JointHealth™

Medications Guide June 2017

Arthritis Consumer Experts (ACE) produces its annual JointHealth™ Medications Guide to enable members/patients-at-large to have a meaningful conversation with their rheumatologist and pharmacist about available therapy options, side effects and route of administration.

The medications listed below are the most commonly prescribed by Canadian rheumatologists and arthritis specialists to treat osteoarthritis (OA), rheumatoid arthritis (RA), axial spondyloarthritis (which includes ankylosing spondylitis (AS) and non-radiographic axial spondyloarthritis), juvenile idiopathic arthritis (JIA), psoriatic arthritis (PsA), osteoporosis, systemic lupus erythematosus (SLE), and vasculitis.

The information in this JointHealth™ Medications Guide is not intended to suggest a course of treatment. It is for information only. Always speak to your doctor before starting or stopping a medication.

Important notes

acetaminophen = **Tylenol®**	Generic names of medications are shown in lower case and the first letter of brand names is capitalized.
	Dosages are not provided as they vary based on disease severity and individual need.
	Only the most common and the most serious possible side effects are highlighted.
	General information on public drug plan coverage can be found at http://bit.ly/JHReportCard. For private drug plan coverage, please contact your benefits provider for information.

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Medication	Symptoms and diseases commonly used to treat	Most common and most serious side effects
conventional synthetic disease modifying anti-rheumatic drugs (csDMARDs)		
azathioprine (Imuran®) – pill	Inflammation and pain caused by RA, SLE, CTDs, vasculitis. Effective at treating the underlying disease process in SLE, vasculitis, CTDs (like, Sjögren, myositis, SLE)	Most common include: Stomach upset, fever, infection, unexpected bruising or bleeding, nausea Most serious include: Increased risk of infection, low blood counts (bone marrow suppression), mouth ulcers, liver and pancreas toxicity. Blood tests must be done regularly to check blood counts and liver tests. Serious drug interactions can occur with allopurinol. When the allopurinol dose is not adjusted downwards, death can occur.
hydroxychloroquine sulfate (Plaquenil®) – pill Should see an improvement in 3 to 6 months, and improvement can continue up to a year	Inflammation and pain caused by RA, PsA, SLE, OA.	Most common include: Stomach upset, cramps, diarrhea and itchy skin rash (usually within a couple of weeks). Long-term use can cause skin pigmentation changes and other skin rashes, and ringing in the ears. Rare: Irritability, nightmares, headaches, blurred vision, vision halo. Most serious include: Rare retinal (eye) toxicity in 1 out of 5000 – stay under 5mg/kg/day. Baseline then after 5 years, yearly eye exams are recommended. Low blood counts. Rare nerve/muscle dysfunction. Tinnitus.
