 45 minutes to 15–20 minutes.
- **Lower Supply Waste:** Reduced unnecessary use of robotic arms preserved reprocessing life.

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- **Cost Savings:** By eliminating waste, reducing the required number of trays, and reducing staff time to complete reprocessing, the organization saw cost savings both from instrument purchasing and staffing.
- **Enhanced Staff Engagement:** Staff reported increased satisfaction and a stronger sense of ownership in departmental improvements, reflected in internal survey results.

SUSTAINABILITY

Sustainability is maintained through standardized processes with built-in flexibility.

- **Standardized Tray Configurations:** Instrument and arm trays remain fixed unless clinical needs or staffing changes require review.
- **Repeatable Review Process:** The team revisits tray contents when new surgeons join or practice patterns change, using the same staff-driven approach.

LEARN MORE

Connect with the Organization

- Website: [Saint Alphonsus Medical Center – Nampa](#)
- Main phone number: (208) 205-1000
- Contact: Surgical Services Manager

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