Chasing Zero Infections
Webinar: Surgical Site Infection (SSI)
April 11, 2017

Sally Forsberg RNC-OB, BSN, MBA, NEA-BC, CPHQ
Florida Hospital Association
Agenda

• Welcome
• HIIN Update
• Presentation: Hospitals in Action: Surgical Site Infection Journey
  Marilyn Kole, MD, MBA, System Medical Director, Clinical Transformation, Lee Health
• Presentation: Surgical Site Infections- Evidence and Engagement
  Linda R. Greene, RN, MPS, CIC, Infection Prevention Manager, UR Highland Hospital, Rochester, N.Y.
• Questions / Discussion
• Next Chasing Zero Infections Webinar
• Evaluation & Continuing Nursing Education
HIIN Core Topics – Aim is 20% reduction

Adverse Drug Events (ADE)
Catheter-associated Urinary Tract Infections (CAUTI)
C. difficile infection (CDI)
Central line-associated Blood Stream Infections (CLABSI)
Injuries from Falls and Immobility
Pressure Ulcers (PrU)
Sepsis
Surgical Site Infections (SSI)
Venous Thromboembolisms (VTE)
Ventilator Associated Events (VAE)
Readmissions (12% reduction)
Worker Safety
How are we doing with reducing surgical site infections?
### SSI Rate – Colon Surgeries

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Source: Comprehensive Data System, April 3, 2017
SSI Rate – Abdominal Hysterectomies

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Source: Comprehensive Data System, April 3, 2017
SSI Rate – *Knee Surgeries*

![Graph showing Utilization Rate for FL and HRET HIIN rates from BL to 02/17.](image)

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Source: Comprehensive Data System, April 3, 2017
SSI Rate – *Hip Surgeries*

![Graph showing SSI rates over time]

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Source: Comprehensive Data System, April 3, 2017
MTC HIIN Resources

• QI Fellowships & PFE Fellowship
• Listservs- Infection Focused
• Team STEPPS training
• Chasing Zero Infections Series
• Up Campaign- Soap Up (Hand Hygiene)
• Hospital Consultation with Experts

Check the weekly *MTC HIIN INFO Upcoming Events* email for all events

[www.HRET-HIIN.org](http://www.HRET-HIIN.org)
Welcome - HRET Hospital Improvement Innovation Network!

This page is under construction, please check back on October 7, 2016 for updated information and resources.

The Centers for Medicare & Medicaid Services recently awarded $347 million in contracts to 16 organizations, including the Health Research & Educational Trust (HRET), to continue efforts to reduce hospital-acquired conditions and readmissions in the Medicare program. The HRET HIIN will work to reduce overall hospital-acquired conditions by 20% and 30-day hospital readmissions by 12%, building on the success of the Partnership for Patients Hospital Engagement Networks and Quality Improvement Organizations. HRET led the largest HEN and HEN 2.0 projects.

New to HRET HIIN? HRET HIIN Hospital Kickoff for New Hospitals

We invite hospitals who did not participate in HRET HEN 2.0 to join HRET HIIN, a diverse network that will include over 1,700 hospitals across 32 states, by attending a Webinar for New Participants on Thursday, October 6, 2016 from 11:00 AM CDT - 12:30 PM CDT. Register at the link below:
http://hret.adobeconnect.com/hinkickoffnewhospitals/event/registration.html

Previous HRET HEN 2.0 Participant? HRET HIIN Hospital Kickoff for HRET HEN 2.0 Hospitals

For hospitals who participated in HRET HEN 2.0, please join us to discuss our transition to HIIN by attending a Webinar for Previous Participants on Thursday.
Surgical Site Infection resources available at www.HRET-HIIN.org:

- SSI Change Package
- SSI Top 10 Checklist
- Watch Past SSI Webinars
- Additional Resources
# Chasing Zero Infections Series

