

Arthritis

Introduction



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Arthritis is a common disease that causes joint pain, stiffness, immobility, and swelling. Arthritis is actually a term for a group of over 100 diseases that affect the muscle and skeletal system, particularly the joints. Arthritis alters the cartilage in joints. Cartilage is a very tough, shock absorbing material that covers the ends of many of our bones. The cartilage forms a smooth surface and allows the bones in our joints to glide easily during motion. Arthritis can cause the cartilage to wear away. Loss of the protective lining can cause painful bone on bone rubbing. Arthritis can be quite painful and disabling. While this may be tolerated with medications, therapy, other modalities, and lifestyle adjustments, there may come a time when surgical treatment is necessary.

Anatomy

Bones are the hardest tissues in our body. They support our body structure and meet to form joints. Cartilage covers the ends of many of our bones and forms a smooth surface for our bones to glide on during motion. A membrane called synovium lines the joint. The synovium secretes a thick liquid called synovial fluid. The synovial fluid acts as a cushion and lubricant between the joints. It reduces friction between the bones and prevents “wear and tear.”

Ligaments are strong tissues that connect our bones together and provide stability. Our ligaments are also lined with synovium. The synovial fluid allows the ligaments to glide easily during movement. Tendons are strong fibers that attach our muscles to our bones. The tendons and muscles power the joint and enable us to move.

Causes

There are over 100 different types of arthritis. Arthritis can occur for many reasons, including aging, “wear and tear,” autoimmune disease, trauma, and inflammatory disease. Arthritis usually affects the bones and the joints; however, it can affect other parts of the body, such as muscles, ligaments, tendons, and some internal organs. Two of the more common types of arthritis, Osteoarthritis and Rheumatoid Arthritis are discussed below.

Osteoarthritis is the most common type of arthritis, affecting some 21 million Americans alone. It causes the cartilage covering the end of the bones to gradually wear away, resulting in painful bone on bone rubbing. Abnormal bone growths, called spurs or osteophytes can grow in the joint. The bone spurs add to the pain and swelling, while disrupting movement. All of the joints may be affected by Osteoarthritis.

Osteoarthritis is often more painful in the weight bearing joints, including the spine, hip, and knee. It tends to develop as people grow older. Osteoarthritis can occur in young people as the result of an injury or from overuse of a joint during sports or work.

Rheumatoid Arthritis is one of the most serious and disabling types of arthritis. It is a long-lasting autoimmune disease that causes the synovium to become inflamed and painful. It also causes joint swelling and deterioration. Pain, stiffness, and swelling are usually ongoing symptoms, even during rest.

Rheumatoid Arthritis most commonly occurs in the hand and foot joints. It can also develop in the larger joints, including the hip, knees, and elbows. Many joints may be involved at the same time. Further, tissues surrounding the joint may also be affected. Rheumatoid Arthritis can affect people of all ages, but most frequently occurs in women and those over the age of 30.

Symptoms

Inflammation is the main finding of arthritis. Inflammation can cause your joints to feel painful, swollen, and stiff. These symptoms are most likely continuous, even when you are resting. Your joints may feel weak or unstable. You may have difficulty moving and performing common activities, such as walking or climbing stairs.

Diagnosis

Your health care provider can diagnose arthritis by conducting a physical examination. You will be asked about your symptoms and level of pain. Your provider will assess your muscle strength, joint motion, and joint stability. Blood tests and other laboratory tests may identify what type of arthritis you have. Imaging tests provide more information about the condition of your joint.

X-rays are used to see the condition of your bones and joints, and to identify areas of arthritis or bone spurs. The tissues that surround the joint do not show up on an X-ray. In this case, a Magnetic Resonance Imaging (MRI) scan may be requested to get a better view of the soft tissue structures, such as ligaments, tendons, and cartilage.

A bone scan may be ordered to identify the location of abnormal growths in a bone, such as bone spurs, cysts, or arthritis. It is a sensitive test that can indicate joint degeneration in early stages that may not yet be visible on plain x-rays. A bone scan requires that you receive a small harmless injection of a radioactive substance several hours before your test. The substance collects in your bones in areas where the bone is breaking down or repairing itself. These imaging tests are painless.

