

Avascular Necrosis of the Hip

Avascular necrosis (AVN) of the hip can be caused by a variety of things. These include steroid use, trauma and sickle cell disease. Most often there is no clear etiology. The offending agent causes a decrease in essential blood flow to the femoral head (the ball portion in the hip socket). The femoral head first becomes denser (sclerosis) and then progresses to collapse and arthritis. This creates pain and decreased motion in the hip joint. Unfortunately this disease is often seen in young (20-40 year old) patients. The key to treatment is early diagnosis and prevention of hip joint collapse.

AVN can be graded into the following stages:

- I:** early sclerosis, seen on MRI only (mild pain)
- II:** progressive sclerosis, seen on plain X-ray (increased pain)
- III:** subchondral collapse of bone, but the contour of the head is maintained
- IV:** collapse of the head (advanced pain)
- V:** arthritic changes on the acetabular (socket) side of the joint
- VI:** advanced arthritic changes (significant pain and severely limited motion)

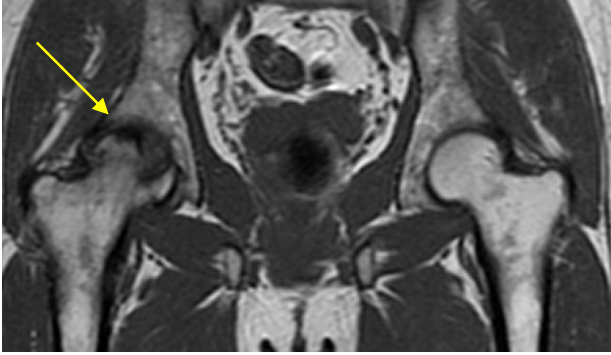
Treatment options include the following:

Core decompression- reaming out the center of the head to allow new bone to grow

Core decompression and fibular allograft – reaming out the center of the head, and placing a bone from the bone bank into the head to support it.

Core decompression with Vascularized Fibular Graft- reaming out the center of the head. Next the small bone in the lower leg of the same leg is taken with its artery and vein. It is then brought to the hip and using microvascular techniques is attached to the blood vessels in the hip region. This creates a living, vascularized bone strut along the femoral neck and into the head to support and promote healing.

Drs. Tan and Capo are microsurgeons in the Department of Orthopaedic Surgery at UMDNJ who offer a comprehensive approach to evaluation and treatment of patients with avascular necrosis of the hip. They specialize in microvascular free fibula transfer to the hip for this condition.



-MRI Scan showing AVN changes in Right Hip (Left side of image) compared to normal Left Hip



- X-rays showing AVN Stage III/IV with sclerosis and minimal collapse of head



-Post-operative X-rays after core decompression, and placement of vascularized free-fibular graft into femoral head.

Other related sites:

http://orthoinfo.aaos.org/fact/thr_report.cfm?Thread_ID=314&topcategory=Arm