

TRAIN FOR SUCCESS INC.  
ARTHRITIS 4 Hr

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*PREPARED BY*

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## ARTHRITIS 4 Hr

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### **PURPOSE**

The purpose of this course is to educate and reinforce the knowledge of nurses; ARNP, CNS, RN, LPN, CNA /HHA, Occupational Therapists (OT/OTA) and other individuals who are working in the health care environment, as well as other students/ individuals regarding Arthritis, the various types of Arthritis, risk factors for the development of arthritis, diagnosing and various treatment options. Discuss the occupational therapists and physical Therapists' role in Managing Arthritis and review the Centers for Disease Control and Prevention (CDC) plans and function to help individuals with arthritis to better manage their condition through intensive self-management education and physical activity interventions.

### **OBJECTIVES/ GOALS:**

After successful completion of this course the participants will be able to:

1. Define Arthritis and detail the symptoms often experienced by patients
2. Describe the various types of Arthritis
3. Discuss Osteoarthritis/ degenerative joint disease and ankylosing spondylitis
4. Describe Gout, Systemic lupus erythematosus (SLE) and effects on the joints
5. Describe Rheumatoid arthritis (RA), Juvenile idiopathic arthritis (JIA)
6. Describe various risk factors for the development of arthritis
7. Discuss Arthritis Pain Management
8. Discuss various testing to confirm /diagnose Arthritis
9. Describe various types and treatments
10. Discuss the occupational and physical therapist role in Managing Arthritis.

## ARTHRITIS

Arthritis is a general term for a group of more than 100 diseases. The word arthritis means joint inflammation.



Inflammation is a natural reaction of the body when there is injury or disease and includes:

- Swelling,
- Pain,
- Stiffness.

Inflammation that lasts for a prolonged period of time or may recur, as seen with arthritis and can lead to damage to the tissues. A joint is where two or more bones come together, such as the hip or knee joint.

Many people believe that arthritis is a disease that only affects the elderly, but it affects individuals of all ages, including children. Although the risk of developing arthritis increases with age, nearly two-thirds of individuals with arthritis are younger than 65.

Arthritis is more common among women (26%) than men (19%), and it affects members of all racial and ethnic groups (CDC.gov 2021).

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### **OTHER CHRONIC CONDITIONS**

Arthritis is much more common among individuals who have other chronic conditions. About half of adults within the United States with heart disease (49%) or diabetes (47%) also have arthritis. In addition, 44% of those with high blood pressure (hypertension) and 31% of those who are obese have arthritis (CDC.gov 2021).

### **TYPES OF ARTHRITIS**

There are more than 100 different types of arthritis. Some of the more common types of arthritis include:

#### **OSTEOARTHRITIS:**

Osteoarthritis is the most common type of arthritis. Osteoarthritis occurs when the cartilage covering the end of the bones gradually wear away. Without the cushion covering /protection of the cartilage, the bones begin to rub together causing friction, pain and swelling.

Osteoarthritis may be present in any joint, but most frequently occur in the hands and weight bearing joints such as the knee, hip, and joints in the spine. Osteoarthritis occurs as the cartilage degenerates/ breaks down with age. Therefore osteoarthritis is also referred to as degenerative joint disease.

#### **RHEUMATOID ARTHRITIS:**

Rheumatoid arthritis (RA) is a long lasting disease that can also affect the joints in various parts of the body, but most frequently involves the wrists, hands and the knees.

With rheumatoid arthritis, the immune system, which is the body's defense system against illness/disease, attacks the body's joints resulting in swelling of the joint lining.

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As the inflammation spread to the surrounding tissues, it can damage the cartilage and the bone.

In severe cases of rheumatoid arthritis (RA), other areas /locations of the body can be affected such as:

- The eyes,
- Skin and
- The nerves.

## **GOUT**

Gout is a condition that occurs when the body is unable to eliminate uric acid (a natural substance). Gout is a painful condition; the excess uric acid creates some needle like crystals within the joint and causes inflammation, swelling and severe/ extreme pain.

Gout frequently affects the:

- Great toe joints (big toe),
- knee joints,
- wrist joints.

## **CAUSES**

Uric acid comes from the breakdown of substances which are called purines. Purines are found in the body's tissues. Purines are also in found in many foods, such as:

- Dried beans
- Peas
- Anchovies
- Liver.

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Gout is caused by the buildup of too much of this uric acid in the body.

Under normal conditions, uric acid dissolves in the blood. The uric acid passes through the kidney and excreted in urine.

However, uric acid may build up in the blood when:

- The kidneys do not excrete enough of the uric acid.
- There is an increased production of uric acid (body increases the amount it makes).
- An individual eats too many foods which are high in purines.

Hyperuricemia develops; meaning uric acid levels in the blood are higher than it should be. Many individuals with hyperuricemia do not develop gout. However, if excess uric acid crystals form within the body, gout may then develop.

