Central-Line and PICC Troubleshooting

This page helps readers protect a central line and respond safely to dressing, flushing, infection, clot, breakage, or position concerns. It cannot set a personal emergency threshold or replace an action plan.

This page is for people with a central line or PICC, and the people who help care for it. It explains what can go wrong with a line, and what to do about each problem.

What a central line is

A central line, also called a central venous catheter, is a thin tube placed in a large vein so that its tip ends near the heart. It lets chemotherapy, fluids, antibiotics and feeds go in, and blood come out, without a fresh needle each time.

Three kinds turn up in cancer care. A **PICC** goes into a large vein of the arm above the bend of the elbow and threads toward the heart. It can stay in for weeks or months. A **tunneled line**, such as a Hickman, enters through a small cut near the collarbone and runs under the skin to an exit site on the chest. An **implanted port** sits entirely under the skin, usually on the chest, and is used by pushing a special needle through the skin into it.

Each lumen, meaning each separate channel inside the line, may have its own flushing rule. Write down what you have: the type, how many lumens, and the flush plan for each.

When to get help

Call 911 if:

- You suddenly become breathless, your chest hurts or feels tight, you cough, or you feel faint or confused during or just after using the line. See the air section below and act on it while help is coming.
- Blood is spurting or pouring from the line or the exit site.
- The line is cut, split, cracked or leaking. Clamp it first, then go in.
- Your face or neck on the side of the line swells, especially with breathlessness or a flushed, puffy face. Do not drive yourself.

Call your line team or oncology team right away, day or night, if:

- Your temperature is 38.0 °C / 100.4 °F or higher, or you feel shivery or shaky. Call immediately, day or night. The CDC uses 100.4 °F, the NCI uses 100.5 °F. Use the lower number. Fever with a

line is treated as a bloodstream infection until proven otherwise. Call 911 instead if you also feel faint, confused or short of breath.

- The skin at the exit site is red, sore, hot, swollen, or leaking yellow or green fluid. The CDC lists redness, soreness or swelling around a port or wound as a sign of infection during chemotherapy and says to contact your care team right away. Do not wait for the next clinic day.
- The arm, hand, shoulder or chest on the side of the line swells, aches, or looks red or purple.
- You cannot flush the line, or the flush meets resistance. Never push harder.
- You cannot draw blood back when you usually can.

Call your line team or oncology unit the same day if:

- The line looks longer outside the skin than it used to, or the stitch or fixing device has let go.
- The dressing is wet, loose, or dirty and you cannot replace it.

When the line gets infected

The rest of this page explains each of these problems in more detail, starting with infection. A central line runs from the outside world straight into a big vein. Bacteria that get in do not stay local. The CDC calls a bloodstream infection from a central line serious, which is why redness, fever or chills should never wait.

What it looks like at home is usually simple: fever, chills, and red, sore skin around the line. Sometimes the only sign is shaking and feeling dreadful within minutes of a flush. That happens because the flush pushed bacteria off the inside of the line and into the blood. That is not a coincidence, and it is worth saying out loud on the phone.

Do not treat a fever with acetaminophen and go to bed. NCI says to talk with your doctor or nurse before taking medicine for a fever. That includes "even aspirin, acetaminophen (such as Tylenol), or ibuprofen (such as Advil)". NCI explains that those medicines "can lower a fever but may also mask or hide signs of a more serious problem."

What to do if air gets into the line

Air pulled into a central vein can lodge in the heart and lungs. This is an air embolism, and it is the reason caps stay on and clamps stay closed. Even a small amount of air can be dangerous, so treat any sign of it as an emergency. Air gets in when a cap comes off, a connection pulls apart, a line splits, or the tubing is left open while someone takes a deep breath sitting upright.

Signs are sudden: breathlessness, chest pain, coughing, wheezing, a racing heart, low blood pressure, blue lips, confusion, or collapse.

If you think air has entered:

1. **Call 911 (or your local emergency number) now.** Say the words "central line" and "possible air embolism".
2. Clamp the line, or pinch it closed against the skin.
3. Follow the dispatcher's instructions on how to position the person, and any emergency plan your care team gave you for the line.
4. If home oxygen is already prescribed and set up, ask the dispatcher whether to use it.

What to do if the line splits, is cut, or leaks

Ask your line team to show you, before you need it, how to clamp the line if it breaks. The usual teaching (for example from Macmillan, a UK charity) is to clamp the line **just above the break**, so the damage is sealed off from where the line enters your body. Then call 911, as in the list above.

"Above the break" means on the body side of the split, between the split and your skin. That single move stops both bleeding out and air going in. Keep a smooth-jawed clamp taped to the dressing or in your bag so it is never more than a second away. Do not use the line again, do not try to tape it up, and do not flush it to test it.

What to do if the line will not flush

Blockage usually comes from a clot, from drug crystals, or from a kink under the dressing. Occasionally the tip has moved.

If your team has trained you to flush at home, follow the sequence they taught you and then stop. Do not force it. Forcing can rupture the line or push a clot into the circulation. Their sequence may include easing an obvious kink or shifting your position before one gentle attempt. Use their version, not a general one, because it depends on your line. If it still will not go, or you were never trained to flush, leave the line alone and call your line team right away, at any hour.

StatPearls notes what clinics can do once non-clot causes have been excluded. They can try to clear a blockage with alteplase or another clot-dissolving drug left to sit inside the lumen.

Clots in the vein around the line

A line irritates the vein it sits in, and clots can form around it. The sign is swelling on the same side as the line: a puffy hand, a tight arm, or veins standing out across the chest. Call your line team right away, at any hour. If your face or neck swells, call 911. Treatment is usually a blood thinner, and the line often stays in.

Everyday care that prevents most of this

The daily habits below help prevent most of these problems.

- Wash your hands with soap and water before touching anything to do with the line. CDC says to scrub for at least 20 seconds.

- Wipe the end cap with an alcohol or chlorhexidine wipe every time, before every connection.
- Keep the dressing dry and intact. Change it about once a week, and sooner if it is loose, wet or dirty. Gauze dressings need changing more often, around every 2 days.
- Cover the site for showers. Do not soak it in a bath.
- Follow your own flush schedule. Macmillan says a central line or PICC that is not in active use is usually flushed once a week. But schedules differ by line and by unit, so use the one your team wrote for you.
- Avoid tugging: no heavy bags on that shoulder, no sleeping on the line, and keep the tubing looped and taped.
- Keep the exit site out of the way of scissors, razors and pets' claws.

Sources

- CDC — About Central Line-associated Bloodstream Infections (cdc.gov/clabsi/about/index.html)
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- MedlinePlus — Central venous catheters: ports (medlineplus.gov/ency/patientinstructions/000491.htm)
- Macmillan Cancer Support — Central lines (macmillan.org.uk/cancer-information-and-support/treatment/types-of-treatment/cancer-drug-treatments/central-lines)
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- CDC — Watch Out for Fever (Preventing Infections in Cancer Patients) (cdc.gov/cancer-preventing-infections/patients/fever.html)
- National Cancer Institute — Infection and Neutropenia During Cancer Treatment (cancer.gov/about-cancer/treatment/side-effects/infection)
- CDC — About Handwashing (cdc.gov/clean-hands/about/index.html)

Source: Centers for Disease Control and Prevention (cdc.gov/clabsi/about/index.html)

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