

Inflammatory Arthritis Education Series

Information About Your Arthritis

This program has been reviewed and endorsed by



Canadian Arthritis
Patient Alliance

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*While this initiative was made with support
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Objectives

By the end of this session, you will:

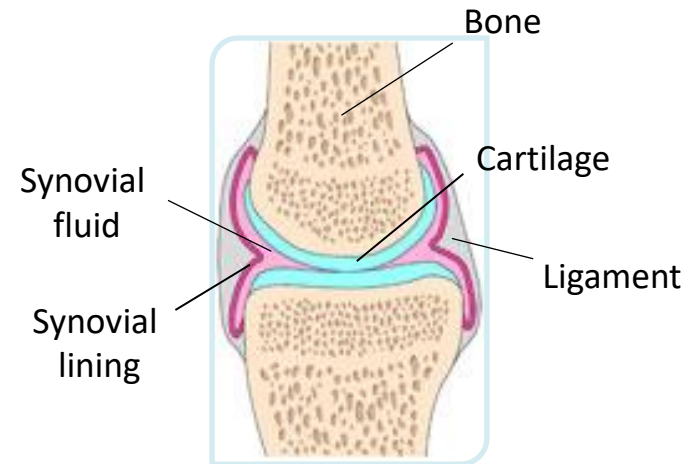
- Become familiar with 3 different types of inflammatory arthritis:
 - Ankylosing Spondylitis
 - Psoriatic Arthritis
 - Rheumatoid Arthritis
- Learn about arthritis and how inflammation can affect your joints
- Be aware of other conditions commonly experienced with these types of inflammatory arthritis

What is arthritis?

- Arthritis usually refers to joint pain, which is sometimes associated with joint inflammation
- There are over 100 types of arthritis
- This session will feature 3 major types of inflammatory arthritis

What is a joint?

- A joint is the structure that connects two bones
- The end of the bone is capped with *cartilage* that allows bone ends to glide smoothly across each other
- A *joint capsule (ligaments)* surrounds the joint, to provide stability during movement
- The inner lining of the joint capsule is called the *synovium* which produces a thick lubricating and nourishing liquid called *synovial fluid*



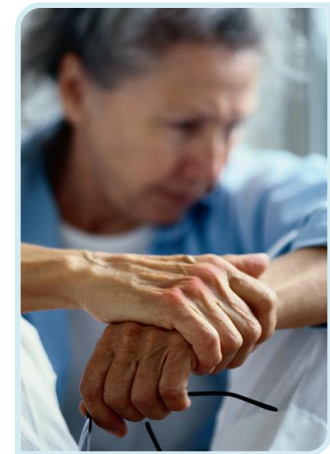
Types of joints

- There are different kinds of joints for different functions:
 - Ball-and-socket (e.g. hips, shoulders)
 - Saddle (e.g. base of the thumb)
 - Hinge (e.g. elbows, knees)
 - Pivot (e.g. wrists)



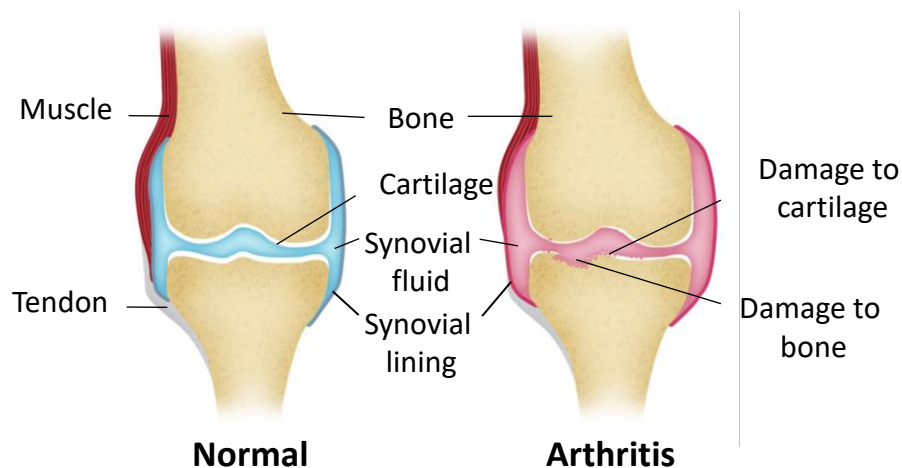
What is inflammation?

