

**CASE STUDY:  
STERILE PROCESSING**

*Quality & Operational  
Improvement Initiatives*

# Executive Summary

Soyring Consulting was hired by a large health system to assist with improving Sterile Processing operations and to resolve critical quality issues that were brought to the attention of administration by a group of the system's largest volume-producing surgeons. This case study reviews information regarding the quality improvement project, interventions implemented, and pre-/post-intervention metrics.

## Methodology

The team of consultants conducted interviews and observations and gathered information related to Sterile Processing operations.

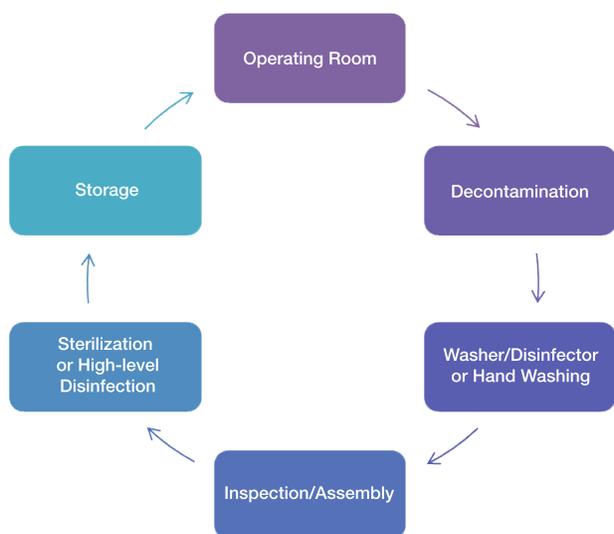
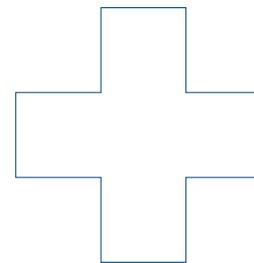


Figure 1: Typical Sterile Processing Cycle

Interviews involved leadership, surgical and sterile processing leads, surgeons, anesthesia providers, and ancillary/support departmental leadership. The team distributed and collected surveys from surgeons, anesthesia providers, management, and staff members.

Observations included PAT, SPU/pre-operative, intra-operative, and post-operative patient care areas looking at work flow and procedures as well as support areas including Sterile Processing and OR Materials Management.

Soyring gathered information regarding surgical cases, staffing plans and time keeping, policies and procedures, and management reports utilized, as well as other information to give the team additional insights to the areas of focus.



# About The Health System

The health system consists of multiple hospital sites and an ambulatory surgery center. The hospitals within the system range from large, trauma Level I facilities to community hospitals. The system conducts a high volume of surgical cases, which include orthopedic and cardiac procedures.

## *The Health System's Challenges*

Recently, Soyring was contacted by the health system because it was experiencing serious quality issues within its Sterile Processing operations. The health system began seeing quality issues within its surgical instruments.

# Quality Improvement Initiatives: Areas of Focus

## *Metrics, Initial Organization, and Pre-Intervention Performance*

Prior to starting the engagement, the Quality Department developed an overview of the production and people processes as well as an initial organizational structure (see Figures 2 and 3, respectively).

Sterile Processing Department Quality Management System  
Patient Safety Work Product

