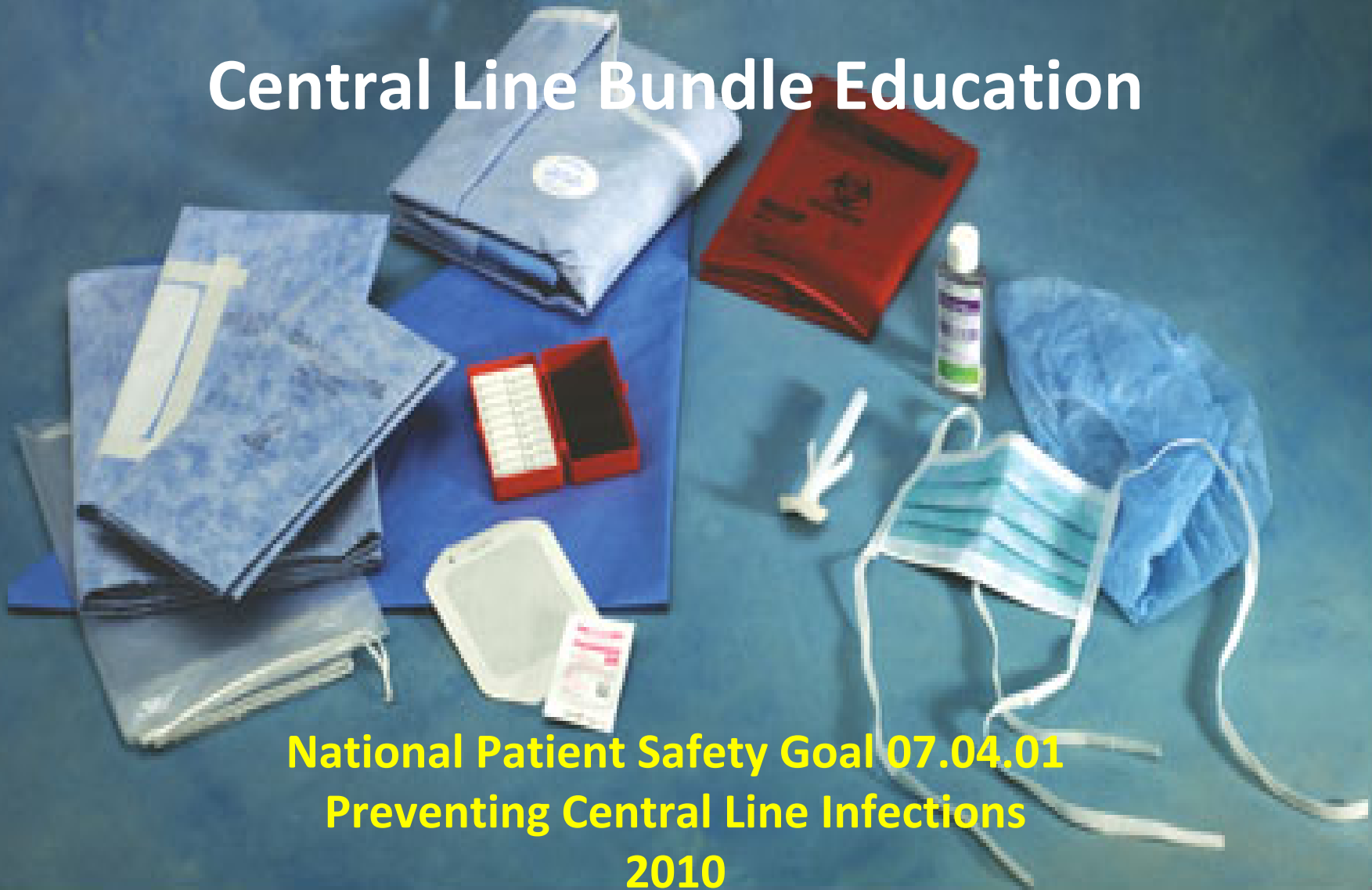


Central Line Bundle Education



National Patient Safety Goal 07.04.01
Preventing Central Line Infections
2010



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MEMORIAL**
HEALTH CARE SYSTEM

**Central Line Associated Bloodstream
Infections CAN and DO kill our patients.**

THE GOOD NEWS...

They are preventable!

