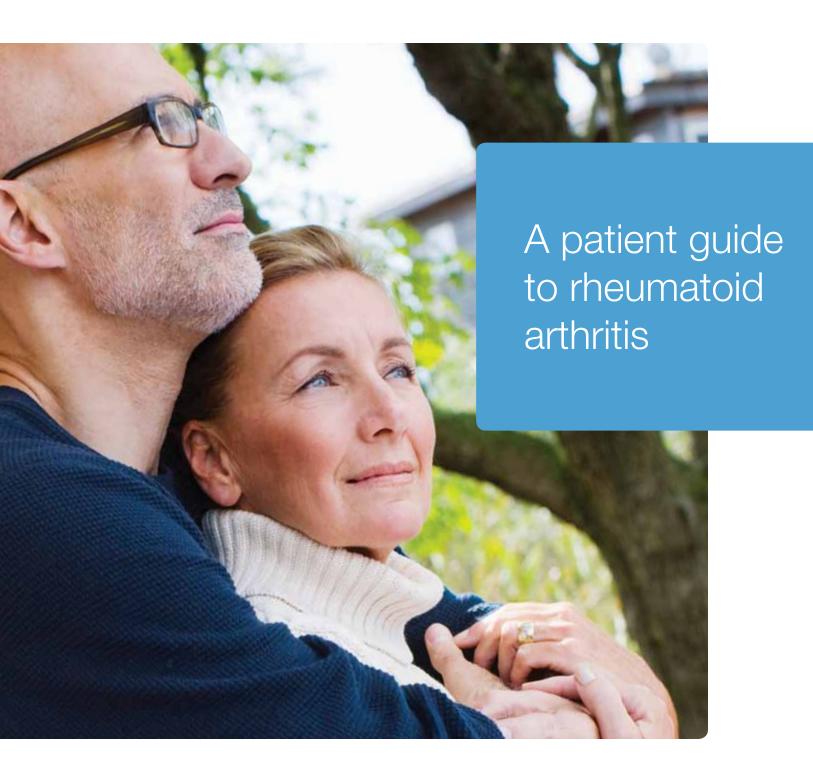
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### Understanding rheumatoid arthritis (RA)

Understanding your diagnosis of rheumatoid arthritis, or RA, can help you take control of your health. Although there is no cure for RA, the number of treatment options has increased over the last 10 years. Newer, more targeted therapies can minimize pain and help you stay active. Beginning treatment soon after your diagnosis can help prevent long-term damage to your joints and your overall health.

This booklet will provide you with information about RA, what to expect after your diagnosis and how to manage symptoms to live a full and active life.

#### How RA affects joints

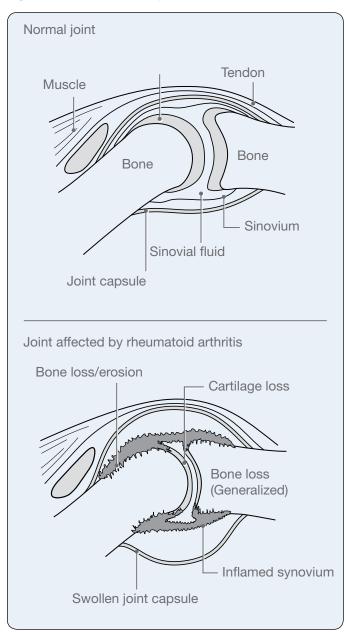
RA is a progressive, long-term condition that causes inflammation, or swelling, in the body's joints. The resulting pain and stiffness can make it difficult to move around or complete everyday tasks.

Each joint in the body is a location where the ends of two bones meet. The ends of the bones are connected together with a flexible coating called cartilage, as shown in Figure 1. Each joint is surrounded by synovium, a type of tissue that lubricates and nourishes the joint. In RA, this tissue becomes swollen and thick. This damages the cartilage and bone, weakens the tendons and nearby muscles, and makes it difficult to move. In some cases, severe swelling can cause the joints to become crooked and deformed.

RA can affect many joints, including the hands, feet, wrists, elbows, shoulders, neck, hips and knees.

As shown in Table 1 on page 2, RA differs from osteoarthritis in several ways. RA usually affects the small joints in the hands and feet. In some people, the inflammation in RA might also affect other parts of the body, including the eyes, heart, lungs and kidneys.

Figure 1: How RA affects joint structure



Source: Handout on health: rheumatoid arthritis.National Institute of Arthritis and Musculoskeletal and Skin Diseases Web site. www.niams.nih.gov/hi/topics arthritis/rahandout.htm. Accessed July 10, 2010.