leflunomide (Arava®) – pill Should see an improvement in 1 to 2 months	Inflammation and pain caused by RA. Effective at treating the underlying disease process in RA, PsA.	Most common include: Stomach upset, diarrhea, increased risk of infection, high blood pressure, headache, skin rash. Most serious include: Liver toxicity and severe liver damage leading to death, severe infection, low blood counts, nerve damage, teratogenic (can cause malformations of developing fetus). Blood tests must be done regularly to check blood counts and liver tests. Leflunomide stays in the body for many months. If there is a serious side effect, or prior to attempting pregnancy and in the event of unexpected pregnancy, this drug should be "washed out" of the system immediately by using a course of cholestyramine.
methotrexate (Rheumatrex®) – pill or 1 injection weekly Benefits should be seen within 1 to 2 months; maximum benefit in 6 months	Inflammation and pain caused by RA, AS, PsA, SLE. Effective at treating the underlying disease process in RA, AS, SLE, PsA – peripheral arthritis only.	Most common include: Mouth ulcers, stomach upset, nausea, diarrhea, headache, fatigue, mood symptoms. Some patients may experience worsening of RA nodules. Most serious include: Liver toxicity, lung toxicity, low blood counts, increased risk of infection, hair loss, teratogenic (can cause malformations of developing fetus). This medication should be stopped 3 months prior to attempting to become pregnant, including for men. Blood tests must be done regularly to check blood counts and liver tests.
sulfasalazine (Salazopyrin®) – pill Benefits should be seen in 1 to 2 months	Inflammation and pain caused by RA, AS, PsA. Effective at treating the underlying disease process in RA, AS – peripheral arthritis only.	Most common include: Nausea, stomach upset, diarrhea, abdominal pain, skin rash. Most serious include: Liver toxicity, severe skin rash, drop in blood counts, temporary drop in sperm counts. Can cause kidney stones. Blood tests must be done regularly to check blood counts and liver tests.
biologic response modifier (originator or "boDMARD" and biosimilar or "bsDMARD") - not to be used in combination with one another		
abatacept (Orencia®) – intravenous, at week 0, 2 and 4, and then once every 4 weeks or subcutaneous injection weekly.	Inflammation, pain, joint damage caused by RA, JIA. Highly effective at treating symptoms and underlying disease process in RA, JIA.	Most common include: Infusion reactions can occur and are usually mild and self-limiting. Also, headache, runny nose, muscle or joint pain, sore throat, nausea, dizziness, heartburn. Most serious include: Increased risk of serious infections, possible increased risk of lymphoma, reactivation of hepatitis B, reactivation of tuberculosis (TB). Note: To be consistent with use with methotrexate.
adalimumab (Humira®) – one injection every 2 weeks, subcutaneous injection via pen, pre-filled syringe, vial	Inflammation, pain, joint damage caused by RA, AS, PsA, JIA, Crohn's disease. Highly effective at treating symptoms and underlying disease process in RA, AS, PsA, JIA, Crohn's disease.	Most common include: Headache, skin rash, injection site reactions, rash, increased risk of minor infections. Most serious include: Low blood counts, increased risk of serious infection, multiple sclerosis-like symptoms, possible increased risk of lymphoma, reactivation of hepatitis B, reactivation of tuberculosis (TB). Should not be used in people with severe or uncontrolled heart failure.

