

## HYDROXYCHLOROQUINE INFORMATION SHEET

### ***What is Hydroxychloroquine?***

Hydroxychloroquine (also known as Plaquenil) is used as a disease modifying anti-rheumatic drug (DMARD). It is used in the treatment of Rheumatoid arthritis, SLE and other types of rheumatic disease.

Its original use was to treat Malaria but in fact it has also been proven to help control some rheumatic diseases.

### ***How does Hydroxychloroquine work?***

It is thought that Hydroxychloroquine slows the disease activity by its effect on the body's immune system. It may help to relieve inflammation and stiffness and prevent any further damage to your joints.

It also improves symptoms – such as rashes - experienced in SLE (Lupus)

### ***How do I take Hydroxychloroquine?***

Most people will begin on a dose of 1 tablet twice daily. As the dose is calculated according to your lean body weight, the dose that is prescribed may decrease over time. The tablets should be taken morning and evening with food or a large glass of water. If you miss a dose, *do not* double up the next dose.

### ***When will I start feeling the effects of the Hydroxychloroquine?***

Hydroxychloroquine does not work straight away. It can often take at least 3 months before most people will feel the benefits of the drug so be patient and do not stop taking the medication before consulting your doctor.

### ***Drug safety whilst taking the Hydroxychloroquine:***

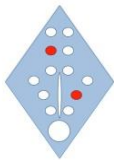
- Take your medication as prescribed.
- A check up with an eye doctor is recommended yearly whilst you are taking Hydroxychloroquine
- It is safe to take non-steroidal anti-inflammatories (NSAIDs), tylenol and most over the counter remedies with Hydroxychloroquine
- Although Hydroxychloroquine is considered to be safe to take during pregnancy, but it is better to inform your doctor if you plan to become pregnant.
- Inform your doctor if you have had a previous reaction to Hydroxychloroquine or Chloroquine
- There is no need to have regular blood tests whilst you are taking Hydroxychloroquine

### ***What are the side effects of Hydroxychloroquine?***

It is important to remember that most patients tolerate this medication very well and do not experience any side effects whilst taking it.

- Diarrhea or mild nausea
- Headaches or dizziness that continues after the first 24 hours of starting the drug
- Skin rashes and an increased sensitivity to the sun
- Retinal toxicity – as mentioned above, it is important to get regular eye checks whilst you are taking Hydroxychloroquine as in rare cases, the drug can cause toxicity to the eye which may be permanent if not recognized at an early stage. Symptoms of retinal damage include difficulty with vision or blurred vision.

If you experience any of the side effects listed above or you have any concerns, contact Caroline, the clinic nurse on 613-507-7878 ext 2



## METHOTREXATE INFORMATION SHEET

### ***What is Methotrexate?***

Methotrexate is known as a Disease Modifying Anti-Rheumatic Drug (DMARD). At higher doses, methotrexate is used to treat cancer, but at much lower doses, it is used for the treatment of Rheumatoid arthritis, Psoriatic arthritis and other types of inflammatory arthritis.

### ***How does Methotrexate work?***

Methotrexate works by modifying the parts of the body's immune system that cause arthritis. The exact way that methotrexate helps in the treatment of arthritis is still unknown.

You have been prescribed methotrexate because:

- It will reduce inflammation that cause pain and swelling in your joints
- improve your daily function
- delay any long term damage from the joint inflammation (such as erosions)

### ***How do I take Methotrexate?***

Methotrexate is taken **ONCE A WEEK**. The usual dose is between 15mg and 25mg and your doctor will decide the most effective dose for you. Methotrexate can be taken orally or as an injection. There are fewer side effects when it is given as an injection.

### ***When will I start to feel the effects of Methotrexate?***

Methotrexate does not work straight away. It can take up to 8 weeks before you begin to feel better and many patients do not feel the maximum effect for up to 4 months.