### **RISK FACTORS**

Individuals are more likely to have gout if they:

- Are male
- Have family with the disease
- Eat too much foods that are rich in purines
- Too much alcohol intake
- Have enzyme defect which makes it hard for the body to break down purines
- Are exposed to lead
- Had an organ transplant
- Are obese /overweight
- Take the vitamin niacin.
- Take some medications such as aspirin, diuretics, or cyclosporine

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### **DIAGNOSIS**

The physician will need to complete a thorough medical history, review the patients' symptoms and family history of gout.

Some signs and symptoms of gout include:

- ✓ Uric acid crystals found in the joint fluid
- ✓ More than 1 attack of acute arthritis
- ✓ High level of uric acid in the blood – hyperuricemia
- ✓ Arthritis that develops in 1 day, producing a red, swollen and warm joint
- ✓ Attack of arthritis in only 1 joint, usually the toe, knee or ankle.

### **CONFIRMING THE DIAGNOSIS**

To confirm a diagnosis of gout, the physician may draw a sample of fluid from an inflamed joint to check for crystals that are associated with gout.

### **TREATMENT**

The physician use medications to treat an acute attack of gout, such as:

- Corticosteroids
- Nonsteroidal anti-inflammatory drugs (NSAIDs)
- Colchicine.

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### **VARIOUS APPROACHES**

The physician or healthcare practitioner may prescribe NSAIDs or colchicine in small daily dosage to prevent future attacks.

There are also medications that can lower the level of uric acid in the blood.

### **THINGS THAT THE PATIENTS CAN DO TO STAY HEALTHY**

Some things that you can do to stay healthy are:

- Maintain a healthy diet
- Avoid foods that are high in purines
- Drink plenty of water
- Take the medications as ordered by the physician.
- Exercise regularly
- Maintain a healthy body weight
- Keep appointments/ follow up visits with the physician.

## **Systemic lupus erythematosus**

Systemic lupus erythematosus (SLE)- an autoimmune disease in which the body's immune system attacks the healthy tissue. It can affect the joints, skin, kidneys, the brain and other organs.

### **Causes**

The underlying causes of autoimmune diseases are not fully known.

Systemic lupus erythematosus is ;

Much more common in women than men.

It may occur at any age,

Appears most often in individual between ages of 10 years old and 50 years old.

African Americans and Asians are affected more often than individuals from other races.

Systemic lupus erythematosus may also be caused by certain medications/drugs.



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### **Symptoms**

Symptoms may vary from individual to individual,  
Symptoms may come and go. Almost every person with Systemic lupus erythematosus has joint pain with swelling. Some individuals develop arthritis.

The joints that are frequently affected include:

Joints of the fingers,  
Joints of the hands,  
Joints of the wrists,  
knees joints

### **Other common signs/symptoms include:**

- Chest pain when taking a deep breath
- Fatigue
- Fever
- General discomfort, ill feeling or malaise
- Hair loss
- Mouth sores
- Sensitivity to sunlight
- Swollen lymph nodes
- Skin rash (a butterfly shaped rash present in about 1/2 of individuals with Systemic lupus erythematosus. The rash is most frequently visible over the cheeks /bridge of the nose, but can also be widespread. It becomes worse in the sunlight.

Other symptoms depend on the part of body that is affected for example:

### **Brain and nervous system**

When the brain and nervous system is affected, the individual may experience:  
headaches,  
numbness,  
tingling,  
seizures,  
vision changes/ problems,  
changes in personality.

### **Digestive tract**

When the digestive tract is affected the individual may experience:  
abdominal pain,  
nausea,  
vomiting.

### **HEART**

When the Heart is affected the individual may experience:  
abnormal heart rhythms /arrhythmias.

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### **LUNGS**

When the lungs are affected the individual may experience:

Difficulty breathing  
Coughing up blood

### **SKIN**

When the Skin is affected the individual may experience:

patchy skin color,  
fingers that change color when cold such as Raynaud phenomenon.

### **KIDNEYS**

When the Kidneys are affected the individuals may experience:

weight gain  
swelling/ edema in the legs.

Some individuals only have skin symptoms (called discoid lupus).

### **Exams**

To be diagnosed with Systemic lupus erythematosus, the individual needs to have 4 out of 11 common signs/symptoms of the disorder. Almost all individuals with lupus have;

- A positive test for antinuclear antibody (ANA).

However, this does not mean the individual has Systemic lupus erythematosus in most cases.

The physician/health care provider has to follow up with;

A physical exam and listen to the chest -An abnormal sound such as a pleural friction rub or heart friction rub may be heard.

A nervous system examination will also be completed.

Tests used to diagnose Systemic lupus erythematosus may include:

- Antinuclear antibody (ANA)
- CBC with differential
- Chest x-ray
- Serum creatinine
- Urinalysis

Other exams/tests to learn about the condition in depth may include:

- Antinuclear antibody (ANA) panel
- Complement components (C3 and C4)

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- Coombs' test - direct
- Cryoglobulins
- ESR
- Kidney function blood tests
- Liver function blood tests
- Rheumatoid factor
- Antiphospholipid antibodies
- Kidney biopsy

#### **Treatment**

There is no cure for Systemic lupus erythematosus, the goal of treatment is to control the symptoms. For severe symptoms which involve the lungs, heart, kidneys and other organs often need treatment from various specialists.

