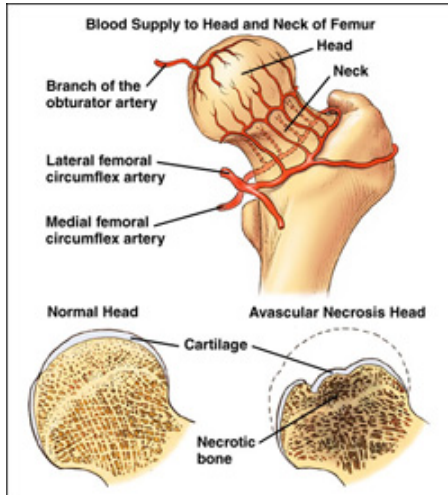


## Avascular Necrosis (AVN)



### What is avascular necrosis (AVN)?

Avascular necrosis is a bone problem where the blood supply to a bone is damaged or interrupted, causing damage to the bone. Bones are living tissue, and like all living tissue they rely on blood vessels to bring blood to keep them healthy. Most living tissues have blood vessels



that come from many directions into the tissue. If one blood vessel is damaged it may not cause problems, since there may be a backup blood supply coming in from a different direction. But certain joints of the body have only a few blood vessels that bring in blood. One of these joints is the hip. Damage or interruption of the blood supply to the hip bone (femoral neck) causes deterioration of the bone, which can collapse. When AVN occurs in the hip joint, the top of the femoral head (the ball portion) collapses and begins to flatten. As the damage occurs to the bone, it can be painful and cause difficulty moving the hip. The AVN can cause significant damage to the bone; often there is healing over time and the hip becomes pain-free. If the AVN is

more severe, the damage can be more of a problem. AVN can also occur in other bones, and some people may have it in more than one place.

### What causes AVN?

Most of the time, we are not sure of the exact cause of AVN in a patient. However, there are some risk factors for getting AVN. Anything that damages the blood supply to the hip can cause AVN. In children and teens with rheumatic diseases, they may be at risk of getting AVN if they have taken steroids (prednisone). There are other risk factors, for example some people with lupus have antibodies in their blood which also promote getting blood clots (antiphospholipid antibodies). People with lupus have inflammation of blood vessels when disease is active, and this may also be a risk for getting AVN.

### How is AVN diagnosed?

AVN is diagnosed by x-ray; if it is in the early stages, xray may be normal and an MRI may need to be done.

### How is AVN treated?

There are no treatments that completely reverse the AVN. When an AVN occurs in the hip, patients may be told to limit putting weight on the hip for several weeks to prevent further damage and allow healing. Taking nonsteroidal anti-inflammatory medications or other pain medications may be necessary to help with the pain. A referral to an orthopedic surgeon is common; in some cases, there is the possibility of a surgery to try to re-establish blood supply to the damaged bone and prevent on-going damage. Over time, the injured bone begins to heal itself; usually the pain settles at that time. However, if there has been a lot of damage to the bone, orthopedic treatment might be needed later on.