Inflammatory Arthritis Education Series

Medications to Treat Inflammatory Arthritis

This program has been reviewed and endorsed by

Canadian Arthritis Patient Alliance
experience · perspective · voice
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This initiative was made with support of

![AbbVie Logo]

![CAPA Logo]
Objectives

By the end of the session, you will:

• Understand the goals of treatment in inflammatory arthritis

• Understand the role of medications in treating inflammatory arthritis
  – Identify which medications control the inflammatory process and which medications are used to help manage pain

• Understand the roles of other parts of the treatment plan
Goals of arthritis management

• Educate you and your family
• Prevent/stop damage to joints and other tissues
• Control inflammation
• Relieve pain
• Improve fatigue (feeling of extreme tiredness)
• Improve mobility and level of fitness
• Protect your joints
• Improve or correct deformities
• Provide emotional and social support
Your role in treatment

• Taking an active role in your treatment will help you understand your care and get the best results from your treatment:
  – Successful management of arthritis requires a team approach to care
  – You are an active part of that team

• The more you understand about your treatment, the more likely you are to benefit
When considering medications

- Understand how to take your medications
- Take medications exactly as prescribed
- Do not stop medications without first consulting your doctor or pharmacist as doing so may be dangerous
- Full benefits of some medications, such as increased movement and energy and decreased swelling and pain, may take 6 to 12 weeks to occur
- Don’t hesitate to ask questions
Treatment options for inflammatory arthritis

- Medications
- Protecting your joints (aids, splints, orthotics)
- Exercise & physiotherapy (ice or heat & other therapies)
- Managing fatigue (daily activities, sleep)
- Managing pain & stress (relaxation techniques)
- Lifestyle choices (healthy eating, weight management)
- Surgery (if required)
Understanding medications

• Correct medications can only be prescribed following a diagnosis from your primary care provider
• Specific doses are prescribed to meet your needs
• Tell your doctor about any allergies or other medications and/or supplements you are taking for other chronic conditions
  – Arthritis medications can interact with other drugs
• Tell your doctor if you are pregnant, trying to become pregnant, or breastfeeding
  – Medications may have to be changed or stopped for a short while
Questions to ask before starting a medication

- Why should I take this?
- How does it work?
- What are the benefits?
- How long does it take for benefits to occur?
- How should I take it?
- What are the possible side effects or risks?
- Are there any possible interactions with current medications, supplements or health conditions?
- Who should I contact if I develop a side effect or problem?
Medication considerations

Medication treatment is divided into two categories:

1. Medication for symptom control:
   - Painkillers, anti-inflammatories
   - Begin to work in days to weeks
   - Make you feel better, but do not stop arthritis from progressing

2. Medication for disease control:
   - Prevent/stop joint damage and keep joints healthy
   - May take weeks to months to work at controlling inflammation (swelling)
Medications to treat inflammatory arthritis

• Medications to control pain:
  – NSAIDs (non-steroidal anti-inflammatory drugs)
  – Acetaminophen
  – Narcotics

• Medications to control inflammation:
  – NSAIDs
  – Corticosteroids - cortisone
  – DMARDs (disease modifying anti-rheumatic drugs)
  – Biologics
Non-steroidal anti-inflammatory drugs (NSAIDs)
NSAIDs

- Over-the-counter (OTC) or by prescription
- Useful to relieve symptoms of pain and swelling
- Do not stop arthritis progression or joint damage
- Must be taken on a regular basis at a prescribed dose to reduce inflammation
- Take only one type of NSAID at a time (including OTC NSAIDs)
- Work with your doctor to determine which NSAID is best for you
- Take with food to reduce stomach upset
NSAIDs

• Non-Prescription NSAIDS:
  – Acetylsalicylic acid (ASA, Aspirin, Entrophen)
  – Ibuprofen (Motrin, Advil)
  – Naproxen (Aleve)

• Prescription NSAIDS (common examples):
  – Flurbiprofen (Froben)
  – Naproxen (Naprosyn)
  – Indomethacin (Indocid)
  – Diclofenac (Voltaren)
  – Diclofenac and misoprostol (Arthrotec)
NSAIDs: Cox-2 inhibitors

• Block Cox-2, an enzyme that promotes joint inflammation, but not Cox-1, an enzyme that helps protect the mucous lining of the stomach
• Safer on the stomach than traditional NSAIDs
• Cox-2 inhibitors may be prescribed if traditional NSAIDs are not tolerated
  – For example, celecoxib (Celebrex) at 100 to 200 mg twice a day
• Taking ASA (Aspirin) at the same time will decrease the stomach protection effect of the Cox-2 inhibitor
NSAIDs: Take as directed

