RHEUMATOID ARTHRITIS
Causes, Symptoms
and Treatments

THE CONDITIONS SERIES
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What is Rheumatoid Arthritis?

Rheumatoid arthritis (RA) is a systemic inflammatory disease that can affect multiple joints in the body. Although its cause is still unknown, RA is believed to be the result of a malfunctioning immune system.

With RA, inflammation manifests in the lining of the joints causing pain, swelling, joint damage and deformity. It can occasionally involve other internal organs, such as the nerves, eyes, lungs or heart.

The symptoms and progression of RA vary widely from person to person. In many cases RA starts in a few joints then spreads to other joints over a few weeks to months. However, RA can also progress extremely rapidly; some people report that one morning they just could not get out of bed.

The earliest symptoms of RA can be non-specific, including feeling unwell or tired, soreness in or around joints, low-grade fever, and weight loss/poor appetite. As time goes on, RA can involve more and more joints on both sides of the body, often in a “symmetrical” pattern.
What is Arthritis?

The word *arthritis* means inflammation of the joint (“arthro” meaning joint and “itis” meaning inflammation). Inflammation is a medical term describing pain, stiffness, redness and swelling. Arthritis is a disease that can involve any of the joints in the body, often occurring in the hip, knee, spine or other weight-bearing joints, but can also affect the fingers and other non-weight-bearing joints. Symptoms of arthritis include joint pain, swelling, stiffness and fatigue. Untreated inflammation can eventually lead to joint damage, destruction and disability. Some forms of arthritis can also affect the body’s internal organs.

Facts on Rheumatoid Arthritis

- About one out of every 100 adult Canadians has rheumatoid arthritis (RA). That’s about 300,000 Canadians.
- Anyone can get RA at any age.
- RA affects women two to three times more often than men.
- There is no cure for RA. However, people who are diagnosed and treated early can avoid damage to their joints and lead active and productive lives.
What is Rheumatoid Arthritis?

Early Signs of RA

The onset of RA usually starts over a period of weeks to months, with more joints affected over time. You should see your doctor if you experience one or more of the following symptoms for more than six weeks:

- pain and stiffness in multiple joints, sometimes affecting the same joints on both sides of your body
- stiff joints in the morning lasting 60 minutes or more
- reduced range of motion, such as difficulty making a fist
- joint swelling, sometimes feeling hot to touch
- fever, fatigue, weight loss or decreased appetite
- nodules (growth that forms under your skin), most commonly on the elbows, hands and feet; this occurs in 20 per cent of people

How is RA Diagnosed?

Establishing an accurate diagnosis is very important because there are many treatment options to manage RA and its symptoms. If your family doctor suspects you have RA he or she should refer you to a specialist and indicate that RA is suspected. Evidence shows that early diagnosis and treatment can reduce joint damage.

There are no tests that can reliably make the diagnosis of RA. If you have signs and symptoms of RA, your doctor will examine your joints and take your medical history. If indicated, he or she may order blood tests (rheumatoid factor (RF) or cyclic citrullinated peptide (CCP) antibody), both of which can help confirm the diagnosis. Your health-care provider may also order X-rays to look for early damage to joints.
Why is Treatment for RA so Important?

RA causes inflammation of the lining in the affected joints. The inflammation leads to swelling, stiffness and increased warmth of the affected joint(s). It can also affect other parts of the body like eyes, heart or lungs. You can think of this inflammation like a “fire” burning in the joints. If the fire of inflammation is left “burning,” it can permanently damage the joint. Once a joint is damaged, it cannot be fixed other than through surgery. Just as you would try to put out a fire in your home with a fire extinguisher before it spreads, you want to put out the inflammation of RA as quickly and as safely as possible. Normally RA is managed by a specialist doctor known as a rheumatologist.

It is important to treat RA early as research has confirmed that treating RA early and aggressively improves the long-term outcome and often significantly reduces damage.

Joints Affected by Rheumatoid Arthritis

Any joint can be affected but early in the course of RA, the joints most commonly involved include:

- Small joints of the hands and feet
- Wrists
- Elbows
- Shoulders
- Knees
- Ankles
What is Rheumatoid Arthritis?

Risk Factors

The exact causes of RA are unknown, but research has shown that several factors may contribute to its development:

**Family history:** Some people who develop RA have genetic risk factors. However, having genetic risk factors for RA does not necessarily mean you will develop the disease.

**Gender:** RA affects women two to three times more often than men.

**Hormones:** There seems to be an increased risk of RA related to hormonal changes. For instance, RA symptoms often improve during pregnancy, however, these women may experience a flare up after delivery. RA is less common among women who breastfeed. Also, some studies have even found that women who’ve used oral contraceptives had a modest decrease in the risk of RA.