Medication	Symptoms and diseases commonly used to treat	Most common and most serious side effects
anakinra (Kineret®) – one injection every day	Inflammation and pain caused by RA, adult Still's disease. Rare auto-inflammatory diseases. Also used in systemic JIA.	Most common include: Injection site reactions, skin rash, headache, nausea, diarrhea, sinus infection, abdominal pain, increased risk of minor infections. Most serious include: Increased risk of serious infection, reactivation of hepatitis B, reactivation of tuberculosis (TB).
belimumab (Benlysta®) – intravenous infusion, every 2 weeks for the first 3 doses, then once every 4 weeks	Effective at treating symptoms and underlying disease process in systemic lupus erythematosus (SLE). Currently approved to treat skin and joint manifestations. Not indicated for renal or central nervous system (CNS) lupus. Not approved for use in children less than 18 years old.	Most common include: Nausea, diarrhea, fever, stuffy nose, cough (bronchitis), trouble sleeping, leg or arm pain, depression, headache (migraine), sore throat, urinary tract infection, decreased white blood cell count, vomiting, stomach pain, toothache, sudden high blood pressure. Most serious include: Possible cancer, allergic and infusion reactions, serious reactions may occur on the day or day after receiving dose, and may cause death, infections, heart problems, mental health problems, including suicide, reactivation of hepatitis B, reactivation of tuberculosis (TB). Rare side effect: Progressive multifocal leukoencephalopathy - associated with memory loss, trouble thinking, confusion, problems with vision, difficulty with swallowing, talking, walking and seizures.
canakinumab (Ilaris®) – subcutaneous injection, every 8 weeks as a single dose	Controls both systemic and joint inflammation caused by systemic JIA in patients aged 2 years and older, helps maintain inactive disease.	Most common include: Fever lasting longer than 3 days, cough, phlegm, chest pain, difficulty breathing, ear pain, prolonged headache, localized redness, warmth/swelling of skin, sudden bleeding or easy bruising, sore throat, low levels of blood platelets, feeling dizzy, vertigo, ulcers due to infections, low levels of white blood cells Most serious include: pneumonia, bronchitis, cellulitis, chronic tonsillitis, lower respiratory tract infection, sepsis and tonsillitis and other serious infections including of the skin, lungs, and blood. *The safety and efficacy of Ilaris® in patients below age of 2 years and with a body weight under 9kg have not been established.
certolizumab pegol (Cimzia®) – one injection every 2 weeks	Inflammation, pain, joint damage caused by RA, AS, PSA. Highly effective at treating symptoms and underlying disease process in RA, AS, PSA.	Most common include: Upper respiratory tract infections, rash, urinary tract infections, lower respiratory tract and lung infections. Most serious include: Infections including malignancies including possible increased risk of lymphoma, reactivation of hepatitis B, reactivation of tuberculosis (TB).
denosumab (Prolia®) – injection, 2 per year	Osteoporosis in postmenopausal women who have a high risk of bone fractures; or patients who have failed or are intolerant to other available osteoporosis therapy.	Most common include: Back pain, pain in arms and legs, high cholesterol, muscle pain, and bladder infection. Most serious, but rare, include: Infections in skin, lower stomach area (abdomen), bladder, or ear; inflammation of inner lining of heart (endocarditis) due to infection; osteonecrosis of the jaw (very rare); lowered calcium levels in blood (hypocalcemia), reactivation of hepatitis B, reactivation of tuberculosis (TB).
etanercept (Enbrel®, boDMARD) – 1 or 2 injections every week	Inflammation, pain, joint damage caused by RA, AS, JIA, PsA. Highly effective at treating symptoms and underlying disease process in RA, AS, JIA, PsA.	Most common include: Headache, skin rash, injection site reactions, rash, increased risk of minor infections, dizziness. Most serious include: Low blood counts, increased risk of serious infection, multiple sclerosis-like symptoms, possible increased risk of lymphoma, reactivation of hepatitis B, reactivation of tuberculosis (TB). Should not be used in people with severe or uncontrolled heart failure.
etanercept (Brenzys®, bsDMARD) – subcutaneous injection, 1 to 2 times a week	Reduce signs and symptoms of RA and AS	Common side effects include: injection site reactions (redness, swelling, pain), upper respiratory infections (sinus infections), headaches Serious side effects include: nervous system diseases, blood problems, heart problems, allergic reactions, cancer, liver problems (autoimmune hepatitis), hepatitis B, psoriasis, serious infections (tuberculosis, pneumonia, and listeriosis). Should not be used in children less than 18 years of age. Brenzys has not been studied in pregnant women or nursing mothers.
etanercept (Erelzi®, bsDMARD) - subcutaneous injection, 1 to 2 times a week	Reduce signs and symptoms of RA, AS and JIA	Common side effects include: injection site reactions (redness, swelling, pain), upper respiratory infections (sinus infections), headaches. Serious side effects include: nervous system diseases, blood problems, heart problems, allergic reactions, cancer, liver problems (autoimmune hepatitis), hepatitis B, psoriasis, serious infections (tuberculosis, pneumonia, and listeriosis).