- Number of tablets and number of times they are taken per day varies by type of medication
- Take NSAIDs exactly as prescribed
- More is not better, and less is not better
  - Adjusting your own dose will not allow your doctor to assess how the medication is working
- Side effects: stomach irritation, nausea, constipation, increased blood pressure
- Monitoring required: blood tests, blood pressure
# NSAIDs: Possible side effects

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Frequency</th>
<th>Call doctor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nausea/heartburn/stomach pain/cramps</td>
<td>Common</td>
<td>If severe or persistent</td>
</tr>
<tr>
<td>Constipation</td>
<td>Common</td>
<td>If severe or persistent</td>
</tr>
<tr>
<td>Vomiting/diarrhea</td>
<td>Rare</td>
<td>If severe or persistent</td>
</tr>
<tr>
<td>Skin rash</td>
<td>Rare</td>
<td>Yes</td>
</tr>
<tr>
<td>Ringing in ears</td>
<td>Rare</td>
<td>Yes</td>
</tr>
<tr>
<td>Dizziness/light headedness</td>
<td>Rare</td>
<td>Yes</td>
</tr>
<tr>
<td>Increase in blood pressure</td>
<td>Rare</td>
<td>Monitored periodically by your doctor</td>
</tr>
<tr>
<td>Black or bloody stools</td>
<td>Rare</td>
<td>Yes</td>
</tr>
<tr>
<td>Wheezing/shortness of breath</td>
<td>Rare</td>
<td>Yes</td>
</tr>
<tr>
<td>Fluid retention</td>
<td>Rare</td>
<td>Yes</td>
</tr>
<tr>
<td>Chest pain or pressure</td>
<td>Rare</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Note: common is 20-50% of patients and rare is less than 1% of patients*
People who should be careful taking NSAIDs

- Anyone who:
  - is over the age of 65 years
  - has had a stomach ulcer
  - is taking blood thinners (warfarin or heparin)
  - is at a very high risk of heart attack
  - has more than 3 medical conditions (also known as ‘co-morbidities’)

(CAPA Canadian Arthritis Patient Alliance)
**Acetaminophen**

- Examples: Tylenol, Panadol, Exdol
- Reduces pain and fever, but not inflammation
- Can be safely combined with prescription NSAIDs

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tylenol Regular Strength</td>
<td>325 mg</td>
<td>1 to 3 tablets every 4 to 6 hours as needed</td>
</tr>
<tr>
<td>Tylenol Extra Strength</td>
<td>500 mg</td>
<td>1 to 2 tablets every 4 to 6 hours as needed</td>
</tr>
<tr>
<td>Tylenol Arthritis Pain</td>
<td>650 mg (extended release)</td>
<td>1 to 2 tablets every 8 hours as needed</td>
</tr>
</tbody>
</table>
Acetaminophen

• Maximum dose:
  – No more than 1,000 mg* should be taken at one time with a maximum of 4,000 mg in a day
  – Overdosing with acetaminophen can lead to liver damage

• Lower dosages are recommended for:
  – Elderly people
  – People who take blood thinners
  – People who drink more than 2 alcohol drinks a day

*Exception: Tylenol Arthritis Pain (AP) extended release dosage is 650 mg x 2 capsules
Narcotic medications for pain
Narcotic medications for pain

• A type of pain medication sometimes prescribed by your doctor when NSAIDs are not strong enough to relieve pain

• Some examples include:
  – Codeine (Tylenol 1, 2, 3, and Emtec)
  – Morphine (MS-contin)
  – Hydromorphone (Dilaudid)
  – Merperidine (Demerol)
  – Fentanyl (Duragesic patches)
  – Tramadol: Tramacet (Tramadol 37.5 mg and Acetaminophen 325 mg)
Acetaminophen with codeine

<table>
<thead>
<tr>
<th>Medication</th>
<th>Prescription Required?</th>
<th>Ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tylenol 1</td>
<td>✗</td>
<td>Acetaminophen 300 mg, caffeine 15 mg and codeine 8 mg</td>
</tr>
<tr>
<td>Tylenol 2</td>
<td>✓</td>
<td>Acetaminophen 300 mg, caffeine 15 mg and codeine 15 mg</td>
</tr>
<tr>
<td>Tylenol 3</td>
<td>✓</td>
<td>Acetaminophen 300 mg, caffeine 15 mg and codeine 30 mg</td>
</tr>
<tr>
<td>Emtec</td>
<td>✓</td>
<td>Acetaminophen 300 mg and codeine 30 mg</td>
</tr>
</tbody>
</table>