**Age:** Anyone can get RA at any age, but the risk does increase with age (commonly developing between ages 40 and 60).

**Environment:** Infection can trigger RA in people who are genetically predisposed to it. However, it’s important to remember that RA is not an infectious disease, nor is it contagious.

**Smoking:** Studies have shown that of all environmental factors contributing to RA, smoking is the most convincingly linked.
Treatments for Rheumatoid Arthritis

What Medications Are Used for RA?

The general approach to treating RA is to reduce inflammation and prevent long-term damage to the joints. Pain management is also important. The cornerstone of medication therapy for RA is disease-modifying anti-rheumatic drugs (DMARDs) and a newer class of medications called biologics.

Corticosteroids

Cortisol is a hormone produced naturally by the body's adrenal glands that has many functions in our bodies. One of cortisol's important actions is its anti-inflammatory function. Cortisol can be considered the "brake" for the immune system, preventing it from overreacting to infections, injuries and trauma. However, steroids have many potential long term side effects. Therefore, they are often used as an interim measure to help control inflammation while waiting for the slower-acting DMARDs to take effect or in the case of someone experiencing a flare of inflammatory arthritis. Ideally, steroids should be used at the lowest dosage that provides benefit for the shortest period of time.

Disease-Modifying Anti-Rheumatic Drugs (DMARDs)

DMARDs are a class of medications used to treat many different types of inflammatory arthritis, such as RA, and work well for most people. The earlier a DMARD is started the more effective it can be to suppress inflammation and prevent joint damage. It is important to slow or even stop the progression of
joint damage, but keep in mind that DMARDs cannot fix joint damage that has already occurred.

Biologics

Biologics are drugs made from living cells (human, animal, bacteria, etc.). They are a class of medications specially designed to treat inflammatory types of arthritis, such as RA. Biologic medications work by modifying the body’s inflammatory response. Like DMARDs, biologics can reduce pain, joint inflammation and damage to bones and cartilage.

Biologics are administered in two ways: infusion and injection. An infusion means the medication is delivered intravenously (IV) via a needle in your arm, which is carried out by a healthcare professional. A subcutaneous (s.c.) injection means that the medication is delivered through a needle into the fatty layer of tissue under the skin of your abdomen or thigh (similar to how a diabetic would administer insulin). You can administer the injection yourself or a family member or friend can do this for you.

Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)

Non-steroidal anti-inflammatory drugs (NSAIDs) are a class of medications used to treat the pain and inflammation of arthritis. They do not contain steroids,
hence the name “non-steroidal.” It is important to remember that these medications work to control symptoms, but do not prevent progression or damage. As a result, these medications are used in conjunction with DMARDs or biologics. They may be taken on an as-needed basis. That being said, some patients may find it helpful to take NSAIDs on a regular basis to control their pain. These medications are not appropriate for everyone so please speak with your doctor or pharmacist before trying them.


Complementary Therapy

People with a chronic disease like RA may decide to try complementary and alternative therapies to help them manage the symptoms of their condition. Complementary and alternative therapies are treatments that fall outside the scope of traditional North American medicine. Examples include naturopathic medicine, acupuncture and meditation.

Before you try any of these treatments, always inform your health-care provider of any complementary and alternative therapies you are taking, receiving or would like to try. Your health-care provider can offer valuable advice about these treatments, especially how they may affect other medications and treatments.

Acupuncture

Acupuncture, an ancient Chinese therapy, involves pricking the skin or tissues with needles to alleviate pain and treat various physical and mental health conditions. There is some research showing
acupuncture can relieve pain for some types of arthritis, and in turn pain relief may reduce stress. Few complications have been reported with the use of acupuncture for RA, but it’s important to find a certified practitioner.

**Massage**

Massaging of muscles and other soft tissues, by a professional massage therapist, may lead to a decrease in stiffness and pain. Other benefits may include a reduction in stress and anxiety as well as improved mobility and overall function of the joints.

**Homeopathy**

Homeopathy is an alternative medical therapy that uses natural remedies from plants, animals and minerals to stimulate the body’s self-healing abilities. It can be used to relieve symptoms of a condition or illness. Although there is no scientific basis to recommend homeopathy for RA, there is low risk of harm from using these remedies.

**Dietary Supplements**

Fatty acids have been shown in some studies to reduce inflammation.

- **Omega-3**: Omega-3 polyunsaturated fatty acids can be found in products like fish oil, which comes from cold-water fish, such as salmon and tuna. However, be aware that omega-3 fatty acids can interact with medication you may be taking for arthritis or other conditions, such as high blood pressure. For instance, it can increase the risk of bleeding, especially in people who take aspirin. Therefore, it is best to consult your doctor or pharmacist before taking omega-3 supplements.
• **Omega-6**: Omega-6 fatty acid, which is found in the oil from seeds of several plants including evening primrose, borage and black currant, is used to reduce symptoms of RA. However, evidence is limited as to whether these fatty acids actually work to reduce inflammation.