### ***Drug safety whilst taking Methotrexate:***

- Take your medication as prescribed by your doctor **once a week**
- **Do not get pregnant.** You may have an increased risk of miscarriage or birth defects. If you become pregnant whilst taking methotrexate, you must notify your doctor immediately
- Male patients should use reliable contraception to prevent their partners becoming pregnant
- Use alcohol in moderation. If you drink alcohol you are welcome to discuss this with our team.
- It is important to get **MONTHLY BLOOD WORK** whilst taking methotrexate (or less frequently if advised).
- Do not breast feed
- Do not take sulfa antibiotics (Bactrim or Septra)
- If you have an active infection you should not take methotrexate
- If you have known liver disease, lung disease or blood disorders you must inform your doctor as extreme caution should be used
- Methotrexate may be given in combination with other DMARDs, prednisone or biologic drugs
- It is safe to take a non-steroidal anti-inflammatory (NSAID) or acetaminophen with methotrexate
- If you are planning surgery whilst on methotrexate, you should seek the advice of your doctor.

### ***What are the side effects of Methotrexate?***

It is important to know that side effects are uncommon and most patients do not encounter any problems.

- Nausea, indigestion and diarrhea – *switching from oral medication to injections may reduce this*
- Feeling tired and unwell after taking the methotrexate – *taking methotrexate before you go to bed may help you to sleep through this feeling*
- Mouth sores – *taking folic acid weekly may prevent this*
- Low mood or irritability
- Drop in white blood cell count or platelets – *if you have regular monthly blood work we will see this*

- Liver sensitivity – *this can be picked up on your blood work and is usually reversible*
- Irritation of the lungs – *inform your doctor and stop the methotrexate if you develop a cough, fever or shortness of breath*
- Hair loss – *this is rare*
- Altered sensation in fingers or toes – *this is rare*
- Malignancy – *methotrexate may be associated with a higher risk of Lymphoma although a diagnosis of inflammatory arthritis will also increase your risk of malignancy*

You should be aware that side effect information sheets given out by pharmacists will not always distinguish between low dose Methotrexate (prescribed for inflammatory arthritis) and high dose Methotrexate (used in cancer treatments) and therefore side effects between the different doses will vary.

Methotrexate is safe to stop immediately and therefore you will not have to wean off it if you have any concerns.

If you have any concerns whilst you are taking methotrexate or are experiencing any side effects listed above call Caroline, the clinic nurse on 613-507-7878 ext: 2

## **Injecting Methotrexate – *Common questions answered:***

### ***Can I inject the Methotrexate by Myself?***

Yes, methotrexate can easily be injected by you or your family members. The injections are only given once a week (like the tablets) and are relatively painless.

### ***Is Methotrexate by Self-Injection New?***

No, people have been learning to self-inject methotrexate at home for at least 10 years. Before then, people went to their doctor once weekly for injection into the muscle (intra-muscular). By the mid 1990's, studies indicated that methotrexate is also well absorbed when injected into the fatty layer just under the skin (subcutaneous).

This type of injection is much easier to do than the one into the muscle and is less painful as the needle is much thinner. Patients now routinely give subcutaneous self-injections at home which are far more convenient than a weekly trip to the doctor's office.

### ***How is Injectable Methotrexate Supplied?***

Injectable Methotrexate is a clear yellow liquid. It is dispensed by your Pharmacist in small 2 mL vials which contain less than ½ teaspoonful of methotrexate.

Here are some important features of the vials of methotrexate:

- For patients with arthritis, methotrexate is supplied as 50 mg in a 2 mL vial (25 mg per 1 mL).
- The vial can be used for more than one dose because it contains a preservative called benzyl alcohol to keep it clean (sterile) between uses.
- Check with your pharmacist to ensure that the strength of methotrexate is 50 mg/2 mL and that it contains the preservative. Occasionally other strengths are dispensed so mistakes are possible.
- The vial comes with a coloured protective cap that indicates the vial is new. This cap is removed before use and does not re-attach.
- Removing the cap exposes a rubber stopper on the top of the vial which is held in place by a metal ring. Entry into the vial occurs by inserting a needle through the rubber stopper.
- In Ontario, the ODB government pays for methotrexate 25mg/mL - 2mL vial with preservative DIN# 02182777

### ***How should the Methotrexate be Stored?***

- Vials of methotrexate should be stored at room temperature away from excessive heat or cold (not in a car glove compartment or above the stove).
- Vials of methotrexate should be protected from light (stored in a cupboard).
- Once opened, vials of injectable methotrexate can be safely stored for 4 weeks (28 days).
- Opened vials can be stored at room temperature, it is not necessary to keep opened vials in the fridge.
- Discard all empty vials into the Sharps Container (see information on Sharps Containers)
- Discard opened vials with unused methotrexate into the Sharps Container 28 days after opening them.

