



SESSION NAME **Building an ASC Surgical Site Infection Surveillance Program**

SPEAKERS Mary Haugen, MA, ADN, RN
Lori Groven, MSPHN, RN, CIC

SESSION NUMBER **0017**

DATE/TIME **Sunday, March 30, 2014, 10:30-11:30am**

REPEAT SESSIONS 0118, 0171

REPEAT DATES/TIMES Monday, March 31, 2014, 7-8am
Tuesday, April 1, 2014, 8-9am

CONTACT HOURS (CH) 1.0

SESSION OVERVIEW:

In 2011, TRIA Orthopaedic Center developed a robust infection control program to better understand and track surgical site infections. This session will describe the road map TRIA developed to track SSI, including physician engagement, leadership, and support. Early successes, challenges, best practice, and lessons learned will be presented along with current status of program.

OBJECTIVES:

1. Describe the process of starting a surveillance program.
2. Identify components of a successful surveillance program.
3. Describe best practices in SSI prevention.
4. Describe the components of care reviewed in an SSI investigation.

SPEAKER BIOGRAPHY:

Mary Haugen, MA, ADN, RN, is director of nursing and the ambulatory surgery center at TRIA Orthopaedic Center and is responsible for overseeing the professional nursing practice model. She is the liaison between nursing, ancillary departments, and physician leadership, providing direction and guidance in regulatory requirements, infection control, research, and patient and staff satisfaction. A key program Mary oversees is the TRIA Hilton Recovery Program, which gives patients the opportunity to have procedures typically performed in a hospital setting, performance at the TRIA Ambulatory Surgery Center and recover in the non-traditional hotel setting. Mary has over 35 years' experience in nursing, with the last 25 years in outpatient perioperative settings.

Lori Groven, MSPHN, RN, CIC, is currently the infection preventionist for TRIA Orthopaedic Center in Bloomington, Minnesota, and has over ten years of experience in the health care industry. Her background includes working as a nurse in medical/surgical and pediatrics in Minnesota, California, and Arizona. She has over five years of experience working in the field of infection prevention and is board certified in infection prevention and control. Lori has a BSN, as well as a Master's in public health nursing with a minor in public health, from the University of Minnesota. She is an active member of APIC and has been a member of the education committee for five years, two of which she served as chair of the committee.

SPEAKER CONTACT INFORMATION:

Lori Groven, MSPHN, RN, CIC
TRIA Orthopaedic Center
Bloomington, Minnesota
lori.groven@tria.com

Mary Haugen, BA, ADN, RN
Director, Nursing Practice
TRIA Orthopedics
Bloomington, Minnesota
mary.haugen@tria.com

FACULTY DISCLOSURE:

Lori Groven: 7. No conflict.

Mary Haugen: 7. No conflict.



History of Infection Prevention Program

- TRIA Orthopaedic Center
 - Single specialty center, a one stop shop for orthopaedic care
 - Clinic, Acute Injury Clinic
 - 115,000 visits per year
 - 6 Operating Rooms and 2 Procedure Rooms
 - 7,000 cases per year
 - Ancillary Services
 - Physical Therapy, Hand Therapy, Orthotics and Prosthetics
 - Research and Education
 - BioSkills Lab
 - Outcomes Studies

1

History of Infection Prevention Program

- Partnership of TOC, UMP, and Park Nicollet Health Services
- Each group has their own culture and expectations
- Difficult to gather true infection information
- Distinct EMR and documentation challenges

2

History of Infection Prevention Program

- Part time IP
 - Surgical surveillance
 - No connection to clinic or ancillary services
 - Limited team member education
 - Epidemiologist - difficult to understand the workflows and procedures

3

Building an SSI Surveillance Program

- 2011
 - Infection Preventionist role developed
 - Part-time role, RN with extensive OR experience
 - 60% ASC, 40% clinic
 - APIC member, certification
 - Surgical site surveillance
 - Team member education
 - TRIA-wide skills fair

4

Building an SSI Surveillance Program

- 2012
 - Monthly ASC cases review per surgeon instituted
 - Modeled after University of Minnesota
 - Championed by CEO
 - Pushback from surgeons not familiar with U practice
 - Required persistence and perseverance