Table 1: Comparing rheumatoid arthritis and osteoarthritis

Characteristic	Rheumatoid arthritis	Osteoarthritis
Age at diagnosis	Between 30 and 50	55 or older
Development of condition	Develops quickly over weeks to months	Develops slowly over years
Most commonly affected joints	Small joints in the wrist, fingers, knuckles, ankles, feet and elbows	Hips, knees, fingers and shoulders
Common symptoms	<ul> <li>Morning pain and stiffness that lasts longer than 30 minutes</li> <li>Stiffness and swelling that affects joints equally on both sides of the body (symmetric)</li> <li>Tiredness and fever</li> </ul>	<ul> <li>Stiffness after activity, at bedtime or in the morning that goes away after 30 minutes</li> <li>Affected joints not always on both sides of the body (asymmetric)</li> <li>Swelling usually only in affected knees</li> </ul>

#### Who develops RA?

Although it is not clear what causes RA, certain risk factors can make a person more likely to develop the disease:

- Age. Although the disease often begins in middle age and occurs with increased frequency in older people, children and young adults also develop it.
- **Gender**. Hormones might play a part in who develops RA. About 75 percent of those with RA are women, though the reason is unknown.
- Genes. There is some indication that RA is hereditary, or passed down through your family. If one or both of your parents were diagnosed with RA, you might have inherited certain genes that made you more likely to develop RA. However, many people can inherit and carry the genes without developing the disease.

- Environment. Some people who have inherited the likelihood of developing RA may not develop the disease until something in the environment, like bacteria or a virus, triggers the disease process.
- **Lifestyle**. Heavy smoking might increase the risk of developing RA, even in people who do not carry the genes that lead to RA.

#### Causes of RA

Unlike osteoarthritis, RA is not caused by "wear and tear" on the joints. RA is an autoimmune disease. This means it occurs because the body's immune system is not working properly. Your immune system serves as your body's guard against illness. It is designed to seek out and attack any intruding bacteria or viruses that could make you sick. It also helps your body recover and heal after an injury.

When your immune system is not working properly, it cannot tell the difference between harmful intruder cells and good cells from your own body. Because of this, the immune system attacks your body's healthy cells by mistake.

In a person with RA, the immune system mistakenly attacks the healthy tissue surrounding the joints. At the same time, the body calls up too many cells to fight off the attack. The result is pain and swelling.

Doctors are not completely sure what causes autoimmune diseases, but some research suggests that they result from changes in the immune system. Hormones might also play a role, because women are more likely to develop autoimmune diseases like RA.

Because RA can change the immune system, those with RA also might face a slightly increased risk of certain types of cancers, including lymphoma and blood cancers.

#### Diagnosing RA

RA can be difficult to diagnose because its symptoms are similar to other types of joint disease. Also, many RA symptoms take some time to develop.

There is no single test to diagnose RA. When you were diagnosed, your doctor likely used several kinds of information:

- Your description of symptoms, such as joint pain or swelling
- A physical examination of your joints, skin, reflexes and muscle strength
- X-rays, which can show joint damage in advanced cases of RA
- Blood tests, which can identify problems in the immune system



There are three common findings in blood tests of those with RA:

- · Anemia, or a low red blood cell count
- Presence of rheumatoid factor, an antibody found in about 80 percent of those with RA
- An elevated erythrocyte sedimentation rate or "sed rate," which is linked to the level of inflammation in the joints



#### Coping with RA symptoms

RA is characterized by inflammation of the joints that makes normal movement difficult or uncomfortable. Pain, stiffness, swelling, redness and warmth in the joints are common symptoms. The symptoms typically appear first in the wrists and fingers, then in the elbows, ankles, feet and toes before moving to other joints in the body. Symptoms are usually symmetric, appearing equally on both sides of the body.

Other symptoms can include:

- Pain and stiffness in the joints for more than 30 minutes after awakening in the morning or after a long rest
- · Mild fever
- Fatigue or tiredness
- Lumps called nodules under the skin at pressure points, like the elbows
- · Dry eyes and mouth
- · Numbness or tingling
- · Loss of appetite

People with RA seem to be more likely to develop periodontal disease, a chronic bacterial infection of the gums that can lead to tooth loss. About 2 percent to 5 percent of people with RA also develop rheumatoid vasculitis, a condition that causes swelling in the blood vessels that can affect the skin and other organs, including the heart and lungs. Those with RA may also develop Sjogren's syndrome, an autoimmune disease that causes dryness in the mouth, eyes and other parts of the body.

RA symptoms often cycle between flares and remissions. Flares are episodes when symptoms become worse. During remissions, there may be fewer symptoms or none at all. Nearly half of all people living with RA may be able to achieve remission, in part, because of improved treatment options and the availability of targeted treatment immediately after diagnosis.

