INFECTION PREVENTION AND THE PERIOPERATIVE TEAM: INSPIRING PATIENT SAFETY THROUGH THE PERIOPERATIVE CONTINUUM

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PERIOPERATIVE INFECTION PREVENTION CHARACTERISTICS

Mazzola and Grous describe the following characteristics of successful perioperative nurses are successful in maintaining perioperative safety and infection prevention, adaptability, critical thinking, resilience, a willingness to speak up, identification of barriers and opportunities, and actively participating in adaptive decision–making processes.

OBJECTIVES

- Analyze pre-operative, intra-op, and post-op infection and control methods
- Identify critical steps to prevent surgical site infections (SSIs) and other healthcare-associated infections (HAIs) in the perioperative setting
- Discuss components of an effective perioperative surveillance program and performance measures
- Assess perioperative rounding for the Infection Preventionist and the Perioperative team to improve patient outcomes

INTRODUCTION

Surgical Site Event (SSI) HAI Overview

- The CDC HAI prevalence survey found an estimated 110,800 surgical site infections (SSIs) associated with inpatient surgeries in 2015.
- SSI accounts for 20% of all HAIs
- Increase in the risk of mortality, with 75% of SSI-associated deaths directly attributable to SSI
- SSI is the costliest HAI type, estimated annual cost of $3.3 billion
- SSI extends LOS by 9.7 days
- Hospitalization cost average $20,000 - $30,000 per admission

