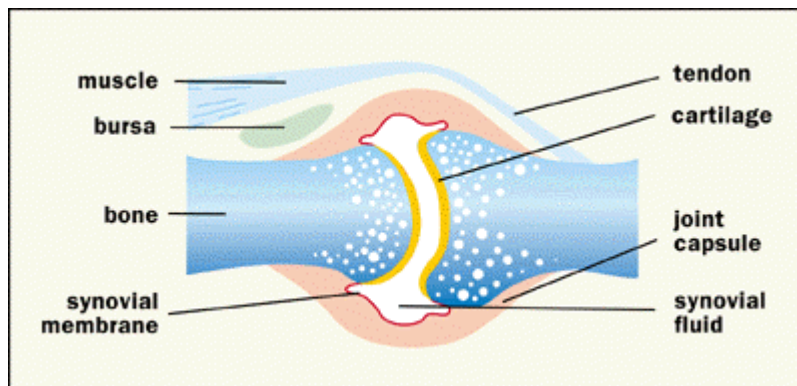


Arthritis Fact Sheet

What is arthritis?

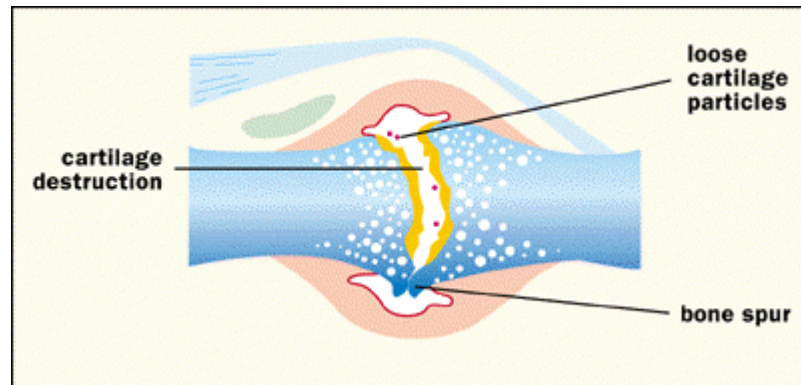
Arthritis is a disease that affects the joints (where two bones come together) and surrounding tissues in more than 43 million Americans. It literally means “joint inflammation”, which is a process that causes swelling, redness, tenderness, and pain. Arthritis is the term often used for over 100 types of diseases that can cause stiffness and swelling in and around the joints, muscles, bones, tendons, ligaments, and some internal organs. Two of the most common forms of arthritis are osteoarthritis and rheumatoid arthritis, each affecting 16 million and 2.1 million Americans, respectively. Various other types include gout (buildup of uric acid in blood, causing crystals to form in joints), juvenile arthritis, psoriatic arthritis (swelling of the joint along with the skin condition psoriasis), and ankylosing spondylitis (inflammatory disease of the spine). In a normal joint, the muscle and tendon support the bone and aid in movement. The synovial membrane, an inner lining, releases slippery fluid in the joint space between the bones. Cartilage covers the bone ends, absorbing shocks and keeping the bones from rubbing together when a person moves.

Structure of a normal joint:



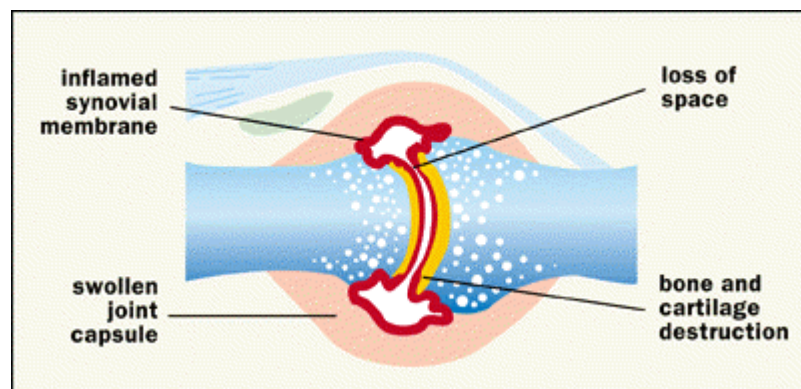
In a joint with osteoarthritis, the cartilage breaks down and the bones rub together. The joint then loses its shape and alignment, and the bone ends thicken forming spurs (bony growths). Bits of bone or cartilage can also float in the joint space.

Structure of an oseoarthritic joint:



In a joint with rheumatoid arthritis, inflammation and thickening of the synovial membrane occurs, causing the whole joint to look and feel swollen. The inflamed joint lining enters and damages bone and cartilage, and they are gradually digested by enzymes released from the inflammatory cells. This is caused by the immune system attacking the body's own tissues. The joint then loses shape and alignment, and space between joints diminishes.

Structure of a joint with rheumatoid arthritis:



As these all of these various changes occur, the muscles and tendons around the joint also become weak from decreased use and pain, resulting in loss of motion.

What are the symptoms of arthritis?

Symptoms can vary greatly depending on the type of arthritis and the individual. In the most common forms, joints of the knees, fingers, wrists, ankles, hips, and/or elbows become stiff, swollen, tender, and painful. This pain can be greater first thing in the morning, or get worse as the day goes on. Fatigue also occurs often, and is sometimes accompanied by the inability to sleep properly. In rheumatoid arthritis, painless lumps under your skin, called rheumatoid nodules, can be felt. In juvenile rheumatoid arthritis, fever, rash, and anemia occur. Some types of arthritis gradually spread throughout the body, while others stay concentrated in certain joints. The symptoms can also be cyclical, going through active phases of worsening or reappearance called a flare. This chronic pain ranges from mild to severe and can last a lifetime.

