

Candidemia

A plain-English guide for you and your family

WHAT IS HAPPENING

Candida is a type of yeast that normally lives quietly on your skin, in your mouth, and in your gut without causing any trouble. Your immune system and the good bacteria in your body keep it in check. Blood, on the other hand, is supposed to be sterile—completely free of germs. When Candida gets into the bloodstream, it means something has gone wrong with the body's defenses or barriers. This usually happens in people who are already sick: a plastic tube (like a central line or catheter) can carry yeast from the skin straight into a vein; the gut wall can break down and leak yeast into the blood (especially in very sick patients); the immune system can be too weak to fight back (from chemotherapy, AIDS, or strong immune-suppressing drugs); long courses of antibiotics can kill off the good bacteria that normally keep Candida in its place; or feeding through an IV (called TPN) can provide sugar that yeast love and weaken the gut barrier. Once Candida is in the blood, it travels everywhere—causing fever, chills, low blood pressure (sepsis or blood poisoning), and seeding itself in distant organs. It can grow on heart valves (endocarditis), infect the back of the eye (endophthalmitis, which can cause blindness), or form pockets of pus (abscesses) in the liver, spleen, kidneys, or brain. The key is to find the source (often a central line), remove it if possible, and start strong antifungal medicine right away—usually an echinocandin like caspofungin or micafungin. Blood cultures will grow the yeast in a few days, and the lab will test which drugs it is sensitive to. Without treatment, candidemia can be life-threatening, but with quick action most people can recover.

What you might feel

- Fever that does not go away even when the person takes antibiotics
- Chills and shaking
- Low blood pressure (the person may feel dizzy or confused)
- Fast heart rate
- Breathing faster than normal
- Confusion or being less alert than usual
- White patches or spots inside the eyes (seen by a doctor looking with a special light)

- Skin bumps or nodules (small lumps under the skin)

Call the doctor right away if...

- Blood pressure drops suddenly (shock), meaning organs may not be getting enough blood
- The person becomes very confused, hard to wake up, or unresponsive
- White spots appear in the eyes (endophthalmitis), which can cause blindness if not treated quickly
- Signs of infection spreading to the heart valves, such as a new heart murmur or worsening heart failure
- Kidneys stop making urine or urine output drops sharply, a sign the kidneys are failing

What the care team will do

- Notify the provider immediately to start echinocandin antifungal within 1 hour of yeast growing in blood culture, and make sure the first dose is not delayed waiting for species identification.
- Check blood pressure, heart rate, and mental status every 15 to 30 minutes until stable, watching for systolic BP below 90 or confusion, which signal septic shock requiring immediate fluid boluses and possible ICU transfer.
- Coordinate with the provider and vascular access team to remove or replace all central lines, PICCs, and dialysis catheters within 24 to 48 hours of diagnosis, even if the line looks clean.
- Draw repeat blood cultures daily until two cultures in a row come back negative for yeast, using both peripheral sticks and draws from any remaining central lines.
- Schedule a dilated eye exam by ophthalmology within 1 week of diagnosis, and ask the patient daily about vision changes, explaining this is not optional even if eyes feel fine.
- Monitor intake and output strictly, report urine less than 0.5 mL per kg per hour for 2 hours, and watch labs for creatinine rising or potassium climbing above 5.5.
- Assess for new heart murmurs every shift by listening to heart sounds, and report immediately if a murmur appears or the patient develops new shortness of breath or leg swelling.
- Educate the patient that treatment lasts at least 14 days after the last positive blood culture, not just until fever goes away, and missing doses lets resistant Candida grow back.

Medicines you may be given — and why

Caspofungin

Blocks the fungus from building a strong cell wall. Without a strong wall, the Candida cell bursts and dies.

Micafungin

Blocks the fungus from building a strong cell wall. Without a strong wall, the Candida cell bursts and dies.

Anidulafungin

Blocks the fungus from building a strong cell wall. Without a strong wall, the Candida cell bursts and dies.

Fluconazole

Stops the fungus from making ergosterol, a fat molecule it needs in its cell membrane. Without ergosterol, the membrane leaks and the fungus cannot grow.

Amphotericin B deoxycholate

Punches holes in the fungus cell membrane by binding to ergosterol, a fat found only in fungus cells. The holes let cell contents leak out, and the fungus dies.

Voriconazole

Stops the fungus from making ergosterol, a fat it needs in its cell membrane. Without ergosterol, the membrane leaks and the fungus cannot grow.

Where this information comes from

- IDSA Clinical Practice Guideline for the Management of Candidiasis: 2016 Update
- CDC Guidelines for Prevention of Intravascular Catheter-Related Infections
- Infectious Diseases Society of America (IDSA)
- New England Journal of Medicine (NEJM) review on invasive candidiasis

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