5

Building an SSI Surveillance Program

- 2013
 - Full-time Infection Preventionist
 - Ongoing surgical site surveillance
 - Employee vaccine program
 - Embedded in quality and management activities
 - QAPI
 - Safety Committee
 - On ASC and Clinic Operating Committees
 - Team member education/competencies
 - Skills Fair coordination

6

SSI Surveillance Program

- SSI Surveillance Process:
 - Follow CDC guidelines
 - Surveillance for ALL surgical procedures
 - 30 days post surgery
 - 90 days post surgery (select cases per CDC)
 - 12 months post implant (through 2012 cases)
 - All Hilton cases reviewed by IP

7

SSI Surveillance Program

- Surgeons emailed list of patients monthly
 - Use standard letter
 - Responses saved in archived email
 - Cases pulled from electronic database, by IP
 - Average 550 cases/month

8

SSI Surveillance Program

- Other methods of notification:
 - Surgeons send real time emails to IP
 - Monthly hospital readmission report
 - Weekly culture report
 - Any positive culture on a TRIA patient in the Park Nicollet system
 - Alert from Park Nicollet Infection Prevention team
 - Surgeon case quality control
 - Cases reviewed for each surgeon at least one month/year to verify accuracy of surgeon self report
 - Discrepancies reported

9

SSI Surveillance Program

- Challenges:
 - Surgeons do not always respond to emails
 - Inefficient to bug them repeatedly
 - Various emails used (not always TRIA email)
 - Multiple medical record systems
 - No formal process to inform new surgeons of SSI surveillance protocol
 - Working on standardized information for new providers
 - Parent organization not in agreement with TRIA SSI surveillance process

10

SSI Surveillance Program

- **Keys for Success:**
 - Engage leaders early in the process
 - Engage physicians
 - Keep communication open
 - Notify them of changes in process and guidelines
 - Provide real time feedback
 - Confirmed and unconfirmed infections

11

SSI Surveillance Program

- **Keys to Success**
 - Know what's going on
 - Observe practices in SPD, pre-op, operating room, and PACU
 - Conduct rounds on a regular basis
 - Give feedback to staff
 - Ask Questions!

12

SSI Best Practices

- Preoperative screening
 - No active infections, other than those related to surgery
 - No *C-diff*, VRE, tuberculosis patients
 - Encourage smoking cessation
 - ASA 2 or less
 - Age 5 or above

13

SSI Best Practices

- Hair Removal
 - Shaving with razors associated with increased SSI rates
 - Use clippers if hair removal absolutely necessary
 - Only clip in preop, never OR
- Perioperative normothermia
 - Cold OR rooms, IV fluids, anesthesia, skin prep, etc. all contribute to patient temperature
 - Hypothermia can be associated with increased SSI rates and hospitalization stays
 - Bair Hugger™ used on all patients pre and post-op

14

SSI Best Practices

- Preop patient preparation
 - Enter day of surgery
 - Preop education
- Skin antisepsis
 - CHG Bath-in-a-Bag (total joints) night before and day of surgery
 - Duraprep™: scrub of choice
 - Timer on screen in OR-“explosion” when 3 minutes are up
 - CHG soap for local hand cases
 - Foot cases: scrub in preop before entering OR

15

SSI Best Practices

- Nasal decolonization
 - Nasal antiseptic (Povidone-Iodine USP, 5%) for Hilton patients
- Surgical hand antisepsis
 - Avagard™ scrub
 - Monthly hand hygiene audits
- Antibiotic prophylaxis
 - Appropriate timing of antibiotic (prior to time out)
 - Vancomycin for MRSA patients

16

SSI Best Practices

- Post operative period
 - Post op phone call
 - Patient education on s/s post op infection
 - Nurse triage and Acute Injury Clinic available for urgent post-op problems
 - Open 7 days a week
 - Post op wound checks
 - Annual wound care competency for staff who do post op checks