- Inflammation is your body's natural response to injury including trauma and infection, with repair
- Signs of inflammation can include:
 - Swelling
 - Redness
 - Heat
 - Pain
 - Loss of function
- When a joint is inflamed, you may have any or all of these signs
- Inflammation can make it difficult to move a joint and can cause loss of function



Inflammation and joint damage

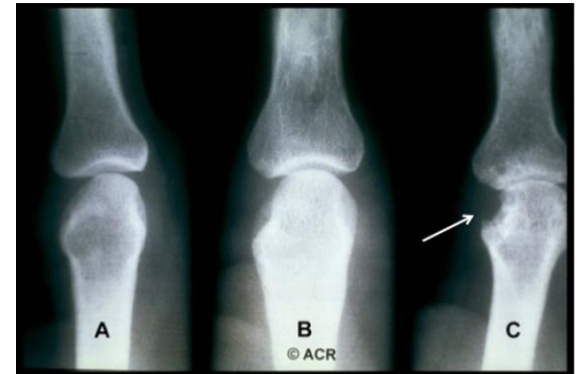
- When the synovial lining becomes inflamed it makes extra synovial fluid, that may be altered and affect its usual function
- Cells that help your body fight infection called *immune cells* also enter the synovial lining
- When inflammation is persistent, these cells can cause damage by eating away cartilage and bone



Damage caused by inflammation

This damage may include:

- Stretching of ligaments/tendons
 - Due to increased joint fluid
- Loss of cartilage
 - The persistence of inflammatory cells and the enzymes they release may cause thinning and loss of cartilage
- Loss of bone
 - The persistent inflamed synovium may 'eat' into nearby bone causing *erosions* (small holes in the bone)



What is inflammatory arthritis?

- A type of autoimmune disease
 - Your body's immune system attacks healthy joints, causing inflammation in the joint lining
- A type of systemic disease
 - Inflammation can also affect other areas of the body, such as the eyes, heart, lungs, blood vessels and skin
- A chronic disease that does not yet have a cure

Three common types of inflammatory arthritis

- Ankylosing Spondylitis (AS)
- Psoriatic Arthritis (PsA)
- Rheumatoid Arthritis (RA)

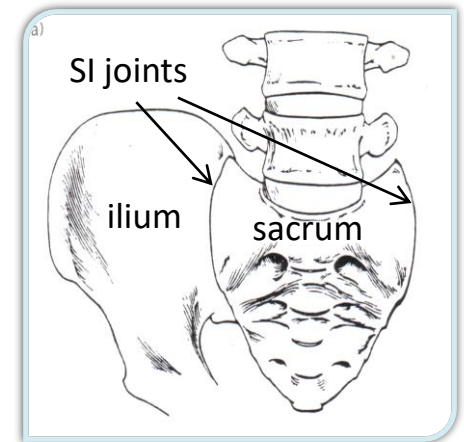
Ankylosing Spondylitis (AS)

AS topics

- What is AS?
- How common is AS?
- Warning signs of AS
- Joints affected in AS
- Damage caused by inflammation
- Other features related to AS
- Causes of AS
- Diagnosis of AS

What is AS?

- Main feature: involves joints where spine meets pelvis (called sacroiliac or SI joints)
- May involve acute painful episodes or persistent severe back pain
- Inflammation affecting the spinal joints, and sometimes other joints, such as the feet, knees, hands or shoulders.
- There is no cure for AS



How common is AS?