Medication	Symptoms and diseases commonly used to treat	Most common and most serious side effects
golimumab (Simponi®) – one injection every 4 weeks or for RA, intravenous infusion at weeks 0 and 4, then every 8 weeks	Inflammation, pain, joint damage caused by RA, AS, PsA. Highly effective at treating symptoms and underlying disease process in RA, AS, PsA, non-radiographic axial spondyloarthritis (nrAxSpA).	Most common include: Upper respiratory tract infection, nausea, abdominal liver tests, redness at site of injection, high blood pressure, bronchitis, dizziness, sinus infection, flu, runny nose, fever, cold sores, numbness or tingling. Most serious include: Serious infection, increased risk of lymphoma, reactivation of TB, reactivation of hepatitis B, heart failure, nervous system problems, liver problems, blood problems. Should not be used in people with severe or uncontrolled heart failure.
infliximab (Remicade®, boDMARD) – intravenous infusion once every 8 weeks	Inflammation, pain, joint damage caused by RA, AS, JIA, PsA. Highly effective at treating symptoms and underlying disease process in RA, AS, JIA, PsA.	Most common include: Headache, skin rash, infusion reactions, rash, increased risk of minor infections. Most serious include: Low blood counts, increased risk of serious infection, multiple sclerosis-like symptoms, possible increased risk of lymphoma, reactivation of hepatitis B, reactivation of tuberculosis (TB). Should not be used in people with severe or uncontrolled heart failure.
infliximab (Inflectra®, bsDMARD) – intravenous infusion once every 8 weeks	Inflammation and pain caused by RA, AS, and PsA	Most common include: Abdominal pain, nausea, vomiting, and diarrhea; back pain, aching joints; rash, flushing; headaches; upper respiratory tract infections, such as sinusitis. Most serious, but rare, include: Infusion reactions; increased risk of infection, nervous system disorders' making congestive heart failure worse; and malignancy. Should not be used in people with severe or uncontrolled heart failure.
rituximab (Rituxan®) – intravenous. For RA, the first two infusions are separated by 2 weeks, then usually re-infusion will occur every 6 months. For vasculitis, it is given weekly for 4 weeks. If or when another course is needed is not yet defined.	Inflammation, pain, joint damage caused by RA; used to treat ANCA vasculitis and can reduce or prevent organ damage.	Most common include: Infusion reactions are usually seen at first infusion, include flushing, sweating, chest pains. Infusion reactions are typically managed by slowing the rate of infusion and are much less frequent in subsequent infusions. Most serious include: Sore throat, fever, chills, or other signs of infection, unusual bruising or bleeding, severe pain in the stomach area, vision changes, unusual eye movements, loss of balance, confusion, disorientation, difficulty walking, risk of serious infection, reactivation of hepatitis B, reactivation of tuberculosis (TB). Higher risk of hepatitis B reactivation compared to other biologics. Rare side effect: Progressive multifocal leukoencephalopathy
sarilumab (Kevzara®) – given as subcutaneous injection, once every 2 weeks	Inflammation, pain, joint damage caused by RA	Common side effects include: neutropenia, increased ALT, injection site reactions, upper respiratory tract infections Serious side effects include: serious infections leading to death or hospitalization (tuberculosis (TB), hepatitis and other viral reactivation), liver abnormalities, gastrointestinal infection, diarrhea, headache, dizziness. Safety and efficacy have not been established in children less than 18 years of age, in patients with hepatic impairment (Hepatitis B and C), cancer, urinary tract infection.
secukinumab (Cosentyx®) – subcutaneous injection, given at 0, 1, 2 and 3 weeks followed by maintenance dosing at week 4	Inflammation, pain, joint damage caused by AS, PsA	Common side effects include: upper respiratory tract infections (nasopharyngitis, pharyngitis, cold and sore throat), gastrointestinal disorders (diarrhea), injection site reactions. Serious side effects include: increased risk of infection (tuberculosis), inflammatory bowel disease. Safety and efficacy have not been tested in pregnant women, nursing women, or children less than 18 years of age.
tocilizumab (Actemra®) – intravenous infusion once ever 4 weeks OR – subcutaneous injection every 1 to 2 weeks.	Inflammation, pain, joint damage caused by RA and JIA. Highly effective at treating symptoms and underlying disease process in RA and JIA.	Most common include: Upper respiratory cold and sore throat, high blood pressure, and elevated liver enzymes. Most serious include: Infections, in some cases fatal, gastrointestinal perforations, allergic reactions including anaphylaxis, reactivation of hepatitis B, and reactivation of tuberculosis (TB).
ustekinumab (Stelara®) – injection, at weeks 0 and 4, then every 12 weeks	Inflammation, pain, joint damage caused by PsA. Highly effective at treating symptoms and underlying disease process in PsA.	Most common include: Upper respiratory infections, headache, fatigue. Most serious include: Increased risk of infection, including reactivation of hepatitis B, reactivation of tuberculosis (TB); increased risk of certain types of cancer.

