

Septic Arthritis

Sepptic arthritis is an infection in a joint. The infection can be caused by bacteria, viruses, or, less frequently, by fungi or parasites. Usually the infection involves a single large joint, such as the knee, but many joints may be involved. The initial infectious process can begin elsewhere in the body and travel through the bloodstream to the joint. Other sources include open wounds, surgery, and unsterile injections. Young children and elderly individuals are most likely to develop joint infections. The April 4, 2007, issue of *JAMA* includes an article that categorizes clinical findings that help identify patients who may have septic arthritis.

SIGNS AND SYMPTOMS

- Fever
- Chills
- Severe pain in the affected joint, especially with movement
- Swelling (increased fluid within the joint)
- Warmth (the joint is red and warm to touch due to increased blood flow)
- Fatigue and generalized weakness

RISK FACTORS

- Weak immune system—people with diabetes, kidney and liver problems, and HIV infection, and those taking drugs that suppress their immune system have an impaired ability to fight against infections.
- Alcohol or other drug abuse
- Cancer
- Previous joint problems—conditions that affect joints, including other types of arthritis, may increase risk of septic arthritis. Previous joint surgery, joint replacements, and joint injuries also increase risk.
- Skin wounds—open skin wounds give bacteria easy access to the body.

SCREENING AND DIAGNOSIS

- Blood tests—to identify an increase in white blood cells (WBCs) and bacteria
- X-ray—to identify swelling within a joint and throughout the surrounding soft tissues
- **Arthrocentesis**—a needle can be inserted into the joint and a sample of **synovial (joint) fluid** obtained for evaluation. Synovial fluid normally appears clear. Bacterial infections can alter the color, consistency, volume, and makeup of normal joint fluid. Analysis of the sample can determine the number of WBCs along with the type of bacteria.
- Diagnostic tests—a variety of tests can be used to identify the presence and extent of an infectious process. Nuclear scans (using dyes and x-ray), magnetic resonance imaging, and computed tomography are commonly used.

TREATMENT

Definitive diagnosis of an infectious process relies on the identification of the **pathogen** (disease-causing organism) in stained smears from synovial fluid and isolation of the pathogen from cultures of synovial fluid. Prompt treatment includes antibiotics (usually for 4 to 6 weeks taken orally or by vein). Often, the infected joint space must be drained to eradicate the infection, hasten recovery, and reduce pain. This can be done by repeated arthrocentesis, by surgical **irrigation** (washing the joint out with sterile solutions), or by **debridement** (removal of decaying tissue). Septic arthritis can lead to joint damage and destruction, eventually requiring joint replacement surgery.

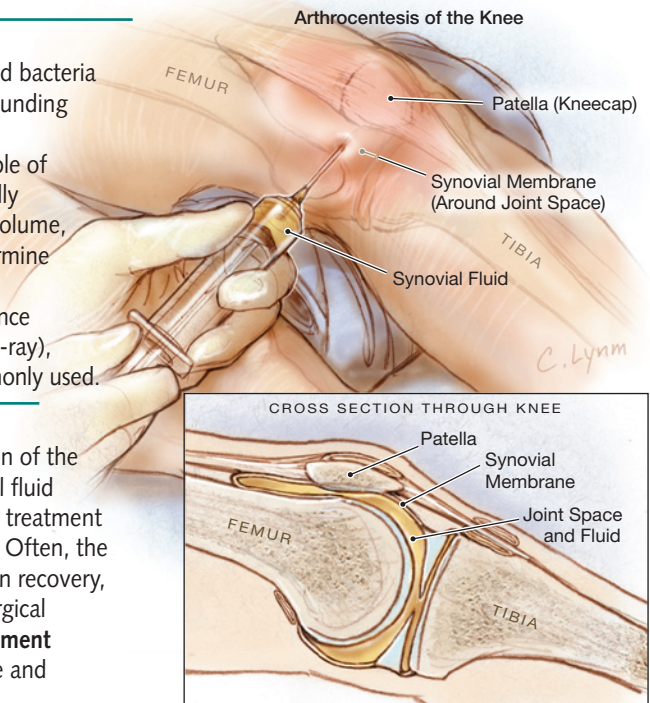
FOR MORE INFORMATION

- American Academy of Orthopedic Surgeons (AAOS)
www.aaos.com
- Arthritis Foundation
www.arthritis.org

INFORM YOURSELF

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: Arthritis Foundation, American Academy of Family Physicians, American Academy of Orthopedic Surgeons



John L. Zeller, MD, PhD, Writer

Cassio Lynn, MA, Illustrator

Richard M. Glass, MD, Editor

The JAMA Patient Page is a public service of *JAMA*. The information and recommendations appearing on this page are appropriate in most instances, but they are not a substitute for medical diagnosis. For specific information concerning your personal medical condition, *JAMA* suggests that you consult your physician. This page may be photocopied noncommercially by physicians and other health care professionals to share with patients. To purchase bulk reprints, call 203/259-8724.

JAMA
COPY FOR
YOUR PATIENTS