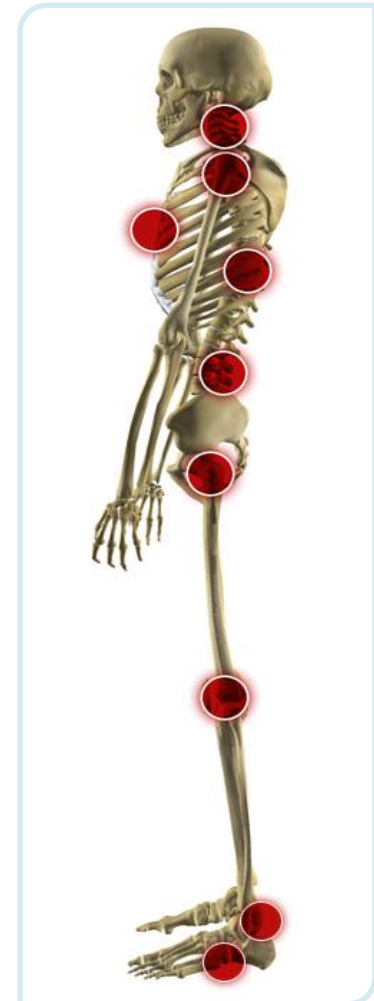
- Three times more common in men than in women
 - AS is under-diagnosed in women
- Typically is diagnosed in people who are between 20 to 40 years old
 - Onset after age 40 is uncommon
- Prevalence is about 0.2% of white Americans, 1.4% in Norwegians, 6% in some indigenous cultures.

Warning signs of AS

- Persistent lower back pain (at or below the belt line) for more than 3 months, not associated with trauma or injury
- May have alternating lower buttock pain or pain between shoulders or in neck
- Back pain and stiffness are worse in the morning and last more than 30 to 60 minutes
- Pain may cause night wakening
- Tendency to stoop forward to avoid pain and/or curl up in bed for comfort

Joints affected in AS

- Sacroiliac joints (buttocks), low back (lumbar spine), mid-back (thoracic spine), neck (cervical spine)
- Joints between ribs and sternum/spine can become painful, limiting chest expansion
- Hips, knees, shoulders, hands and feet
- Back of the heels (Achilles tendon), or under the feet (plantar fascia)



Damage caused by inflammation

- Inflammation can cause changes in spinal column with small bony growths that can eventually bridge across vertebrae and cause stiffness/immobility
- Disability can occur when hips, knees or shoulders are affected



Other features related to AS

Eyes:

- Iritis (inflammation of the iris of the eye) or anterior uveitis occurs in 1 in 3 people with AS
 - Presents as painful red eye, blurred vision
 - Requires urgent treatment - if left untreated, iritis may cause permanent sight damage
 - May also experience light sensitivity
 - Usually treated with prescription eye drops

Other features related to AS

Bowels:

- Inflammatory Bowel Disease such as Ulcerative Colitis or Crohn's disease
- Present in 1 in 4 people with AS
- Persistent diarrhea, which may be bloody

Heart (*due to inflammation and scarring):

- Present in 2% to 5% of people with AS
- Can affect the heart's electrical system and slows down the heart rate
- Aortitis (inflammation involving the aorta near the heart)
- Watch for signs of shortness of breath or dizziness

Other features related to AS

Lungs:

- Inflammation resulting in scarring of the lungs (interstitial lung disease)
- If AS has caused limitation of chest movement you may take longer to recover from severe flu, bronchitis or pneumonia

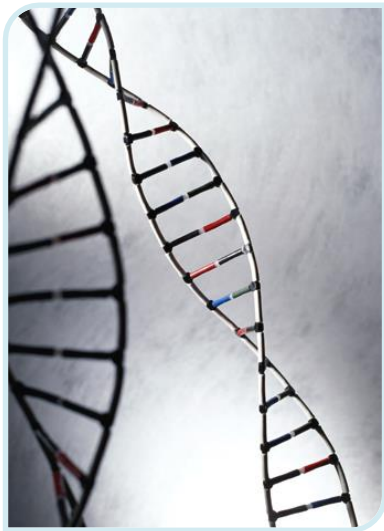
Bones:

- Thinning of the bones of the spine (osteoporosis)