Surgery

Because arthritis is a degenerative and progressive disease, it may get worse over time. When non-surgical treatments no longer provide relief, surgery may be recommended. The type of surgery that you receive will depend on your type of arthritis, its severity, and your general health. Your doctor will discuss appropriate surgical options to help you decide what is best for you.

There are several types of surgical procedures for arthritis. The surgeon may remove the diseased or damaged joint lining (synovium) in an operation called a synovectomy. The bones in a joint may be realigned with a procedure called an osteotomy. The bones in a joint may also be fused together to prevent joint motion and relieve pain.

In advanced arthritis, the damaged joint can be replaced with an artificial one. Artificial joints are made of metal, plastic, ceramics, or a combination of the materials. The material selected depends on the reason for the surgery, as well as which joint is being replaced. Joint replacement can provide significant pain relief and improved mobility.

Treatment

Most cases of arthritis can be treated with non-surgical methods. Temporary joint rest and pain relievers are sometimes all that are needed. Over-the-counter medication or prescription medication may be used to reduce pain and swelling. If your symptoms do not improve significantly with these medications a cortisone injection may be successful in reducing inflammation and pain.

Viscosupplementation is another injection option for arthritis, but currently is FDA approved for use only in the knee. Studies are underway to test its usefulness in other joints. Several products are on the market that when injected in a series into the knee can reduce pain by temporarily improving the health of the joint.

Occupational or physical therapists can help you strengthen the muscles surrounding your joint. The resulting added joint stability can help relieve pain. Aquatic therapy in a heated pool can be especially soothing. In addition, the buoyancy of the water takes stress off the joints while exercising, and the resistance of the water can help strengthening efforts. Your therapists may also apply heat to treat stiffness, and ice to decrease pain. They may recommend splints, walkers, or canes to help relieve stress on your joints. The therapists will instruct you on how to do your daily activities, such as housework and meal preparation, in a manner that puts less stress on your joints.

Acupuncture is a time-tested treatment for pain. Very fine needles are strategically placed around the body to block or interrupt pain pathways. Acupuncture should be administered by a trained professional, and can often be extremely helpful.

A variety of herbs and nutritional supplements have been shown to be helpful in treating arthritis. Two of the more commonly known supplements are glucosamine and chondroitin. They have been studied most in arthritis of the knee, and have shown some good results for treating arthritis in other joints. Some research has also shown that a proper diet consisting of fruits and vegetables, with a minimum of fat, can benefit arthritis.

Exercise regimes, such as yoga, Pilates, and tai chi can improve arthritis pain in many ways. Physically, the stretching and strengthening provided by these programs has a direct positive effect for many with arthritis. Additionally, the stress-reducing relaxation that usually occurs from these types of exercise can have a significantly positive effect on arthritis pain.

Recovery

Recovery from arthritis surgery is very individualized. Your recovery time will depend on the extent of your condition, the joint that was involved, and the type of surgery that you had. Your doctor will let you know what you may expect.

Generally, traditional open joint surgeries take several months to heal, depending on the joint. Minimally invasive surgery and arthroscopic surgery use smaller incisions and typically heal in a shorter amount of time, from several weeks to a few months. Your doctor may restrict your activity for a short time following your surgery. In most cases, rehabilitation is recommended to mobilize and strengthen the joint.

Prevention

Some types of arthritis and arthritis symptoms may be prevented. It is important to know what type of arthritis you have and to ask your health care provider what you can do to prevent symptoms. For example, for some types of arthritis it is helpful to reduce your weight or stop performing repetitive joint movements. It may be helpful to consult an occupational or physical therapist to learn how to use proper body mechanics to protect your joints during your daily activities.

Assistive devices, such as a walker, shower chair, or raised toilet seat may enable you to perform tasks while minimizing the stress on your joints. It may also be helpful to participate in aquatic therapy in a heated pool or exercise to keep your joints strong.

This information is intended for educational and informational purposes only. It should not be used in place of an individual consultation or examination or replace the advice of your health care professional and should not be relied upon to determine diagnosis or course of treatment.