#### **For mild forms of the disease may be treated with:**

- NSAIDs for symptoms within the joints
- Low doses corticosteroids for example prednisone
- Corticosteroid cream application for the skin rashes
- A medication used to treat malaria (hydroxychloroquine) and low-dose corticosteroids may be used for arthritis and skin symptoms

A biologic drug (BENLYSTA) belimumab may help some individuals.

BENLYSTA/ belimumab

The U.S. Food and Drug Administration (FDA) approved the drug in 2011 to treat lupus, the autoimmune disease which is affecting as many as 1.5 million Americans.

#### **Treatments for more severe SLE may include:**

- Higher dose of corticosteroids
- Immunosuppressive medications (medication which suppresses the immune system):

These drugs are used if the patient does not get better with corticosteroids, or if the symptoms become worse when the patients stop taking them. The side effects from these medications can be very severe, therefore the patients need to be closely monitored.

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These medications include:

Methotrexate,  
Azathioprine,  
Cyclosporine,  
Mycophenolate,  
Cyclophosphamide.

If the patient has Systemic lupus erythematosus, it is very important for them to:

- Wear protective clothing,
- Wear sunglasses,
- Wear sunscreen whenever in the sun,
- Get preventive heart care,
- Stay current with immunizations,
- Have testing and screening for osteoporosis (thinning of the bones).

## **ANKYLOSING SPONDYLITIS**

Ankylosing spondylitis - a form of progressive arthritis which is due to chronic inflammation of the joints in the spine.

Ankylosing spondylitis - the name comes from the Greek word *ankylos*, which means stiffening of a joint, and the Greek word *spondylo*, which means vertebra.

Spondylitis refers to the inflammation of the spine or 1 or more of the structures of the vertebrae.

## **DIAGNOSIS**

The physician will need to complete a thorough medical history and physical exam. Radiologic tests and laboratory tests may be used to help to confirm a diagnosis.

During the physical exam, the physician will check for signs and symptoms that are consistent with ankylosing spondylitis such as pain along the spine, pain in the pelvis, or sacroiliac joints, chest and heels.

The physician may ask the patient to move and bend in different directions to check the flexibility of the spine.

The physician may ask the patient to breathe deeply to look for any problems with chest expansion, which could be caused by inflammation in the joints located where the ribs attach to the spine.

## **RADIOLOGIC TESTS**

X rays and / or magnetic resonance imaging (MRI) may be used to make or confirm a diagnosis of ankylosing spondylitis. Both tests may be used to monitor the progression of ankylosing spondylitis.

### **X rays**

X rays may reveal changes in the spine and sacroiliac joints that indicate ankylosing spondylitis but it may take years of inflammation to cause damage that will be visible on an x ray.

### **MAGNETIC RESONANCE IMAGING (MRI)**

Magnetic resonance imaging (MRI) can allow for earlier diagnosis, because it can reveal damage to the soft tissues and bone before it can be seen on an x ray.

## **LABORATORY TESTS**

The main blood test for ankylosing spondylitis is one to check for the *HLA-B27* gene, which is present in the majority of Caucasians with ankylosing spondylitis.

The gene is found in lower percentages of African Americans with ankylosing spondylitis, and in ankylosing spondylitis patients from some Mediterranean countries.

The gene is also found in many individuals who do not have ankylosing spondylitis, and will never get it. However, when the gene is found in people who have symptoms of ankylosing spondylitis and/or x-ray evidence of ankylosing spondylitis, this finding helps to support the ankylosing spondylitis diagnosis.

## **PHYSICIANS WHO DIAGNOSE AND TREAT ANKYLOSING SPONDYLITIS**

The diagnosis of ankylosing spondylitis is often made by a rheumatologist, a physician who is specially trained to diagnose and treat arthritis and related conditions of the musculoskeletal system.

Ankylosing spondylitis can affect different parts of the body therefore an individual with the disorder may need to see several different types of healthcare practitioners/physicians for treatment.

Other specialists who may treat ankylosing spondylitis include:

- Physiatrists / medical doctors who specialize in physical medicine and rehabilitation.
- Physical therapist or rehabilitation specialist to supervise stretching and exercise regimens.
- Ophthalmologist who treats disease of the eye.
- A gastroenterologist who treats disease of the bowel.

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## TREATMENT

There is no cure for ankylosing spondylitis, however some treatments help to relieve the symptoms and may possibly prevent the progression of the disorder. Most of the time, treatment involves a combination of medications, activity/ exercise, and self help interventions.

Surgery may also be used to repair some of the joint damage that is caused by the disease.

If ankylosing spondylitis causes severe joint damage and pain which makes it difficult to perform daily activities, total joint replacement may be an option. Total joint replacement involves removing the damaged joint and replacing it with a prosthesis made of metals, plastics or ceramic materials. The most commonly replaced joints are the knee joints and the hip joints.

