

Zero Tolerance

Preventing IV Related Blood Stream Infections

Impact of BSI

BSI Prevention Task Force

General Information

- This lesson is on:
 - The impact of blood stream infections (BSI)
 - Prevention measures to decrease the incidence of IV related BSI
- This lesson:
 - Is for all inpatient and outpatient clinical staff who start and/or care for peripheral or central IV sites and lines.
 - Will take approximately 20 minutes to complete. Additional time required for policy review.

Learning Objectives

By completion of this lesson, the clinician will be able to identify:

- what a blood stream infection (BSI) is and the impact of BSI
- strategies to prevent IV related blood stream infections (BSI)
- the most important measure in preventing BSI

Definition of Terms

For the purpose of this lesson:

- Blood Stream Infection (BSI) refers to IV related infections
- Central Venous Line (CVL) refers to all centrally placed IVs such as Broviac, Port-a-cath, PICC, IJ, etc.
- PIV – refers to a peripherally inserted IV
- Injection cap refers to an Alaris SmartSite® valve placed on the end of a CVL or PIV.
- Injection port refers to the IV tubing ports.
- Valve refers to both the injection cap and injection port specifically the internal **blue** portion.



Injection cap



Injection port

Blood Stream Infection

➤ *What is it?*

- Introduction of pathogens into a central or peripheral IV site, catheter, or line which leads to a bloodstream infection
- CA-BSI refers to a central line Catheter Associated-Blood Stream Infection

➤ *What is the result?*

- BSI may lead to hemodynamic changes, organ dysfunction and may lead to death of a patient

Impact of BSI

- **Increased length of hospital stay**
 - 12 days average
- **Increased patient risk**
 - 200,000 cases of CA-BSI occur each year in the US
 - MUSC IV related BSI occurrences for past 12 months
 - 244 CA-BSI
 - 49 nonCA-BSI (peripheral and non-IV related)

1. Strategies to Prevent Central Line-Associated Bloodstream Infections in Acute Care Hospitals Infection Control and Hospital Epidemiology October 2008 Vol. 29 Supplement 1
2. www.cdc.gov/ncidod
3. MUSC BSI occurrence data November 2007 to 2008

Impact of BSI

➤ Increased risk of mortality

- Between 500 and 4,000 patients die annually from BSI
- 35% mortality associated with CA-BSI

➤ Increased cost

- Average cost to treat \$15,000 per episode
- Loss of reimbursement – up to 70% of a patient's medical cost may be considered non-reimbursable
- Estimated loss of reimbursement for past 12 months at MUSC
 - \$2,600,000 CA-BSI
 - \$515,500 non-CA-BSI
 - Total \$3,115,500

Preventing BSI

- *Based on statistics, an IV related BSI occurs at MUSC every day*
- Every person who comes in contact with a patient has the obligation of protecting the patient from an IV related BSI
 - Clinical Staff – Nurses, PCTs, Physicians, Nursing and Medical Students, Radiology staff, etc.
 - Support Services Staff – Transporters, Technicians, Volunteers, etc.
 - Family Members and Visitors
 - Patient

Hand Hygiene

It is everyone's responsibility!



- Hand hygiene is the number #1 measure for preventing BSI.
- It is a simple habit, something most people do without thinking.
- When done properly, hand hygiene can save lives!



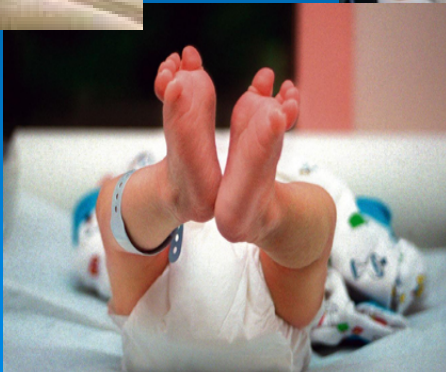
Hand Hygiene

- Despite the proven health benefits of hand hygiene, many people do not practice this habit as often as they should.
- Perform hand hygiene
 - Upon entering and leaving a patient's room
 - When hands are visibly soiled or contaminated
 - ***Immediately prior to handling a patient's IV site, line, or tubing***
- For the safety of our patients, our families and ourselves, always practice good hand hygiene.



Hand Hygiene

- SHOWS our patients and their families that we care about their health and well being just as we would care for our own families



Summary

- IV related blood stream infections are one of the most commonly occurring healthcare associated infections (HAI).
- BSI impacts a patient by increasing hospital length of stay, healing and recovery time, and may lead to long term complications or death.
- Hand hygiene done properly is the most important measure in the prevention of BSI.
- Every person who comes in contact with a patient has an obligation of protecting the patient from an IV related BSI.
- For our patient's health and safety, MUSC's goal is to prevent all healthcare associated Blood Stream Infections.
- We all play a part in achieving "ZERO BSI".

Clinical References

- For additional information refer to policy:
 - [IC 3-008 Hand Hygiene](#)

Congratulations!

- You have completed the lesson on Preventing IV Related Blood Stream Infections
- Please complete the test now