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PID:

Osteoarthritis

Osteoarthritis

Other Names: Wear and tear arthritis, degenerative arthritis

What is Arthritis?

Approximately 40 million people are affected by arthritis. The term arthritis refers to a group of disorders which involve the body's joints and have similar symptoms. The symptoms of arthritis include pain, stiffness and swelling of the joints and the surrounding area.

Arthritis affects each person differently. It may attack one or more joints suddenly or gradually and may be constant and progressive or seem to come and go. Unfortunately the effects of arthritis are usually chronic, meaning that they will last a long time, perhaps for a lifetime. How much arthritis will affect a patient's ability to function will be determined by the severity of the condition, which joints are affected, and for how long.

There are many medical, rehabilitative and surgical treatments that can help lessen the pain, increase or preserve joint motion and even slow the progress of the disease.

When first confronting the diagnosis of arthritis, the patient should gain an appreciation of the type of arthritis that he or she has and understand that the condition will probably last for a very long time, that it may affect different joints at different times and that medication adjustments may be required over time.

There are over 100 different types of arthritis and they are usually categorized as

degenerative or inflammatory in nature.

What is Osteoarthritis?

Osteoarthritis is the primary example of degenerative arthritis. It affects approximately 20 million people in the United States. The condition affects both men and women and occurs primarily in individuals over 40 years of age.

Osteoarthritis affects predominately joint cartilage, the smooth glistening surface that lines the bone within the joint. The function of the cartilage is to provide shock absorbency and reduce friction as the joint glides. Osteoarthritis produces thinning and damage to the cartilage, which will break down and become rough and eroded. Inflammation results in the development of bony ridges and spurs, which may progressively enlarge.

Cartilage and bone are further damaged as the bones rub together and deformity results when one side of the joint collapses more than the other side.

When the cartilage loss is great, there may be severe pain in the involved joint - with use or even at rest.

Osteoarthritis most frequently occurs in the knees, hips, ankles, hands and other weight-bearing joints.

The Body's Joints

In most joints, two bones meet end-to-end. In the area where they oppose each other, they are covered with a gliding surface called articular cartilage.



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PIP-DIP arthritis



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Base of thumb arthritis



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Hip arthritis



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Knee arthritis

Cartilage is a slippery, smooth substance that assures an even, fluid motion of the joint with minimal friction.

Each joint is surrounded by a thin capsule, which is lined by a membrane called synovium, which produces a lubricating fluid known as synovial fluid for each joint.

The stability of each joint is maintained by its ligaments, which are short strips of fibrous tissue that originate and connect to opposite sides of the joint and have differing amounts of tightness depending on the position of the joint at a given time.

Joint movement is produced by the contraction of muscles and the movement of their tendons. The muscles and tendons pass near the joints and insert into bone beyond the joint. Muscle contraction moves the tendons, which in turn, produce bending or straightening of the joints over which the tendons pass.

Joints have different configurations depending on the motion they need to produce. Some - like the knee, elbow and finger joints -- work like a hinge - up and down. Others - like the hip and shoulder - are more like a swivel or ball and socket -- and have several planes of rotation and sideways movement. Some joints, such as the wrist, are actually comprised of many bones and small joints which combine to produce very complex, multiple plane motions.

Different types of arthritis affect the joints in different ways. The cartilage may be damaged, narrowed and lost by a degenerative process or by inflammation, as in osteoarthritis and rheumatoid arthritis respectively, the two most common forms of arthritis. Bone substance may be lost in the area next to a joint and cysts may result. Spurs around the joints may result from new arthritic bone formation or from the erosion of adjacent bone. Joint deformities and instability often result from the stretching or rupture of supporting ligaments and from the asymmetric loss of cartilage.

Risk Factors for Osteoarthritis

There are either primary or secondary causes of osteoarthritis. Primary osteoarthritis is commonly linked to old age when the cartilage naturally breaks down due to wear and tear of the joint. Physical

conditions, such as congenital defects and obesity cause secondary osteoarthritis. Other risk factors of osteoarthritis include: heredity, or joint injury.

Symptoms of Osteoarthritis

Symptoms vary from person to person even though each person suffering from osteoarthritis has joint deterioration. It is usually thought of as a progressive disease, one that gets worse over time. Some people find the condition incapacitating while others have very few symptoms. Pain, the primary symptom of the disease, is commonly brought on through activity; however, it could be present even when the body is at rest. Examples of other symptoms include:

- * Loss of movement
- * Stiffness and swelling in the joints
- * Snapping of the joints
- * Bony growths at the joints and abnormal angulation.

In cases of osteoarthritis of the knee, the actual appearance of the knee may change over time. Some people may become knock-kneed or bow-legged. If you don't move the affected joint, muscles surrounding the joint will become weaker and sometimes shrink.

In osteoarthritis of the hip, the pain may cause you to limp. Also, you may feel pain around the groin or inner thigh. The affected leg may appear shorter in cases of osteoarthritis of the hip. Putting on your shoes and tying the laces becomes difficult.

In the fingers, the breakdown of cartilage causes bone spurs in these joints. Spurs in the end joints of fingers are called Heberden's nodes, which occur most often in women and sometimes as early as 40. Spurs in the middle joints of the fingers are called Bouchard's nodes.