In rare cases, an osteotomy procedure may be done to straighten a spine that has fused into a curved-forward position. The surgery involves cutting through the spine so that it can be realigned to a more vertical position. After the bones are realigned, hardware may be implanted to hold them in their new position while the spine heals.

Surgery to straighten the spine can only be performed by a surgeon with significant experience in the procedure as the procedure is considered a high risk procedure.



## **MEDICATIONS**

Several classes of medications are used to treat ankylosing spondylitis. A treatment plan for the patients with ankylosing spondylitis may include one or more of the following:

### **Nonsteroidal Anti-Inflammatory Drugs (NSAIDs)**

These medications relieve pain and inflammation, and are commonly used to treat ankylosing spondylitis.

Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) work similarly by blocking substances called prostaglandins that contribute to inflammation and pain. However, each NSAID is a different chemical, and each has a slightly different effect on the body.

Some examples of Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) include:

- Aspirin
- Ibuprofen
- Naproxen

## **HEALTHY DIET**

A healthy diet is good for everyone, and is especially helpful when the patient has ankylosing spondylitis.

## **EXERCISE AND STRETCHING**

Exercising and stretching which is increased gradually, may help with painful and stiff joints.

## **STRENGTHENING EXERCISES**

Strengthening exercises, which are performed with weights or completed by tightening muscles without moving the joints, build the muscles around the painful joints to support



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them better. Exercises that do not require joint movement, may be done even when the joints are inflamed and painful.

#### **RANGE-OF-MOTION (ROM) EXERCISES**

Range of motion is how far the individuals can move the joints in different directions. These exercises help the patients to move each joint through its full range of motion.

Range-of-motion exercises works to improve movement and flexibility and reduce the stiffness in the affected joint.

If the spine is painful or if the spine is inflamed, exercises to stretch / extend the back can be beneficial in preventing long-term disability.

Many patients with ankylosing spondylitis find it helpful to complete their exercise in water.

#### **PATIENT TEACHING**

Encourage the patients to:

Follow up with the physicians on a regular basis

Follow the prescribed treatment plan

Perform regular exercise /stay active – as regular exercise often helps to relieve pain, improve posture, and maintain flexibility.

#### **CHILDHOOD / JUVENILE ARTHRITIS**

Juvenile idiopathic arthritis (JIA) is a term that is used to define a group of conditions that occurs among children and include some form of chronic arthritis.

Juvenile idiopathic arthritis is one of the more common chronic diseases of childhood.

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Criteria for Juvenile idiopathic arthritis include:

- Onset before age 16, persistent, objective arthritis in 1 or more joints for at least 6 weeks, and exclusion of other potential causes of childhood arthritis.

Juvenile idiopathic arthritis is classified into SEVEN mutually exclusive categories:

1. Systemic,
2. polyarthritis rheumatoid factor positive,
3. polyarthritis rheumatoid factor negative,
4. oligoarthritis (persistent and extended),
5. psoriatic arthritis,
6. enthesitis-related arthritis, and
7. undifferentiated arthritis.

Oligoarthritis (persistent and extended) and polyarthritis rheumatoid factor negative are the most prevalent of the seven types.

## ARTHRITIS PAIN MANAGEMENT

Different types of arthritis have different symptoms and the symptoms vary in severity from patient to patient.

Osteoarthritis does not cause symptoms outside of the joint.



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Symptoms of other types of arthritis may include but not limited to: fever, fatigue, a rash and the signs of joint inflammation, including:

- Pain
- Swelling
- Stiffness
- Tenderness
- Redness
- Warmth
- Joint deformity

## ARTHRITIS CAUSES

The cause of most types of arthritis is not known. Researchers are reviewing / examining the role of heredity/ genetics, lifestyle habits/behaviors in developing arthritis.

## Risk factors

There are many risk factors for the development of arthritis. Risk factors are behaviors or traits that increase an individual's chance of getting/developing an illness/ disease or that predisposes the individual to a specific condition.

**Risk factors for arthritis may include but not limited to:**

- Age
- Gender
- Obesity
- Work / Job factors
- Genetic makeup.

## Age

The risk of developing arthritis increases with age, especially osteoarthritis.

## Gender

Arthritis occurs more often in women than in men.

## Obesity

Being obese /overweight exerts extra stress/pressure on weight bearing joints, causing an increase in wear and tear therefore increasing the risk of arthritis (osteoarthritis).

## Work / Job factors

Some jobs require repetitive motion or heavy lifting that can put excess stress on the joints and cause injury, which may lead to arthritis (especially osteoarthritis).

## Genetic makeup

Some types of arthritis are found in the genes/ families (inherited).

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# ARTHRITIS IS VERY COMMON

According to the Centers for Disease Control and Prevention (CDC):

In the United States, arthritis affects about 1 in 4 adults. That is 54 million men and women.

As the United States population ages and obesity increases, the number of adults with arthritis is expected to increase to 78 million by 2040.

