

# Reducing SSI- Knees

---

TIFFANY KENNERK MBA, MSN, RN, NE-BC, ONC

CYNTHIA SEAMAN BSN, RN, ONC, CMSRN

~COMMUNITY HOSPITALS AND WELLNESS CENTERS~

# Conflict of interest:

---

We have no conflict of interest to report on this topic of SSI reduction for total knees.

# Objective:

---

**Discuss best practices that can reduce a surgical site infection (SSI) for a patient undergoing a total knee replacement surgery.**

## Outline:

Components of best practices for SSI reduction related to total knee replacement surgery.

- Pre-operative clinic visit- MRSA Screening and Decolonization, CHG wipes
- Orthopedic education class
- Pre-operative phone call before surgery
- Safety measures
- Post-operative wound care

# What is a SSI?

---

A surgical site infection (SSI) is an infection that occurs after surgery in the part of the body where the surgery took place. Surgical site infections can sometimes be superficial infections involving the skin only. Other surgical site infections are more serious and can involve tissues under the skin, organs, or implanted material (CDC, 2010).

## Facts about a SSI's:

- Second most common type of adverse events occurring in hospitalized patients.
- Have been shown to increase mortality, readmission rate, length of stay and cost.
- Approximately 300,000 SSI's/year in the U.S.
- 2-5% of patients undergoing inpatient surgery will develop a SSI.
- An estimated 40-60% of SSI's are preventable.
- Length of Hospital Stay: 7-10 additional post-operative hospital days.
- Mortality:
  - 3% mortality
  - 2-11 times higher risk of death

# Pre-operative clinic visit

---

## ➤ MRSA Screening and Decolonization:

- ✓ 2 weeks before surgery patient seen in Pre-op Clinic, MRSA nasal swab collected at this time.
  - Patient provided a handout on why we test and what it means if you are tested positive for being a MRSA carrier.
- ✓ If positive colonization for MRSA, patient called and prescription provided for nasal antibiotic ointment.
  - Surgery antibiotic selection reconsidered at this time by surgeon.
- ✓ Ointment applied to nares twice daily for 5 days.
- ✓ Patient returns for another MRSA nasal swab prior to hospitalization.
  - Must be 72 hours after completion of nasal antibiotic ointment.
- ✓ If another positive, surgeon notified to determine if total knee surgery will be done at this time.

## ➤ Chlorhexidine (CHG) wipes:

- ✓ These are provided to the patient at the Pre-op Clinic for use the night before surgery.
  - 6 pack of CHG wipes provided along with an education handout for appropriate use.

# Orthopedic education class

---

- Orthopedic classes are offered to the patient before they have a total knee replacement.
  - ✓ These classes are not mandatory but highly encouraged.
  - ✓ If the patient does not attend a class, the Orthopedic Navigator will either schedule an individual class or will schedule a phone call to cover the class information.
  
- Reducing SSI through education topics at the orthopedic class:
  - ✓ Talk about MRSA swabbing again, which already occurred at Pre-op Clinic, to answer any questions or reiterate education.
    - Discuss hospital isolation for those that tested positive for being a MRSA carrier.
  
  - ✓ Additional handout provided about use of CHG wipes the night before surgery.
    - Encourage patient to look for open areas before using wipes and instructed to call surgeon or charge nurse if any areas noted. This call determines if surgery will still take place.
  
  - ✓ Education on post-op routines.
    - Antibiotics x24 hours post-op.
    - Hand hygiene; patient and staff.

# Pre-operative phone call before surgery

---

- Before making the phone call the Ortho Navigator will:
  - ✓ Assess pre-op tests and labs and communicate abnormalities ASAP to the surgeon.
- Phone call occurs day before scheduled procedure.
  - ✓ If patient was a positive MRSA carrier, assure nasal ointment was complete and re-swabbed prior to hospitalization.
  - ✓ Encourage patient to shower the night before, have clean sheets and use their CHG wipes as instructed.
  - ✓ Again reiterate about open areas and calling the charge nurse if they are found when using the CHG wipes.

# Safety Measures

---

- Screen pre-operative blood glucose levels and maintain glucose control in a patient undergoing a procedure.
- Antibiotics:
  - ✓ Appropriate antibiotic selection (procedure specific). We have a pre-printed order form to reduce error of wrong antibiotic for specified procedure.
  - ✓ Appropriate pre-incision timing when administering antibiotic.
    - Give 60 minutes before the surgery starts.
    - Vancomycin given 2 hours before the surgery starts.
  - ✓ Antibiotics should be stopped within 24 hours after surgery.
- Surgical staff will clean their hands, arms and 1-2 inches above their elbows with an antiseptic agent (chlorhexidine or betadine) just before the surgery.
  - ✓ Surgical staff will wear hair covers, masks, gowns, and gloves during surgery.
- Do not remove hair at the operative site unless it will interfere with the operation; do not use razors. Use surgical clippers immediately before surgery.
- Prior to making an incision the skin will be prepped in the operating room.
  - ✓ Staff will wear sterile gloves when prepping the skin.
  - ✓ The patient will be prepped with chlorhexidine or betadine.
- Keep surgery doors closed during surgery except as needed for passage of equipment, personnel and the patient.
- Maintain adequate intra-operative and post-op oxygen levels.
- Maintain normothermia in the immediate post-operative phase.

# Post-operative wound care

---

- Clean hands with soap and water or alcohol-based hand rub before and after caring for the post-operative wound.
- An occlusive dressing is used for total knee patients. This dressing reduces the risk of the incision being open to contamination.
  - ✓ The incision is closed with a dissoluble sutures, has a combination of mesh and liquid adhesive and an occlusive dressing placed over the incision.
    - Dressing remains in place for 7-14 days.
    - Patient can shower with the dressing.
    - If excessive drainage occurring from the wound, the dressing is not removed but reinforced.
- Educate the patient on how to care for the wound and dressing changes before discharge home, if indicated.
- Educate on signs and symptoms of a surgical infection; including redness, drainage, or fever. Encourage the patient to report any signs or symptoms of infection to their surgeon immediately.

# References:

---

*Surgical Site Infections*. (2010). Retrieved from CDC website: <http://www.cdc.gov/HAI/ssi/ssi.html>

*Surgical Site Infections (SSI) Toolkit: A Provider's Guide to Preventing Surgical Site Infections*. (2009) Retrieved from: [https://www.cdc.gov/HAI/pdfs/toolkits/SSI\\_toolkit021710SIBT\\_revised.pdf](https://www.cdc.gov/HAI/pdfs/toolkits/SSI_toolkit021710SIBT_revised.pdf)