

Print Name: _____ **Department:** _____ **Date:** _____

Prevention of Central Line Associated - Blood Stream Infections	Initial
<p>Hand Hygiene: Perform hand hygiene prior to catheter insertion or manipulation (quality of evidence: II). Use an alcohol-based waterless product or antiseptic soap and water. Use of gloves does not obviate hand hygiene.</p>	
<p>Femoral Vein Catheterization: Avoid using the femoral vein for central venous access in obese adult patients when the catheter is placed under planned and controlled conditions. Additional factors may influence the risk of CLABSI in patients with femoral vein catheters.</p> <p>Femoral vein catheterization can be done without general anesthesia in children and has not been associated with an increased risk of infection in this population.</p> <p>Other sites: Controversy exists regarding infectious and noninfectious complications associated with different short-term CVC access sites. The risk and benefit of different insertion sites must be considered on an individual basis with regard to infectious and noninfectious complications (eg, patients with jugular access may have a higher infection risk if they have a concurrent tracheostomy).</p> <p>PICC Lines: Do not use peripherally inserted CVCs (PICCs) as a strategy to reduce the risk of CLABSI. The risk of infection with PICCs in ICU patients approaches that of CVCs placed in the subclavian or internal jugular veins. Data shows that the majority of CLABSI due to PICCs occur in non-ICU settings.</p>	
<p>Catheter Insertion:</p> <p>Use an all-inclusive catheter cart or kit. A catheter cart or kit that contains all necessary components for aseptic catheter insertion has to be available and easily accessible in all units where CVCs are inserted.</p> <p>Use ultrasound guidance for internal jugular catheter insertion. Ultrasound-guided internal jugular vein catheterization reduces the risk of CLABSI and of noninfectious complications of CVC placement.</p> <p>Use maximum sterile barrier precautions during CVC insertion: A mask, cap, sterile gown, and sterile gloves are to be worn by all healthcare personnel involved in the catheter insertion procedure. The patient is to be covered with a large (“full-body”) sterile drape during catheter insertion. These measures must also be followed when exchanging a catheter over a guidewire.</p> <p>Use an alcoholic chlorhexidine antiseptic¹ for skin preparation. Before catheter insertion, apply an alcoholic chlorhexidine solution containing more than 0.5% CHG to the insertion site. The antiseptic solution must be allowed to dry before making the skin puncture.</p> <p>¹The optimal choice of antiseptic agents is unresolved for children under 2 months of age. However, chlorhexidine is widely used in children under 2 months of age. A US survey found that in the majority of neonatal ICUs (NICUs) chlorhexidine products are used for catheter insertion in this age group. For chlorhexidine gluconate (CHG)–based topical antiseptic products, the Food and Drug Administration recommends “use with care in premature infants or infants under 2 months of age; these products may cause irritation or chemical burns.” The American Pediatric Surgical Association recommends CHG use but states that “care should be taken in using chlorhexidine in neonates and premature infants because of increased risk of skin irritation and risk of systemic absorption.” Concerns in children under 2 months have been noted elsewhere. Cutaneous reactions to CHG have also been reported in extremely-low-birth-weight neonates under 48 hours of age; however, in a small pilot trial of neonates under 1,000 g and at least 7 days of age, severe contact dermatitis did not occur, although CHG was cutaneously absorbed. These findings have not been replicated in a recent trial in neonates weighing more than or equal to 1,500 g. Some institutions have used chlorhexidine-containing sponge dressings for CVCs and chlorhexidine for cleaning CVC insertion sites in children in this age group with minimal risk of such reactions. Providers must carefully weigh the potential benefit in preventing CLABSI in children under 2 months and the risks of CHG, recognizing that term and preterm infants may have different risks. Alternative agents, such as povidone-iodine or alcohol, can be used in this age group.</p>	
<p>Hubs, Needleless Connectors, and Injection Ports:</p> <p>Disinfect catheter hubs, needleless connectors, and injection ports before accessing the catheter: Before accessing catheter hubs, needleless connectors, or injection ports, vigorously apply mechanical friction with an alcoholic chlorhexidine preparation, 70% alcohol, or povidone-iodine. Alcoholic chlorhexidine may have additional residual activity compared with alcohol for this purpose.</p> <p>Apply mechanical friction for no less than 5 seconds to reduce contamination.</p> <p>Non-essential Catheters:</p>	