Mood changes and depression

Talk to your doctor if you have any of the above symptoms

Cause of AS



- The cause of AS is unknown, but it is known to run in families
- If AS is in your family you have an increased chance of developing AS but doesn't mean you will develop AS
- 90% of people with AS have a gene called HLA-B27

Diagnosis of AS



- Diagnosis is usually made by a rheumatologist
- Diagnosis is done differently in patients with 3 or more months of back pain who are less than 45 years old than in patients who have peripheral arthritis (mostly in the lower limbs)

Diagnosis of AS

- Diagnosis in patients with 3 or more months of back pain who are less than 45 years old:
 - Imaging shows sacroilitis plus more than 1 feature OR the patient carries the HLA-B27 gene plus 2 or more features from below:
 - Inflammatory back pain
 - Arthritis
 - Enthesitis (heel)
 - Uveitis
 - Dactylitis
 - Crohn's disease or ulcerative colitis
 - Psoriasis
 - Family history of AS
 - HLA-B27 gene
 - Elevated C-reactive protein (a measure of inflammation in your blood)
 - Good response to non-steroidal anti-inflammatory medication

Diagnosis of AS

- Diagnosis in patients with peripheral symptoms only:
 - Arthritis or enthesitis or dactylitis plus:

1 or more of these features:	OR 2 or more of these other features:
<ul style="list-style-type: none">• Uveitis• Psoriasis• Crohn's disease or ulcerative colitis• HLA-B27 gene• Sacroiliitis on imaging	<ul style="list-style-type: none">• Arthritis• Enthesitis• Dactylitis• Inflammatory back pain ever• Family history of AS

Psoriatic Arthritis (PsA)

PsA topics

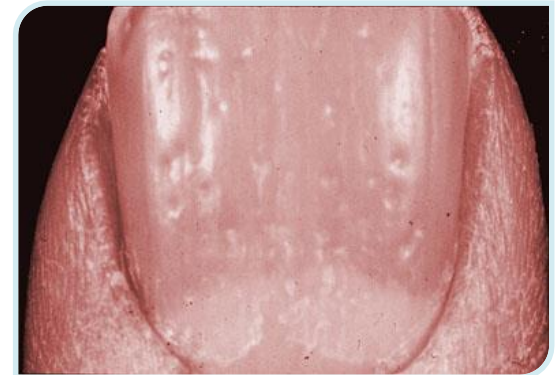
- What is PsA?
- What is psoriasis?
- How common is PsA?
- Features of PsA
- Joints affected in PsA
- 5 Patterns of joints affected in PsA
- Other features related to PsA
- Causes of PsA

What is PsA?

- An inflammatory arthritis associated with psoriasis
- An autoimmune disease where the immune system attacks the body causing swelling, pain, warmth and redness in and around the joints
- Usually starts slowly in a few joints of the hands and feet, and then may spread to other joints & tendons over time
- Often asymmetrical pattern on the body
- 5 presentation patterns of PsA
- There is no cure for PsA

What is psoriasis?

- Autoimmune disease where the immune system attacks the skin
- Inflammatory skin disease causing itchy red skin patches with silver to white scales
- Rash most common on elbows, knees and scalp (but can be found anywhere on body)
- Fingernails/toenails often affected: nail pitting, lifting, thickening or ridging/cracking



How common is PsA?