Medication	Symptoms and diseases commonly used to treat	Most common and most serious side effects
targeted synthetic molecule (tsDMARD)		
tofacitinib citrate (Xeljanz®) – pill, once morning and evening	Inflammation and pain caused by RA	Most common include: Nausea, indigestion, and diarrhea; headaches; upper respiratory tract infection (cold and sore throat, sinusitis); may increase cholesterol levels. Most serious include: increased risk of serious infection, drop in red and white blood cell counts; may irritate the liver; may increase risk of bowel perforation; and may cause slight decrease in kidney function (increased blood creatinine test)).
apremilast (Otezla®) – pill, taken as two tablets twice a day	Inflammation and pain caused by PsA. Also decreases redness, thickness and scaliness in plaque psoriasis.	Most common include: Diarrhea, nausea, vomiting, headache, upper respiratory tract infections, tension headache and weight loss. Common side effects include: depression, suicidal thoughts or behaviours, tachyarrhythmia. Tablets contain lactose. Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption should not take apremilast. Should not be used in women attempting to conceive, people under 18 years of age
acetaminophen		
Examples – pill **Tylenol®** Should see benefit within 30 minutes	Pain caused by RA, AS, PsA, SLE, osteoarthritis (OA) Does not treat the underlying disease process.	Most common include: Few common side effects. Rare side effects are rash, low blood counts, stomach upset. Most serious include: Sudden liver failure (large overdose) or chronic liver failure if used at higher than recommended doses, with alcohol, or with other liver-toxic drugs, possible kidney damage
non-steroidal anti-inflammatory drugs (NSAIDs)		
Examples – pill **diclofenac (Voltaren®)** **ibuprofen (Motrin®)** **indomethacin (Indocid®)** **meloxicam (Mobic®)** **naproxen (Naprosyn®)** Full benefit within 2 weeks	Inflammation and pain caused by RA, AS, PsA, OA. Does not treat the underlying disease process.	Most common include: Stomach upset, heartburn and dyspepsia. Most serious include: Peptic ulcer disease (1-4% per year), kidney toxicity, increased risk of cardiovascular disease, modest worsening of underlying high blood pressure, liver toxicity, asthma, low blood counts, increased risk of bleeding, skin rash. Peptic ulcer risk is reduced if a proton pump inhibitor (PPI) is co-administered. Periodic tests for liver and renal side effects are recommended. Note: Most NSAIDs side effects are "dose-dependent" so you should try to use the lowest effective dose "as needed", rather than regularly. All NSAIDs currently available carry an increased risk of heart attack and stroke.
Examples – topical **diclofenac (Voltaren® Emulgel)** **diclofenac (Pennsaid® Topical Solution)**	Inflammation and pain caused by muscle and joint injuries and associated symptoms from arthritis.	Most common include: skin irritation (e.g., itching, redness) at the application site, increased sensitivity of the skin to sunlight Rare side effects include: blistering skin at the application site, heartburn, stomach discomfort, bleeding in the stomach or intestines.
COX-2 NSAIDs		
celecoxib (Celebrex®) – pill Full benefit seen within 2 weeks	Inflammation and pain caused by RA, AS, PsA, OA. Does not treat the underlying disease process.	Most common include: Same as NSAIDs, except there may be less dyspepsia and stomach upset (often better tolerated) – bloating, nausea, stomach pain, heartburn and constipation. Most serious include: Same as NSAIDs except – 1. There is a reduced risk (about half the risk) of peptic ulcer disease and, - 2. There is a possible increased cardiovascular risk at the higher dose (200 mg twice daily). The patient who would benefit from celecoxib over the other NSAIDs would be the patient with a higher risk of peptic ulcer disease (such as a previous ulcer) who also has a low cardiovascular risk. Periodic blood tests to check the liver and blood counts are recommended for patients who are on chronic doses of these medications. Rare side effects include: allergic reactions such as skin rashes or wheezing, headaches, dizziness, unusual bruising or bleeding, kidney problems, gastrointestinal problems.