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<th>Didactic Webinars</th>
<th>Interactive Coaching Calls</th>
<th>In-Person Meetings</th>
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<td>Feb. 14 – MRSA</td>
<td>Mar. 21 – CAUTI</td>
<td>May 25 at Harry P. Leu Gardens, Orlando</td>
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<td>– C. <em>diff</em>, MDRO, Antibiotic Stewardship</td>
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Check your **MTC HIIN INFO Upcoming Events** Weekly Email for event details and registration. To request an archived webinar – email [HIIN@fha.org](mailto:HIIN@fha.org)
Upcoming Events

- **In-person Meeting: May 11-12** – TeamSTEPPS Master Trainer Course at The Westin Lake Mary (Registration: [http://www.cvent.com/d/n5q9c5/2K](http://www.cvent.com/d/n5q9c5/2K))
- **In-Person Meeting: May 25** – Chasing Zero Infections: Hot Topics in Infection Prevention at Harry P. Leu Gardens (Registration: [http://www.cvent.com/d/35q9yj/2K](http://www.cvent.com/d/35q9yj/2K))
- **Apr. 12** – AHRQ TeamSTEPPS Webinar: Teams Savings Brains One Minute at a Time
- **Apr. 13** – HRET HIIN Pressure Ulcers-Injuries Virtual Event
- **Apr. 18** – HRET HIIN PFE Fundamentals: Finding the Right Advisors
- **Apr. 19** – FHA We Have Your Back Worker Safety Webinar: Safe Patient Handling and Mobility
- **Apr. 25** – FHA HIIN Safety Culture Strategy Webinar: Real Leadership Rounds – Unlocking Value through Culture Conversations
- **Apr. 28** – FHA HIIN PFE Collaborative Kickoff Webinar

Check your **MTC HIIN INFO Upcoming Events** Weekly Email for event details and registration
Lee Health
Surgical Site Infection Journey
Clinical Transformation

April 11, 2016

Marilyn Kole, M.D., M.B.A.
Mary Beth Saunders, D.O.
Alex Daneshmand, D.O.
Steve A. Streed, MS, CIC
Dolan Abu Aouf, MMS, PA-C
Chris Mallari, MS, PA-c
Cora M. Murphy, MSN, RN, CNL
Topics

- Surgical Site Infections
- How to engage surgeons
- How not to present data to surgeons
- What do surgeons really want?
- ERAS data (elective cases only)
How to Engage Surgeons
How to Engage Surgeons

- Understand your surgeons, your culture, your data
- Meet with them on their time
- Ask them what they want to see
- Don’t use their time in long meetings
- Be flexible!!!!
- Physician to physician communication to start is best
- If all else fails-ask for help
Letter from Quality

• We requested a letter from Medical Staff quality to help inform surgeons we want to meet with them and why

“We are respectfully requesting a thirty (30) minute meeting to introduce and share specific surgical performance metrics.”

Did that work and everyone ran to our office for a meeting????
How not to Show Data to Surgeons
What surgeons do not want for their data…

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How Surgeons may want to see their data

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Graphs “we” like and understand
Major flaw with early data.....

- The data was wrong
- The physician names were mixed up
- The time period was fiscal year not calendar year
- We did not review every case
  1. Was there an actual infection
  2. Was the right surgeon assigned to each case
Our Data
# Observed COLO SSIs

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LEE HEALTH SSI COLO Rate
(# observed/# procedures) 25%

25%
20%
15%
10%
5%
0%

CCH  GCMC  HPMC  LMH

7%  3%  25%  0%

2015  2016  2017
What surgeons want/need and how they want to see it

About the Surgery
- Type - Superficial/Deep/Organ
- In-Patient - Yes/No
- Elective - Yes/No
- Urgent or Emergent
- Description of Procedure
- Wound Class
- ASA
- Closure technique - Primary/Non-Primary

About the Patient
- Patient name
- CSN Number
- Age
- Gender
- BMI
- Diabetes - Yes/No
ERAS-Elective cases only
What is ERAS?