One-third of the adults who are living in rural areas have arthritis. Over half adults with arthritis in rural areas are affected / limited by it.

In the United States, arthritis is a leading cause of disability. Twenty-four million adults report limitations due to arthritis.

Individuals with arthritis can manage symptoms and reduce pain by learning self-management strategies and being physically active

Osteoarthritis is the most common form of arthritis in the United States. (CDC.GOV 2021).

# ARTHRITIS DIAGNOSIS

Osteoarthritis is usually diagnosed with a complete medical history, which includes:

Description of symptoms,  
Physical examination,  
Labs / Imaging techniques.

Imaging techniques for example:

X-rays or magnetic resonance imaging (MRI)  
are often used to look at the condition of joints.



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However, if the physician suspects other type of arthritis, to determine the type of arthritis other laboratory tests may be ordered such as:

- Blood test,
- urine test,
- Joint fluid test.

These laboratory tests also can help to rule out other diseases as the cause of the symptoms.

### **Arthritis Treatment**

The goal of treatment is to provide:

- Pain relief,
- Increase joint strength and mobility
- Control of the disease (to the extent that is possible).





# Treatment

**Treatment options include:**

- Medication,
- Exercise,
- Heat/cold compresses,
- using joint protection,
- surgery and other options.



Click on link below for details:

**[THE OCCUPATIONAL THERAPISTS' \(OT/OTA\) ROLE  
IN MANAGING ARTHRITIS](#)**

**OCCUPATIONAL THERAPISTS**

Occupational therapists can teach the patients how to reduce strain on the joints during daily activities. They can show patients how to modify their home and workplace environments to reduce factors that may aggravate arthritis.

The Occupational therapists may also provide splints for the patient's wrists or hands and may recommend assistive devices to assist activities of daily living; dressing, bathing, housekeeping, driving, and other tasks.

**PHYSICAL THERAPISTS**

Physical therapists can provide the patients with exercises that are designed to preserve the strength, mobility, and use of the joints.

Physical therapists can also teach the patients the proper body mechanics to move from one position to another and the proper mechanics during the performance of household activities.

Physical therapists can also teach the patients proper posture, for example how to protect the integrity of the joints while sitting.

Physical therapists can also educate the patients on the use of walking aids for example cane, walker or crutches as needed.

# OSTEOARTHRITIS (OA)

As mentioned earlier, osteoarthritis is caused by aging joints, injury, or obesity.

Osteoarthritis symptoms include joint stiffness and pain, therefore the treatment will depend on the affected joint, such as the wrist, hand, neck, knee, back, and hips and involves medications and exercise.

If the patient is overweight/ obese, then weight loss may improve Osteoarthritis symptoms.

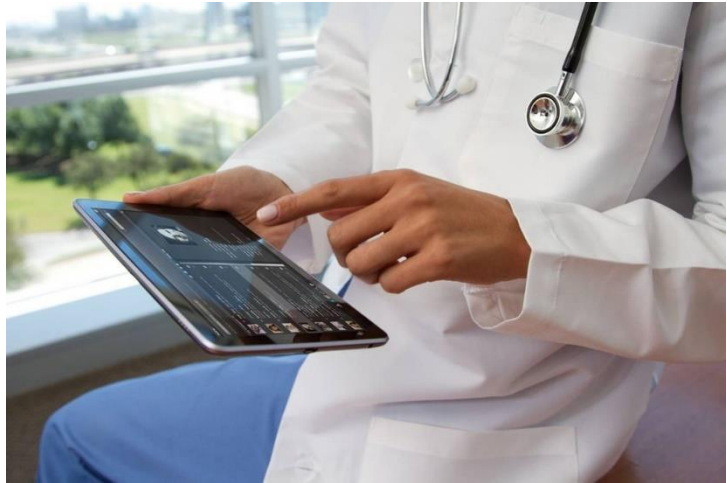
## **PATIENTS CAN LEARN TO MANAGE ARTHRITIS**

People can manage and reduce the symptoms of arthritis in many ways. People with arthritis can:

- Learn ways to manage arthritis
- Be physically active
- Maintain a healthy weight and protect their joints
- Talk with a Physician.

