

Is your patient at risk for SSI?

SSI is the most common type of hospital acquired infection for the surgical patient! Identify the Risk Factors!

BACKGROUND:

Surgical site infections (SSI) are the most common type of hospital acquired infection for the surgical population, and significantly impact the patient's morbidity and mortality rates.

PURPOSE:

THE PURPOSE OF THIS PROJECT WAS TWOFOLD:

1. Complete a study focusing on identifying specific SSI risk factors for patients undergoing spinal surgery.
2. Develop a risk assessment tool to identify patients at highest risk for SSI using variables discussed in the literature and results from this study.

METHOD:

Utilizing similar methodology discussed in previous studies focusing on neurosurgery, a detailed drill down tool was utilized reflecting risk factors identified in the literature contributing to SSI in the neurosurgery population. This tool was completed for patients who did and did not develop SSIs occurring in a one year timeframe.

RESULTS:

In this patient sample, the strongest predictors of SSI were the type of intra-operative prepping solution utilized ($p = .009$) and how skin closure occurred ($p = .006$). In addition, the placement of drains ($p = .001$), glue utilized to repair dural tears ($p = .041$), and misappropriate antibiotic administration ($p = .026$), also demonstrated an increased risk of developing a SSI.

NURSING IMPLICATIONS:

Healthcare organizations must pro-actively take measures to identify their patients at highest risk for poor outcomes and thoughtfully implement strategies that will ultimately improve care and prevent the devastation of surgical site infections.

NEXT STEPS

ALREADY IN PROGRESS:

An important implication of this study is for nursing, medicine, and infection prevention to collaboratively develop an evidence based practice (EBP) SSI risk assessment tool to identify patients at highest risk for SSI during the pre-operative and intra-operative phases of patient care. Figure 1 reflects an assessment tool that was developed utilizing risk factors for spinal cases described in the literature and results from our study, in an effort to identify patients at a higher risk to develop a surgical site infection. The next step will be to validate this tool through additional research.

Risk Assessment Tool is Key!

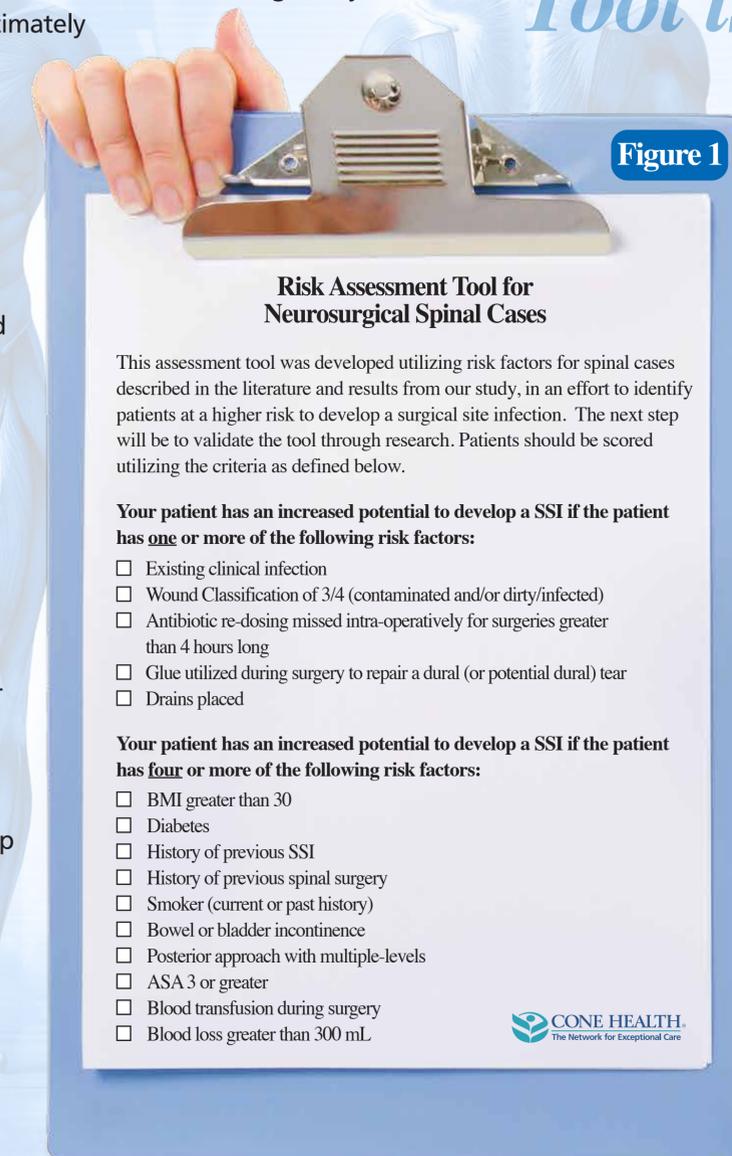


Figure 1

Risk Assessment Tool for Neurosurgical Spinal Cases

This assessment tool was developed utilizing risk factors for spinal cases described in the literature and results from our study, in an effort to identify patients at a higher risk to develop a surgical site infection. The next step will be to validate the tool through research. Patients should be scored utilizing the criteria as defined below.

Your patient has an increased potential to develop a SSI if the patient has one or more of the following risk factors:

- Existing clinical infection
- Wound Classification of 3/4 (contaminated and/or dirty/infected)
- Antibiotic re-dosing missed intra-operatively for surgeries greater than 4 hours long
- Glue utilized during surgery to repair a dural (or potential dural) tear
- Drains placed

Your patient has an increased potential to develop a SSI if the patient has four or more of the following risk factors:

- BMI greater than 30
- Diabetes
- History of previous SSI
- History of previous spinal surgery
- Smoker (current or past history)
- Bowel or bladder incontinence
- Posterior approach with multiple-levels
- ASA 3 or greater
- Blood transfusion during surgery
- Blood loss greater than 300 mL