• ERAS is a patient centered, team based model of care
• It is an evidence-based approach
• It is a multimodal perioperative care pathway to improve convalescence and decrease morbidity
• It is a comprehensive evaluation and improvement of the entire patient journey from diagnosis to long term postoperative outcomes
• Core components of the program:
  • Preoperative classes for the patient
  • Empowering patients to prepare for surgery
  • Specific carbohydrate loading
  • Non-opioid centered approach to pain management
  • Early ambulation and feeding after surgery
ERAS Clinical Focus

- Early feeding
- Early mobilization
- Less pain medication
- Less intra-operative fluids
- Control of blood sugar/HgA1c
- Patient participation
- Standardized intra-operative closure trays/antibiotics
ERAS Elements

- **People**: nurses, educators, dietician, PT, OT, RT, anesthesiology, surgeons, administration, OR team, audit team
- **Time**: 9-12 months every 2 wks
- **System**: healthcare system needs to work together
- **Process**: process of transformation (new business, old business, review)
Thank You
Surgical Site Infections; Evidence and Engagement

Linda R. Greene, RN, MPS, CIC
Manager, Infection Prevention
UR Highland Hospital
Rochester, NY
linda_greene@urmc.rochester.edu
Objectives

- Discuss the impact of surgical site infections (SSIs)
- Discuss technical and behavioral issues which may impact SSIs
- Identify strategies to reduce SSIs
Current Burden

Burden (US)
- 160,000 - 300,000 SSIs per year
- 2-5% of patients undergoing inpatient surgery
- Most common and costly HAIs

Mortality
- 2-11 fold higher risk of death
- Length of stay
- 7-11 additional post-op days

Anderson D et.al Strategies to Prevent Surgical Site Infections in Acute Care hospitals
Burden

- Cost $3.5 - $10 Billion annually
- Estimated cost per infection ranges from $11,000 - $35,000
- Colon and Hysterectomy contribute to HAC reduction and Value Based Purchasing
- Contribute to 30 day unplanned readmissions
Multistate Point-Prevalence Survey of Health Care–Associated Infections

Etiology

Surgical Site Infections can be attributed to the patient’s own endogenous flora or from exogenous sources.

Example:

- Patient’s skin
- Contamination during surgery
- Oropharyngeal contamination
- Patient’s natural immunity
Etiology

Exogenous sources:

- Hands of care givers
- Exposure to non sterile environment
- Contamination of fluid, supplies or equipment
- Air flow
Where are the Pathogens?

Pathogen source for most SSIs is endogenous flora of the patient’s skin, mucous membranes or GI tract.

20% of the skin’s pathogens live beneath the epidermal layer in hair follicles and sebaceous glands.

Any incision can carry some of the bacteria directly to the operative site.
Leading SSI Pathogens

**Gram Positive Bacteria**
- MRSA
- MSSA
- Coag. Negative Staph
- Enterococci
- Streptococci Species

**Gram Negative Bacteria**
- Enterobacter
- Pseudomonas
- Ecoli
- Other Bacteria
- Anaerobic Bacteria
- Fungi

Risk Factors for SSIs

**Host Factors**
- Obesity
- Age
- ASA
- Cancer
- Immunosuppression

**Microbial Flora**
- Nasal Carriage
- Virulence
- Inoculum

**Surgical/Environmental Factors**
- Procedure
- Hair Removal
- Prophylaxis
- Technique
- Contamination
- Urgency

**Host Factors**

**Microbial Flora**

**Surgical/Environmental Factors**
SSIs

Majority of SSIs are seeded at the time of surgery while the wound is open examples:

<table>
<thead>
<tr>
<th>Microorganisms</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients own skin flora</td>
<td>Microorganisms colonizing skin or other body parts, infection present</td>
</tr>
<tr>
<td>Surgical Team</td>
<td>Colonized member of team</td>
</tr>
<tr>
<td>Breaks in aseptic technique</td>
<td>Wound contact with unsterile environment</td>
</tr>
<tr>
<td>Sterility failures</td>
<td>High bioburden. Contaminated instruments</td>
</tr>
<tr>
<td>Door openings</td>
<td>Interruption of positive pressure</td>
</tr>
<tr>
<td>Other endogenous flora</td>
<td>Bowel flora, etc.</td>
</tr>
</tbody>
</table>
Skin Scales
Evidence Based Practices