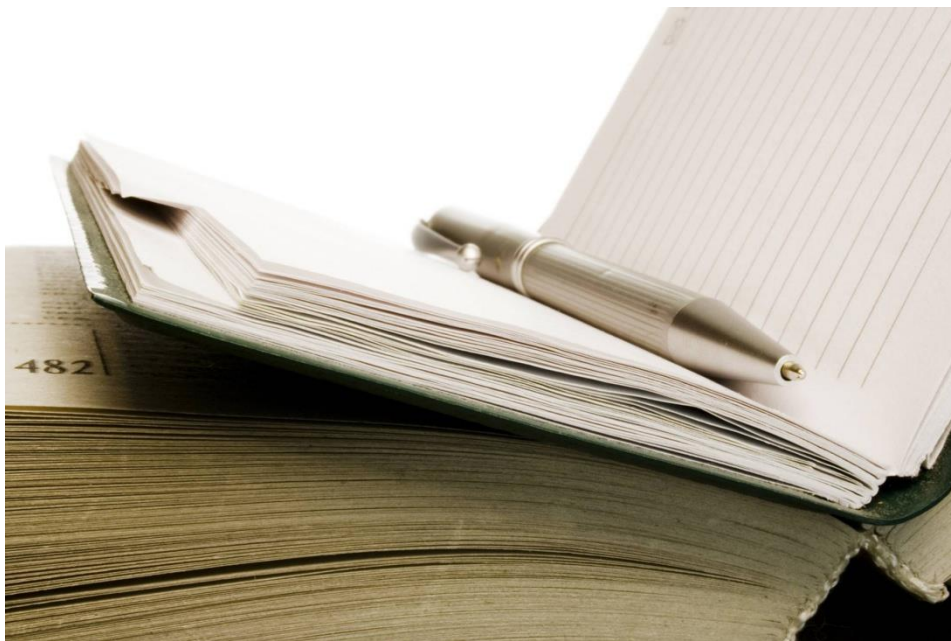
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### **LEARN WAYS TO MANAGE ARTHRITIS**

Self-management education interventions, for example the Chronic Disease Self-Management Program (CDSMP) or the online Better Choices, Better Health for Arthritis programs, provide the knowledge, confidence and skills to live well with arthritis.



## BE PHYSICALLY ACTIVE

Research has shown that physical activity, for example walking/ambulation, bicycling, swimming decreases pain, delays disability and improves function.

Individuals with arthritis should try to be physically active and get at least 150 minutes of moderate activity each week. This moderate activity can be done for 30 minutes, 5 days per week, or 10 minutes at a time. The Walk with Ease Program and the Enhance Fitness program are some of the community exercise interventions that have been shown to improve health among participants with arthritis (CDC.gov 2021).



## MAINTAIN HEALTHY WEIGHT AND PROTECT THE JOINTS

Individuals can reduce the risk of knee osteoarthritis by maintaining a healthy weight /controlling their weight and avoiding injuries.

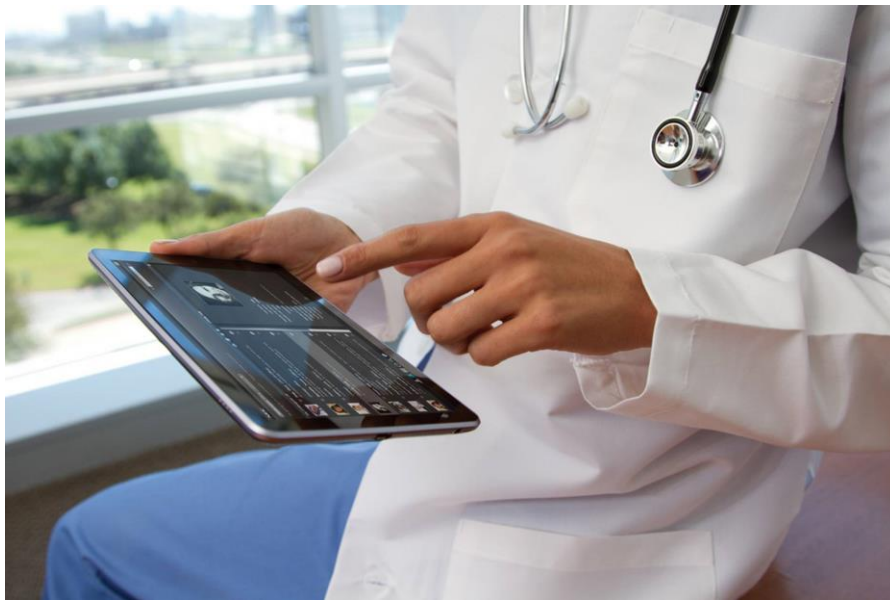
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Weight loss can also reduce symptoms for individuals with knee osteoarthritis who are obese or overweight.

### **TALK WITH A PHYSICIAN**

Recommendations from the physician /health care providers are among the most influential factors in encouraging /convincing patients to be physically active and to join a self-management education program. Patients with inflammatory arthritis, such as rheumatoid arthritis, will experience better quality of life if they follow up with the physician and are diagnosed early and learn how to manage the condition.



# Rheumatoid Arthritis (RA)

Rheumatoid arthritis (RA) is an autoimmune and inflammatory disease, which means that the immune system attacks healthy cells within the body, causing inflammation/ painful swelling in the affected parts of the body.

Rheumatoid arthritis mainly attacks the joints, usually many joints at once. Rheumatoid arthritis commonly affects joints within the hands, wrists, and knees.

In a joint with Rheumatoid arthritis the lining of the joint becomes inflamed, causing damage to joint tissue. This tissue damage can cause long-lasting or chronic pain, unsteady gait, lack of balance, and deformities.

Rheumatoid arthritis can also affect other tissues throughout the body and cause problems within organs for example causing damage to the eyes, lungs, and heart (CDC.GOV 2021).