*Note: For all of these medications, instructions are to take 1 to 2 tablets every 4 to 6 hours as prescribed by your doctor to a maximum of 12 tablets in 24 hours*
Acetaminophen with codeine

Note:

- Tylenol with codeine may also be taken with Tylenol Regular or Tylenol Extra Strength
- Codeine affects the central nervous system, reducing pain sensitivity and increasing drowsiness
- Avoid drinking alcohol when taking acetaminophen or codeine
- When using acetaminophen, you must consider all products that contain acetaminophen do not exceed the total maximum dose of 4000 mg/day
Acetaminophen with codeine

- Possible side effects of codeine:
  - Constipation
  - Nausea
  - Dizziness
  - Drowsiness (avoid driving or combining with other medications that increase sedation)
Corticosteroids as anti-inflammatory medication
Corticosteroids

- Also called cortisone
- Decrease inflammation
- Fast-acting
- Can be taken as:
  - Pill (prednisone)
  - Injection into muscle
  - Injection into inflamed joints
- May be used initially until disease-modifying anti-rheumatic drugs (DMARDs) work, or during periods of flares and sometimes at low doses over long term if needed
Corticosteroids: Possible side effects of prolonged use

• Increased appetite
• Insomnia
• Mood changes

• In addition, long-term use can cause:
  – Thinning of the bones (osteoporosis)
  – Cataracts
  – Fluid retention, weight gain, “moon face”
  – Increased blood pressure, heart disease
  – Increased blood sugars, risk of diabetes
  – Increased risk of infection, and poor wound healing
Corticosteroids: Considerations

• If taking more than 7.5 mg of prednisone daily for more than 3 months, will require therapy to prevent osteoporosis
  – Calcium, vitamin D and bone-building medication

• Take with food

• Decrease gradually; never stop abruptly if you have been taking corticosteroids for more than 3 weeks

• Rest joint for 24 hours after a joint injection; may do range-of-motion exercises

• May increase risk of infection or mask infection
Disease-modifying anti-rheumatic drugs (DMARDs)
**DMARDs**

- Slow down or stop inflammation to prevent joint damage
  - By reducing inflammation there is less swelling, heat, pain
  - Modify the immune system’s response
- Use early after diagnosis to alter disease progression and to help minimize joint damage
- One or more DMARDs may be required
- Effects usually seen in 1 to 6 months
- Blood tests will be done regularly to monitor for side effects
DMARDs

• Methotrexate (Rheumatrex)
• Sulfasalazine (Salazopyrin)
• Hydroxychloroquine (Plaquenil)
• Azathioprine (Imuran)
• Leflunomide (Arava)
• Often 2 or more of these medications are taken together to control inflammation from your arthritis
DMARDs: Possible side effects

• In general, the risk of joint damage and permanent disability is much greater than the risk of side effects of medications to control inflammatory arthritis.

• The majority of side effects are reversible:
  – By lowering the dose, or
  – By stopping the medication and switching to another one.

• It is important to determine whether the issue is the medication or an arthritis symptom (for example, dry eyes/mouth), or another illness, such as a viral infection.
DMARDs: Possible side effects

• Common DMARD side effects include:
  – Flu-like symptoms (fatigue, headache, dizziness)
  – Stomach upset/pain, nausea
  – Diarrhea
  – Mouth sores
  – Hair loss
  – Dry eyes or mouth
  – Sun sensitivity
  – Increased risk of upper respiratory infections

• If you are concerned about any side effects you are experiencing, contact your doctor to discuss them.

*Note: common is 20-50% of patients and rare is less than 1% of patients
Biologic response modifiers (Biologics)
Biologics

- Drugs created by living organisms
- Modify the immune system to control the inflammatory process, benefit seen within 1 to 6 months
- Used in combination with DMARDs
- Used after 2 or more DMARDs have been tried and did not control the inflammation
- Are taken by subcutaneous injection (SC) or intravenous (IV) infusion
- Caution with any previous tuberculosis exposure, cancer or chronic infections (e.g. HIV)
- Expensive because of how they are made (cost is in the tens of thousands of dollars/year)
Mechanism of action is a term that describes the part of the immune system that the drug targets. This can be thought of as ‘how the drug works’. Different biologics have different mechanisms of action:

- TNF inhibitors target a molecule called TNF.
- T cell inhibitors target T cells.
- B cell inhibitors target B cells.
- IL-6 inhibitors target a molecule called IL-6.
Biologics: TNF inhibitors

- These drugs all target TNF alpha in the immune system.