HICPAC Guidelines for Prevention of SSI-
Compendium of Strategies -2014
WHO -2016
<table>
<thead>
<tr>
<th>Key research question</th>
<th>Recommendations for prevention of SSIs</th>
<th>Strength of recommendation (quality of evidence retrieved)</th>
<th>Notes for implementation in low-income and middle-income countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Perioperative discontinuation of immunosuppressive agents</td>
<td>Immunosuppressive medication should not be discontinued before surgery</td>
<td>Conditional recommendation (very low)</td>
<td>To be applied in patients on immunosuppressive medication only; not resource demanding</td>
</tr>
<tr>
<td>(2) Enhanced nutritional support</td>
<td>Consider the administration of oral or enteral multiple nutrient-enhanced nutritional formulas in underweight patients who undergo major surgical operations</td>
<td>Conditional recommendation (very low)</td>
<td>Additional costs involved; need for pharmacy and dietician support; staff training; limited product availability</td>
</tr>
<tr>
<td>(3) Preoperative bathing</td>
<td>Patients should bathe or shower before surgery: either a plain soap or an antimicrobial soap may be used for this purpose</td>
<td>Conditional recommendation (moderate)</td>
<td>Availability of and access to clean water may be limited in rural areas; antimicrobial soap may be an additional cost for the health-care facility or patients</td>
</tr>
<tr>
<td>(4) Decolonisation with mupirocin ointment with or without CHG body wash in nasal carriers of <em>Staphylococcus aureus</em> undergoing cardiothoracic and orthopaedic surgery</td>
<td>Patients with known nasal carriage of <em>S aureus</em> should receive perioperative intranasal applications of mupirocin 2% ointment with or without a combination of CHG body wash</td>
<td>Strong recommendation (moderate)</td>
<td>Evidence of cost-effectiveness in high-income countries; nasal mupirocin ointment availability is low and is an additional cost for the health-care facility or patients; requires technical laboratory capacity and extra resources for the screening process</td>
</tr>
<tr>
<td>(5) Decolonisation with mupirocin ointment with or without CHG bodywash in nasal carriers of <em>S aureus</em> undergoing other types of surgery</td>
<td>Perioperative intranasal applications of mupirocin 2% ointment with or without a combination of CHG bodywash are suggested to be used also in patients undergoing other types of surgery</td>
<td>Conditional recommendation (moderate)</td>
<td>Nasal mupirocin ointment availability is low and is an additional cost for the health-care facility or patients; requires technical laboratory capacity and extra resources for the screening process</td>
</tr>
<tr>
<td>(6) MBP with the use of oral antibiotics</td>
<td>Preoperative oral antibiotics combined with MBP are suggested for use in adult patients undergoing elective colorectal surgery</td>
<td>Conditional recommendation (moderate)</td>
<td>It may require organisational resources for appropriate administration and possible additional costs; the oral antibiotics commonly used for MBP are inexpensive</td>
</tr>
</tbody>
</table>

