Osteomyelitis

What is Osteomyelitis?

Osteomyelitis is bone infection, usually caused by bacteria. The infection in the bone typically shows up within weeks or months of an injury, or after an underlying disease develops.

Osteomyelitis in children usually occurs in long bones like arms and legs, but it can affect any bone in the body. The growth plates found in long bones are commonly infected because they are softer and weaker than other areas. The condition develops more often in boys than in girls. Fifty percent of cases occur in children under 5.

What Causes Osteomyelitis?

Osteomyelitis is caused by bacteria entering the body and reaching bone:

- **Through the bloodstream.** Germs from an infection in another part of the body—such as an ear infection—might travel through the bloodstream to a weakened area of bone.

- **From an adjacent infection.** Sometimes deep wounds transmit germs far inside the body. If a wound becomes infected, germs can spread to nearby bone.

- **Direct infection.** This can happen if a bone breaks so severely that it is exposed to open air. Direct infection can also happen during some surgeries to replace a joint or repair a fracture.

Osteomyelitis Symptoms and Effects

Some common bone infection symptoms are:

- Pain in the infected area.
- Swelling, redness or warmth in the infected area.
- Fever.
- General discomfort or uneasiness.
- Chills.
- Excessive sweating.
- Irritability.
- Limping.
- Joint stiffness.
Fatigue.

Decreased use of an infected arm or leg.

Because the infection can reduce blood circulation within the bone, the condition can cause bone death (also known as osteonecrosis). When the infection is in the growth plates of arm or leg bones, children experience growth impairment.

At Gillette Children’s Specialty Healthcare, specialists can diagnose osteomyelitis in your child using a combination of tests, a physical examination and a review of medical history.

Tests for an osteomyelitis diagnosis might include:

- Blood tests can uncover underlying infections, inflammation and changes over time.
- **X-rays**, which can show the severity of bone damage, usually after osteomyelitis has been present for several weeks.
- Computed tomography (**CT** scans), which can provide a more detailed view of bones, making osteomyelitis easier to diagnose.
- **MRIs**, which can provide detailed images of infected bones and surrounding tissues.
- Bone biopsies are the most effective way to determine the type of bacteria infecting a bone. Typically a needle is inserted into the infected area to extract a small sample of bone. Knowing the type of bacteria causing the infection helps us prescribe the best type of antibiotic to treat the infection.

Treatment options for your child depend on age and the severity of infection. Antibiotics and surgery are two common treatments.

**Antibiotics**

The type of antibiotic given depends on the type of germ causing the infection. Antibiotics are usually given for several weeks through a vein in your child’s arm.

**Surgery**

Your child might need a surgical procedure to:

- Open the infected area and drain fluid.
- Clean and remove infected bone and tissue—this is called a debridement.
- Fill in remaining space after infected bone and tissue are removed, until your child is ready for a bone or tissue
In extreme cases, when osteomyelitis has not responded to other treatments, your child might need amputation to prevent the infection from spreading throughout body.

**Integrated Care**

If your child has osteomyelitis, Gillette offers comprehensive services to diagnose and treat the infection. We will collaborate with your family on a custom treatment plan that might include working with specialists from areas like:

- **Child life.**
- **Orthopedics.**
- **Orthotics.**
- **Radiology and imaging.**
- **Rehabilitation medicine.**
- **Rehabilitation therapies.**
- **Physical therapy.**

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