**Meditation**

Meditation is a mind-body practice intended to quiet the mind by focusing on your breathing. Some studies have found that meditation, if practiced regularly, can ease pain and anxiety in individuals with RA. It can also offer people a heightened sense of calmness and control.

![NOTE: For more information on complementary therapy, check out Complementary and Alternative Therapies, available at arthritis.ca/publications.]

**Surgery**

In some cases, your doctor may refer you to an orthopaedic surgeon or a plastic surgeon for surgery on a joint that has become badly damaged.

The goal of surgery is to restore use of the joint(s), correct deformities and reduce pain. However, it's important to remember that surgery is not a treatment for the inflammation of RA.

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Also, keep in mind that there are a number of different kinds of surgeries for RA, ranging from minor procedures to complete joint reconstruction. The decision to have surgery is a major one so explore this option thoroughly. For more information on joint replacement, visit myjointreplacement.ca.
Therapies, such as physiotherapy, occupational therapy, physical activity, healthy eating and relaxation techniques, are a very important part of the management of RA. It is always best to speak with your health-care provider about any and all treatments you are considering.

Physical Activity

A common misconception is that a painful joint requires rest. On the contrary, not enough exercise can cause muscle weakness and worsening joint pain and stiffness. (However, when you are experiencing a flare and/or your joint(s) is swollen and hot, you should rest the joint(s) and only perform light range of motion exercise).

Physical activity protects joints by strengthening the muscles around them. Strong muscles and tissues support those joints that have been weakened and damaged by arthritis. A properly designed program of physical activity (with advice from a health-care provider, such as a physician or a physiotherapist/occupational therapist) reduces pain and fatigue, improves mobility and overall fitness and alleviates depression. Physical activity can help someone with arthritis to lead a more productive and enjoyable life.

There are different types of exercises you can do to lessen your pain and stiffness:

- **Range of motion (also called stretching or flexibility exercises):** Exercises that reduce pain and stiffness and keep your joints moving. To achieve the most benefit, these exercises should be done daily. Also, visit arthritis.ca/videos to view our “Simple Stretches” video.
• **Strengthening:** Exercises that maintain or increase muscle tone and protect your joints. These exercises include weight training movements done with a set of “free” weights, your own body weight or weight machines.

• **Endurance:** Exercises that strengthen your heart, give you energy, control your weight and help improve your overall health. These exercises include walking, swimming and cycling. It is best to avoid high-impact exercises like step aerobics, jogging or kickboxing.

There are many low-impact exercise options that can benefit people living with arthritis. Consult your health-care provider to find an exercise(s) that is suitable to you and your particular condition. Examples include:

• **Tai Chi:** Tai Chi, an ancient Chinese martial art, is a combination of movements performed in a slow, focused manner. Though it has many variations and styles, Tai Chi is a low-impact exercise and is reminiscent of both yoga and meditation. Tai Chi could improve pain and physical function in some people as well as alleviate depression and contribute to health-related quality of life.

• **Yoga:** Numerous studies have been done on the benefits of yoga on stress and anxiety. The practice of breath control, simple meditation and stretching can improve a person’s state of mind and help them better manage their pain. Regular yoga under the guidance of a certified instructor can also boost one’s general health and increase energy levels.

**NOTE:** People living with arthritis should avoid strenuous yoga routines, such as Bikram and power yoga.
• **Aerobic Exercise**: Low-impact aerobic exercise that gets your heart pumping, such as swimming, biking and brisk walking, can help improve your sleep, keep weight under control and alleviate stress and depression that is sometimes linked to RA. It can also protect you against heart disease, which is important since RA can increase the risk of this condition.

**NOTE**: For more exercise tips, check out our *Physical Activity and Arthritis* guide, available at arthritis.ca/publications.

**Heat and Cold Therapy**

**Heat**: Taking a warm shower and using warm packs are ways to help reduce pain and stiffness. Always use a protective barrier, such as a towel, between the warm pack and the skin. Heat is ideal for:

- relieving pain and stiffness
- relieving muscle spasms and tightness
- enhancing range of motion

**NOTE**: To avoid making symptoms worse, heat should not be applied to an inflamed joint.

**Cold**: Using a commercial cold pack or a homemade one (from crushed ice, ice cubes or a bag of frozen vegetables) can be helpful. Always use a protective barrier, such as a towel, between the cold pack and the skin. Cold is ideal for:

- swelling
- decreasing pain
- constricting blood flow to an inflamed joint
Protecting Your Joints

You should always use your joints in ways that avoid excess stress. Techniques to protect your joints include:

- **Pacing** by alternating heavy or repeated tasks with lighter tasks. Taking a break reduces the stress on painful joints and conserves energy by allowing weakened muscles to rest.