## Signs and symptoms of Rheumatoid arthritis

When the individual has Rheumatoid arthritis there are times when the symptoms get worse, this is called flares, and there are times when the symptoms get better, this is called remission.

Some signs and symptoms of Rheumatoid arthritis include:

- Pain or aching in the joints
- Stiffness in the joints
- Tenderness in the joints
- Swelling in the joints
- Fever
- Weakness
- Fatigue
- Tiredness.



## Causes Rheumatoid arthritis

Rheumatoid arthritis is the result of an immune response in which the body's immune system attacks its own healthy cells. The specific causes of Rheumatoid arthritis are unknown, but some factors can increase the risk of developing the disease (CDC.GOV 2020).

## Risk factors for Rheumatoid arthritis

Researchers have studied several genetic and environmental factors to determine if they change person's risk of developing Rheumatoid arthritis (CDC.GOV 2020).

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Some characteristics that increase risk includes:

- Age
- Sex
- Genetics/inherited traits
- Smoking
- History of live births
- Early Life Exposures
- Obesity.



## Characteristics that increase risk

### Age

Rheumatoid arthritis can begin at any age, but the likelihood increases with age. The onset of Rheumatoid arthritis is highest among adults in the sixties age group.

### Sex

New cases of Rheumatoid arthritis are typically two-to-three times higher in women than in men.

# Genetics/inherited traits

Individuals born with specific genes are more likely to develop Rheumatoid arthritis. These genes, called human leukocyte antigen (HLA) class II genotypes, can also make arthritis worse.

The risk of Rheumatoid arthritis may be highest when people with these genes are exposed to environmental factors such as smoking or when the person is obese (CDC.GOV 2020).

# Smoking

Multiple studies show that cigarette smoking increases a person's risk of developing Rheumatoid arthritis and can make the disease worse (CDC.GOV 2020).

## History of live births

Women who have never given birth may be at greater risk of developing Rheumatoid arthritis (CDC.GOV 2020).

## Early Life Exposures

Some early life exposures may increase risk of developing Rheumatoid arthritis in adulthood. For example, one study found that children whose mothers smoked had double the risk of developing Rheumatoid arthritis as adults. Children of lower income parents are at increased risk of developing Rheumatoid arthritis as adults (CDC.GOV 2020).

## Obesity

Being obese can increase the risk of developing Rheumatoid arthritis. Studies that have examined the role of obesity has found that the more overweight a person was, the higher his or her risk of developing Rheumatoid arthritis became.

According to the Centers for Disease Control and Prevention (CDC) at least one characteristic may decrease risk of developing Rheumatoid arthritis which is breastfeeding.

## Breastfeeding

Women who have breastfed their infants have a decreased risk of developing Rheumatoid arthritis (CDC.GOV 2020).

# Diagnosis

Rheumatoid arthritis is diagnosed by:

- Completing a physical examination,
- Reviewing symptoms,
- Completing X-rays and
- Completing laboratory tests.

# Early Diagnosis

It is best to diagnose Rheumatoid arthritis early, preferable within 6 months of the onset of symptoms, so that people with the disease can start the treatment and slow down or stop the disease progression.

## Rheumatologists

A physician or a team of physicians who specialize in care of Rheumatoid arthritis should diagnose and treat Rheumatoid arthritis.

This is very essential because the signs and symptoms of Rheumatoid arthritis are not specific and can have similar signs and symptoms as other inflammatory joint diseases.

Rheumatologists are physicians who specialize in arthritis, and they should be able to make the correct diagnosis.

## Treatment

Rheumatoid arthritis can be effectively treated and managed with medication(s) and self-management interventions. Treatment often includes the use of medications that slow disease and prevent joint deformity, such as

Disease-modifying antirheumatic drugs (DMARDs)

Biological response modifiers/ biologicals are medications that are an effective second-line treatment.



## Self-management strategies

Individuals can also manage their Rheumatoid arthritis with self-management strategies which has been proven to reduce pain and disability, allowing them to participate in various activities. Patients and others with Rheumatoid arthritis can relieve pain and improve joint function by learning to use simple and effective arthritis management strategies.

Some effective arthritis management strategies include:

- Joining a self-management education class
- Physical activity
- Stop Smoking
- Maintaining a Healthy Weight.

## Joining a self-management education class

Individuals with Rheumatoid arthritis can gain confidence in learning how to control their signs and symptoms, how to live well with the diagnosis, and how arthritis affects their lives.

## Physical activity

Individuals with Rheumatoid arthritis should get physically active. The experts recommend that adults be moderately physically active for 150 minutes per week, such as walking, swimming, or biking 30 minutes a day for five days a week (CDC.GOV 2020).

It is encouraged that patients should break these 30 minutes into three separate ten-minute sessions during the day also attend effective physical activity programs.

## Smoking cessation

It is encouraged that patients or other individuals with Rheumatoid arthritis should stop Smoking. Smoking cigarette makes the disease worse and can cause other medical problems. Smoking can also make it more difficult to stay physically active, which is an important part of managing Rheumatoid arthritis (CDC.GOV 2020).