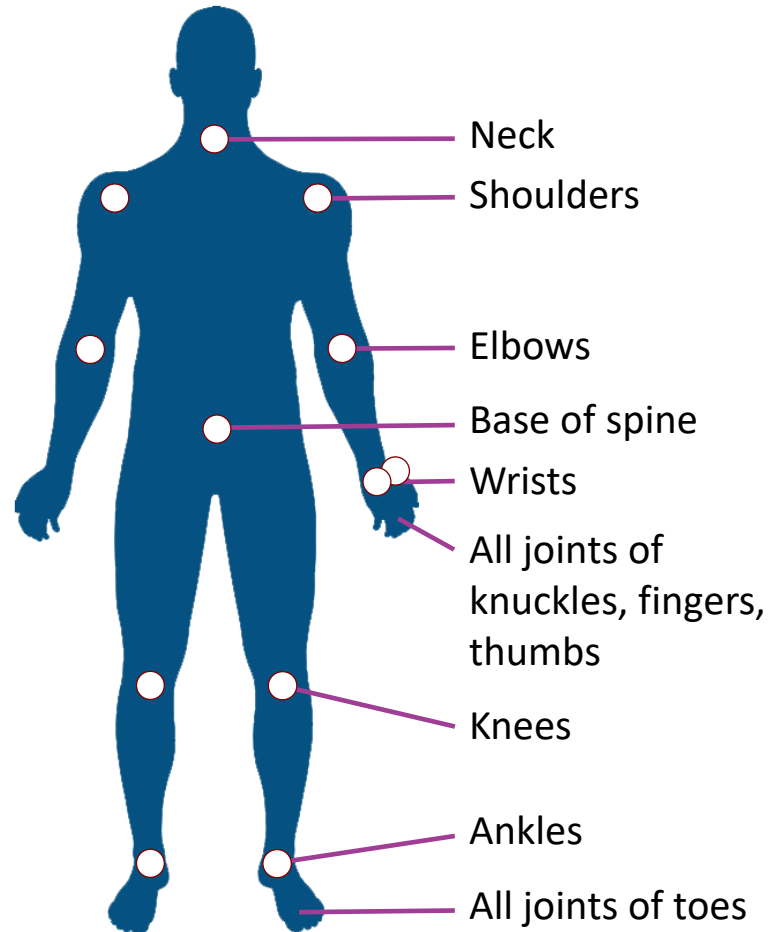
- Affects men and women in equal numbers
- Usually diagnosed in people between 20 to 50 years of age
- Up to 30% of people with psoriasis will get PsA
 - PsA usually starts about 10 years after onset of psoriasis
- Affects 1-3% of Canadians

Features of PsA



- Morning stiffness that lasts more than 30 to 60 minutes
- Back pain in the neck and/or lower spine that is worse at night and early morning
- Redness, swelling and/or sausage-like appearance of fingers or toes (dactylitis)
- Tendon/ligament pain and swelling (enthesitis) (where tendons/ligaments attach to bones)
 - Common sites are back of heels (Achilles tendon), along bottom of foot (plantar fascia) and on the outside of hips (trochanteric bursa)

Joints affected in PsA



5 Patterns of joints affected in PsA

1. Asymmetrical

- Affects less than 5 joints on different sides of the body

2. Symmetrical

- Affects 5 or more joints on both sides of the body (similar to RA)

3. Distal

- Affects end joints and nails of the fingers and toes

4. Spinal

- From low back to upper neck

5. Destructive

- Severe symmetrical arthritis affecting most joints of the body (Arthritis Mutilans; rare)

Other features related to PsA

Eyes:

- Inflammation of the eye (uveitis) occurs in about 20% of people with PsA
- Watch for sudden eye pain, sensitivity to light, blurred vision, redness
- May be a single event, recurring or persistent

Heart:

- Higher risk of heart disease with psoriasis and PsA

Causes of PsA

- Exact cause is unknown
- Runs in families
- Up to 30% of people with psoriasis develop PsA

Rheumatoid Arthritis (RA)

RA Topics

- What is RA?
- How common is RA?
- Warning signs of RA
- Joints affected in RA
- Inflammation outside the joints in RA
- Causes of RA

What is RA?

- An autoimmune disease
 - Your body's immune system attacks healthy joints, causing inflammation in joint linings
- A systemic disease
 - Inflammation can also affect other areas of the body, such as the eyes, heart, lungs and skin
- A chronic disease for which there is yet no cure

What is RA?

- Joint damage can occur without severe pain and can happen early in the disease
- Prolonged inflammation can lead to joint damage which can lead to permanent deformity and eventually disability
- Pain and swelling can be severe enough to make it difficult to walk and to do routine activities with hands (dressing, cooking), affecting your quality of life
- Early treatment can suppress inflammation, and limit joint damage, loss of movement, disability, medical costs and risk of needing surgery

How common is RA?

