Coordinating the Spectrum of Care for Surgical Patient Safety

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INTRODUCTION:

The hospital noted an opportunity with total hip and knee, as well as spinal fusion infection rates. Using a multi-disciplinary approach, a standardized audit tool was developed using evidence-based practice along with Association of Perioperative Registered Nurses (AORN) and Association for Professionals in Infection Control and Epidemiology (APIC) guidelines. The audit and tools were in preparation for an anticipated higher risk population for the included surgeries.

IMPLEMENTATION/METHODS:

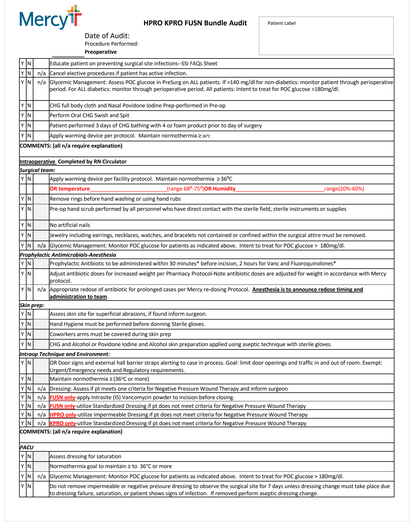
Coworkers were educated to the audit tool that would follow the patient from Pre-operative to Discharge.

Elements not currently in-use that were **added** to practice included:

- ✓ CHG bathing with 4 oz foam for 3 days prior to day of surgery
- ✓ Oral CHG rinse in Pre-op area
- ✓ OR temperature and humidity range documentation
- ✓ Standardization of OR door signs and external hall door barrier straps limiting door openings and traffic
- ✓ Patient education at admission and prior to discharge on surgical site infection prevention using an SSI FAQs Sheet

This tool created a challenge as it crossed over many departments. Staff were educated in small groups or team meetings. Unit huddles provided a forum for questions, issues and additional shared information.

NEW AUDIT TOOL



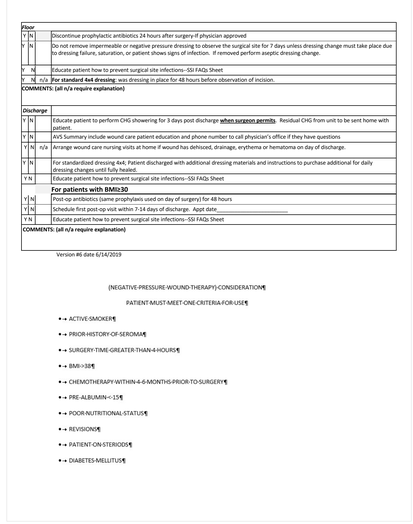
Mercy

HPRO KPRO FUSN Bundle Audit

Date of Audit:
Procedure Performed:
Preoperative

Patient Label

Y	N		Educate patient on preventing surgical site infections--SSI FAQs Sheet
Y	N	n/a	Cancel elective procedures if patient has active infection.
Y	N	n/a	Glycemic Management: Assess POC glucose in PreSurg on ALL patients. If >140 mg/dl for non-diabetics: monitor patient through perioperative period. For ALL diabetics: monitor through perioperative period. All patients: Intent to treat for POC glucose >180mg/dl.
Y	N		CHG full body cloth and Nasal Povidone Iodine Prep-performed in Pre-op
Y	N		Perform Oral CHG Swish and Spit
Y	N		Patient performed 3 days of CHG bathing with 4 oz foam product prior to day of surgery
Y	N		Apply warming device per protocol. Maintain normothermia ≥ 36°C
COMMENTS: (all n/a require explanation)			
Intraoperative. Completed by RN Circulator			
Surgical team:			
Y	N		Apply warming device per facility protocol. Maintain normothermia ≥ 36°C
			OR temperature_____(range 68°-75°)**OR Humidity**_____range(20%-60%)
Y	N		Remove rings before hand washing or using hand rubs
Y	N		Pre-op hand scrub performed by all personnel who have direct contact with the sterile field, sterile instruments or supplies
Y	N		No artificial nails
Y	N		Jewelry including earrings, necklaces, watches, and bracelets not contained or confined within the surgical attire must be removed.
Y	N	n/a	Glycemic Management: Monitor POC glucose for patients as indicated above. Intent to treat for POC glucose > 180mg/dl.
Prophylactic Antimicrobials-Anesthesia			
Y	N		Prophylactic Antibiotic to be administered within 30 minutes* before incision, 2 hours for Vanc and Fluoroquinolones:*
Y	N		Adjust antibiotic doses for increased weight per Pharmacy Protocol-Note antibiotic doses are adjusted for weight in accordance with Mercy protocol.
Y	N	n/a	Appropriate redose of antibiotic for prolonged cases per Mercy re-dosing Protocol. **Anesthesia is to announce redose timing and administration to team**
Skin prep:			
Y	N		Assess skin site for superficial abrasions, if found inform surgeon.
Y	N		Hand Hygiene must be performed before donning Sterile gloves.
Y	N		Coworkers arms must be covered during skin prep
Y	N		CHG and Alcohol or Povidone Iodine and Alcohol skin preparation applied using aseptic technique with sterile gloves.
Introop Technique and Environment:			
Y	N		OR Door signs and external hall barrier straps alerting to case in process. Goal: limit door openings and traffic in and out of room. Exempt: Urgent/Emergency needs and Regulatory requirements.
Y	N		Maintain normothermia ≥ (36°C or more)
Y	N	n/a	Dressing: Assess if pt meets one criteria for Negative Pressure Wound Therapy and inform surgeon
Y	N	n/a	**FUSN only**-apply Intrasite (IS) Vancomycin powder to incision before closing.
Y	N	n/a	**FUSN only**-utilize Standardized Dressing if pt does not meet criteria for Negative Pressure Wound Therapy
Y	N	n/a	**HPRO only**-utilize Impermeable Dressing if pt does not meet criteria for Negative Pressure Wound Therapy
Y	N	n/a	**KPRO only**-utilize Standardized Dressing if pt does not meet criteria for Negative Pressure Wound Therapy
COMMENTS: (all n/a require explanation)			
PACU			
Y	N		Assess dressing for saturation
Y	N		Normothermia goal to maintain ≥ to 36°C or more
Y	N	n/a	Glycemic Management: Monitor POC glucose for patients as indicated above. Intent to treat for POC glucose > 180mg/dl.
Y	N		Do not remove impermeable or negative pressure dressing to observe the surgical site for 7 days unless dressing change must take place due to dressing failure, saturation, or patient shows signs of infection. If removed perform aseptic dressing change.



