

Osteomyelitis

Osteomyelitis is an inflammation of bone caused by an infecting organism. The infection may be limited to a single portion of the bone or may involve multiple areas. The infection is generally due to a single organism, but **polymicrobial infections** (caused by different and multiple bacteria or fungi) can occur, especially in patients with diabetes. Persons of any age can develop a bone infection, although it is more common in children and persons older than 50 years. The February 20, 2008, issue of *JAMA* includes an article about the difficulties of identifying and diagnosing osteomyelitis in patients with diabetes.

SIGNS AND SYMPTOMS

Signs and symptoms of acute osteomyelitis in children typically worsen in a matter of days or weeks and may include

- Fever
- Irritability
- Lethargy
- Pain, warmth, swelling, and redness over the area of infection

Signs and symptoms of chronic osteomyelitis in adults include

- Warmth, swelling, and redness over the area of infection
- Pain or tenderness in the affected area
- Drainage from an open wound
- Fever in some cases

RISK FACTORS

- Poor circulation—as in diabetes, peripheral arterial disease, and sickle cell disease
- Recent injury—a broken bone that breaks the skin or a deep puncture wound
- Orthopedic surgery—procedures to repair broken bones or to replace worn joints
- Other conditions— injection drug abuse, kidney dialysis, use of a catheter

SCREENING AND DIAGNOSIS

In addition to a medical history and physical examination, a combination of tests and procedures may be used to diagnose osteomyelitis. No single test can reliably exclude or confirm the diagnosis of osteomyelitis.

- Blood tests—elevation of white blood cells and other factors may indicate an infection but blood tests may be normal in some patients.
- X-rays—damage or loss of bone may not be visible until osteomyelitis has been present for several weeks.
- Other imaging procedures—computed tomography (CT scan), magnetic resonance imaging (MRI), or bone scan
- **Bone biopsy**—surgical removal of a small piece of infected bone for analysis in the laboratory. Information regarding the type of infecting organism can help determine the best treatment, but bone biopsies are not performed in every patient.

TREATMENT

Osteomyelitis is treated with appropriate antibiotics and surgery. Surgical procedures may involve drainage of the infected area, removal of diseased bone and tissue, restoration of blood flow, or removal of foreign material.

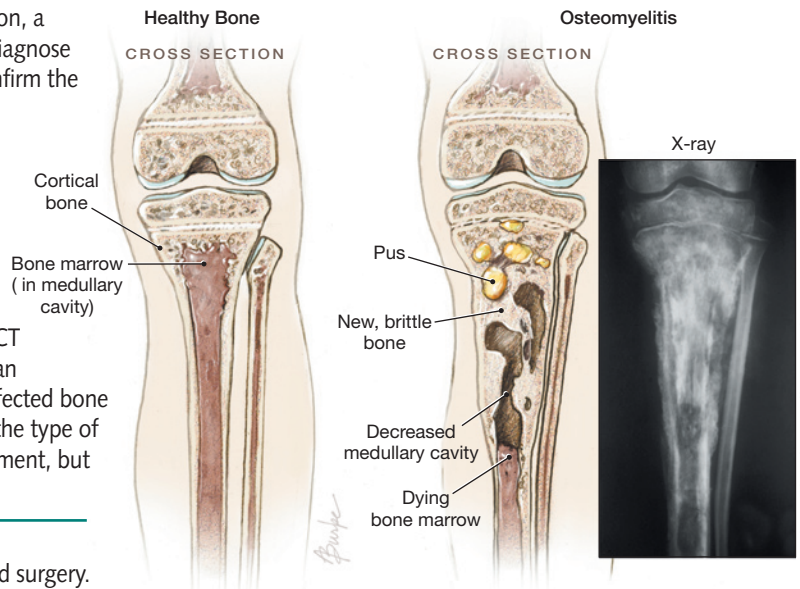
FOR MORE INFORMATION

- American Association of Orthopaedic Surgeons
www.orthoinfo.aaos.org
- National Institute of Arthritis and Musculoskeletal and Skin Diseases
www.niams.nih.gov

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To find this and previous JAMA Patient Pages, go to the Patient Page link on JAMA's Web site at www.jama.com. Many are available in English and Spanish.

Sources: American Association of Orthopaedic Surgeons, American Academy of Family Physicians, National Institute of Arthritis and Musculoskeletal and Skin Diseases



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