INTRODUCTION

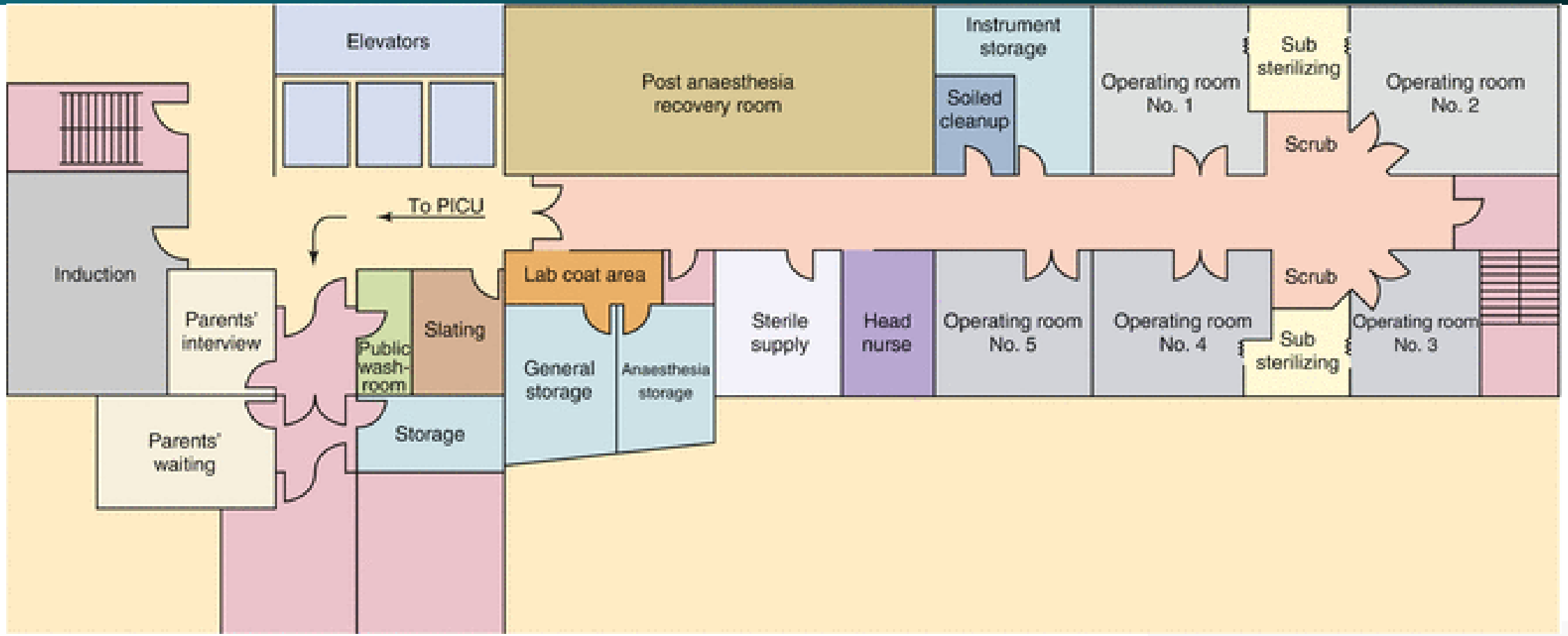
IP Role in the Perioperative Setting

- Engage and collaborate with Perioperative Services, Sterile Processing (SPD), Anesthesia, Surgeons, Environmental Services, Facility Engineering, Value Analysis, Risk, Pharmacy, Laboratory Services, and Value Analysis


...AND THAT IS WHY WE LIFT ON THREE...
COMMUNICATION
DOUGHAN
doughan.com

QUESTION How many Zone(s) is or are in the perioperative setting?

Enter your answer in the CHAT



PRE-OPERATIVE INFECTION AND CONTROL METHODS

- Hand Hygiene
- The 5 moments of hand hygiene “WHO”

PRE-OPERATIVE INFECTION AND CONTROL METHODS

Risk Factors that Contribute to SSIs

- Proper staff and patient hand hygiene
- Proper patient hygiene – preoperative bathing
- Screening – integumentary,
- Multi-drug resistant organism (MDRO) ccolonization – MRSA, VRE, C. diff
- Poor immune status
- Altered thermoregulation (fever?)
- Comorbidities – age, diabetes, substance abuse disorder, pregnancy, smoking
- Anorexia and Obesity

PRE-OPERATIVE INFECTION AND CONTROL METHODS

Risk Factors that Contribute to SSIs

- Age
- NPO status
- Mental status
- Perioperative education
- Environmental Hygiene – cleaning and disinfection
- Hair removal
- Respiratory hygiene
- Proper staff and patient attire

PRE-OPERATIVE INFECTION AND CONTROL METHODS

Risk Factors that Contribute to SSIs

- Standard/Universal precautions
- Transmission based-precautions
- Invasive short-term procedure(s) – Aseptic Technique, PIV placement, Medication administration
- Pre-operative Antibiotics

PRE-OPERATIVE TO INTRA-OP TRANSITION METHODS

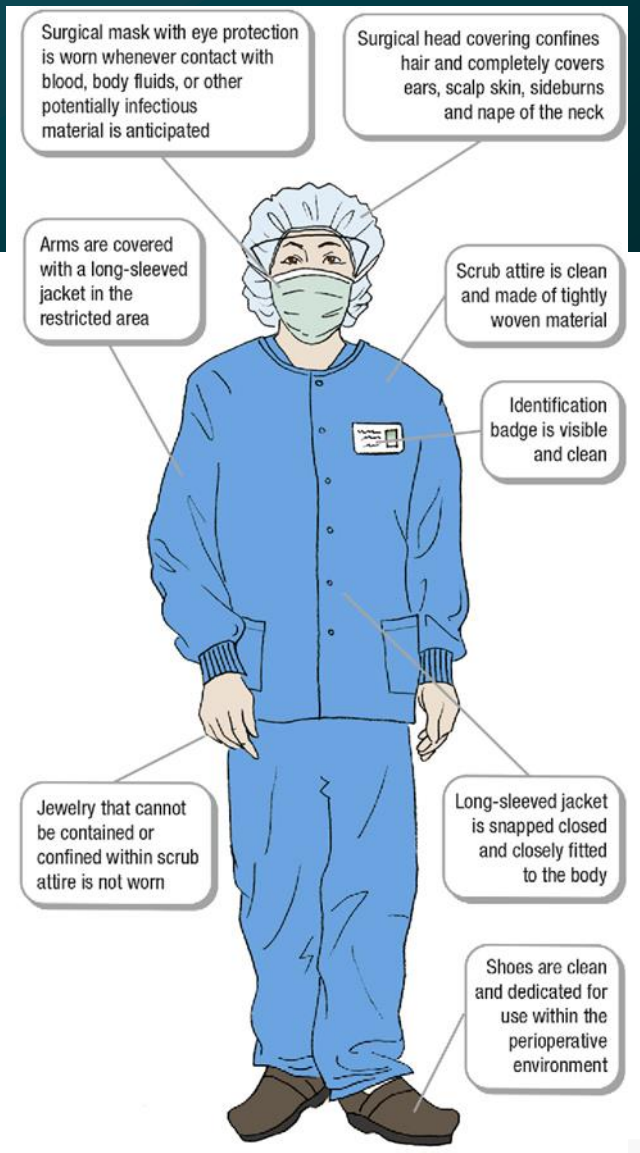
Pre-operative Huddle – JPS Health Network, FW, TX

- Before patients go to the OR, the surgical team assembles with the patient and family.