http://www.who.int/gpsc/ssi-guidelines/en/
<table>
<thead>
<tr>
<th>Question</th>
<th>Recommendation</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is MBP without oral antibiotics effective for the prevention of SSI in colorectal surgery?</td>
<td>Strong recommendation (moderate)</td>
<td>It may require organisational resources for appropriate administration and possible additional costs; the oral antibiotics commonly used for MBP are inexpensive.</td>
</tr>
<tr>
<td>Does hair removal affect the incidence of SSI, and what method and timing of hair removal is associated with the reduction of SSI?</td>
<td>Strong recommendation (moderate)</td>
<td>Clipper availability is low and their use is an additional cost for the health-care facility. If reused, appropriate cleaning and decontamination of clipper heads are crucial.</td>
</tr>
<tr>
<td>How does the timing of SAP administration affect the risk of SSI?</td>
<td>Administration of SAP should be before the surgical incision when indicated</td>
<td>Strong recommendation (low)</td>
</tr>
<tr>
<td>What is the precise optimal timing?</td>
<td>SAP should be administered within 120 min before incision, while considering the half-life of the antibiotic</td>
<td>Cost, feasibility, and equity were not identified as significant issues; however, organisational resources and staff training are needed for implementation.</td>
</tr>
<tr>
<td>What is the most effective type of product for surgical hand preparation to prevent SSI, and what is the most effective technique and the ideal duration of surgical hand preparation?</td>
<td>Surgical hand preparation should be performed either by scrubbing with a suitable antimicrobial soap and water or using a suitable alcohol-based hand rub before donning sterile gloves</td>
<td>Strong recommendation (moderate)</td>
</tr>
<tr>
<td>In surgical patients, should alcohol-based antiseptic or aqueous solutions be used for skin preparation and, more specifically, should CHG or povidone-iodine solutions be used?</td>
<td>Alcohol-based antiseptic solutions based on CHG for surgical site skin preparation should be used in patients undergoing surgical procedures</td>
<td>Strong recommendation (low to moderate)</td>
</tr>
<tr>
<td>In surgical patients, should antimicrobial sealants be used after surgical site skin preparation for the purpose of reducing SSI?</td>
<td>Antimicrobial sealants should not be used</td>
<td>Conditional recommendation (very low)</td>
</tr>
</tbody>
</table>

SSI = surgical site infection. CHG = chlorhexidine gluconate. MBP = mechanical bowel preparation. SAP = surgical antibiotic prophylaxis. **WHO recommendations for intraoperative and postoperative measures are included in paper 24 of this surgical site infections Series, to be read in combination with this Review.** "The Grading of Recommendations Assessment, Development, and Evaluation method** was used to assess the quality of the retrieved evidence. **We decided not to formulate a recommendation for the use of CHG-impregnated cloths for the purpose of reducing SSI due to the scarce and very low quality evidence.** **No recommendation regarding the timing of hair removal could be formulated because only one study assessed this question with no significant results, but we suggest that removal by clipping shortly before surgery is the safest approach, if required."
Compendium of Strategies 2014

2 levels of recommendations

Basic – Recommended for all hospitals

Special – Consider if there is still a problem based on surveillance data or risk assessment
Basic Practices

- Maintain intra-operative temp > 35.5
- Use an alcohol containing skin prep unless contraindicated
- Use a surgical safety checklist
- Maintain post-operative blood glucose ≤ 180 mg/dL.
  - Cardiothoracic surgical procedures (High)
  - Non-cardiac procedures (Moderate)
- Use impervious wound protectors in GI and biliary procedures

Complex Practice Setting
Bundles – Polling Question #1

Do you have bundles for specific categories of SSIs?

1. Yes
2. No
Bundles – Polling Question #2

Do you have standardized order sets for surgical procedures?

1. Yes
2. No
## Selected Elements of Surgical Care Bundle from Literature

<table>
<thead>
<tr>
<th>Appropriate antimicrobial prophylaxis</th>
<th>Antimicrobial (triclosan) sutures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight-based dosing</td>
<td>Smoking cessation</td>
</tr>
<tr>
<td>Glycemic control</td>
<td>Staphylococcal surveillance (cardiothoracic and orthopedic procedures)</td>
</tr>
<tr>
<td>Normothermia</td>
<td>Oral antibiotics plus mechanical bowel preparation (colorectal)</td>
</tr>
<tr>
<td>Appropriate hair removal</td>
<td>Minimally invasive surgery</td>
</tr>
<tr>
<td>Supplemental O₂ (colorectal procedures)</td>
<td>Short duration of surgery</td>
</tr>
<tr>
<td>Use of wound edge protectors</td>
<td>Glove change prior to fascia and skin closure</td>
</tr>
<tr>
<td>Dedicated wound closure tray for fascia and skin</td>
<td>Limit traffic in the operating room</td>
</tr>
<tr>
<td>Pre-operative 4% CHG shower or 2% CHG cleansing</td>
<td>CHG cleansing of surgical wound</td>
</tr>
<tr>
<td>70% alcohol with 2% CHG perioperative skin preparation</td>
<td>Keep sterile dressing intact for first 48 hours</td>
</tr>
</tbody>
</table>