Regardless of the type of arthritis that a person has, many patients will experience some difficulty functioning at home, at work or at play because of joint pain, stiffness, and loss of motion. Arising from bed in the morning, buttoning buttons, writing, sewing, meal preparation, dressing, sleeping, walking, climbing stairs, arising from a chair or a toilet seat, and attending to matters of personal hygiene may all be impaired to some degree by arthritis.

Oftentimes, impairment of function is more distressing to patients than the pain of arthritis and a major goal of all arthritis treatment is the preservation or improvement of function.

Treatments of Osteoarthritis

Several general principles for living with arthritis should be mentioned. Weight control - with diet and appropriate exercise - is extremely important to decrease the stress on the arthritic joints. Exercise in particular, is an important part of any therapy prescribed for patients with arthritis. Range of motion exercises and strengthening exercises are important to maintain or improve joint mobility and to increase the strength of the muscles around the joints and minimize the stress on those joints. Aerobic exercise, such as walking or riding a stationary bike helps to decrease fatigue, improve cardiovascular health, and create a sense of well being. These aerobic exercises may be difficult for those patients who have pain in their hips, knees and feet, and a water exercise program or protocol specifically designed for comfortable movement by a physical therapist may be more tolerable for those individuals.

The use of special shoes, braces and walking aids such as canes, may also favorably affect a patient's ability to remain functionally independent.

Several other measures are available for the relief of joint pain and stiffness. Many patients shower upon arising in the morning in order to lessen the duration of their morning stiffness. After showering, when the muscles are warm, it is easier to carryout stretching and range of motion exercises. The local application of heat or cold packs is also helpful for pain control.

Most patients prefer heat but it should not be too hot or applied for more than 20 to 30 minutes, as longer periods may produce muscle spasm. Heat may be applied three or four times a day, but you should never go to bed with a heating pad on a joint!

Medications for Osteoarthritis

Medications may help with the pain and inflammation of arthritis and treatment usually begins with milder drugs that have the fewest side effects. Over-the-counter medications such as acetaminophen (Tylenol), ibuprofen, and aspirin can all be used as necessary or on a regular basis to control joint pain. Glucosamine Sulfate which is a component of normal cartilage, has been found to offer relief of pain from osteoarthritis and may even slow of the progression of the disease in some patients when taken long-term at doses of 1500 milligrams a day.

Topical creams and ointments may also provide some temporary relief of joint discomfort.

When over-the-counter pain medications fail to adequately control symptoms, your doctor may prescribe anti-inflammatory medicines, referred to as non-steroidal anti-inflammatory drugs or NSAIDS, because they attempt to control inflammation without the use of cortisone compounds.

These drugs are used for treating both rheumatoid and osteoarthritis as well as other types of arthritis. Although these anti-inflammatory drugs have not been shown to be more effective than high-dose aspirin (12 or so per day), they are generally easier and safer to use than aspirin. Depending on the particular drug, they may be taken once to four times a day.

Disadvantages and Side Effects of Anti-inflammatory Drugs

These medications are more expensive than aspirin and have potentially serious side effects including high blood pressure, fluid retention, easy bruising, kidney and liver abnormalities, gastritis, and stomach and intestinal ulcers.

A new class of NSAIDs known as Cox-2 inhibitors are effective in the management of arthritic conditions and appear to be less likely to produce gastrointestinal problems. Depending on your age and other medical conditions, your doctor will monitor you periodically with blood tests in order to check for the potential development of side effects from the medications that you are taking.

What are Corticosteroid (Cortisone) Drugs

It is not unusual that several months are required in order to identify the medication and dosage that will be most beneficial for treating a patient with rheumatoid arthritis. Corticosteroid medications - sometimes known as cortisone or prednisone may be used to make patients more comfortable and functional during severe flare-ups or while other medications are being initiated. Corticosteroid drugs are potent, rapidly acting anti-inflammatory drugs which may be injected into a joint or given orally.

Joint injections may be administered when joints are severely inflamed but too many injections into a joint may actually worsen the cartilage destruction.

Surgery For Arthritis

Procedures can be done to change the weight distribution to a partially arthritic joint so that the good, remaining cartilage can bear more of the load.

Deformed or unstable joints may be fused - joined into a single bone without a joint. Soft tissue procedures or combination of bone and joint removal and soft tissue reconstruction can be carried out to stabilize joints, relieve pain and preserve motion.

And finally, technology now exists to replace many arthritic joints with new articulating metal and plastic components that can restore painless motion. Dramatic improvement in function and lifestyle can be expected from procedures such as total hip replacement, total knee replacement, total shoulder replacement, total elbow replacement, total wrist replacement, total ankle replacement, and the replacement of deformed metacarpophalangeal or proximal interphalangeal finger joints with flexible implants.

Living With Arthritis

There are many important considerations for "living with arthritis". Successful treatment involves exercise, rest, the maintenance of ideal body weight, the local application of heat or cold, medication, and surgery. A positive mental outlook and the support of friends and

family members is essential in minimizing the effect of arthritis upon a patient's well-being and ability to perform daily activities. Each patient will have to adapt to his or her own abilities and limitations and remain committed and optimistic about the ability to manage his or her arthritis through good medical, surgical and rehabilitative care.

For many people, support groups may also help. You can contact the National Arthritis Foundation at 800.283.7800 to find some groups near you. Or find the chapters near you by visiting their Web site at <http://www.arthritis.org/offices/>

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