INTRA-OP INFECTION AND CONTROL METHODS

Risk Factors that Contribute to SSIs

- Proper staff hand hygiene
- Proper staff and patient attire
- Environmental Hygiene – cleaning and disinfection
- SCIP initiatives
- Skin antisepsis
- Surgical procedure, depth, type, and duration
- Surgical technique



INTRA-OP INFECTION AND CONTROL METHODS

Risk Factors that Contribute to SSIs

- Equipment sterilization
- Introduction of foreign materials or implants
- Pressure ulcers
- Wound classification
- Wound contamination
- OR room turnover
- Standard/Universal precautions
- Transmission based-precaution

INTRA-OP INFECTION AND CONTROL METHODS

Risk Factors that Contribute to SSIs

- How many staff and vendors are in the OR suite
- Positive pressure airflow, minimum 20 air exchanges/hour
- Temperature 68°F and 75°F
- Humidity 20% to 60%
- Surgical smoke evacuation practic
- Anesthesia gas scavenging
- Anesthesia

POST-OP INFECTION AND CONTROL METHODS

Risk Factors that Contribute to SSIs

- Improper staff and patient hand hygiene
- Improper patient hygiene – preoperative bathing
- Multi-drug resistant organism (MDRO) colonization – MRSA, VRE, C. diff
- Poor immune status
- Altered thermoregulation
- Comorbid condition(s)
- Anorexia and Obesity
- Age

POST-OP INFECTION AND CONTROL METHODS

Risk Factors that Contribute to SSIs

- Standard/Universal precautions
- Transmission based-precaution
- Prophylactic antibiotic
- Pain control
- Respiratory status
- S/P high-flow O2

OBJECTIVES

Identify critical steps to prevent surgical site infections (SSIs) and other healthcare-associated infections (HAIs) in the perioperative setting

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PREVENTION OF SURGICAL SITE INFECTION

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Commentary

Update to the Centers for Disease Control and Prevention and the Healthcare Infection Control Practices Advisory Committee Guideline for the Prevention of Surgical Site Infection (2017): A summary, review, and strategies for implementation

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Key Words:
Surgical infection risk factor modification
Surgical prophylaxis
Skin antisepsis
Normothermia
Oxygenation
Glycemic control

Surgical site infections remain a common cause of morbidity, mortality, and increased length of stay and cost amongst hospitalized patients in the United States. This article summarizes the evidence used to inform the Centers for Disease Control and Prevention and the Healthcare Infection Control Practices Advisory Committee Guideline for the Prevention of Surgical Site Infection (2017), and highlights key updates and new recommendations. We also present specific suggestions for how infection preventionists can play a central role in guideline implementation by translating these recommendations into evidence-based policies and practices in their facility.

PREVENTION OF SURGICAL SITE INFECTION

Table 2
Summary of updated, key recommendations from Centers For Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection (2017)

Recommendation	Strength of evidence*
Parenteral antimicrobial prophylaxis	
Administer antimicrobial agents only when indicated based on published guidelines	Category IB
Time administration such that bactericidal concentration is established in serum and tissues at initial incision	
For caesarean sections, administer the appropriate agent before skin incision (vs at cord clamping)	Category IA
Nonparenteral antimicrobial prophylaxis	
Consider use of triclosan-coated sutures	Category II
Glycemic control	
Implement perioperative glycemic control using blood glucose target levels <200 mg/dL in patients with and without diabetes	Category IA
Normothermia	
Maintain perioperative normothermia	Category IA
Oxygenation	
Administer increased fraction of inspired oxygen intraoperatively and in the immediate postoperative period following extubation for all patients with normal pulmonary function undergoing general anesthesia with endotracheal intubation	Category IA
Antiseptic prophylaxis	
Instruct patients to perform full body shower or bath the night before surgery (with either soap or an antiseptic agent)	Category IB
Intraoperative skin preparation should be performed with an antiseptic agent containing alcohol unless contraindicated	Category 1A
Consider intraoperative irrigation of deep or subcutaneous tissues with aqueous iodophor solution	Category II

*Adapted from reference 7.

