

## **Overview - Definitions and Introductions to Hip Anatomy**

The hip joint is one of the largest joints in our body and works to move our thigh forward and backward. The hip joint also rotates inward and outward for movements such as sitting and helps us to change direction when we walking. The hip joint is in simplest terms, a ball and socket, that acts similar to a car's ball joint connecting the wheel to the axle allowing you to turn in different directions while supporting the body. The ball or (femoral head) is at the upper end of your thigh bone (femur) and this fits into a socket called your Acetabulum. This ball and socket is covered by a smooth layer of soft tissue called your hip cartilage. There is also a joint lining tissue, called the synovium, that surrounds the hip joint. Synovial tissue produces fluid that lubricates the joint and provides nutrients to the cartilage of the joint. The hip cartilage and synovial fluid allows the ball move easier and glide within the hip socket.

Unfortunately, we only have one coating of cartilage and so when this becomes damaged or worn out, it cannot repair itself. Once the hip joint is damaged by arthritis, injury, or disease, our normal function becomes impaired and mechanical breakdown of the hip joint starts to occur. Ultimately, this results in hip pain, muscle weakness, groin pain, and limited movement.

Hip Anatomy Video - <https://www.arthritis-health.com/video/hip-anatomy-video>

## **Hip Conditions**

**Avascular Necrosis (AVN)** or also called Osteonecrosis, is a disease that results in death of bone. This death of this bone occurs in a part of the femoral head and usually effects the ball in your hip socket.

**Degenerative Joint Disease (DJD) or Osteoarthritis (OA)** Osteoarthritis or "wear and tear arthritis" is very common in the hip joint since the cartilage simply wears out over time. When this cartilage wears away, the ball begins rubbing on the socket or acetabulum and ultimately causes severe pain and hip disability. The most frequent reason for osteoarthritis is genetic, since the durability of each individual's cartilage is based on genetics. If your parents have arthritis, you may also be at risk of suffering from degenerative joint disease.

**Impingement or Femoroacetabular Impingement** is the abnormal friction or contact between the ball (femoral head/neck) and the socket (acetabulum). This friction causes the cartilage (labrum) surrounding the hip joint to tear causing the underlying cartilage to tear off (avulsion). This continued deterioration eventually leads to arthritis. Typically, nonsurgical treatment fails to control these symptoms.

**Loose Bodies** usually occurs following a sports injury or trauma may move the ball too much one way or another causing small pieces of bone or cartilage to shear off. These small pieces are called "loose bodies.", and it is appropriate to think of these bodies as debris in the joint. These loose bodies may also be caused by degeneration to the hip joint as happens in many forms of arthritis. These loose bodies often cause increasing pain and stiffness since they get caught between the smooth surfaces of the hip joint. Loose bodies can stay in one place or can move around the hip joint. Loose bodies can also spontaneously move within the hip joint with temporarily allowing for some relief from the pain.

**Pain** can present in many different ways. We generally break hip pain down into (1) primary hip problems, (2) secondary hip problems, and/or (3) referred hip pain. Primary hip pain can be secondary to labral tears, femoroacetabular impingement, hip snapping, synovitis, osteoarthritis, loose bodies, or other causes. Secondary hip problems include instability (connective tissue disorder, dysplasia), bursitis, piriformis syndrome among other causes. Referred pain can be from the low back, SI joint, muscular imbalance, among other causes. The key to treatment of the hip pain is to find its primary cause.

**Inflammatory Arthritis** Swelling and heat (inflammation) of the synovium or joint lining causes a release of enzymes which ultimately soften and eventually destroy the hip cartilage. Some of the most common inflammatory conditions of the hip are Rheumatoid arthritis, Lupus and Psoriatic Arthritis.

**Labral Tear** The labrum is a pad of cartilage that lies between the femoral head (ball) and the acetabulum (socket). It acts as a shock absorber and stabilizes the hip. This type of injury is very common in athletes. When labral tears occur, patients usually experience pain deep in the hip joint. There are also many different causes for labral tears.

**Synovitis** is an inflammation of the synovium or lining of our joints. When this lining gets irritated, the synovium can become inflamed, which may cause or contribute to your hip pain. Synovitis is typically caused by another underlying hip problem (labral tear, femoroacetabular impingement, or osteoarthritis) but can also due to a primary disease of the synovium or inflammatory arthritis.

## **Treatments We Offer**

**Anterior Total Hip Replacement**

**Posterior Total Hip Replacement**

**Hip Resurfacing**

**Revision Total Hip Replacement**

**Hip Arthroscopy**

## **AOR Hip Physicians (Each Surgeon with links back to their bio pages)**

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