17

SSI Best Practices

- Air quality
 - Monthly smoke testing of OR rooms
 - Humidity sensors installed
 - Local room OR pressure corrected
 - Discovered local rooms negative pressure in summer 2013
 - Lengthy process to get corrected
 - Only hand cases performed in local rooms
 - 50% SSI's in hand cases

18

SSI Best Practices

- Set goals and expectations
 - Ensure they are doable and realistic
 - Don't set yourself up for failure
 - Communicate them to leadership and staff
- Create risk assessment and action plan
 - Keep it updated
 - Follow through on interventions

19

SSI Best Practices

TRIA Infection Control Risk Assessment & Annual Plan-June 27, 2013

Potential risk/problem	Probability					Risk/Impact (health, financial, legal, regulatory)					Current Systems/Preparedness					Score
	Expect it	Likely	Maybe	Rare	Never	Catastrophic loss (life, limb, financial)	Serious loss (functional, financial, legal)	Prolonged length of stay, readmission to hospital	Moderate clinical, financial	Minimal clinical, financial	None	Poor	Fair	Good	Solid	
Emergency Preparedness	4	3	2	1	0	4	3	2	1	0	4	3	2	1	0	
Exposure to bioterrorism agents				1				2							0	3
Exposure to novel viruses				1				2							0	3
Hospital Acquired Infections																
SSI-total joint			2					2					2			6
SSI-hand		3						2					2			7
SSI-knee		3						2					2			7
SSI-shoulder			2					2					2			6
SSI-feet			2					2					2			6
SSI-other/minor			2					2					2			6
Outbreak				1					1					1		3
Environmental																

20

SSI Best Practices

TRIA Infection Control Risk Assessment & Annual Plan-June 27, 2013

III. Annual Plan (For each prioritized risk above the score of >3 (>25%), identify goal, objective, strategies, and progress.

Priority #	Priority	Goal	Objectives	Strategies	Evaluation Method	Progress
1	Employee influenza immunization	Increase compliance with employee influenza immunization.	1. All employees, without a medical contraindication, with patient contact will receive the influenza vaccine in 2013-2014.	-Flu shot kick off -Provide at skills fair. -Weekly reminders (email, TRIA Post, staff meetings, etc.). -Roving flu shot carts. -Education via TRIA new employee session, ASC newsletter, and TRIA Post.	Rates for employees that have received the flu shot.	Q3 2013: Flu shot kickoff at skills fair in Sept. 2013. Over 200 flu shots given at the skills fair. Q4 2013: Flu shot clinics held and roving flu shot cart brought to clinic. TRIA response rate (vaccinations and declinations) 93%. Influenza vaccination rate approx. 75%. Q1 2014: Q2 2014:
2	Surgical Site Infection (SSI)	Decrease the number of patients that develop a surgical site infection.	1. Surgical site infection rate will be under 0.75%, goal of 0%. 2. Surgical site infection rate for hand and knee cases will decrease by 20%.	-Monitor timing of prophylactic antibiotics. -Screen for MRSA in pre-op interview. -Maintain aseptic technique during entire ASC stay. -Ensure hand hygiene compliance. -Follow Standard precautions for all patients. -Provide education to patient at discharge on hand hygiene, wound care, and s/s o infection. -All Hilton patients will receive 3M Skin	-Surveillance data -Hand hygiene compliance data -Observation data/results	Q3 2013: Discarded old, worn arm boards in local rooms. New hand/arm positioners to replace wooden, stained positioners. Q4 2013: CHG soap in local room area for patient hand wash before surgery. Wound assessment and care education for RN, LPN, MA, OA, ATC, PT, and cast techs. Q1 2014: Q2 2014:

21

SSI Best Practices

- Don't recreate the wheel
 - Rely on nationally recognized guidelines
- Use your resources!
 - APIC list serve
 - APIC guide
 - CDC/NHSN recommendations
 - Updated frequently
 - MNASCA
 - Network with fellow IPs

22

SSI Investigation

- CDC SSI Definitions followed
- Use standardized worksheet as guide
 - NHSN form available on CDC website:
<http://www.cdc.gov/nhsn/acute-care-hospital/ssi/#dcf>
 - Several others available online
 - TRIA ASC Post Operative Infection Risk Analysis Worksheet
 - 2 page document
 - Information recorded in database