PREVENTION OF SURGICAL SITE INFECTION

Table 3
Strategies determined to be unnecessary in the prevention of surgical site infections

Strategy	Strength of evidence
Antimicrobial prophylaxis after surgical closure (clean and clean-contaminated procedures)	Category IA
Topical antimicrobial agents applied to the surgical incision	Category IB
Autologous, platelet-rich plasma	Category II
Antimicrobial sealant following intraoperative skin preparation	Category II
Plastic adhesive drapes for antisepsis	Category II
Withholding transfusion of necessary blood products (question posed for patients undergoing prosthetic joint arthroplasty)	Category IB

PREVENTION OF SURGICAL SITE INFECTION

STANDARD/UNIVERSAL PRECAUTIONS

- Hand hygiene, right product, wash or gel, dry, and use a clock
- PPE – gloves, gowns, face & eye protection, mask
- Patient Placement
- Cleaning & disinfection
- Environmental hygiene
- Textiles & laundry
- Safe injection practices

PREVENTION OF SURGICAL SITE INFECTION
TRANSMISSION BASED PRECAUTIONS

Infectious Disease Precautions

PREVENTION OF CAUTI

- Use bundle elements for insertion
- Aseptic insertion
- Assist monitoring for break-in technique and needed supplies
- Remove Foley prior to the patient leaving the operating room, one day or the next day if the urological procedure
- Facility set up nursing to remove Foley Catheter

PREVENTION OF CLABSI

- Use bundle elements for insertion
- Aseptic insertion
- Assist monitoring for break-in technique and needed supplies
- Remove Central Line a soon as possible
- Avoid femoral site
- Daily discussion with primary physician to determine when CVL can be removed

PREVENTION OF VAE/VAP/PNEUMONIA

- Use bundle elements
- Oral care before intubation (if possible)
- Aseptic insertion
- Assist monitoring for break-in technique and needed supplies
- Remove ETT/artificial airway as soon as possible
- HOB elevated as tolerated, oral care each shift and as needed
- Maintain an aseptic technique and ensure the closed circuit remains intact
- Daily conversations with primary physician for prompt remove

PREVENTION OF SURGICAL SITE INFECTION

- Annual Infection Control Plan should include perioperative care if providing surgical services.
- Infection Prevention and Control Program should be integrated with the facility's Quality assurance and performance improvement (QAPI) program and initiatives.
- HAIs should be monitored just in time and reported to the corresponding department.
- All HAIs should have a performance improvement plan.

HOW ARE WE DOING?

"Nurse, get on the internet, go to SURGERY.COM, scroll down and click on the 'Are you totally lost?' icon."

OBJECTIVES

Assess perioperative rounding for the Infection Preventionist and the Perioperative team to improve patient outcomes

- Develop targeted solutions and action plans to mitigate risk points.
- Conduct education and training for healthcare personnel and patients on challenging and emerging IPC areas.
- Create and implement policies and procedures based on evidence-based practices.
- Bridge the gap between infection prevention and perioperative services

OBJECTIVES

Assess perioperative rounding for the Infection Preventionist and the Perioperative team to improve patient outcomes

- Disinfection and sterilization.
- Device and procedure-related infections.
- Occupational health and safety.
- Construction and renovation.
- Evidence-based care bundles.
- Emergency preparedness program to global communicable diseases and influx of infectious diseases
- Dialysis.
- Water management.
- Outbreak investigation.

OBJECTIVES

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OBJECTIVES

Assess perioperative rounding for the Infection Preventionist and the Perioperative team to improve patient outcomes

- Attend perioperative staff meetings to improve connections between Infection Prevention and Control and Perioperative departments
- Invite perioperative nurse executives and chiefs of anesthesia and surgery to participate in developing one or more shared goals during the annual IP Risk Assessment and Program Planning process.
- Schedule regular IP and Perioperative meetings with the collaborative team
- Review with leadership SSI and other HAIs, and have the team involved in the performance improvement process

OBJECTIVES

Discuss components of an effective perioperative surveillance program and performance measures

- Annual Infection Control Plan should include perioperative care if providing surgical services.
- Infection Prevention and Control Program should be integrated with the facility's Quality assurance and performance improvement (QAPI) program and initiatives.