## Maintaining a Healthy Weight.

Obesity can cause numerous problems for individuals with Rheumatoid arthritis; therefore, it is very important to maintain a healthy weight.



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### **THE CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)**

The Centers for Disease Control and Prevention (CDC) is leading the nation's efforts to help the millions of adults with arthritis to live well and manage their condition.

According to the Centers for Disease Control and Prevention (CDC), improving the lives of the millions of individuals with arthritis is a top priority. To meet this goal, the Centers for Disease Control and Prevention (CDC) will continue to:

- Increase access to self-management education and physical activity programs that help people with arthritis reduce symptoms and improve their quality of life through state and national partners.
- Strengthen the science base to guide public health practices related to arthritis.
- Help state programs promote the use of environmental approaches that help people with arthritis be more active and improve the quality of their lives.
- Increase awareness of the effect of arthritis on the nation's health and well-being, including its costs and its effect on other chronic conditions.
- Promote walking as an effective, low-cost, and pain-reducing intervention for people with arthritis.

Since 2012, state arthritis programs funded by the Centers for Disease Control and Prevention (CDC), have worked to help people with arthritis better manage their condition through intensive self-management education and physical activity interventions.

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In 2013, the Centers for Disease Control and Prevention (CDC) began funding the National Association of County and City Health Officials to help 12 local health departments increase access to the CDSMP.

The Centers for Disease Control and Prevention (CDC) is also working with the National Recreation and Parks Association (NRPA) and other partners to expand the use of evidence-based physical activity interventions for people with arthritis.

The National Recreation and Parks Association (NRPA) is supporting more than 30 local park agencies to offer the Arthritis Foundation Exercise Program and the Walk with Ease Program. These agencies received seed funding for staff training and start-up costs.

The National Recreation and Parks Association (NRPA) has also developed resources that highlight key successes, challenges, and lessons learned from the pilot test of this project. It created a webinar that promotes arthritis interventions to park and recreation agencies and a website that highlights arthritis interventions and partnerships.

## **RESOURCES**

Arthritis Foundation

Website: [www.arthritis.org](http://www.arthritis.org)

American Academy of Orthopaedic Surgeons

Website: [www.aaos.org](http://www.aaos.org)

American College of Rheumatology

Website: [www.rheumatology.org](http://www.rheumatology.org)

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### GLOSSARY

**Biologics.** A class of medications that are genetically engineered to block a protein involved in the body's inflammatory response. Four biologics are approved by the FDA for treating ankylosing spondylitis. They work by blocking a protein called tumor necrosis factor-alpha (TNF- $\alpha$ ) that helps drive inflammation.

**Calcification.** A process in which tissue becomes hardened as a result of calcium deposits. In ankylosing spondylitis, calcification in tissues around the spine can lead to loss of flexibility and forward curvature.

**Corticosteroids.** Powerful anti-inflammatory hormones made naturally in the body or manmade for use as medicine. In people with ankylosing spondylitis, corticosteroids may be injected to temporarily reduce inflammation and relieve pain.

**COX-2 inhibitors.** A class of nonsteroidal anti-inflammatory drugs (NSAIDs) that are formulated to relieve pain and inflammation. Currently, there is just one COX-2 inhibitor on the market: celecoxib.

**Gastroenterologist.** A medical doctor who specializes in diagnosing and treating diseases of the digestive tract.

**Ligaments.** Tough bands of connective tissue that attach bones to each other, providing stability.

**Magnetic resonance imaging (MRI).** A procedure that provides high-resolution computerized images of internal body tissues. MRI uses a strong magnet that passes a force through the body to create these images.

**Nonsteroidal anti-inflammatory drugs (NSAIDs).** A class of medications available over the counter or with a prescription that ease pain and inflammation. Commonly used NSAIDs include aspirin, ibuprofen, and naproxen sodium.

**Ophthalmologist.** A medical doctor specializing in diagnosing and treating diseases of the eye.

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**Osteotomy.** A surgical procedure that involves cutting a bone to shorten it, lengthen it, or realign it. In rare cases, the bones of the spine may be cut and realigned to help straighten a spine that has fused in a curved-forward position due to ankylosing spondylitis.

**Physiatrist.** A medical doctor who specializes in nonsurgical treatment for injuries and illnesses that affect movement. Also called rehabilitation physician or rehabilitation medicine specialist.

**Rheumatologist.** A medical doctor who specializes in arthritis and other diseases of the bones, joints, and muscles.

**Syndesmophyte.** A bony growth attached to a ligament. Syndesmophytes between adjacent vertebrae in ankylosing spondylitis can cause the vertebrae to grow together, or fuse.

**Tendons.** Tough, fibrous cords that connect muscles to bones.

**X ray.** A procedure in which low-level radiation is passed through the body to produce a picture called a radiograph. X rays showing damage to the sacroiliac joints are used to help diagnose ankylosing spondylitis.

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