[https://www.dhs.wisconsin.gov/hai/ssi-prevention.htm](https://www.dhs.wisconsin.gov/hai/ssi-prevention.htm)
Colorectal Bundle

Intraoperative
1. Hair Removal
   □ Hair removal (only if hair will interfere with the operation) with clippers, outside the OR if at all possible

2. Antibiotics
   □ Redose prophylactic antibiotic based on duration of operation

3. Skin Prep
   □ Use standardized antiseptic agent for skin prep: alcohol-containing (Chloroprep, Duraprep) unless contraindicated (infants, mucous membranes, ear procedures, open wound)
   □ When alcohol-based skin prep is contraindicated, use Chlorhexidine or Povidone Iodine antiseptic agent for skin prep. Regardless of antiseptic agent used, it must be allowed to dry completely. Alcohol prep would be contraindicated for use for during emergent cases with no drying time

4. Hand Hygiene & Asepsis
   □ Ensure double gloving/sterile gloves for all scrubbed surgical team members
   □ Keep nails short, do not wear artificial nails or hand or arm jewelry
   □ Clean underneath fingernails prior to first daily surgical scrub
   □ Follow policy: Surgical/Procedural Hand Hygiene
   □ Wear disposable cap or hood to fully cover head/facial hair and surgical mask to cover nose/mouth when entering the operating room and until the conclusion of the operation
   □ Use surgical gown and drapes that are liquid resistant
   □ Change surgical scrubs if visibly soiled or contaminated

5. Temperature
   □ Maintain perioperative normothermia (≥ 36°C)
   □ Use of Bair Hugger.
   □ Warm IV fluids
   □ Follow policy: Maintaining Normothermia in the Surgical Patient

6. Drains
   □ If drainage is indicated, use a closed suction drain placed through a separate incision
   □ Remove drain as soon as possible
   □ Do not continue prophylactic antibiotics because drains are in place

7. Items intentionally left in patient
   □ Document items left behind in operative notes (stents, packing, drains, etc)
   □ Document plan for removal if item is temporary

8. Surgical Technique
   □ Use of wound protectors
   □ Change gloves prior to closing
   □ Use of clean instruments (Colorectal Closing Set) for closing of the wound
<table>
<thead>
<tr>
<th>Measure</th>
<th>FY15</th>
<th>FY16</th>
<th>Target</th>
<th>Jul-16</th>
<th>Aug-16</th>
<th>Sep-16</th>
<th>Oct-16</th>
<th>Nov-16</th>
<th>Dec-16</th>
<th>Jan-17</th>
<th>Feb-17</th>
<th>Mar-17</th>
<th>Apr-17</th>
<th>May-17</th>
<th>Jun-17</th>
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<td>Forms Returned (n)</td>
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<td>12</td>
<td>8</td>
<td>5</td>
<td>12</td>
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<td>Compliance of Sani Hugger</td>
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<td>Approved Skin Prep</td>
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<td>Abs Selection per SDIP</td>
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<td>Clean Closing Set</td>
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<td>Pre-op BG &gt; 180</td>
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<td>0</td>
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<td>Regular Insulin Given</td>
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<td>Eligible for Lantus (DM, BMI &gt; 35, or BG &gt; 180)</td>
<td>22</td>
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<td>Lantus Given</td>
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<td>Intra-op BG Recorded</td>
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<tr>
<td>Intra-op Regular Insulin Given</td>
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<td>Number of IP-Reported Colon SSIs *</td>
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<tr>
<td>Rate (total)</td>
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<td>0%</td>
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<td>Deep and Organ/Space Infections</td>
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<td>2</td>
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<tr>
<td>Rate (complex)</td>
<td>6%</td>
<td>7%</td>
<td>6%</td>
<td>7%</td>
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<td>0%</td>
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<td>Superficial Infections</td>
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</tr>
</tbody>
</table>
Strategies to Prevent SSIs