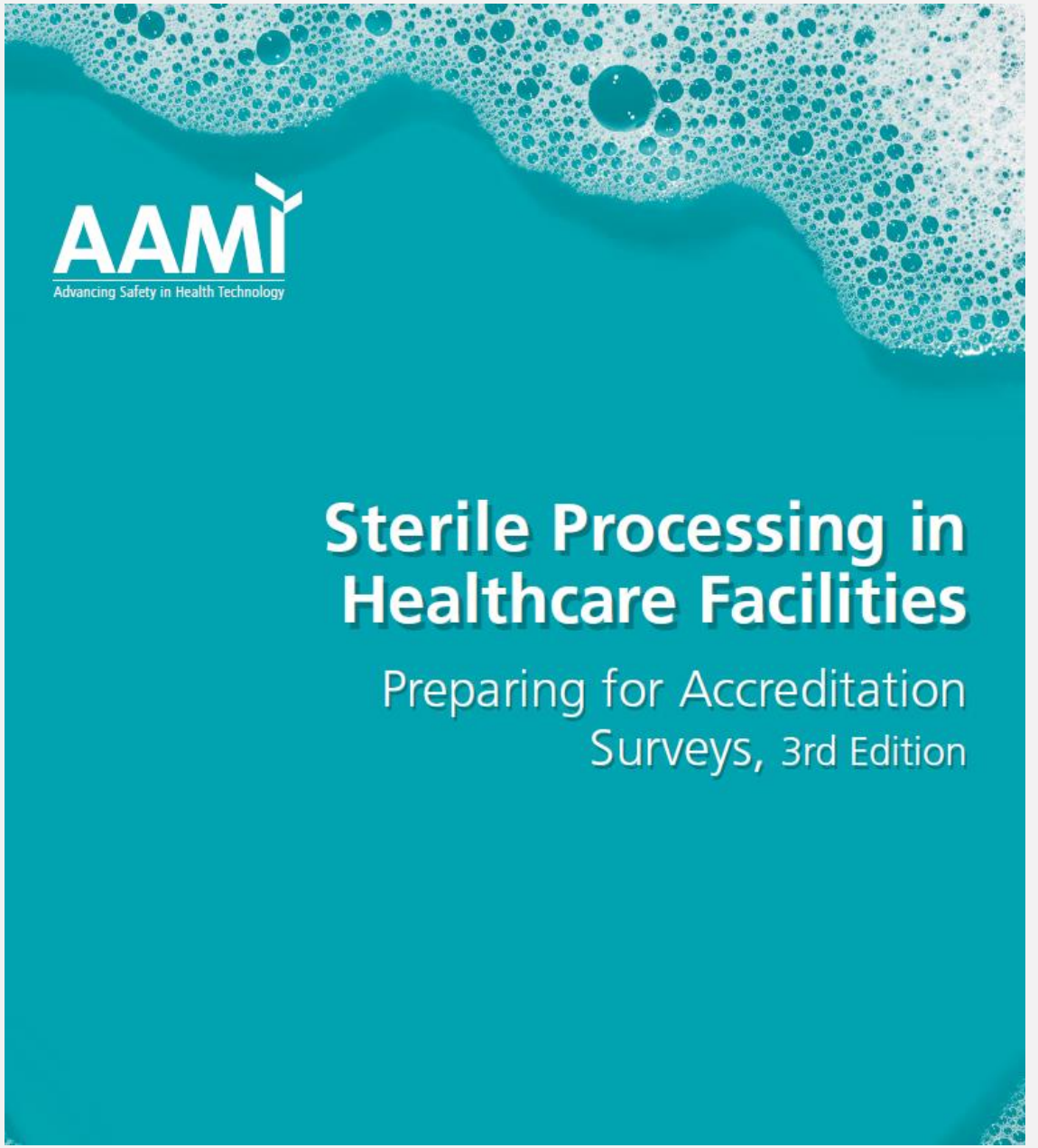
SUPPORTING ORGANIZATIONS

- Association for the Advancement of Medical Instrumentation (ANSI)
- Accredited Standards development organization by AAMI
- Association of Operating Room Nurses (AORN)
- Association for Professionals in Infection Control and Epidemiology (APIC)
- National Healthcare Safety Network (NHSN)
- Centers for Medicare & Medicaid Services (CMS)
- The Joint Commission (TJC)