- Affects women 3 times more often than men
- Occurs at any age, but most commonly starts between the ages of 30 to 60 years; average age of onset is now mid-50's
- Often appears in people who have no family history of RA
- Affects about 1% of Canadian adults

Warning signs of RA

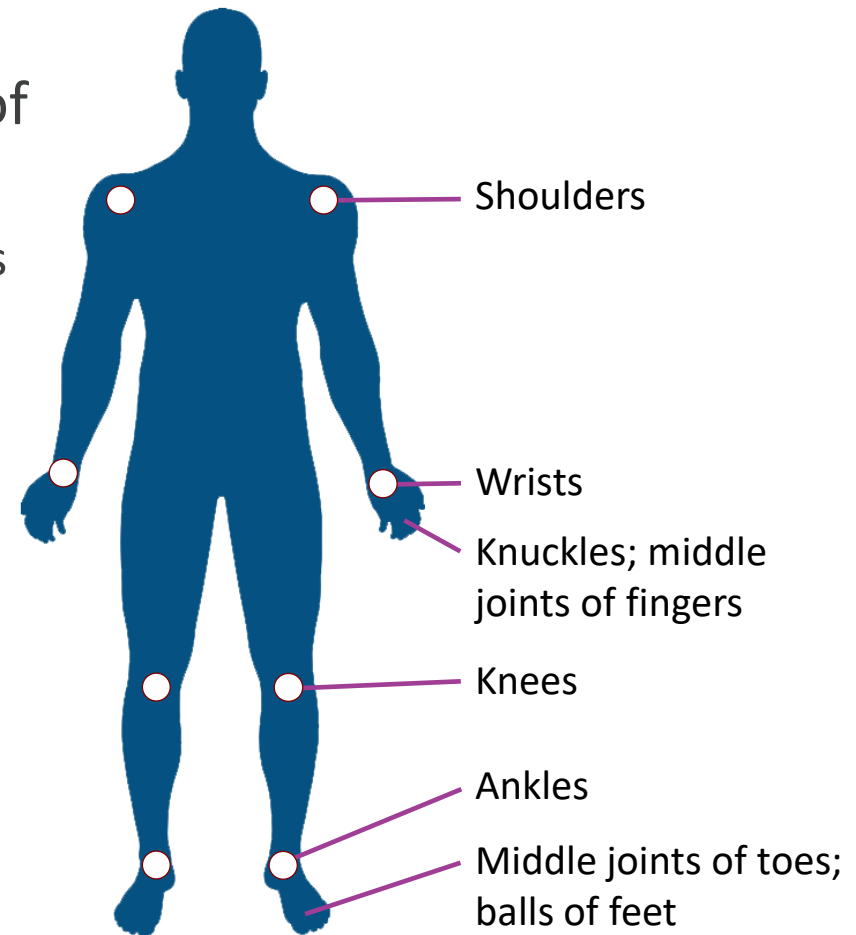
- Swelling of 3 or more joints, usually symmetrically (both sides of the body)
- Pain in and around joints
- Morning stiffness lasting more than 30 to 60 minutes
- Fatigue (extreme tiredness)
- Weakness
- Fever
- Weight loss

Warning signs of RA

- May start gradually in a few joints and move to other joints slowly or start with a sudden, severe attack of many joints and flu-like symptoms
- Disease course may vary from person to person, for example:
 - There may be periods of active disease (flare-ups) and periods of inactivity (remission) or
 - RA may be continuously active and appear to get worse over time

Joints affected in RA

- RA is distinguished from other forms of arthritis by the pattern of joint involvement
 - Usually starts in the hands (knuckles and middle finger joints), wrists and/or feet
 - Usually both sides of the body are affected (symmetrical pattern)
 - Other joints commonly affected: ankles, knees, hips, elbows, shoulders, neck and jaw
 - Usually not affecting spine or end joints of fingers and toes