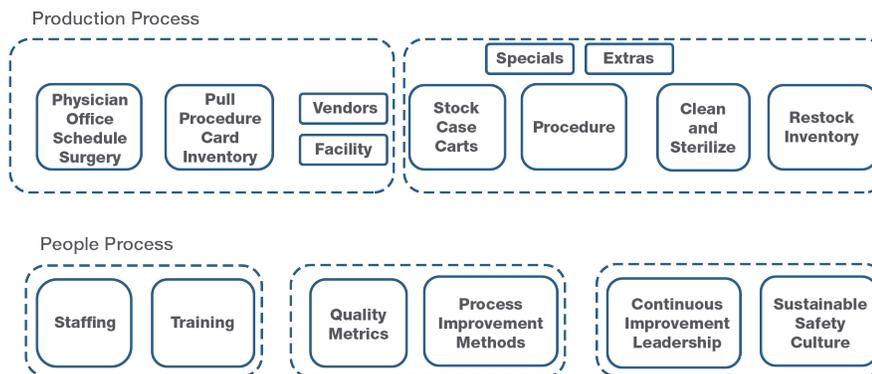


Figure 2: Initial Quality Management System and Overall Workflows

## SPD Quality Management Organization Structure

*Design, Develop, Document, Deploy, Dashboard*

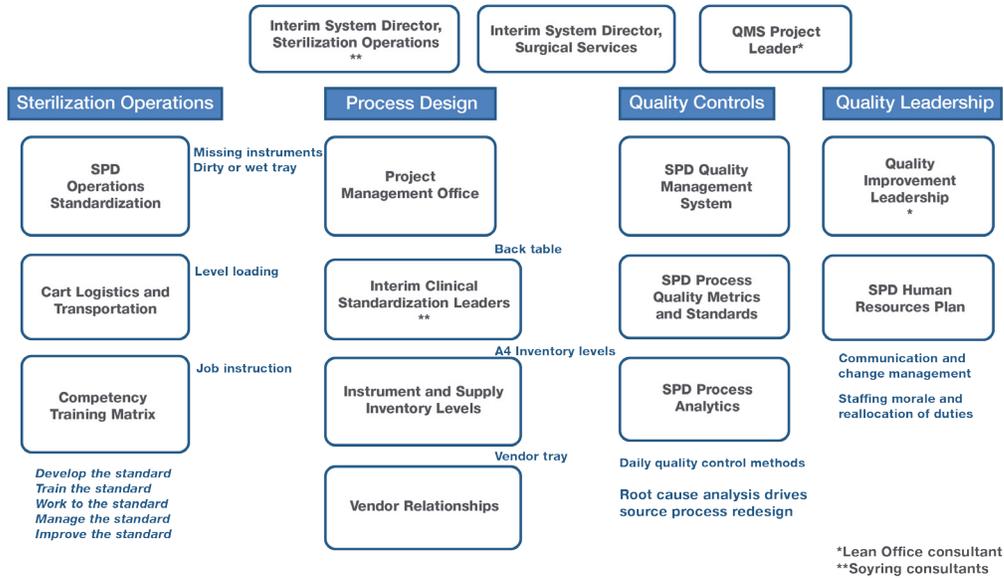


Figure 3: Initial Organizational Structure

Next, the Quality Department began gathering data and tracking new metrics, reporting on them daily. The metrics selected and tracked daily regarded critical, major, and minor defects within sterile processing.

Critical defects:

- + Soiled or wet instrument(s)
- + Unsterile tray
- + Immediate use steam sterilization (IUSS or Flashing) that reach the back table (found in an operating room where instruments are set up prior to use), surgeon or patient

Major defects:

- + Broken instrument(s)
- + Incorrect tray or incorrect instrument(s) that reach the back table

Minor defects:

- + Nestling issues
- + Missing/Wrong count sheet
- + Incomplete case carts

Each of these metrics was gathered and reported on daily by leaders of each of the surgical sites of the health system. The desired outcome of the quality improvement project was to put the correct, clean, sterile instruments into the hands of each surgeon every time. The pre-intervention performance as well as the results achieved can be seen in Figure 4.

## *Organization of the Improvement Project*

Soyring was brought in to assist with the production process as seen in Figure 2 through the position of an Interim Clinical Standardization Leader as seen in Figure 3. Soyring also provided an Interim System Director, Sterilization Operation who oversaw all sterilization operations for the entire system, including each of the local sites. The project began with an initial kick-off meeting and two weeks of observations. The beginning of the engagement included a review of what progress had been made based on Soyring's recommendations from a previous engagement with the health system, as well as introductions to stakeholders including clinical leadership and leaders of each Surgical Services location. The project was overseen a Project Director, whose role is to work with key stakeholders to understand needs and outcomes desired by the organization, as well as to support the on-site consultants with achieving the objectives of the project. The on-site consultants provided expertise and guidance throughout the project and assisted with implementation of recommendations from the previous engagement.