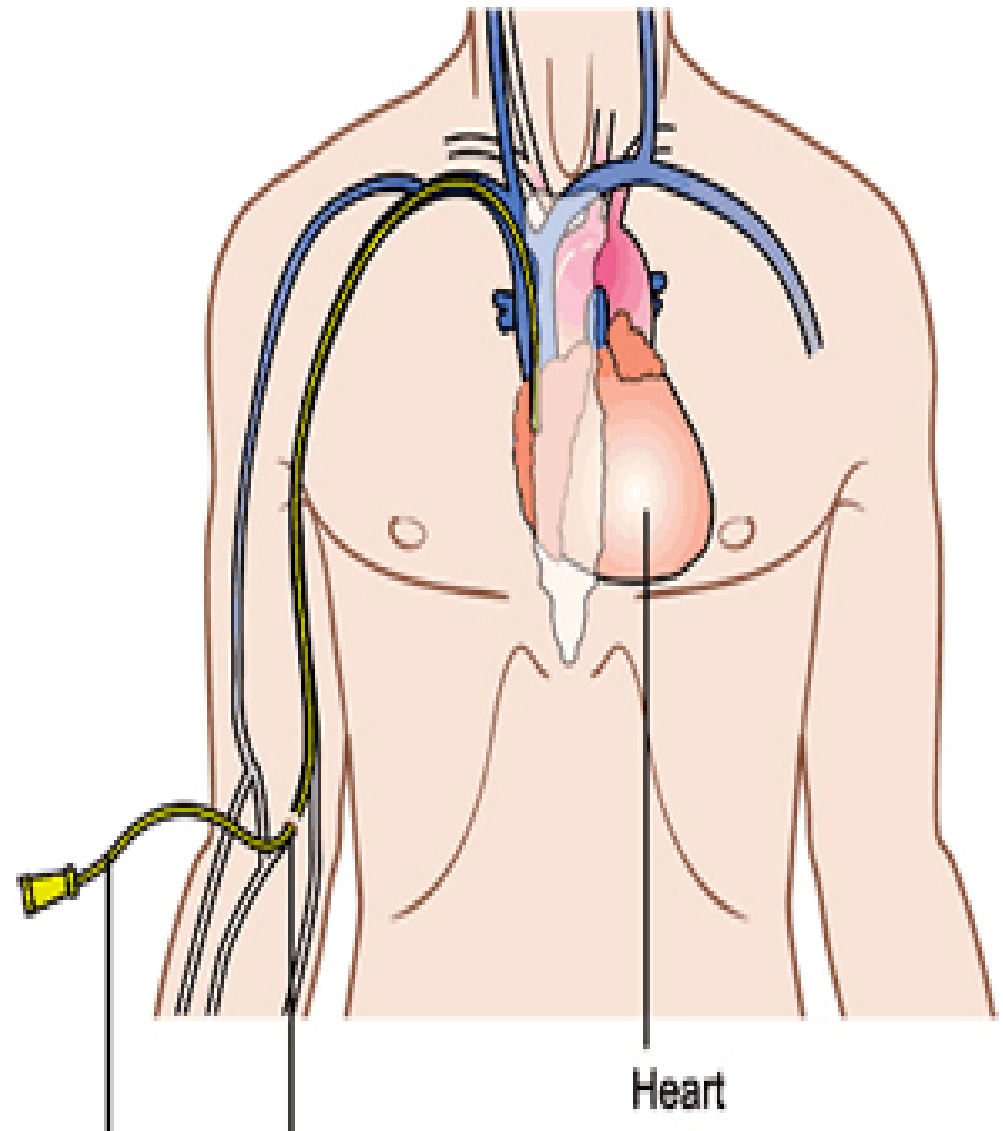


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A **central line** is an intravascular catheter that terminates at or close to the heart or in one of the great vessels and is used for:

- Infusion (TPN, Dialysis, Meds, Blood)
- Withdrawal of blood
- Hemodynamic monitoring



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Organism Access to the Vascular Catheter

- Invasion of percutaneous tract (during insertion or during subsequent days)
- Contamination of catheter hub during guide wire insertion or at access during infusions and flushes
- The seeding from a remote source of infection



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In addition to the Serious Consequences to the Patient...

- Costs the Healthcare System \$3,700 - \$29,000 each
- Preventability may cause treatment reimbursement to be...



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Patients should not be harmed by the care that is intended to help them



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How to Prevent?

Implement evidence based practices **known** to **reduce** the risk of CLABSI.....

“**The Central Line Bundle**” is a group of evidence based interventions that when implemented together result in better outcomes.



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Bundle Components

1. Optimal Site/Line Selection
2. Hand Hygiene
3. Chlorhexidine Skin Antisepsis
4. Maximal Barrier Precautions at insertion
5. Aseptic Technique at Line Access and Dressing Changes
6. Daily Review of Line Necessity and Prompt Removal



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Maxbarrier

A Bundle Pack containing items necessary to fulfill “insertion best practices” is located on the exchange carts of every nursing unit.