### ***How do I obtain the Equipment that is required to give Injectable Methotrexate?***

Single use syringes for subcutaneous injection and other injection supplies are available in every Canadian Pharmacy from Newfoundland to Vancouver as diabetics traditionally inject insulin this way. Prices will vary between pharmacies and you may be charged an extra dispensing fee.

**We can provide you with an injection starter pack** at our clinic which contains a 3 month supply of syringes, needles, alcohol swabs, a sharps container and a comprehensive self-injection instruction leaflet at a **cost of \$8**, available from the nurse or receptionist

***I have never used Syringes and Needles Before – I Don't Know Anything about Them?***

- The syringe is long and thin and the barrel of the syringe has the dose measuring scale on it.
- The syringe is to be used once only.
- The plunger is designed to be grasped at the end and it moves up and down to “draw up” and give the methotrexate
- The needle cap is removed just before drawing up the medication

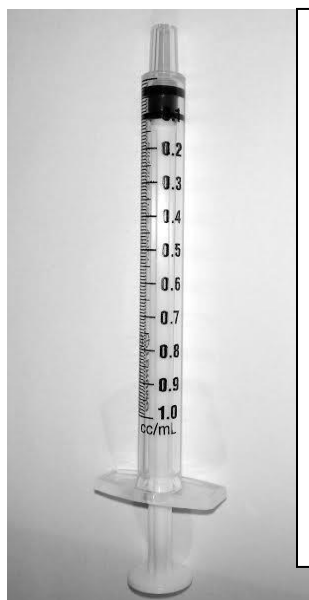
***What Other Supplies will I Need?***

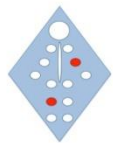
- Alcohol Single Use Swabs for cleaning the vial's rubber stopper
- Cotton Balls
- Sharps Container - a Puncture Proof Plastic or Metal Container with a Lid

NB: Syringes, needles, medication vials, alcohol swabs and cotton balls that have come in contact with this medication or with blood or body fluids cannot be disposed of in your household garbage. Instead they are placed in a “sharps container”, classified as “biomedical waste”. Sharps Containers need not be purchased. In some provinces use of any puncture proof container with a tight lid such as liquid laundry detergent or bleach containers, metal coffee cans or vinegar container is permitted. Some Pharmacies provide and take back their containers only. Check with your Pharmacist or Medical Personnel about Sharps Containers and their disposal system in your area.

***How do I Figure out the amount of Methotrexate to Inject?***

You can determine the amount to Methotrexate to be injected for all range of doses with the list below. The prescription will list the dosage in volume and then dosage i.e.0.6 ml (15mg). You translate this dosage to mls on the Syringe as per the list below. When listing your medication dosage, always list the methotrexate in mg dosage not mls.

	7.5mg	= 0.3ml
	10 mg	= 0.4ml
	12.5 mg	= 0.5ml
	15 mg	= 0.6ml
	17.5 mg	= 0.7ml
	20 mg	= 0.8ml
	22.5 mg	= 0.9ml
	25 mg	= 1ml



## SULFASALAZINE INFORMATION SHEET

### ***What is Sulfasalazine?***

Sulfasalazine is used as a disease modifying anti-rheumatic drug (DMARD). It is used in the treatment of Psoriatic and Rheumatoid arthritis.

### ***How does Sulfasalazine work?***

It is thought that Sulfasalazine slows the disease activity by its effect on the body's immune system. It may help to relieve inflammation and stiffness and prevent any further damage to your joints.

