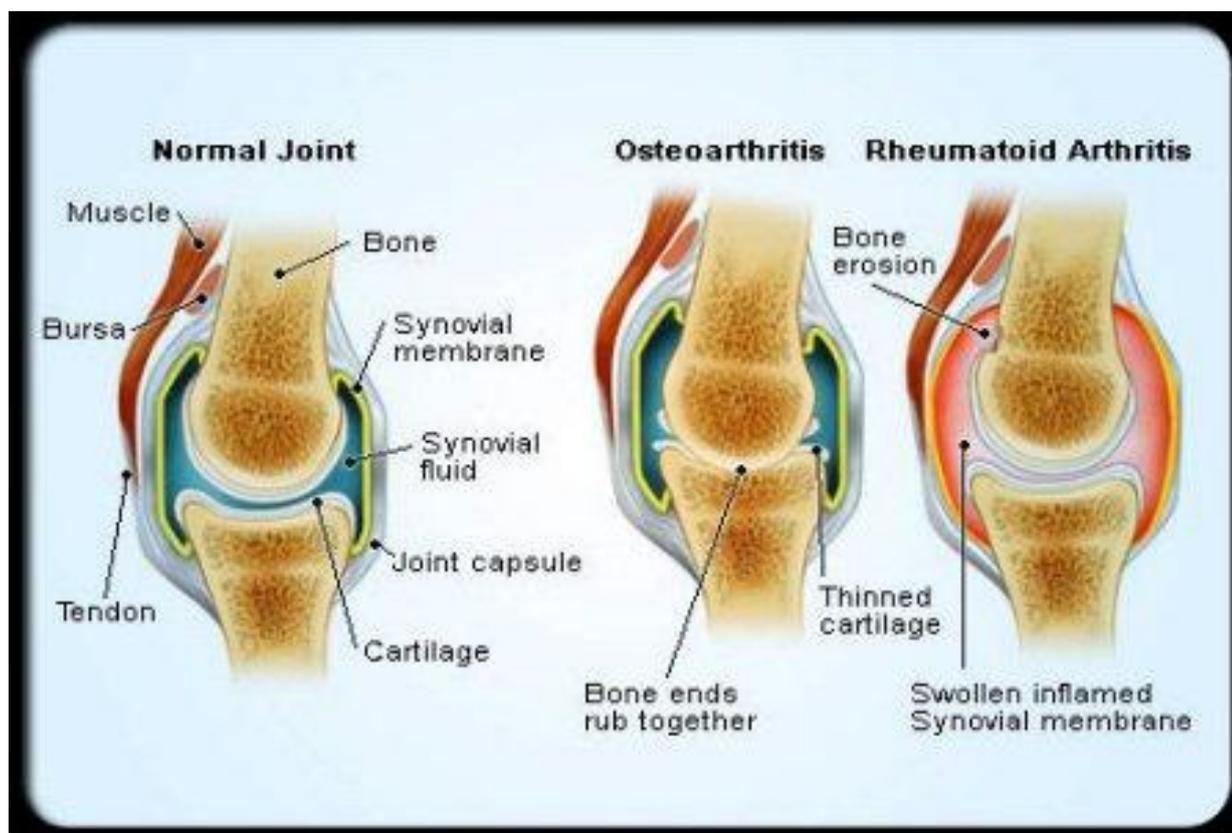


Rheumatoid arthritis (RA) is a chronic, inflammatory autoimmune disorder that causes the immune system to attack the joints.

It is a disabling and painful inflammatory condition, which can lead to substantial loss of mobility due to pain and joint destruction.

## Diagnosis

Arthritis is a general term that means inflammation in a joint. Joint inflammation is characterized by redness, warmth, swelling and pain within the joint.



Rheumatoid arthritis is a type of chronic arthritis that typically occurs in joints on both sides of the body (such as hands, wrists or knees). This symmetry helps distinguish rheumatoid arthritis from other types of arthritis.

In addition to affecting the joints, rheumatoid arthritis may occasionally affect the skin, eyes, lungs, heart, blood, or nerves.

### **What Are the Symptoms of Rheumatoid Arthritis?**

Symptoms of rheumatoid arthritis include:

- Joint pain and swelling
- Stiffness, especially in the morning or after sitting for long periods
- Fatigue

Rheumatoid arthritis affects everyone differently. In most people, joint symptoms develop gradually over several years. But in some, rheumatoid arthritis may progress rapidly and yet other people may have rheumatoid arthritis for a limited period of time and then enter a period of remission.

### **Who Gets Rheumatoid Arthritis?**

Rheumatoid arthritis is two to three times more common in women than in men, men tend to be more severely affected when they get it. It usually occurs in middle age, however, young children and the elderly also can develop rheumatoid arthritis.

### **What Causes Rheumatoid Arthritis?**

The exact cause of rheumatoid arthritis is unknown, but it is thought to be due to a combination

of genetic, environmental and hormonal factors. With rheumatoid arthritis, something seems to trigger the immune system to attack the joints and sometimes other organs. Some theories suggest that a virus or bacteria may alter the immune system, causing it to attack the joints.

Research hasn't been able to determine exactly what role genetics plays in rheumatoid arthritis. However, some people do seem to have a genetic or inherited factor that increases their chance of developing rheumatoid arthritis.