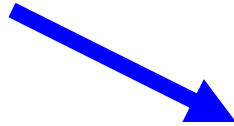
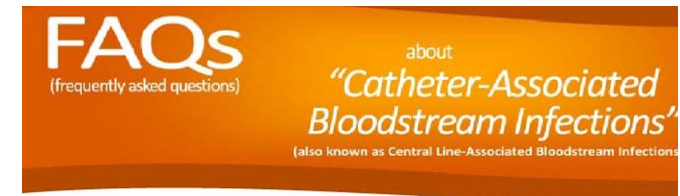


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Bundle Pack Components

- Patient Information Sheet
- Checklist



Barriers: ___ Cap on Inserter ___ Cap on Assistant
 ___ Mask on Inserter ___ Mask on Assistant

Hand Hygiene: ___ Pre Gowning (Inserter)
(Foam or Wash) ___ Pre Gloving (Nurse)

Prep: ___ Chloraprep
 ___ Minimum 30 seconds back and forth friction
 ___ Dry before insertion

Insertion Barriers: ___ Sterile Gown
 ___ Sterile Gloves
 ___ Full Body Drape

Dressing: ___ Applied Immediately under Sterile Conditions

- Masks(2), Hats(2)
- Gown(1), Full Body Drape
- Dressing



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Optimal Line Selection

- **SUBCLAVIAN:** associated with the lowest risk of infection
- **JUGULAR**
- **FEMORAL:** associated with the highest infection risk, should be used only as a last option with documentation of reason for use and removed within 48 hours



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Hand Hygiene

- Wash or Alcohol foam before and after palpating catheter insertion sites
- **Immediately** before donning sterile gown at insertion



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Chlorhexidine Skin Prep



- Apply the Chloraprep **before** draping
- Use back and forth gentle friction for **30 seconds MINIMUM** over the immediate puncture site
(check in with the clock please)



THEN...

- Work in the same manner outward for about 3” in all directions. **DO NOT** take the applicator back over the puncture site once you leave it.
- Allow to dry... **Do NOT** wipe or blot



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Maximal Barrier Precautions

- Mask, cap, sterile gown and gloves **always** worn by the inserter/s.
- Mask and cap worn by **all** persons in the room at time of insertion.
- A full body drape (**head to toe**)
- Sterile field maintained



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Old style drape



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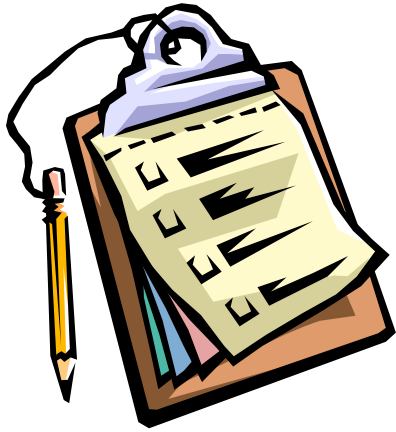


Maximal barrier



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The Checklist

- Is the **KEY** to insertion bundle success.
- Must be followed for **EVERY** line inserted at the **TIME OF INSERTION**

• Nursing has the power to stop it if sterility is compromised or any of the components are not met and the checklist must reflect why

• **Only in a life threatening situation may the bundle not be fully implemented, but a checklist must be completed stating the circumstance.**



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Daily Review of Line

1. Can line come out? If yes,
GET IT OUT!
2. Are there any signs of infection?
3. When was the last dressing change?

The longer the line is in, the greater the risk of infection!



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Maintenance

- Education on line maintenance/access procedures is being provided to all relevant staff
- Fastidious scrubbing of the hub with alcohol or chlorhexidine must occur before access
- A lack of blood return through any lumen means an immediate need for de-clotting with **Alteplase**



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Determination of a Central line Associated Bloodstream Infection

Criterion #1

A recognized pathogen from one or more blood cultures and the organism is not related to an infection at another site

OR..



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Criterion #2

Patient has at least one of the following symptoms:

- Fever ($>38^{\circ}\text{C}$), chills, or hypotension
and
- Symptoms are not related to infection at another site
and
- Common skin contaminant (Corynebacterium spp., Bacillus (not B.anthraxis), Propionibacterium spp., coagulase-negative staphylococci, viridans group streptococci, Aerococcus spp, Micrococcus spp)
is

cultured from two or more blood cultures drawn on separate occasions



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Insertion Documentation



- SCM central line insertion note can be added to your personal documents
- To get to Note: Click on icon at top of page for “Enter Document”
- Type in CE and select Central Line Insertion – see next slide



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Operator

The central line was placed by

Procedure Date/Time/Patient Location

Procedure Date/Time <input type="text"/> - <input type="text"/> : <input type="text"/> : <input type="text"/> C T <input type="text"/>	Patient location at time of insertion <input type="text"/> <input type="text"/>
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Indications

The indications for this procedure are as follows:

additional/difficult IV access dialysis hemodynamic monitoring therapeutic cooling for a diagnosis of

septic shock renal failure cardiac arrest

Pre-Procedure Checklist

The following checklist was completed:

patient ID band checked/time-out performed risks/benefits explained and consent obtained

consent not obtained due to clinical urgency

Central Line Placement

The site was prepped and allowed to dry. The agent used was chloraprep

Hand hygiene performed prior to donning sterile gloves.

Sterile gloves, sterile gown, a hat, and mask were worn for the procedure.

A full body sterile drape was used.

Summary

- The Central line bundle is about reducing risk
- A checklist must be followed **at insertion** for every line
- Nursing may stop the procedure if any bundle components are not met or sterility is compromised
- Review line necessity daily and get it out ASAP
- Document in SCM



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