23

SSI Investigation

TRIA ASC POST OPERATIVE INFECTION RISK ANALYSIS				
DEMOGRAPHICS:				
Patient Name:	MR#:	Case#:	Date of Surgery:	Surgeon:
Procedure:				
PREOPERATIVE:				
Age:	Weight:	Height:	Preop Temperature:	Preop Labs: (UA-Total Joints)
Diabetic? <input type="checkbox"/> YES <input type="checkbox"/> NO	Preop Blood Glucose: _____	Hair Removal? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Razor <input type="checkbox"/> Clip <input type="checkbox"/> Preop <input type="checkbox"/> Operating Room <input type="checkbox"/> Patient shave surgical site	Preop Skin Cleansing? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Betadine <input type="checkbox"/> Hibiclens <input type="checkbox"/> Alcohol At Home: <input type="checkbox"/> Sage Wipe	IV access Preop? <input type="checkbox"/> YES <input type="checkbox"/> NO
Smoker? <input type="checkbox"/> YES <input type="checkbox"/> NO	Did patient take steroids in the past 30 days? If YES, why? _____ If YES, what drug? _____ If YES, when was last dose? _____	Did patient take antibiotics in the past 30 days? <input type="checkbox"/> YES <input type="checkbox"/> NO If YES, why? _____ If YES, what antibiotic? _____ Was full course taken? <input type="checkbox"/> YES <input type="checkbox"/> NO	History of MRSA? <input type="checkbox"/> YES <input type="checkbox"/> NO	3M Skin/Nasal Prep Used? <input type="checkbox"/> YES <input type="checkbox"/> NO Applied within 60 Minutes of the surgery time? <input type="checkbox"/> YES <input type="checkbox"/> NO
List any other pre-existing patient diagnoses or problems:				
Comments/Other:				
INTRAOPERATIVE:				
Operating Room #:	ASA: 1 2 3 4 Local	Preop Antibiotic given: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Not Ordered	If YES, what antibiotic/dose? _____	
OR Staff:	Length of Surgery in Minutes:	Surgical Wound Class: 1 2 3 4 NA	If YES, administered timely? <input type="checkbox"/> YES <input type="checkbox"/> NO	
	Foley placed: <input type="checkbox"/> YES <input type="checkbox"/> NO	Other antibiotics given during surgery? <input type="checkbox"/> YES <input type="checkbox"/> NO	If YES, what antibiotic/dose? _____	

24

SSI Investigation

Information collected:

- Patient name, age
 - Procedure
 - Surgeon
- OR info (room, staff)
 - Surgical prep
 - Hair removal
 - Tourniquet
 - Warming device(s)
- Pre and Post-op antibx
 - ASA
 - Wound Class
- Risk index
- Smoking status
- MRSA history
- Nasal prep (Hilton pt's)
 - Surgery duration
 - Cultures
 - Implants
- SSI prevention education
- Post-operative hospitalizations
 - Post-operative surgical procedures

25

Current Status of Program

- Surgeons engaged in SSI prevention
 - All but 1 respond to monthly emails
 - Quality control 100% match with surgeon report
- Staff are engaged in SSI prevention
 - Reports of possible infections
 - IP questions
- SSI rate <0.50%
 - Decrease in hand SSI rate

26

Summary

- Dedicate staff to SSI surveillance program
- Engage leaders and surgeons early in the process
- Use evidence-based practice and nationally recognized guidelines
- Keep staff informed
- Observe practices
- Ask questions

27

Evidence-based References

1. Association for Professionals in Infection Control and Epidemiology (2010). Guide to the Elimination of Orthopedic Surgical Site Infections.
2. Centers for Disease Control (2013). Procedure Associated Events-Surgical Site Infections.
3. Mangram, A., Horan, T., Pearson, M., Silver, L. & Jarvis, W. (1999). Guideline for Prevention of Surgical Site Infection, 1999. Infection Control and Hospital Epidemiology, 20(4), 247-278.

28