<table>
<thead>
<tr>
<th>Medication</th>
<th>Subcutaneous (SC) or Intravenous (IV)</th>
<th>Injection or Infusion Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adalimumab (Humira)</td>
<td>SC</td>
<td>Every 2 weeks</td>
</tr>
<tr>
<td>Certolizumab (Cimzia)</td>
<td>SC</td>
<td>3 injections in the first month, then every 2 or 4 weeks</td>
</tr>
<tr>
<td>Etanercept (Enbrel)</td>
<td>SC</td>
<td>Once or twice a week</td>
</tr>
<tr>
<td>Golimumab (Simponi)</td>
<td>SC and IV</td>
<td>SC: once a month, IV: once a month and then moves to every 2 months</td>
</tr>
<tr>
<td>Infliximab (Remicade, Inflectra)</td>
<td>IV</td>
<td>Infusion done initially, week 2 and 6, then every 6 to 8 weeks</td>
</tr>
</tbody>
</table>

*Injection into body fat, which could be thigh or stomach
### Other biologics

<table>
<thead>
<tr>
<th>Medication</th>
<th>Subcutaneous (SC) or Intravenous (IV)</th>
<th>Mechanism of Action</th>
<th>Injection or Infusion Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abatacept (Orencia)</td>
<td>SC and IV</td>
<td>Affects the T cells in your immune system</td>
<td>SC: weekly, IV: 30 minute infusion: 3 in the first 4 weeks, then every 4 weeks</td>
</tr>
<tr>
<td>Rituximab (Rituxan)</td>
<td>IV</td>
<td>Affects the B cells in your immune system</td>
<td>2 infusions, 2 weeks apart, once or twice/ year</td>
</tr>
<tr>
<td>Tocilizumab (Actemra)</td>
<td>SC and IV</td>
<td>Affects IL-6 cells in your immune system</td>
<td>SC: every 1 to 2 weeks, IV: 1 hour infusion every 4 weeks</td>
</tr>
</tbody>
</table>
Biologics: Possible side effects

- Common biologic side effects include:
  - Increased risk of infection
  - Colds or sinus infections
  - Injection site reactions
  - Infusion reactions
  - Headaches/dizziness
  - Nausea or diarrhea
  - Reactivation of infections like hepatitis or tuberculosis or risk of skin cancer

- If you are concerned about any side effects you are experiencing, contact your doctor to discuss them.
Biologics: When you may need to stop taking them

• You will need to talk to your doctor about potentially stopping your biologic in some instances:
  – When you are thinking about becoming pregnant
  – When you are scheduled for surgery
  – If you develop a major infection
  – If you have a major open wound

• Before you stop talking your biologic, contact your doctor to discuss these situations or other concerns you may have.
What’s new in treatments for RA?

• There is a new DMARD called tofacitinib (Xeljanz)
  – A pill, taken at 5 mg twice a day
  – Is well-tolerated
• This targets the JAK pathway in the body
• Should not take with with biologics, cyclosporine or Imuran
• Anti-fungals increase this drug in the body
• Must be screened for tuberculosis before starting this
• Must monitor for infections & herpes zoster
What’s new in treatments for PSA?

- Apremilast (Otezla) is a new DMARD for PSA & psoriasis
  - Tablets taken at 30 mg twice a day
- This is a small molecule drug (that is, not a biologic)
- This drug targets phosphodiesterase 4
- Side effects may include nausea and diarrhea initially, weight loss and possible risk of increased depression
What’s new in treatments for PSA?

• Ustekinumab (Stelera) for PSA & moderate to severe plaque psoriasis
• Taken subcutaneously via self-infection:
  – If weight is less than or equal to 100 mg, patients take 45 mg
  – If weight is greater than 100 mg, patients take 90 mg
  – Taken at weeks 0, 4, and then every 12 weeks
• Targets the body’s IL-12 & IL-23 pathways
• This drug is a biologic and has side effects similar to other biologics
Key messages

• Early treatment with DMARDs ensures better control of your inflammatory arthritis and less damage to joints and other tissues
• Take your medication as prescribed by your doctor to achieve the best results
• Inform your doctor of any side effects that you develop as soon as possible
• Blood tests are required to monitor both 'disease activity' and potential adverse effects of medications used to treat your 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
Resources

Resources