## *Interventions*

Soyring assisted with the implementation of the following six interventions throughout the engagement:

### **Intervention #1: Identification and recruitment of customer site leads**

- + Ensure consistency of processes
- + Address site issues
- + Provide site-level expertise

Site leads dramatically improved the satisfaction of the surgical site leaders by addressing issues promptly and providing guidance to sterile processing staff.

### **Intervention #2: Standardization of case carts**

Soyring's recommendation was to shift case carts standards to carts that are ergonomically designed and have similar dimensions, but will also continue to meet the procedural needs of the operating room. The previous case carts at the health system were of varying design, and many were in poor working condition.

### **Intervention #3: Assessment and identification of competency gaps of SPD technician staff**

Many of these staff members had a lack of knowledge regarding instrument identification, instrument cleaning procedures, and standard work processes. Soyring remedied the competency issues with the following action items:

- + Redefined job descriptions
- + Developed 40 job instruction procedures
  - Utilized preceptors to re-train individuals and fill competency gaps
- + Deployed training

#### **Intervention #4: Recruitment of new staff members**

During the assessment, Soyring identified an FTE gap across the health system. To address this shortage, Soyring assisted in recruiting 80 percent of the needed FTEs and filled the remaining positions with experienced agency staff to assist until the new staff members were fully trained (a 90-day process).

#### **Intervention #5: Implementation and training of the back table instrument breakdown process**

This intervention included:

- + Putting used instrumentation back in the trays they came from
- + Utilizing a pre-cleaning solution to reduce the work requirement needed during decontamination
- + Increasing case cart delivery frequency
  - Case cart delivery did not occur frequently enough to meet customer demand so the number of truck routes was increased to better meet demand
- + Increasing inventory of instrumentation needed to complete sets that were missing instruments
  - An instrument purchase was made to complete sets that were missing critical and specialty instruments

#### **Intervention #6: Loaner instruments**

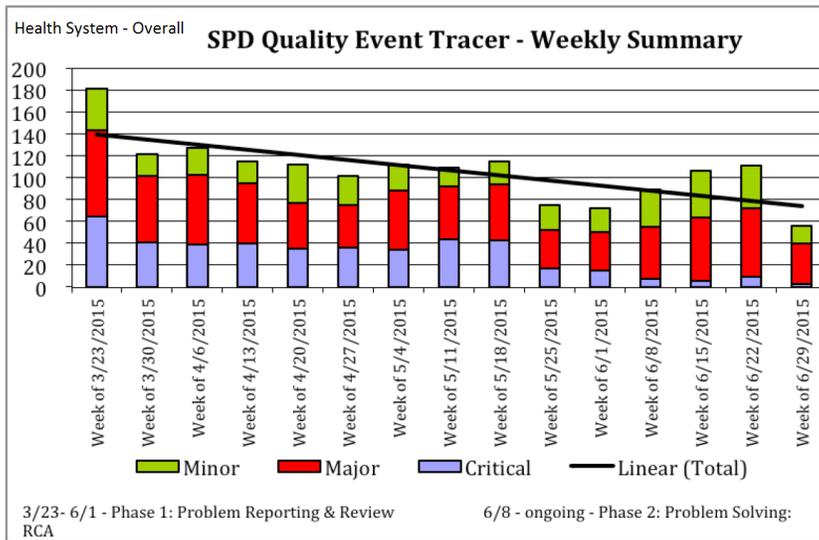
Soyring improved the process of receiving, accounting for, and distributing loaner instrument sets from vendors.

- + Standard practice: 24 hours are needed to properly receive and turn around a loaner set without disrupting operations
- + Inefficiency: Only 34 percent of trays were received within the 24-hour window
- + Solution: A standardized process was developed, and vendors were held accountable to the 24-hour policy

## **Results**

The issues that contributed to the poor quality outcomes defined as critical, major, and minor defects were greatly reduced through the implementation of the interventions. When looking at critical instrument defects relating to trays, the trend at the beginning of the engagement was 60 critical defects per week. By the end of the project, the trend was two (2) critical defects per week, accounting for a 97 percent decrease in critical tray defects (see Figure 4).