- **Positioning joints wisely** promotes proper alignment and decreases excess stress. For example, squatting and kneeling may put extra stress on your hips or knees. When lifting or carrying heavy items, keep items at waist height and avoid carrying them up and down stairs.

- **Using helpful tools and assistive devices** conserves energy and makes daily tasks easier. Raise seat levels to decrease stress on hip and knee joints. Use a “reacher” to pick up items from the ground. Use a cane to decrease stress on hip and knee joints. Enlarge grips on utensils, such as spoons or peelers, to decrease stress on delicate hand joints. Other devices to consider include carts for carrying objects and jar/tap openers.

- Talk to your doctor about seeing an [occupational therapist or physiotherapist](#), who may prescribe splints, braces or orthotics (shoe inserts) to help align and support your joints.
Healthy Eating and Weight Control

Often RA results in loss of appetite and/or weight loss, which is why it is important to eat a balanced diet. Healthy eating will give you the energy to complete your daily activities as well as to promote a strong immune system, and bone and tissue health.

Three ways to improve your nutrition include:

1. **Reduce sugar intake**: Sugar contains “empty” calories and has no nutritional value so it should be cut back. This refers to syrup as well as white, brown, cane and raw sugar. Use dried fruits like raisins or dates to sweeten food since they provide vitamins, minerals and fibre.

2. **Eat more fruit and vegetables**: Fruit and vegetables should make up the largest component of your diet. Try to have at least one vegetable or fruit at every meal and as a snack. Besides being an excellent source of energy, fruit and vegetables boost your fibre intake and are loaded with antioxidants, which help boost the immune system.

3. **Choose “healthy fats”**: The type and amount of fat you eat is important. You need some fat in your diet, but too much can be bad for your health. Also, some types of fat (saturated and trans fats) may increase your risk of developing heart disease and should be limited. The two good-for-you fats are polyunsaturated and monounsaturated fats. Monounsaturated fat is found naturally in olive

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and canola oil, avocados and nuts like almonds, pistachios and cashews. Polyunsaturated fats include omega-3 and/or omega-6 fatty acids and can be found in cold-water fish, walnuts, sunflower seeds and flaxseeds. Fats that should be limited include trans fats, which are found in fried and processed foods, and saturated fats, which mainly come from animal sources of food, such as red meat, poultry and full-fat dairy products. (Tip: Choose lower-fat milk products. This means a milk fat (M.F.) of less than 2% for milk, cottage cheese and yogurt and less than 20% for cheeses.)

**NOTE:** For more healthy eating tips, check out our Nutrition and Arthritis guide, available at arthritis.ca/publications.

### Relaxation and Coping Skills

Developing good relaxation and coping skills can help you maintain balance in your life, giving you a greater feeling of control over your arthritis and a more positive outlook. Relaxing the muscles around a sore joint reduces pain. There are many ways to relax. Try deep breathing exercises. Listen to music or relaxation tapes. Imagine or visualize a pleasant activity, such as lying on a beach.

**NOTE:** For relaxation and other tips, try our free Overcoming Fatigue online program at: arthritis.ca/education.
About The Arthritis Society

The Arthritis Society has been setting lives in motion for over 65 years. Dedicated to a vision of living well while creating a future without arthritis, The Society is Canada’s principal health charity providing education, programs and support to the over 4.6 million Canadians living with arthritis. Since its founding in 1948, The Society has been the largest non-government funder of arthritis research in Canada, investing nearly $190 million in projects that have led to breakthroughs in the diagnosis, treatment and care of people with arthritis.

Become a Volunteer

Help others through meaningful work. By volunteering with The Arthritis Society, you can give back to your community, learn new skills, gain work experience and meet new friends. Visit arthritis.ca or call 1.800.321.1433.

Donate Online

Donations to The Arthritis Society support vital research and services that help improve the lives of people with arthritis. There are many ways to give, visit arthritis.ca/donate to make a contribution and learn more.
How We Can Help

The Arthritis Society offers free education, programs and support to Canadians living with arthritis.

- **Programs and services:** Join us for adult and child educational sessions, such as the Chronic Pain Management Workshop ([arthritis.ca/cpmw](http://arthritis.ca/cpmw)) and various public forums.

- **Online self-management courses:** Try e-learning programs like *You and Your Health-Care Provider: A Guide for Effective Conversations* and *Overcome Fatigue* ([arthritis.ca/education](http://arthritis.ca/education)).

- **Publications:** We publish several information booklets to help people living with arthritis understand more about their condition and treatment options as well as tips on how to self-manage. For a list of arthritis conditions and related resource materials, including a digital copy of this information, visit [arthritis.ca/publications](http://arthritis.ca/publications).

Learn more and connect with our online community at arthritis.ca.