



# Achieving Zero

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## Aims

To decrease the use of immediate use steam sterilization (IUSS) and its impact on both patient care and surgical operations by implementing evidence-based practices and process improvements.

## Introduction

Immediate use steam sterilization (IUSS), also known as "flash sterilization," is a process used to quickly sterilize surgical instruments that are needed urgently, typically between surgeries. While IUSS can be a valuable tool in healthcare settings, its overuse or improper implementation can pose significant risks to both patient care and surgical operations.

The reliance on IUSS can lead to inadequate sterilization of instruments, increasing the risk of surgical site infections (SSIs) and other healthcare-associated infections (HAIs). This not only jeopardizes patient safety but also results in increased healthcare costs and potential legal ramifications.

Moreover, the frequent use of IUSS can disrupt surgical operations by requiring last-minute sterilization of instruments, leading to delays, inefficiencies, and increased stress on operating room staff. This can impact patient flow, surgical scheduling, and overall operational effectiveness.

To address these challenges, it is essential to implement strategies to decrease the use of IUSS and promote adherence to evidence-based sterilization practices. By doing so, healthcare facilities can enhance patient safety, improve surgical outcomes, and optimize operational efficiency.

## Methods

An interprofessional team was convened consisting of perioperative leadership, sterile processing, and infection prevention to review current data and evaluate processes that may impact IUSS rates. The team convened weekly to review IUSS events and common causes and contributing factors. A *plan-do-study-act* methodology was used to improve our quality performance.

### Plan the Change

An interdisciplinary team was convened for a pilot project to reduce IUSS events.

- **Identify the Problem:** High rates of IUSS usage without adherence to standardized protocols or sufficient inventory, leading to potential sterility breaches.
- **Set Objectives:** Achieve zero errors in IUSS processes and maintain sterility standards.
- **Develop a Plan:** Create standardized IUSS protocols, conduct staff training, and implement strict monitoring systems.

### Do the Change

- **Implementation:** Made necessary adjustments to protocols based on feedback and data analysis.
- **Tiered Huddles:** Shared communication and evaluation of inventory
- **Checklists:** Developed and distributed protocols to plan for high volume surgical days prior to the day of surgery

### Check / Study the Change

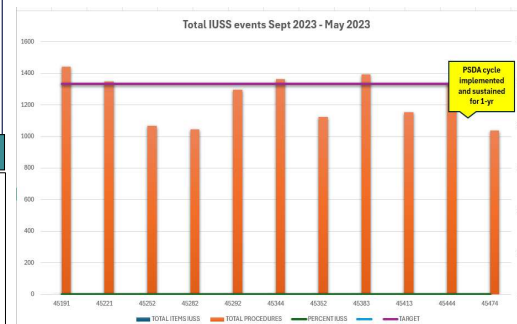
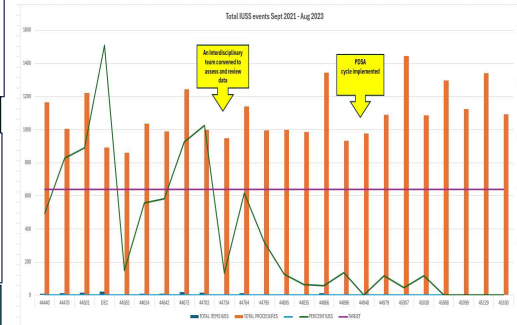
- **Data Collection:** Collected data on IUSS usage, compliance with protocols, and sterilization outcomes.
- **Analysis:** Analyzed data to identify deviations, and areas for improvement.
- **Feedback:** Gathered feedback from staff on the events and shared with senior leadership for inventory monitoring

### Act on the Change

- **Adjustments:** Made necessary adjustments to protocols and inventory based on feedback and data analysis.
- **Implementation:** Rolled out the improved protocols hospital-wide.
- **Sustainability Measures:** Established weekly team meetings to review IUSS usage, inventory, and current processes impacting quality

## Results

- **Zero IUSS events:** Since implementing the PDSA cycle and improved protocols, the team achieved a zero-error rate in IUSS processes.
- **Sustained Success:** The zero-error rate has been sustained since May 2023.
- **Enhanced Compliance:** Staff adherence to new IUSS protocols increased significantly, as evidenced by monitoring data and inventory.
- **Improved Efficiency:** Streamlined processes reduced the need for IUSS, optimizing instrument turnover and availability.



## Reflection/Future Direction

IUSS has an impact on patient care and can reduce the risk of surgical site infections (SSIs) and other healthcare-associated infections (HAIs) associated with inadequate sterilization processes. By establishing an interdisciplinary team, we were able to enhance patient safety by ensuring the reliability and effectiveness of sterilization methods. Our major goal was to improve quality outcomes and key performance indicators by reducing the potential for surgical complications related to contaminated instruments.

IUSS reduction also showed an impact on surgical operations and increased efficiency by streamlining sterilization processes and reducing the need for last-minute instrument reprocessing.

In addition, we were able to optimize resource utilization by minimizing the use of IUSS events, which is often more time-consuming and resource-intensive.

Lastly, we were able to enhance operational effectiveness by promoting a culture of safety and adherence to best practices in sterilization and instrument management.

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