

Sepsis

A plain-English guide for you and your family

WHAT IS HAPPENING

Sepsis happens when an infection anywhere in the body — lungs, bladder, belly, skin, or blood — triggers an alarm so loud the immune system floods the entire bloodstream with danger signals. Those signals make blood vessels all over the body leak like a cracked water pipe and relax when they should stay firm. Blood pressure drops. Organs can't get the oxygen and fuel they need. The heart races. Breathing gets fast. The brain gets foggy. The kidneys slow down or stop making urine. The skin may look blotchy or feel cold and clammy. Sepsis is life-threatening, but it is very treatable when caught early. The key is speed: antibiotics to kill the infection and intravenous fluids to fill the leaking tank within the first hour save lives. If someone with an infection suddenly looks very sick — confused, very fast heart, very low pressure, trouble breathing — that is a medical emergency.

What you might feel

- Fever (or very low body temperature)
- Fast heart rate (over 90 beats per minute)
- Fast breathing (over 20 breaths per minute)
- Confusion, sleepiness, or acting strangely
- Low blood pressure that stays low even after giving lots of fluids
- Mottled (blotchy purple-red) or cool skin, and weak pulse
- Little or no urine output (less than 0.5 mL per kilogram per hour)
- Fingertips or toes turning dark purple or black

Call the doctor right away if...

- Lactate over 4 mmol/L — tissues are starving for oxygen; start aggressive fluids, check blood pressure every few minutes, move to ICU, and start a vasopressor medicine (like norepinephrine) if pressure stays under 65 mean arterial pressure despite fluids

- Mean arterial pressure under 65 despite giving 30 mL per kilogram of IV fluid — this is septic shock; start norepinephrine through a large IV (ideally a central line), place an arterial line to watch pressure beat-by-beat, and admit to ICU immediately
- Purple bleeding blotches (Purpura) fulminans — dark purple or black patches spreading on skin, purple fingers or toes — suggests meningococcemia (bloodstream infection with the meningitis germ) or severe DIC; cover for meningitis with ceftriaxone, move to ICU, and use contact precautions to protect others
- Rapidly spreading redness with pain much worse than the skin looks, crackling or popping feeling under the skin, or blisters with dark centers — necrotizing fasciitis (flesh-eating infection); call surgery NOW because antibiotics alone cannot save the tissue, only cutting out dead tissue can stop it
- Fever in a cancer patient whose white blood cell count is under 500 (febrile dangerously low infection-fighting cells (neutropenia)) — the body has almost no infection fighters left; give broad antibiotics within one hour, isolate the patient to prevent new germs, and call oncology urgently

What the care team will do

- Recognize the sepsis alert early — vital signs are the first flag
- Draw cultures BEFORE antibiotics — but do not delay antibiotics for cultures
- Get the fluid running fast — 30 mL/kg within 3 hours
- Recheck lactate after resuscitation
- Watch mental status hourly
- Never miss the source — a walled-off abscess, blocked kidney, or infected line will keep the sepsis going

Medicines you may be given — and why

Norepinephrine (Levophed)

Squeezes blood vessels that have gotten too loose and floppy during sepsis. When vessels tighten back up, blood pressure climbs again so organs get the flow they need.

Piperacillin-tazobactam (Zosyn)

Kills a wide range of bacteria by punching holes in their protective outer wall. The tazobactam partner blocks scissors (enzymes) that bacteria use to snip apart the piperacillin before it can work.

Vancomycin

Kills certain bacteria by stopping them from building a strong outer wall. It works on bugs that other antibiotics miss, especially MRSA.

Cefepime

Kills a broad mix of bacteria by breaking their cell walls. It is especially good against hospital bacteria that have learned to resist older antibiotics.

Meropenem (or Imipenem)

Kills nearly every kind of common bacteria by ripping apart their cell walls. It is a last-line, big-gun antibiotic saved for resistant or life-threatening infections.

Lactated Ringer's solution or 0.9% saline (IV crystalloid fluids)

Refills the bloodstream with salt water to bring blood pressure back up and get oxygen flowing to organs. In sepsis, blood vessels leak and widen, so the tank is both bigger and emptier — fluids fill it back up.

Where this information comes from

- Surviving Sepsis Campaign International Guidelines for Management of Sepsis and Septic Shock 2021
- Sepsis-3 Consensus Definitions (JAMA 2016)
- CDC Sepsis Clinical Information
- UpToDate — Evaluation and Management of Suspected Sepsis and Septic Shock in Adults

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