SUPPORTING ORGANIZATIONS

- American Society for Gastrointestinal Endoscopy (ASGE)
- Society for Healthcare Epidemiology of America (SHEA)
- Society of Gastroenterology Nurses and Associates (SGNA)
- Centers for Disease Control (CDC)


AAMI
Advancing Safety in Healthcare Technology
ANSI/AAMI ST79:2017
& 2020 Amendments A1, A2, A3, A4 (Consolidated Text)
Comprehensive guide to steam sterilization and sterility assurance in health care facilities
American National Standard


AAMI
Advancing Safety in Health Technology
Sterile Processing in Healthcare Facilities
Preparing for Accreditation Surveys, 3rd Edition

The Joint Commission

- TJC surveyors receive in-depth training on sterilization, high-level disinfection, pre-cleaning, storage and transportation of sterile and contaminated equipment & instruments based on the AMMI ST79
- Tracer methodology is a vital part of the TJC's onsite survey process
- Incorporate the Ambulatory Health Care NPSG and/or Hospital NPSG

- Compliance with nationally recognized standards/documents.
- Formal training in areas of infection control and sterilization.
- Compliant cleaning, sterilization, and monitoring procedures.
- Established criteria for Immediate-Use Steam Sterilization(IUSS) sterilization.

Reference: CMS Infection Control Surveyor Worksheet, Exhibit 351, 2009.

CMS AMBULATORY SURGICAL CENTER INFECTION CONTROL SURVEYOR WORKSHEET

Advanced Copy - Update to Ambulatory Surgical Center (ASC) Infection Control Surveyor Worksheet (ICSW)

Title	Advanced Copy - Update to Ambulatory Surgical Center (ASC) Infection Control Surveyor Worksheet (ICSW)
Memo #	15-43-ASC
Posting Date	2015-06-26
Fiscal Year	2015
Summary	ASC Infection Control Surveyor Worksheet Revisions: The Centers for Medicare & Medicaid Services (CMS) has made minor revisions to the Infection Control Surveyor Worksheet, Exhibit 351 of the State Operations Manual (SOM) for assessing compliance with the Medicare ASC Infection Control Condition for Coverage (CfC). Change: Revisions were made to bring the worksheet into alignment with current accepted standards of practice; reflect recently released guidance; and improve the clarity of certain questions. The worksheet is used by State and Federal surveyors on all survey activity in ASCs when assessing compliance with the infection control CfC.

Downloads

Survey and Cert Letter 15-43 (PDF)

CMS HOSPITAL IC SURVEYOR WORKSHEET

Public Release of Three Hospital Surveyor Worksheets

Title	Public Release of Three Hospital Surveyor Worksheets
Memo #	15-12-Hospital
Posting Date	2014-11-26
Fiscal Year	2015
Summary	• Three Hospital Surveyor Worksheets Finalized: The Centers for Medicare & Medicaid Services (CMS) has finalized surveyor worksheets for assessing compliance with three Medicare hospital Conditions of Participation (CoPs): Quality Assessment and Performance Improvement (QAPI), Infection Control, and Discharge Planning. The worksheets are used by State and Federal surveyors on all survey activity in hospitals when assessing compliance with any of these three CoPs. • Final Worksheets Made Public: Via this memorandum we are making the worksheets publicly available. The hospital industry is encouraged, but not required, to use the worksheets as part of their self-assessment tools to promote quality and patient safety.

Downloads

Survey and Cert Letter 15-12 Attachment 3 (PDF)

Survey and Cert Letter 15-12 Memo (PDF)

Survey and Cert Letter 15-12 Attachment 2 (PDF)

Survey and Cert Letter 15-12 Attachment 1 (PDF)

OBJECTIVES

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WRAPPING IT UP

Put Together your IP Toolbox for Success with Patient Safety and Infection Prevention through the Perioperative Continuum!


HONK
NEXT CASE

THANK YOU

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