You must consider whether any given risk is:

Modifiable:
- i.e. glucose, antimicrobial administration, hair removal

Non Modifiable:
- i.e. age, co-morbidities, severity of illness, wound class
General Cleaning Recommendations

Beginning of the day

Wipe down:

- Horizontal features
- Furniture
- Equipment

After each procedure

Frequently touched areas
Traffic Control

Tracers in OR

Primary Hip observed - 27 different entries into OR room

Hysterectomy Davinci - 31 entries

What does the evidence tell us?
- Doors open average of 9.5 minutes per case

- Loss of positive pressure

- 77 of 191 cases had doors open long enough to defeat positive pressure
Enhancing air quality by reducing airborne contamination has been shown to be of great importance, especially in relation to implant surgery.

Suggested levels be maintained at <10 CFU/m during implant surgery, and that clinical benefits can be expected by reducing it to 1 CFU/m.

Very low levels of clinically relevant coagulase-negative staphylococci can initiate a device-related infection.
Table 3.
Reasons for traffic flow

<table>
<thead>
<tr>
<th>Necessary door openings*</th>
<th>n</th>
<th>Semi-necessary door openings</th>
<th>n</th>
<th>Unnecessary door openings</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert consultations (eg, help needed from senior surgeons, expert nurses, or anesthesiologists)</td>
<td>40</td>
<td>Surgical team members entering after incision or leaving before closure</td>
<td>76</td>
<td>Logistic reasons planning next or other operation</td>
<td>30</td>
</tr>
<tr>
<td>Instruments or other material needed</td>
<td>137</td>
<td>Lunch and coffee breaks</td>
<td>108</td>
<td>Social visits</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No detectable reasons</td>
<td>93</td>
</tr>
<tr>
<td>Total</td>
<td>177</td>
<td></td>
<td>184</td>
<td></td>
<td>168</td>
</tr>
</tbody>
</table>

* The need assessed in relation to patient safety and ongoing procedure.
Strategies
Pre Cleaning of Instruments

- Issues with bioburden
- Must be cleaned or wiped down at point of use
- Instruments must be kept moist
- Hinged instruments kept open
Instrumentation


- Sudden increase in surgical site infection rate following 'clean' surgery.
- 15 orthopedic patients following metal insertion
- 5 ophthalmology patients who developed endophthalmitis

Findings:
- Lapses in sterilization
- Lack of pre - cleaning by OR staff

Conclusions:
- Collaboration
- Cooperation
- Standardization
Instrumentation

- Preparation for decontamination of instruments should begin at the point of use

- During the procedure, the scrub person should remove gross soil from instruments by wiping the surfaces with a sterile surgical sponge moistened with sterile water

Every case, Every patient, Every time?
Rounding

- Observed room turnover
- Equipment cleaning
- Terminal cleaning
Findings

1. Inconsistent cleaning practices
2. Special cleaning of major equipment lacking
3. Initial pre-cleaning of equipment
Actions

1. Review of terminal cleaning with EVS
2. Delineation of cleaning procedures
3. Pre-cleaning procedure
### Operating Room and Sub-Sterile Room Cleaning Standards - Turnover and Terminal Cleaning/OR Staff

