

Otitis Externa (Swimmer's Ear)

The ear canal's skin gets soaked and breaks down, letting bacteria move in and cause a painful infection—most often after swimming or in humid weather.

THE ONE-LINE TRUTH

An infection of the outer ear canal, usually caused by bacteria that grow when water stays trapped in the ear, making the skin inside swollen, painful, and tender to the touch.

The chain — how it unfolds

1. Water stays trapped in the ear canal after swimming, showering, or exposure to humid air. — why: The canal's narrow shape and earwax can trap water inside, keeping the skin wet for hours or even days instead of drying out quickly.
2. Prolonged moisture washes away the protective, acidic earwax and softens (macerates) the canal skin. — why: Water dilutes and removes the wax barrier, raises the pH from acidic (~5) to neutral (~7), and makes the skin swell and weaken—like how your fingers prune and soften in a long bath.
3. The wet, unprotected skin develops tiny cracks and loses its barrier against germs. — why: Without the wax coat, the swollen skin is fragile and easily damaged by scratching, cotton swabs, earbuds, or hearing aids, creating entry points for bacteria.
4. Bacteria (usually *Pseudomonas aeruginosa* or *Staphylococcus aureus*) or fungi colonize the damaged skin and multiply rapidly. — why: The neutral pH and moist, warm canal are perfect conditions for these germs to stick, grow, and invade the broken skin.
5. The body's immune system sends white blood cells and fluid to the canal, causing inflammation, redness, swelling, and pus. — why: The immune response tries to kill the bacteria, but the resulting swelling presses the inflamed skin against the rigid bone of the canal, triggering intense pain and further narrowing the canal.
6. Swelling narrows or even blocks the canal, trapping moisture, pus, and debris inside and muffling sound. — why: The canal can't drain properly, so infected material stays put, feeding the infection and blocking sound waves from reaching the eardrum, which reduces hearing.

7. Pain worsens with any touch to the outer ear (the tragus or pinna) or jaw movement (chewing, talking). — why: The ear canal is packed with pain nerves, and moving the jaw or touching the ear shifts the swollen, inflamed skin against bone, amplifying the pain signal.
8. Without treatment (antibiotic and/or antifungal ear drops, pain relief, and keeping the ear dry), the infection can spread to nearby skin, cartilage, or—in severe cases—bone, especially in people with diabetes or weakened immune systems. — why: The infection can break through the canal skin into surrounding tissue, causing cellulitis, perichondritis (cartilage infection), or even malignant (necrotizing) otitis externa, a serious bone infection that requires intravenous antibiotics and sometimes surgery.

Spot it — what you see, and why

- Ear pain that gets worse when you tug on the outer ear or press the little bump in front of the ear canal: The skin lining the ear canal is swollen and infected, so any movement or pressure on that tender tissue hurts
- Itching deep inside the ear: The infection irritates nerve endings in the ear canal skin, triggering an itch signal even though scratching makes things worse
- Clear or yellowish fluid draining from the ear: Infected skin in the canal leaks fluid and pus as the body's immune cells fight the bacteria or fungus growing there
- Ear canal looks red and swollen when the doctor looks inside: Blood rushes to the infected area to deliver immune cells, making the tissue puffy and bright red
- Feeling of fullness or blockage in the ear, sometimes with muffled hearing: Swelling and debris narrow the ear canal so sound waves can't travel through as well, like trying to hear through a partly plugged tube
- Tender or swollen lymph nodes in front of the ear or down the neck on the same side: Lymph nodes are like filter stations that catch germs draining from infected areas, and they swell as they work overtime to trap bacteria

Red flags — act now

- Fever above 100.4°F (38°C)
- Swelling or redness spreading to the face, jaw, or neck
- Severe pain that does not improve with ibuprofen or acetaminophen
- New hearing loss or dizziness
- Diabetes or a weakened immune system (higher risk for dangerous spread of infection)

Treat it — in this order

1. Antibiotic ear drops (usually a fluoroquinolone like ciprofloxacin, or a combination of neomycin, polymyxin, and hydrocortisone) → The antibiotic kills the bacteria growing in the ear canal, stopping the infection. The drops deliver medicine right to the infected skin, so they work faster and with fewer side effects than pills. Most people feel better within 2 to 3 days.
2. Pain relief with acetaminophen (Tylenol) or ibuprofen (Advil, Motrin) → These medicines lower pain and reduce swelling in the ear canal, making the person more comfortable while the infection heals. Ibuprofen also fights inflammation directly.
3. Keep the ear dry: avoid swimming, use earplugs or a shower cap when bathing, and do not insert anything into the ear canal → Keeping the ear dry stops more moisture from softening the skin and feeding bacteria. It helps the ear canal heal faster and prevents the infection from coming back.
4. Ear wick (a small foam or gauze strip inserted into the swollen ear canal) → The wick soaks up antibiotic drops and carries them deep into the canal when it is too swollen for drops to flow in on their own. This lets the medicine reach the infection. The wick usually stays in for 2 to 3 days and falls out as the swelling goes down.
5. Oral antibiotics (pills, usually a fluoroquinolone like ciprofloxacin), used when infection spreads outside the canal or the patient has diabetes or weak immunity → Pills deliver antibiotics through the bloodstream to reach infection in tissue and bone that drops cannot touch. They are necessary when the infection is deeper or more serious.

Your top priorities at the bedside

1. Give pain medicine right away, before other treatments. — why: Swimmer's ear causes severe throbbing pain because the ear canal is tightly packed with nerves and has no room to swell. Controlling pain first helps the patient tolerate ear cleaning and drop placement, and shows compassion for real suffering.
2. Clean out debris and drainage from the ear canal gently before putting in drops. — why: Pus, dead skin, and earwax block the antibiotic drops from reaching the infected skin. Think of it like trying to paint over dirt—the medicine can't work if it never touches the infection. Gentle suctioning or wiping clears the path.
3. Teach the patient how to put ear drops in correctly: lie on side with bad ear up, pull the ear backward and upward, put drops in, and stay lying down for 5 minutes. — why: Drops only work if they flow all the way down the ear canal and sit against the infected skin long enough to soak in. Sitting up too fast makes the drops run right back out. The pull straightens the curved canal so drops can travel deeper.