Who is at risk and how do people get arthritis?

Currently, it is determined that genetic factors that you get from your parents, what happens during your life, and how you live all play a role in arthritis. The importance of each of these factors varies for every type of arthritis. Certain types of arthritis are more prevalent in women, such as rheumatoid arthritis, while other types occur more often in men, like gout. Onset of symptoms can occur at a wide range of ages spanning from youth to the elderly, although most forms become more common as people age. These older populations can get arthritis because of general wear and tear on joints, as well as a direct affect of previous injuries, commonly from high impact sports like mountain biking or football. Likewise, obesity can also increase stress to joints and can therefore contribute to arthritis. Often, arthritis is attributed to genetic factors that are sometimes triggered by a viral infection. It is not known exactly what part of genetics plays a role in arthritis, but it is known that those that have family members with arthritis have a higher chance of getting the disease. It is believed that many different genes, or the parts that you inherit from your mother and father, can help determine whether you are more susceptible to getting arthritis. For instance, in some people with rheumatoid arthritis, genes called HLA that affect the immune system are found, although people without this type of arthritis can have these genes too. This makes researchers think that arthritis is probably affected or caused by a combination of genes.

How is arthritis diagnosed?

The best way to diagnose arthritis is by being aware of your body and its possible symptoms and then going to your physician. Several criteria determine the various forms of arthritis and only a doctor will be able to verify if in fact you have one or more types of arthritis. Most importantly, get an early, accurate diagnosis. Pay attention to any swelling, stiffness, or pain in or around joints, especially if present longer than two weeks. The earlier your doctor is able to prescribe appropriate care, the greater chance you have to decrease joint damage and pain.

Is there treatment or a cure for arthritis?

There is not a cure-all for arthritis, although there are several options available to aid in the relief of the symptoms. The two broad groups of medications most commonly used to treat people with arthritis are first-line nonsteroidal anti-inflammatory drugs (NSAIDs) and second-line drugs. The NSAIDs are used first because they are usually safer, and if they fail to provide

adequate relief, second-line drugs are added to the treatment program. NSAIDs frequently used include ibuprofen, aspirin, as well as a group of medications called COX-2 inhibitors, such as Vioxx and Celebrex. The most important second-line drugs known are methotrexate, gold, d-penicillamine, and hydroxychloroquine, among others. Many of these medicines can cause side effects that differ by person, and so must be carefully monitored by a doctor. Often a blood count, urine analysis, or a liver function test is required in regular intervals depending on the drug and its effects on each individual. It is also thought that COX-2 inhibitors might elevate risk for heart and kidney failure, although this is not certain. It is also possible for a drug to not work or to stop working in different people, in which case it is often likely for the physician to switch to a new treatment. Another treatment option is surgery, used to repair or replace a joint. It can alleviate pain and prevent further injury from happening, but it may be more beneficial in certain types of arthritis and not others. For instance, osteoarthritis has already damaged the bone and joint and so surgery can be worthwhile, as opposed to rheumatoid arthritis in which the inflammation can occur again at any time, even after surgery.

(For more information on possible COX-2 side effects and risks, see the September 3, 2001 *Newsweek* article. www.newsweek.com/)

What can be done to further alleviate the symptoms of arthritis?

- Exercise, especially in the water. Staying active can help to keep joints flexible and build strength and range of motion. The buoyancy from the water can also reduce wear and tear on joints that are already painful.
- Apply a cold pack or take a bath. A warm bath can relieve muscle tension and help to ease aching joints, while a cold ice pack can decrease pain and swelling by constricting blood vessels and preventing fluids from leaking into surrounding tissues.
- Lose weight. This will help you to feel better, since every extra pound adds to the stress on your knees and hips. Excess weight can mean more pain, no matter what form of arthritis you have.
- Protect your joints. Avoid excess stress on your joints, using larger, stronger joints to carry things.
- Take time to relax. Listening to your favorite music, laughing, gardening, and keeping a journal all help to keep your mind off pain and can be therapeutic to your joints and mood.
- Be aware of your medication options. In the past few years, the FDA has approved many new drugs for arthritis. If your current medication isn't working as well as you would like or is causing too many side effects, ask your doctor about further treatment options.

What resources are available to me to obtain more information about arthritis?

- Arthritis Foundation
www.arthritis.org
Local Pittsburgh branch: 332 Fifth Ave. Pittsburgh, PA 15222

The Arthritis Foundation is found around the USA and offers information on local support groups and services. It also provides free literature, self-help courses, and physician referral lists. The Arthritis Foundation also publishes a magazine called "Arthritis Today" which provides information and advice for those with arthritis and their families.

- National Arthritis and Musculoskeletal and Skin Diseases Information Clearinghouse (NAMSIC)
www.nih.gov/niams/
National Institutes of Health
1 AMS Circle
Bethesda, MD 20892-3672
301-495-4484

NAMSIC provides information about various types of arthritis and other related diseases. Articles can be found about the latest treatments and research advances related to arthritis.

- WebMD
www.webmd.com

WebMD offers many articles about arthritis, medications, and ways to help alleviate the associated symptoms.

Resources

Resources used to make this fact sheet include:

- The Food and Drug Administration, FDA Consumer Magazine. www.fda.gov/fdac/features/296_art.html (site visited 9/12/01)
- Well Connected Report. www.well-connected.com (site visited 9/12/01)
- Newsweek, September 3, 2001
- Arthritis Foundation. www.arthritis.org (site visited 9/10/01)
- National Institute of Arthritis and Musculoskeletal and Skin Diseases of The National Institutes of Health. www.nih.gov/niams
- WebMD. www.webmd.com (site visited 9/10/01)