



# PATIENT FACT SHEET

## Osteonecrosis



### CONDITION DESCRIPTION

**Osteonecrosis is a painful condition that involves the death of bone cells due to decreased blood flow.** It is also called avascular necrosis (AVN) or aseptic necrosis. It is a painful condition most commonly occurring in the hips or knees, and is often more symptomatic with any weight-bearing activities, such as walking. In some cases, the bone at the hip (femoral head) may collapse. Shoulders, hands and feet are less often affected. Rarely, osteonecrosis affects the jaw (see separate chapter for details on osteonecrosis of the jaw).

Osteonecrosis usually occurs between the ages of 20 and 50 years. Bones and bone marrow need steady blood supply to stay healthy. Decreased blood flow causes bone cells to die. Corticosteroid use, heavy drinking, lupus and severe trauma or injury may cause osteonecrosis.

Rarer causes of osteonecrosis include HIV, decompression disease (“the bends”), blood disorders such as sickle cell anemia, radiation therapy, and organ transplant.



### SIGNS/ SYMPTOMS

**An early sign of osteonecrosis is local pain in the affected bone or joint.** Hip osteonecrosis may cause pain in the groin. Pain from hip or knee osteonecrosis may be worse during weight-bearing or walking. Nearby joints may develop osteoarthritis.

Diagnosis of osteonecrosis begins with an x-ray of the painful area. Other imaging tests such as bone scans or magnetic resonance imaging (MRI) may be needed. MRI is effective for early osteonecrosis detection, particularly when the x-rays do not reveal change.



### COMMON TREATMENTS

**Treatment of early osteonecrosis includes pain medications and modifying activity to reduce weight-bearing on affected joints.** Patients with worsening osteonecrosis may have core decompression surgery to remove bone from the affected area and restore blood flow. In more advanced cases of osteonecrosis, osteotomy surgery may remove dead bone and reposition bone to support the weight-bearing joint. Patients with bone

collapse may need total joint replacement of the hip or knee. Another option is bone grafting surgery, where dead bone is removed and replaced with healthy bone from another part of the body to restore blood flow.

Some studies show short-term bisphosphonate treatment may slow, improve or prevent bone collapse in the hip or knee.



### CARE/ MANAGEMENT TIPS

**Steps to prevent osteonecrosis include reducing corticosteroid doses, and avoiding heavy drinking and the use of tobacco.** If patients must take corticosteroids, they should take the smallest possible dose for the shortest time necessary.

Smoking and alcohol consumption raise the risk of osteonecrosis, and are adjustable risk factors to lower risk.

Updated March 2019 by Marcy Bolster, MD, and reviewed by the American College of Rheumatology Committee on Communications and Marketing. This information is provided for general education only. Individuals should consult a qualified health care provider for professional medical advice, diagnosis and treatment of a medical or health condition.