

CLABSI Prevention

A plain-English guide for you and your family

WHAT IS HAPPENING

A central line is a thin plastic tube that goes into a big vein near the heart so doctors can give medicine or fluids quickly. Your body's blood normally flows clean and sterile inside the veins. When a central line goes in, it creates a direct path from the outside world (where bacteria live on skin and in the air) straight into the bloodstream. If the team skips even one sterile step—like not washing hands, not using the right cleaning solution on the skin, or touching the line without scrubbing the connection port—bacteria land on the plastic tube and start to stick. Within a day or two, those bacteria build a slimy coating called biofilm that protects them and lets them multiply. The longer the line stays in, the thicker that biofilm gets, and eventually bacteria break off into the blood and cause a serious infection called sepsis (the whole body reacting to germs in the blood). The good news is that this chain is completely preventable: use full sterile barriers (gown, gloves, mask, big drape) at insertion, clean the skin with chlorhexidine (a strong germ-killer), avoid placing the line in the groin (where bacteria counts are highest), scrub the hub for at least 15 seconds before every access, and remove the line the moment it is no longer necessary. Every single one of these steps matters, because skipping one opens the door for bacteria to get in and start the infection.

What you might feel

- The central line is still in place but the patient no longer needs IV medicine or fluids
- The line has been in for more than 7 days without a clear ongoing need
- The patient can now swallow pills or drink fluids safely
- The dressing around the line is loose, wet, or dirty
- The care team has not documented why the line is still needed today
- The connection cap or hub is handled without clean gloves or alcohol scrub
- Fever or chills appear while the central line is in place
- Redness, warmth, or pus draining at the insertion site

Call the doctor right away if...

- Fever, chills, or low blood pressure in a patient with a central line (may signal bloodstream infection)
- Central line left in place without a clear documented reason for ongoing use
- Redness, swelling, warmth, or pus at the line insertion site

What the care team will do

- Perform hand hygiene with soap and water or alcohol-based hand rub before and after every contact with the central line or dressing.
- Scrub every catheter hub and needleless connector with 70% alcohol or chlorhexidine-alcohol for at least 15 seconds and let it dry completely before accessing the line.
- Assess daily whether the central line is still medically necessary and advocate for removal as soon as it is no longer needed.
- Give the patient a daily bath using 2% chlorhexidine cloths or solution from the neck down, avoiding mucous membranes and open wounds.
- Change the transparent dressing every 7 days or immediately if it becomes loose, damp, soiled, or visibly contaminated; use sterile gloves and clean the skin with chlorhexidine antiseptic.
- Inspect the insertion site every shift for redness, swelling, warmth, tenderness, or drainage, and report abnormal findings immediately.
- Monitor the patient's temperature, heart rate, and blood pressure every 4 to 8 hours and report fever above 100.4°F (38°C), chills, or unexplained low blood pressure.
- Ensure all IV tubing and caps are changed according to facility policy, typically every 96 hours for continuous infusions and every 24 hours for blood products or lipid infusions.

Medicines you may be given — and why

Chlorhexidine gluconate 2% solution (skin antiseptic)

Chlorhexidine kills bacteria and some fungi by punching holes in their outer walls and making their insides spill out. Think of it like popping a water balloon—once the wall breaks, the germ can't survive. It works fast (within seconds) and leaves a thin protective film on the skin that keeps killing germs for hours after you apply it.

Chlorhexidine-impregnated dressing or sponge (e.g., Biopatch)

This is a small foam pad or clear bandage soaked with chlorhexidine. You place it directly over the spot where the catheter enters the skin. It slowly releases chlorhexidine for days, creating

a germ-killing zone right at the entry site—like a tiny guard standing at the door. This constant low dose keeps bacteria from crawling along the outside of the catheter into the bloodstream.

Chlorhexidine gluconate 2% or 4% cloths or liquid (daily skin bath)

Every day in the ICU, the patient's whole body (or at least the upper body and catheter area) is wiped down with chlorhexidine-soaked cloths or washed with diluted chlorhexidine liquid. This cuts down the total number of bacteria living on the skin all over the body. Fewer bacteria on the skin means fewer chances for germs to sneak into the catheter site or onto the nurses' hands when they touch the patient.

Antimicrobial-coated or impregnated catheters (e.g., chlorhexidine-silver sulfadiazine or minocycline-rifampin)

These special catheters have antiseptic or antibiotic chemicals baked into the plastic tubing itself. As bacteria land on the catheter or try to form a sticky film (biofilm) on its surface, the chemicals slowly leak out and kill the germs before they can multiply. It's like the catheter has its own built-in germ defense. This helps when the central line will stay in for more than a few days and the patient is at high risk for infection.

70% isopropyl alcohol or alcohol-chlorhexidine swabs (hub and connector disinfection)

Every time a nurse or doctor opens the catheter hub (the cap or connection point) to give medicine or draw blood, germs from hands or the air can sneak in. Scrubbing the hub with an alcohol pad (or alcohol-chlorhexidine combination) for at least 15 seconds kills those surface germs instantly. Alcohol works by dissolving the fatty outer layer of bacteria and viruses and drying them out—like pouring rubbing alcohol on a spill; the germs can't survive. This simple step is one of the most important daily prevention actions.

Where this information comes from

- SHEA/IDSA Practice Recommendation: Strategies to Prevent Central Line-Associated Bloodstream Infections in Acute Care Hospitals, 2014
- CDC Guidelines for the Prevention of Intravascular Catheter-Related Infections, 2011 (updated 2017)
- Institute for Healthcare Improvement (IHI) Central Line Bundle

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