Inflammation outside the joints in RA

Eyes:

- Can have dry eyes due to inflammation of the tear glands or develop inflammation of the eye
- See doctor urgently if eyes are red or painful

Mouth:

- Can have dryness due to inflamed salivary glands

Heart:

- Increased risk of heart disease

Inflammation outside the joints in RA

Rheumatoid nodules (lumps):

- May develop under the skin, usually over bony areas (such as the elbow)

Lungs:

- Thickening of lung lining or scarring in lungs

Blood vessels:

- Can become inflamed (vasculitis)
- Rare condition which can affect skin, nerves and other organs

Bones:

- Thinning of the bones (osteoporosis)

Causes of RA

- Exact cause unknown
- Genetic and environmental triggers (stress, smoking, illness, or hormonal changes such as pregnancy or menopause) may initiate RA
- Research is underway to find out why a person's immune system attacks healthy tissues, and to develop medicines to help prevent joint swelling and damage in RA

Diagnosis of inflammatory arthritis

Diagnosis of inflammatory arthritis

Diagnosis is made based on:

- ✓ Medical history
- ✓ Physical exam
- ✓ Blood tests
- ✓ Imaging tests including x-rays and ultrasound

Diagnosis: Medical history

Questions you may be asked include:

- What joints have swelling or pain?
- Are the joints affected on one side or both sides of your body?
- What is the level of pain in your joints (on a scale from 0 to 10)?
- Do you have stiffness in your joints in the morning and for how long?
- What is the level of tiredness (fatigue) that you are experiencing (on a scale of 0 to 10)?
- Does your pain or stiffness get worse with activity?

Diagnosis: Blood tests – what do they tell you?



Some tests that may help to make a diagnosis or provide an indication of severity:

- Rheumatoid factor (RF)
- Cyclic citrullinated protein (CCP) antibody
- Anti-nuclear antibodies (ANA) - (more important as marker for SLE/Lupus)
- HLA-B27 (for AS)
- Inflammation markers (including erythrocyte sedimentation rate ESR and C-reactive protein CRP)

Blood tests ordered by your doctor

Tests that measure inflammation:

- ESR: Erythrocyte Sedimentation Rate
- CRP: C-Reactive Protein

Other blood-test results that are monitored when you are on medications:

- CBC (complete blood count)
- Liver enzymes to make sure your liver is functioning correctly
- Creatinine to make sure your kidneys are working properly

Imaging tools

Routine:

- *Radiographs (x-rays)*
 - Taken when you are diagnosed for comparison at a future time, to determine if bone damage has occurred
 - Does not identify inflammation

Special situations:

