Anatomy: The bone surfaces of the ball and socket have a smooth durable cover of articular cartilage that cushions the ends of the bones and enables them to move easily. A thin, smooth tissue called synovial membrane covers all remaining surfaces of the hip joint. In a healthy hip, this membrane makes a small amount of fluid that lubricates and almost eliminates friction in the hip joint. Normally, all of these parts of the hip work in harmony, allowing you to move easily and without pain. Osteoarthritis occurs when the cartilage that cushions the ends of bones in your joints deteriorates over time. The smooth surface of the cartilage becomes rough, causing irritation. Eventually, if the cartilage wears down completely, you may be left with bone rubbing on bone causing the ends of your bones to become damaged and your joints to become painful.

Causes/ Risk Factors

Older age. Osteoarthritis typically occurs in older adults. People under 40 rarely experience osteoarthritis.

Joint injuries. Injuries, such as those that occur when playing sports or from an accident, may increase the risk of osteoarthritis.

Bone deformities. Some people are born with malformed joints or defective cartilage, which can increase the risk of osteoarthritis.

Sex. Women are more likely to develop osteoarthritis.

Obesity. Carrying more body weight places more stress on your weight-bearing joints.

Certain occupations. If your job includes tasks that place repetitive stress on a particular joint, that may predispose that joint toward eventually developing osteoarthritis.

Heredity. You are more likely to get it if you have a family history of the disease.

Other diseases. Gout, rheumatoid arthritis, Paget's disease of bone or septic arthritis can increase your risk of developing osteoarthritis.

Muscle weakness, muscular weakness can create instability in a joint and cause abnormal wear of joint cartilage.

Mechanisms for Injury

Primary osteoarthritis: exact cause is unknown, but thought to be related to defects in the articular cartilage and due to normal wear and tear.

Secondary osteoarthritis: Degeneration of known cause such as infection, trauma, overuse, stress resulting from obesity, poor posture, orthopedic abnormalities, or immobilization. Symptoms: Your first sign may be a bit of discomfort and stiffness in your groin, buttock, or thigh when you wake up in the morning.
morning. The pain flares when you are active and gets better when you rest. **Pain.** Your hip may hurt during weight bearing activities. **Tenderness.** Your hip may feel tender when you apply light pressure to it. **Stiffness.** Joint stiffness may be most noticeable when you wake up in the morning, after a period of inactivity or in colder temperatures. **Loss of flexibility.** You may not be able to move your joint through its full range of motion. **Limited hip internal rotation is the first sign of hip osteoarthritis.** **Swelling.** The joint may be tender with soft tissue swelling

- **Grating sensation.** You may hear or feel a grating sensation when you use the joint.
- **Bone spurs.** These extra bits of bone, which feel like hard lumps, may form around the affected joint.
- **Management:Lifestyle Modifications**
  - **Rest.** Find activities that don't require you to use your joint repetitively. Avoid repetitive impact activities.
  - **Exercise.** Stick to gentle exercises, such as walking, biking or swimming. Exercise can increase your endurance and strengthen the muscles around your joint, making your joint more stable.
  - **Lose weight.** Being overweight or obese increases the stress on your weight-bearing joints, such as your knees and your hips. Even a small amount of weight loss can relieve some pressure and reduce your pain.
  - **Use heat and cold to manage pain.** Both heat and cold can relieve pain in your joint. Heat also relieves stiffness and cold can relieve muscle spasms.

**Surgical Treatment**

If you have later stages of osteoarthritis, your hip joint hurts when you rest at night, and/or your hip is severely deformed, your doctor may recommend total hip replacement surgery. You will get a two-piece ball and socket replacement for your hip joint. Rehabilitation is important to restore the range of motion in the hip and stabilize the muscles surrounding the hip.

**Exercises**

Exercises for osteoarthritis focus on maintaining hip range of motion through general strengthening and stretching of hip musculature.