Medication	Symptoms and diseases commonly used to treat	Most common and most serious side effects
opioids		
Examples – taken orally **codeine (Tylenol®, Codeine Contin®)** **morphine (Morphine®, M-Eslon®)** **oxycodone (Percocet®, Oxycontin®)**	Pain from knee and hip osteoarthritis and inflammatory arthritis.	Most common include: nausea, vomiting, constipation, sedation or drowsiness, confusion, urinary retention, dry mouth, allergic reactions (e.g., rash) Most serious include: Risk of death or addiction on the medication
steroids		
glucocorticoids – can be given by mouth, by intravenous infusion (for life or organ-threatening disease), by intramuscular injection, by injection directly into a joint or tendon sheath (when there is local inflammation) **cortisone** **dexamethasone** **hydrocortisone** **methylprednisolone** **prednisone** **prednisolone** Benefits should be seen within 24 hours	Inflammation caused by RA, AS, PsA, SLE, vasculitis. Sometimes given by injection to any joint (including OA). A good bridge therapy before DMARDs take full effect. It is unlikely that glucocorticoids will slow down the joint damage caused by these diseases, but glucocorticoids are often used to treat life-threatening or organ-threatening complications of these diseases. For example: RA lung inflammation RA eye disease RA vasculitis SLE nephritis SLE brain disease Dermatomyositis Vasculitis	Side effects are usually dose and time dependent. They rarely occur with single injections or short courses, but are very frequent and sometimes irreversible with higher doses or long courses. Short term side effects include: Sleep disturbance, mood swings or even psychosis, blurred vision. The sides effects listed below are generally seen with long-term use (at least a couple of months). Most common include: Stomach upset, thin skin, easy bruising, central weight gain, facial fullness (moon face) buffalo hump, increased hair growth, acne, thin extremities with muscle wasting and weakness, glaucoma, cataracts, increased cardiovascular risk, high cholesterol, high blood pressure, mood swings, depression, osteoporosis and increased risk of fracture, increased risk of infection, worsening of diabetes in known diabetics, or induction of diabetes in people already prone to developing it. The risk of osteoporosis (thin bones that break easily) may be reduced by taking appropriate amounts of calcium, vitamin D and certain medications that build bone. Rare but serious: Psychosis, severe depression, stroke, heart attack, pancreatitis and peptic ulcer disease. Osteonecrosis (can occur over short-term use), due to the interruption of blood supply to the end of a long bone (hip, knee, or shoulder typically). This may cause complete destruction of the joint and is irreversible, usually. Osteonecrosis risk higher in SLE. Adrenal crisis: Long-term use of glucocorticoids usually suppresses adrenal gland function (makes cortisol that our bodies need). Therefore, suddenly stopping or rapidly reducing glucocorticoids can cause "cortisol deficiency". Symptoms include loss of appetite, nausea, vomiting, abdominal pain, weakness, fatigue, confusion or coma. There may be problems with the blood electrolytes (sodium and potassium). Adrenal crisis can even occur in a person who is still on glucocorticoids. It can be precipitated by surgery, trauma or an infection. For this reason, people on long-term glucocorticoids should have a bracelet or necklace indicating that they are on "prednisone" for example. This way, emergency personnel will know what to look for and to provide appropriate glucocorticoid doses.
other medications		
pregabalin (Lyrica®) – capsule taken by mouth	Widespread muscle pain caused by fibromyalgia.	Most common include: Dizziness, sleepiness, weight gain, blurred vision, dry mouth, swelling of hands and feet, trouble concentrating. Most serious include: Serious allergic reactions, suicidal thoughts or actions, muscle problems, problems with eyesight, feeling "high".
duloxetine (Cymbalta®)	Management of pain associated with fibromyalgia and for the chronic pain associated with OA of the knee.	Most common include: Nausea, dizziness, fatigue, drowsiness, muscle weakness, constipation, dry mouth, diarrhea, abdominal pain, insomnia, decreased appetite, weight gain, and erectile dysfunction. Most serious include: Serotonin syndrome and neuroleptic malignant syndrome (cause brain, muscle digestive system, and autonomic nervous system changes), liver disorder, Stevens-Johnson syndrome and erythema multiforme (serious skin reactions). Rare side effects include gastrointestinal bleeding, feeling of restlessness, glaucoma, mania, severe allergic reaction, weight gain, and low sodium level in blood.