### Living with RA

Although there is no cure for RA, there are many ways you can manage the symptoms and minimize damage to your joints. It is important that you work with your doctor to find the approach that is best for you. A rheumatologist, or doctor who specializes in treating arthritis and other bone and joint diseases, can offer guidance.

The main goals of RA therapy are:

- Reducing swelling and pain in the joints
- Preserving movement
- Slowing the progression of the disease
- Minimizing or preventing permanent damage to the joints

Lifestyle changes and medication help most people with RA achieve these goals. In some cases, surgery may be recommended.

#### Lifestyle changes

Physical activity, changing the way you approach everyday tasks, eating right and managing stress can help you feel better each day.

#### Physical activity

Regular, gentle exercise will help keep your joints flexible and the rest of your body healthy. It also can help you maintain a healthy weight to minimize any extra stress on your joints. Talk to your doctor or your physical therapist about doing three types of exercise:

- Stretching and range-of-motion, like gentle yoga or tai chi
- · Strengthening, such as weight training
- Cardiovascular, or aerobic, including walking or swimming

It is important to balance exercise with rest, especially when you are experiencing a flare. Your doctor or physical therapist can talk to you about how long you should take a break from exercise when you are experiencing a flare. You might also want to use a splint, brace or other support item that can help stabilize your joints during exercise or even during daily activities.



#### **Everyday tasks**

Pain and swelling in your joints might make it hard to complete daily tasks at home or work. You can make small modifications to help make your everyday routines safer and easier.

#### At home:

- Arrange items in your cupboards and cabinets so items that you use most often are at the front of the lowest shelves.
- Try to replace heavy appliances, like vacuum cleaners, with lighter models.
- Tie string or strips of cloth to the handles of cabinets and drawers to make them easier to open.
- Replace doorknobs with levers that you can push down to open.
- Make sure area rugs are fixed to the floor with adhesive or fabric fasteners so they do not slide around.



#### At work:

- Arrange your desk or workspace so you can complete tasks with the least amount of physical strain.
- Take breaks from repetitive motion as often as you can.
- Tackle your most important tasks at the time of day when you feel most energetic.

#### **Managing flares**

It is not clear what triggers flares, but for some people, the episodes may be brought on by stress or infection. When flares occur, there are steps you can take to manage the pain and continue your daily activities:

- Apply a hot or cold pack to swollen joints.
  - Use heat to relieve pain and relax your muscles.
  - Use cold for occasional flares to dull the sensation of pain and decrease muscle spasms.
  - Do not use either if you have poor circulation or numbness.
- Use relaxation and other mental techniques to keep your mind off the symptoms.
- Balance daily activities and exercise with periods of rest.
- Get help from others.
  - Don't be afraid to ask for help from family, friends or co-workers.
  - Build a support group.
- Create a back-up plan. Talk to your family and coworkers about how they can help if you experience a flare and are unable to complete everyday tasks.

Talk to your doctor about what you should do in case of a flare, and create a plan that is easy to follow.

#### Healthy eating

It is important to follow a healthy, balanced diet that includes:

- · Whole grains, like oatmeal or brown rice
- Fruits and vegetables
- Low or no saturated fat, especially animal fat
- · Low amounts of salt and sugar
- The daily recommended amount of vitamins and minerals

Research has also suggested that eating foods rich in omega-3 fatty acids, such as fish, can help reduce inflammation in your body.

If you drink alcohol, do so in moderation. If you notice certain foods seem to increase the swelling in your joints, try to avoid them.

#### Maintaining emotional health

You can also improve your physical health by improving your emotional health. High levels of stress might increase your tendency to experience flares and might make it more difficult to deal with the challenges of living with RA.

You can take steps to understand and control your stress:

- Spend some time to identify what stresses you by keeping a journal or diary.
- Try to avoid things that contribute to your stress.
- Develop positive ways to cope, like making time for hobbies you enjoy or simply relaxing in a quiet space each day.



Sometimes, you might find yourself feeling frustrated or sad about some of the challenges you face when living with RA. Tasks that used to be simple might now be difficult or might require the help of others. Some days, pain and fatigue might leave you feeling helpless or overwhelmed. It's normal to feel this way, especially at first. It can help to seek support from friends and family or take extra time to do things that make you happy. You might want to find a support group or online message board for people with RA.

It's also important to know that symptoms of depression may include some or all of the following:

- · Feeling sad, empty or anxious most of the time
- Losing interest or pleasure in activities that you previously enjoyed
- Being tired or lacking energy
- · Feeling restless or irritable
- · Eating too much or too little
- · Having difficulty concentrating or making decisions
- Feeling worthless, helpless or guilty
- · Sleeping too much or too little
- · Thinking about death or suicide

If you have thoughts of suicide, you should call 911 or your local emergency services number. If you don't want to do that, contact a doctor, mental health professional, crisis center or hotline.