<table>
<thead>
<tr>
<th>WHEN TO CLEAN</th>
<th>WHO Cleans</th>
<th>TYPE OF CLEANER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovie</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Nephines</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Microscopes</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Lasers</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Light sources</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>DaVinci</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Computer accessories (keyboard, mouse, screen)</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>OR bed attachments</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Positioning devices</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Patient transfer devices</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Remote controls</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Patient table straps</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
</tbody>
</table>

### Operating Room Cleaning Standards – Turnover Cleaning/OR Staff

<table>
<thead>
<tr>
<th>WHEN TO CLEAN</th>
<th>WHO Cleans</th>
<th>TYPE OF CLEANER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back Tables</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Floor</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Foot pedals</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Kickbuckets and stands</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Linen hampers</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Mayo stands</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>OR lights</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>OR, patient table</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Ring stand</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Sitting stools</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Standing stools</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Suction stands/equipment</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
<tr>
<td>Trash stands</td>
<td>OR Staff</td>
<td>Hospital Approved Disinfectant</td>
</tr>
</tbody>
</table>
Tools

ATP

Fluorescent Marker
# Example

## ATP in the Operating Room Suites - Passing Score is 250

<table>
<thead>
<tr>
<th>OR Suites</th>
<th>10</th>
<th>OR 1</th>
<th>OR 2</th>
<th>OR 3</th>
<th>OR 4</th>
<th>OR 5</th>
<th>OR 6</th>
<th>OR 7</th>
<th>OR 8</th>
<th>OR 9</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EVS Terminal Clean</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR Bed Rails</td>
<td>68</td>
<td>73</td>
<td>27</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Pt. Bed Strap</td>
<td>31</td>
<td>NA</td>
<td>348</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Pt. Bed Control</td>
<td>50</td>
<td>150</td>
<td>118</td>
<td>120</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>OR light handles</td>
<td>13</td>
<td>289</td>
<td>16</td>
<td>30</td>
<td>44</td>
<td>64</td>
<td>44</td>
<td>77</td>
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<td></td>
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<tr>
<td>Door handles to core</td>
<td>139</td>
<td>3031</td>
<td>274</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
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</table>

## Date:

## OR Staff Clean

<table>
<thead>
<tr>
<th>Room</th>
<th>10 OR 1</th>
<th>1448</th>
<th>646</th>
<th>290</th>
<th>917</th>
<th>102,466</th>
<th>526</th>
<th>511</th>
<th>108</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovie</td>
<td>1358</td>
<td></td>
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</tr>
<tr>
<td>Light Source</td>
<td>121</td>
<td>NA</td>
<td>48</td>
<td>NA</td>
<td></td>
<td>310</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microscope Handles</td>
<td>911</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neptune</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>253</td>
<td>299</td>
<td>788</td>
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<tr>
<td>Computer Keyboard</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>1815</td>
<td>106</td>
<td>363</td>
</tr>
</tbody>
</table>
Final Strategies

- Engage surgeons and OR staff in case reviews
- Share definitions
- Provide input
- Team approach
Next Chasing Zero Infections

May 25 In-person Meeting, “Connecting the Dots to Reduce Patient Harm: Hot Topics in Infection Prevention and Stewardship”

• Topics: C. diff, Multi-Drug Resistant Organisms and Antimicrobial Stewardship
• Harry P. Leu Gardens, Orlando
• Registration Link: http://www.cvent.com/d/35q9yj/2K

June 6 at 1 PM: Didactic Webinar

• Reducing Central Line-Associated Bloodstream Infections
• Registration Link: https://cc.readytalk.com/r/a21zckqt25vw&eom
Eligibility for Nursing CEU requires submission of an evaluation survey for each participant requesting continuing education:

https://www.surveymonkey.com/r/ChasingZero041117

- Share this link with all of your participants if viewing today’s webinar as a group
- Be sure to include your contact information and Florida nursing license number
- FHA will report 1.0 credit hour to CE Broker and a certificate will be sent via e-mail (Please allow at least 2 weeks)
Sally Forsberg, RNC-OB, BSN, MBA, NEA-BC, CPHQ
Florida Hospital Association
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