<p>Remove nonessential catheters. Assess the need for continued intravascular access on a daily basis during multidisciplinary rounds. Remove catheters not required for patient care.</p> <p>CVC Site Dressings:</p> <p>For nontunneled CVCs in adults and children, change transparent dressings and perform site care with a chlorhexidine-based antiseptic every 5–7 days or immediately if the dressing is soiled, loose, or damp; change gauze dressings every 2 days or earlier if the dressing is soiled, loose, or damp.</p> <p>Less-frequent dressing changes may be used for selected NICU patients to reduce the risk of catheter dislodgement.</p> <p>If there is drainage from the catheter exit site, use gauze dressings instead of transparent dressings until drainage resolves.</p> <p>Administration Sets:</p> <p>Replace administration sets not used for blood, blood products, or lipids at intervals not longer than 96 hours. The optimal replacement intervals of intermittently used administration sets are currently unresolved.</p>	
<p>Antimicrobial Ointments:</p> <p>Use antimicrobial ointments for hemodialysis catheter-insertion sites. Polysporin “triple” (where available) or povidone-iodine ointment should be applied to hemodialysis catheter insertion if compatible with the catheter material.</p> <p>Certain manufacturers have indicated that the glycol constituents of ointments should not be used on their polyurethane catheters.</p> <p>Mupirocin ointment should not be applied to the catheter-insertion site due to the risks of facilitating mupirocin resistance and the potential damage to polyurethane catheters.</p> <p>Systemic Antibiotic Prophylaxis: Do NOT administer intranasal or systemic antimicrobial prophylaxis routinely before insertion or during use of an intravascular catheter to prevent catheter colonization or CR-BSI.</p> <p>Antimicrobial Locks:</p> <p>Use antimicrobial locks for CVCs. This is created by filling the lumen of the catheter with a suprathapeutic concentration of an antimicrobial solution and leaving the solution in place until the catheter hub is reaccessed. Such an approach can reduce the risk of CLABSI. Because of concerns regarding the potential for the emergence of resistance in exposed organisms, use antimicrobial locks as a preventative strategy for the following:</p> <ul style="list-style-type: none"> • Patients with long-term hemodialysis catheters. • Patients with limited venous access and a history of recurrent CLABSI. • Patients who are at heightened risk of severe sequelae from a CLABSI (eg, patients with recently implanted intravascular devices, such as a prosthetic heart valve or aortic graft). <p>To minimize systemic toxicity, aspirate rather than flush the antimicrobial lock solution after the dwell time has elapsed. Use recombinant tissue plasminogen activating factor once weekly after hemodialysis in patients undergoing hemodialysis through a CVC.</p>	
<p>Minocycline/Rifampin Impregnated Triple Lumen Polyurethane Catheter: GMH provides a minocycline/Rifampin Impregnated Triple Lumen catheter that is latex free. This is currently available for high risk patients in the Intensive Care Unit (ICU/CCU).</p> <p>Contraindications include: Allergy or history of allergy to tetracyclines (including minocycline) or rifampin; Minocycline and rifampin are agents that do not induce any genotoxic risks except a possible teratogenic effect in pregnant women. Therefore, this spectrum (spectrum glide) catheter is NOT recommended in pregnant women.</p>	
<p>Assessment, Documentation and Necessity Evaluation:</p> <p>Monitor the catheter site visually when changing the dressing or by palpation through an intact dressing on a regular basis, depending on the clinical situation of the individual patient. If patients have tenderness at the insertion site, fever without obvious source, or other manifestations suggesting local or bloodstream infection, the dressing should be removed to allow thorough examination of the site. Document specifics of the assessment/evaluation. Promptly remove any intravascular catheter that is no longer essential.</p>	

Participant Physician’s Signature

Date

Provided by: Jared W. Carlson, MD

Date