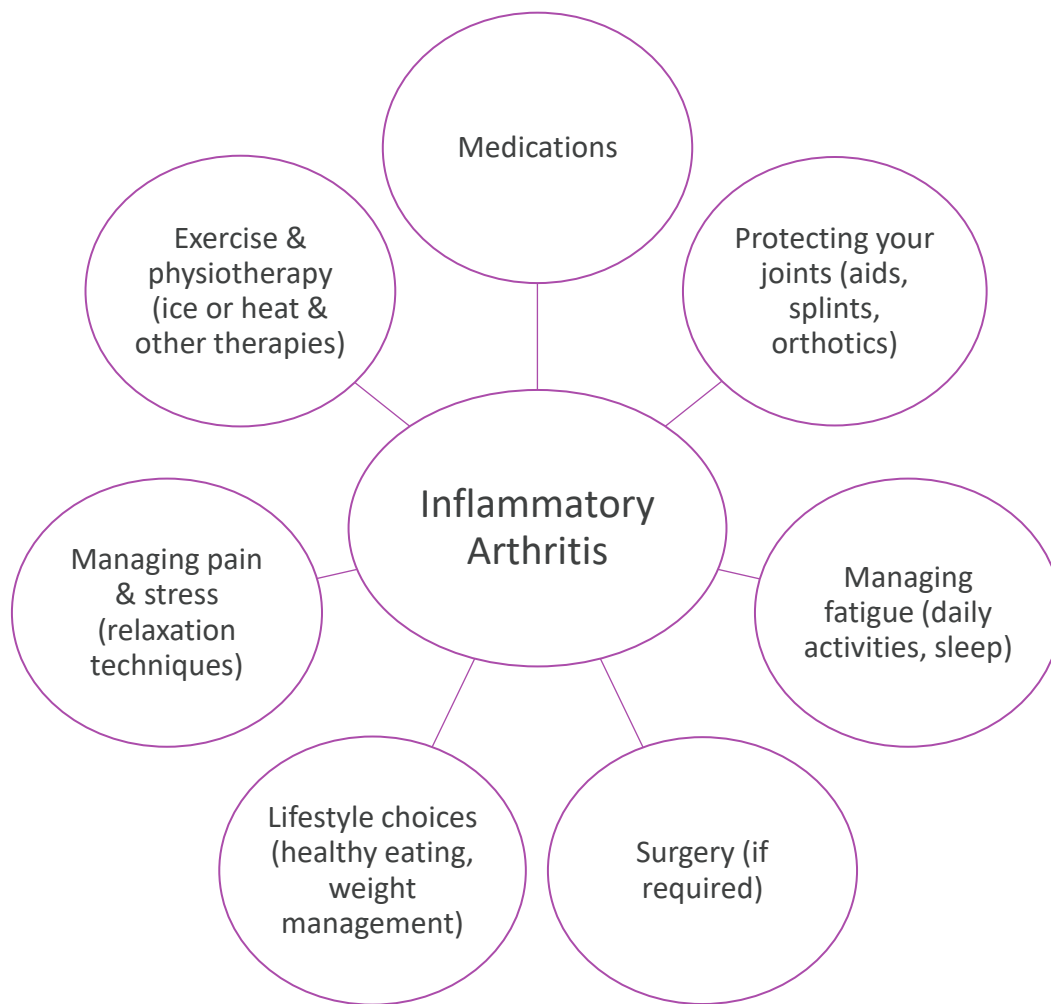
- *Magnetic resonance imaging (MRI)*
 - Can detect inflammation before it shows up on x-rays
- *Joint ultrasound*
 - Less expensive way to look for joint inflammation before x-rays show damage

Other:

- *Bone densitometry (DEXA)*
 - Measures bone density to detect osteoporosis

Managing inflammatory arthritis

Treating inflammatory arthritis



Key messages & resources

Key messages

- **Uncontrolled/prolonged** inflammatory arthritis can lead to damage of joints, surrounding tissues and other organs of the body and affect your quality of life
- **Early referral** to see a rheumatologist and healthcare team is very important
- **Do not delay** in seeking treatment. Early optimal treatment with medications, physiotherapy and other forms of therapy are necessary for controlling inflammatory arthritis

Resources

Arthritis Consumer Experts	www.jointhealth.org
The Arthritis Foundation	www.arthritis.org
The Arthritis Society	www.arthritis.ca
Canadian Arthritis Patient Alliance	www.arthritispatient.ca
Canadian Psoriasis Network	www.cpn-rcp.com
Canadian Spondylitis Association	www.spondylitis.ca
Rheuminfo	www.rheuminfo.com
Canadian Medical Association	www.cma.ca
Canadian Nurses Association	www.cna-nurses.ca/cna
Canadian Association of Occupational Therapists	www.caot.ca
Canadian Physiotherapy Association	www.thesehands.ca
Dietitians of Canada	www.dietitians.ca

Resources

- Arrey K, Starr M. *The Complete Arthritis Health, Diet Guide & Cookbook*. Robert Rose Inc, Toronto, 2012.
- Khan MA. *Ankylosing Spondylitis: The Facts*. Oxford University Press, New York, 2002.
- Koehn C, Palmer T, Esdaile J. *Rheumatoid Arthritis: Plan to Win*. Oxford University Press, New York, 2002.
- Mosher D, Stein H, Kraag G. *Living Well with Arthritis*. Penguin Group, Toronto, Ontario, 2002.