Soyring's implementation assistance reduced overall defects by 69 percent. Trends of quality metrics by location and type of defect can be found in Figures 5, 6, and 7, which all reflect a downward trend.



**Chart key**

- Critical: Defects such as soiled or wet instrument, unsterile tray, IUSS (Flashing) that reach the back table, surgeon or patient
- Major: Defects such as broken instrument, incorrect tray or incorrect instrument that reach the back table
- Minor: Nestling issues, missing/wrong count sheet, incomplete case cart

\* Defects are defined by AORN Standards

Figure 4: Health System Overall Trend in Quality Defects

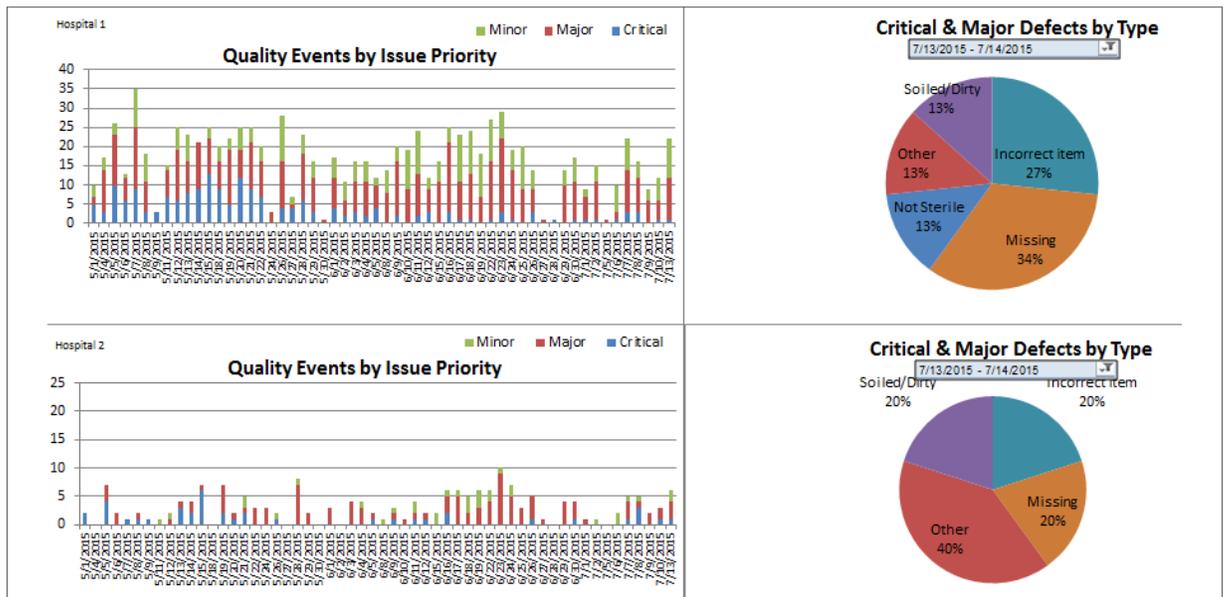


Figure 5: Selected Hospital Trend in Quality Defects

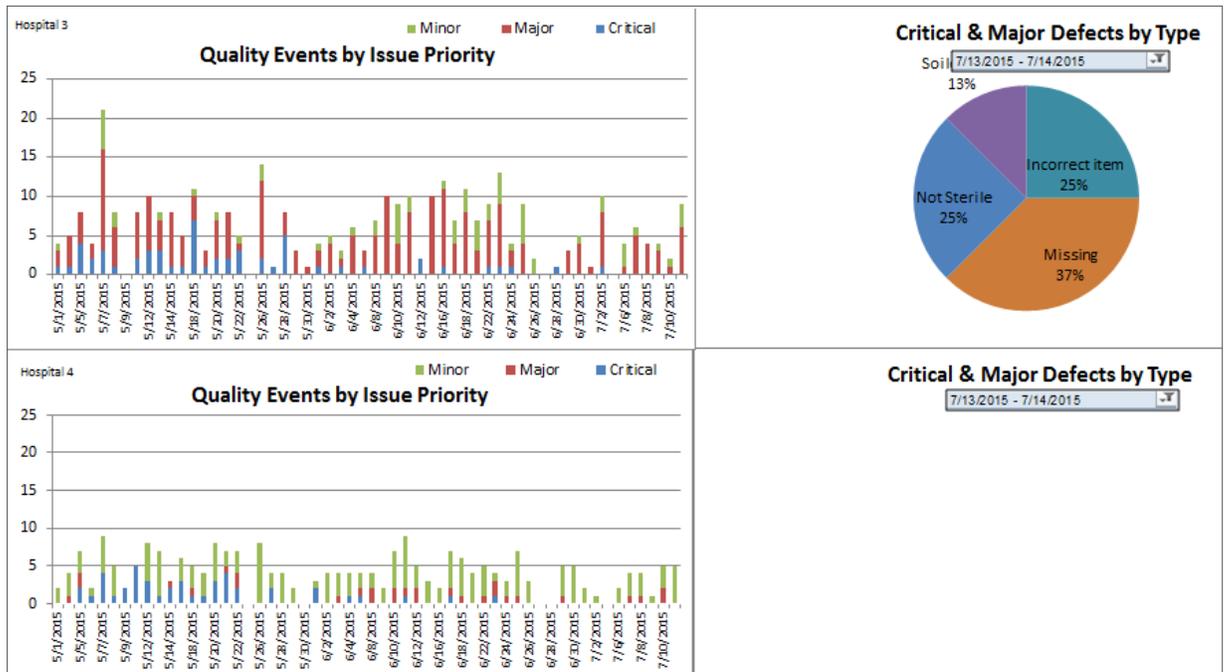


Figure 6: Selected Hospital Trend in Quality Defects

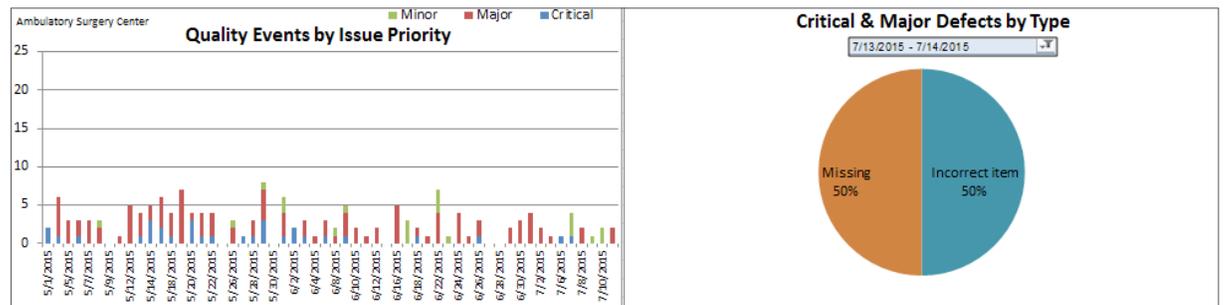


Figure 7: Trend in Quality Defects at Ambulatory Surgery Center

## Next Steps

If any of the issues outlined above sound all too familiar and your facility could benefit from unbiased third-party expert assistance, reach out to our team at Soyring Consulting to learn how we can improve operations and ultimately improve outcomes. [Contact us today](#) or call us at 866-345-3887.

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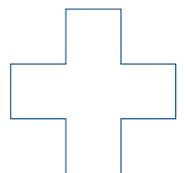
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## About Soyring Consulting

Soyring Consulting provides clinical and managerial consulting services to healthcare facilities of all sizes, including For-profit, Not-for-profit, Community, University, and Faith-based facilities and systems. Our team has worked in more than 35 states across the United States in all areas, including surgical services, sterile processing, hospital and facility design, nursing/clinical units, and others. By combining our experience, proven knowledge, and time-tested skills, we work with your team to create targeted opportunities, along with the plan and achievable goals to reach them.

For more information, visit [www.soyringconsulting.com](http://www.soyringconsulting.com) or call our corporate office at (727) 822-8774 to speak with a representative of our leadership team.



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