Floor			
Y	N		Discontinue prophylactic antibiotics 24 hours after surgery-if physician approved
Y	N		Do not remove impermeable or negative pressure dressing to observe the surgical site for 7 days unless dressing change must take place due to dressing failure, saturation, or patient shows signs of infection. If removed perform aseptic dressing change.
Y	N		Educate patient how to prevent surgical site infections--SSI FAQs Sheet
Y	N	n/a	**For standard 4x4 dressing**: was dressing in place for 48 hours before observation of incision.
COMMENTS: (all n/a require explanation)			
Discharge			
Y	N		Educate patient to perform CHG showering for 3 days post discharge **when surgeon permits**. Residual CHG from unit to be sent home with patient.
Y	N		AVS Summary include wound care patient education and phone number to call physician's office if they have questions
Y	N	n/a	Arrange wound care nursing visits at home if wound has dehisced, drainage, erythema or hematoma on day of discharge.
Y	N		For standardized dressing 4x4; Patient discharged with additional dressing materials and instructions to purchase additional for daily dressing changes until fully healed.
Y	N		Educate patient how to prevent surgical site infections--SSI FAQs Sheet
			For patients with BMI≥30
Y	N		Post-op antibiotics (same prophylaxis used on day of surgery) for 48 hours
Y	N		Schedule first post-op visit within 7-14 days of discharge. Appt date_____
Y	N		Educate patient how to prevent surgical site infections--SSI FAQs Sheet
COMMENTS: (all n/a require explanation)			

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(NEGATIVE-PRESSURE-WOUND-THERAPY)-CONSIDERATION¶

PATIENT-MUST-MEET-ONE-CRITERIA-FOR-USE¶

- ACTIVE-SMOKER¶
- PRIOR-HISTORY-OF-SEROMA¶
- SURGERY-TIME-GREATER-THAN-4-HOURS¶
- BMI>38¶
- CHEMOTHERAPY-WITHIN-4-6-MONTHS-PRIOR-TO-SURGERY¶
- PRE-ALBUMIN<=15¶
- POOR-NUTRITIONAL-STATUS¶
- REVISIONS¶
- PATIENT-ON-STEROIDS¶
- DIABETES-MELLITUS¶

Patients having a previously unidentified infection were cancelled on arrival.

Audit tool use began in the Pre-Admission Clinic Evaluation (PACE) clinic and then placed in the patient's paper chart. The audit sheet follows the patient through the entire spectrum of care, is completed by the floor nurse prior to discharge, retrieved by IP and results complied in an audit spreadsheet that is reported to OR leadership.

RESULTS:

The challenge was to successfully implement a project uniting several departments for staff compliance with safety measures and provide high visibility of best practice for each patient that came into the perioperative setting.

Before implementation, SSI rates were higher than facility goal. Since the new audit tool implementation began, compliance of best practice elements have been higher than hospital goals and there has been an average **31.5% decrease** in SSIs across all audit tool surgical procedures, with decreases ranging from 15.5% to 60.6% per surgery type.

Staff feedback praised the tool for ease of use and great reminder for items in a chaotic environment. The next step will be targeting increased compliance across areas with less than clinically significant decreases.

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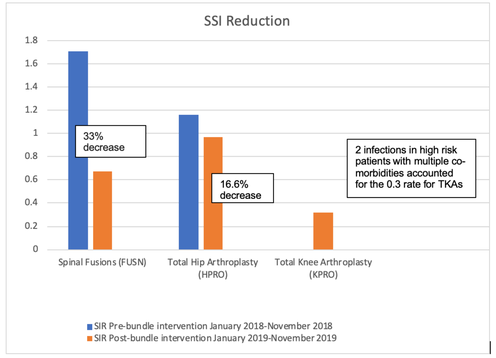

CONCLUSION:

Compliance equals results. With a unified surgical audit tool there are checks and balances.

Safety measures to prevent surgical infections and complications will work in an atmosphere where all members of the team share responsibility.

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