If you think you may be depressed, talk with your doctor. Your doctor may recommend counseling (also called psychotherapy), antidepressant medications or a combination of both. Counseling involves talking with a mental health professional, or therapist, about your thoughts and feelings.

Antidepressant medications help correct imbalances in brain chemicals. It can take several months before you start experiencing the full benefits of antidepressants. However, you may notice side effects sooner. Side effects of antidepressants may include headache, nausea, diarrhea, constipation and lack of sex drive. Talk with your doctor if your depression does not improve. Your medication dose may need to be adjusted or you might need to try a different antidepressant.



#### RA and pregnancy

Research suggests that RA symptoms improve during pregnancy, but symptoms usually return and flares can occur after the baby is born. If you have been diagnosed with RA and you are pregnant or plan to be pregnant soon, talk to your doctor about your medications. Some RA medications are not considered safe during pregnancy, and you may temporarily have to stop taking them. Some medications can also affect fertility in both men and women. Ask your doctor which medications are safe to take when breastfeeding.



#### **Medication therapies**

Medication therapies, along with lifestyle changes, can help keep you moving with less pain. Not all treatments work for everyone, so it is important that you talk with your doctor about what works best for you now and as your needs change with time.

There are several types of medications prescribed to treat RA:

- Nonsteroidal anti-inflammatory drugs, which help relieve swelling in the joints
- Corticosteroids, which also help relieve swelling in the joints
- Disease-modifying antirheumatic drugs, which suppress the immune system to slow down the disease process
- Biologic response modifiers, which target parts of the immune system that cause the joints to swell

More information about medication therapies for RA is provided in the booklet, *Understanding your rheumatoid arthritis medications*.

#### **Protecting your bones**

Together with your doctor, you will want to track the health of your bones. You may want to ask your doctor whether you should take a bone density test. Many people with RA develop osteoporosis, a condition in which the bones become brittle and easy to break. This is especially true if you take large doses of corticosteroids, such as prednisone, over a long period of time.

There are several steps you can take to help prevent osteoporosis:

- Get enough calcium and vitamin D in your diet.
- Do gentle, weight-bearing exercise, like walking, as recommended by your doctor.
- Do not smoke.
- · Drink alcohol only in moderation.

#### Surgery

If your RA does not improve with medication therapy and lifestyle changes, or if RA has made it extremely painful, difficult or impossible to move certain joints, your doctor might suggest surgery as a treatment option.

There are several surgical procedures that may be used to treat RA:

- Arthroscopic surgery is done using a thin, lighted tube that allows the doctor to see inside your joint to remove loose cartilage, smooth joint surfaces or remove swollen tissue.
- Tendon reconstruction is used to repair and reconstruct tendons (most often in the hands) that have been damaged by RA.
- A synovectomy removes inflamed tissue around your joints.
  - This provides only temporary relief, as the tissue will eventually grow back.
  - This surgery is usually done as a part of reconstructive surgery.
- Joint fusion surgery connects the ends of two bones in a joint. This can limit movement but can relieve pain and increase stability.
- Joint replacement surgery removes an arthritic joint and replaces it with a new, artificial joint.

#### Ongoing care

You should continue to see your doctor regularly to determine how well your medication is working and whether your treatment should be adjusted. To monitor your progress, your doctor will likely perform blood tests and other lab tests. Your doctor will also monitor any side effects you might experience from RA medication and adjust your treatment as needed.



### To learn more

The more informed you are, the better you can manage your health. Our specialty pharmacy Care Team provides personalized, supportive and dependable care to help you achieve the best results from your prescribed therapy.

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#### Resources

#### American College of Rheumatology

www.rheumatology.org 404-633-3777

The ACR is an international organization that supports ongoing education, research and advocacy about rheumatic diseases, including rheumatoid arthritis. The web site features a searchable directory of rheumatologists.

#### **Arthritis Foundation**

www.arthritis.org 800-283-7800

The Arthritis Foundation is the only national notfor-profit organization that supports the more than 100 types of arthritis and related conditions with advocacy, programs, services and research.

## National Institute of Arthritis and Musculoskeletal and Skin Diseases

www.niams.nih.gov 877-22-NIAMS (64267)

Part of the National Institutes of Health, the National Institute of Arthritis and Musculoskeletal and Skin Diseases supports research on arthritis and other musculoskeletal and skin diseases. A registry of research studies on rheumatoid arthritis is available on the website.

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