### **How Does Rheumatoid Arthritis Affect the Body?**

Once the immune system is triggered, immune cells migrate from the blood into the joints and joint-lining tissue, called synovium. There the immune cells produce inflammatory substances. The increased number of cells and inflammatory substances within the joint cause irritation, wearing down of cartilage (cushioning material at the end of bones), and swelling and inflammation of the joint lining. Inflammation of the joint lining stimulates it to produce excessive joint fluid within the joint.

As the cartilage wears down, the space between the bones narrows. If the condition worsens, the bones could rub against each other.

As the joint lining expands, it may invade into, or erode, the adjacent bone, resulting in irreversible bone damage. All of these factors cause the joint to become very painful, swollen, and warm to the touch.

### **How Is Rheumatoid Arthritis Diagnosed?**

The diagnosis of rheumatoid arthritis is based on a combination of factors, including:

- The specific location and symmetry of painful joints, especially the hand joints.
- The presence of joint stiffness in the morning.
- Presence of bumps and nodules under the skin (rheumatoid nodules).

- Results of X-ray tests that suggest rheumatoid arthritis.
- Positive results of a blood test called the rheumatoid factor.

Most, but not all, people with rheumatoid arthritis have the rheumatoid-factor antibody in their blood. (Rheumatoid factors are actually antibodies that bind other antibodies.) Rheumatoid factor may sometimes be present in people who do not have rheumatoid arthritis. Other diseases can also cause the rheumatoid factor to be produced in the blood. Therefore, the diagnosis of rheumatoid arthritis is based on a combination of the joint symptoms and appearance as well as laboratory information and not just the presence of the rheumatoid factor in the blood.

A newer, more specific blood test for rheumatoid arthritis is the citrulline antibody test. When positive, it is very suggestive of rheumatoid arthritis. Citrulline antibody presence also implies a tendency toward a more aggressive form of rheumatoid arthritis.

People with rheumatoid arthritis may have a mild anemia. Blood tests may also reveal an elevated erythrocyte sedimentation rate (ESR) or elevated C-reactive protein (CRP) levels, which are markers of inflammation.

Some people with rheumatoid arthritis may also have a positive antinuclear antibody test (ANA). This test is indicative of the fact that rheumatoid arthritis is an autoimmune disease.

### **How Is Rheumatoid Arthritis Treated?**

There are many different ways to treat rheumatoid arthritis. Treatments include medications, rest and exercise, and surgery to correct damage to the joint.

The type of treatment will depend on several factors including the person's age, overall health, medical history and severity of the arthritis.

### Medications

There are many medications available to decrease joint pain, swelling and inflammation. Some of these medications prevent or minimize the progression of the disease.

Medications that offer relief of arthritis symptoms (joint pain, stiffness and swelling) include:

- Anti-inflammatory painkiller drugs, such as aspirin, ibuprofen or naproxen
- Topical (applied directly to the skin) pain relievers
- Corticosteroids, such as prednisone
- Narcotic pain relievers

There are also many strong medications called disease-modifying antirheumatic drugs (DMARDs) that are used to treat rheumatoid arthritis. These medicines usually work by interfering with or suppressing the immune system attack on the joints. They include:

- Plaquenil (originally used to treat malaria)
- Immune suppression drugs such as methotrexate, Imuran, Cytoxan, and cyclosporin
- Biologic treatments, such as Enbrel, Humira, Remicade, Orencia, and Rituxan
- Other drugs, such as Azulfidine and Arava

### Why Is Rest and Exercise Important?

A balance of rest and exercise is important in treating rheumatoid arthritis. During flare-ups (worsening of joint inflammation), it is best to rest the joints that are inflamed. This may be accomplished by the temporary use of a cane or joint splints.

When joint inflammation is decreased, guided exercise programs are necessary to maintain flexibility of the joints and to strengthen the muscles that surround the joints. Range-of-motion exercises should be done regularly to maintain joint mobility.

## **When Is Surgery Necessary?**

When joint damage from the arthritis has become severe or pain is not controlled with medications, surgery may be an option to help restore function to a damaged joint.

## **Can Rheumatoid Arthritis Be Cured?**

Although there is not yet a cure for rheumatoid arthritis, early, aggressive treatment has been shown to help prevent disability.

## **Here are 10 Important Questions to Ask Your Doctor About Rheumatoid Arthritis**

If you have rheumatoid arthritis, you may want to ask your doctor these 10 questions.

1. How advanced is my arthritis?
2. Do I have the rheumatoid factor antibody? What is the significance of its presence and level?
3. What are the potential side effects of my medications and how will they be monitored?
4. How should I treat those side effects? When should I call you about them?
5. Should I try one of the newer disease-modifying drugs?
6. What should I use when the pain flares?
7. Would a Cox-2 inhibitor be a better choice for me?
8. What exercises would be best for me?
9. Would physical therapy be appropriate for me?
10. Are there any clinical trials appropriate for me?

-----  
Sources: American College of Rheumatology: "Rheumatoid Arthritis." American Academy of Family Physicians: "Rheumatoid Arthritis." American Autoimmune Related Diseases Association: "Autoimmune Diseases in Women." UptoDate for Patients: "Clinical Features of Rheumatoid Arthritis." Edited by William C. Shiel Jr., MD, FACR, FACP on May 01, 2007