### ***How do I take Sulfasalazine?***

Your treatment will be increased over a 4 week period until you reach the usual full dose. See the table below:

First week	One tablet AM	--
Second week	One tablet AM	One tablet PM
Third week	Two tablets AM	One tablet PM
Fourth week	Two tablets AM	Two tablets PM

The tablets should be taken morning and evening with food or a large glass of water and should be swallowed whole. Do not chew or crunch the tablets. If you miss a dose, *do not* double up the next dose.

### ***When will I start feeling the effects of the Sulfasalazine?***

Sulfasalazine does not work straight away. It can take at least 3 months before most people will feel the benefits of the drug so be patient and do not stop taking the medication before consulting your doctor.

### ***Drug safety whilst taking the Sulfasalazine:***

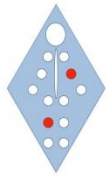
- Take your medication as prescribed, twice daily
- It is important to get **monthly** blood monitoring, or as recommended, whilst you are taking Sulfasalazine
- Use alcohol in moderation
- Use reliable contraception whilst you are taking Sulfasalazine. If you wish to plan a pregnancy, you should discuss it with the team at least 3 months before conception
- If you have known liver disease, inform your doctor before taking Sulfasalazine
- It is safe to take non-steroidal anti-inflammatories (NSAIDs) and tylenol with Sulfasalazine
- Inform your pharmacist that you are taking Sulfasalazine before buying over the counter remedies

### ***What are the side effects of Sulfasalazine?***

- Orange coloured urine – *this is nothing to worry about*
- Rash or hives – *this is usually an indication of an allergy. Inform your specialist immediately*
- Nausea or diarrhea – *the dose of your sulfasalazine may be adjusted. If you develop vomiting when you first start taking Sulfasalazine, stop the medication and inform your specialist immediately*
- Headaches – *the dose of your Sulfasalazine may be adjusted*
- Soft contact lenses will be damaged by Sulfasalazine

***In rare cases, Sulfasalazine can cause a drop in your white cell or platelet count so if you develop a sudden raised temperature or bruising, stop the medication and inform your specialist immediately.***

If you experience any of the side effects listed above or you have any concerns, contact Caroline, the clinic nurse on 613-507-7878 ext 2



## BIOLOGIC DRUG (ANTI-TNF) INFORMATION SHEET

### ***What is a biologic drug?***

A biologic drug is a drug that is made by a living organism (The process is very similar to the role of yeast in beer making). In Inflammatory Arthritis, the purpose of the drug is to control the body's immune system.

### ***How does a biologic drug work?***

The drugs work by blocking certain messages sent by parts of the immune system, and thus reducing inflammation in the body.

### ***How do I take a biologic drug?***

Many biologic drugs are given as a subcutaneous injection (a needle inserted just under the skin's surface). Depending on the particular drug, you will have an injection either once a week, once every 2 weeks or monthly. Most people are comfortable giving themselves an injection at home and you will be taught how to do this.

Biologic drugs may also be given as an Intravenous infusion. You will need to go to a special clinic for a nurse to give you this drug as it will be given straight into a vein. It usually takes between 45 minutes and 4 hours, every 1-6 months (depending on the drug that your doctor has chosen for you).

### ***When will I start to feel the effects of a biologic drug?***

This really depends on which drug your doctor has selected for you because some drugs are given every week and some may be given every 6 months. Some patients feel positive effects of the drug after just a few weeks. Other drugs may take a little longer to work but we hope that you will start to feel better after 2 or 3 months of having the drug.

### ***Drug safety whilst taking a biologic drug:***

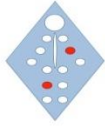
- Before starting a biologic drug you will be tested for both Hepatitis and Tuberculosis. If you have had either of these infections you should inform your doctor
- Special caution should be taken with live vaccines. Your doctor will be able to advise you on the best time to arrange vaccination.
- You should inform your doctor immediately if you plan to become pregnant whilst taking a biologic drug.
- Do not take your biologic drug if you have an active infection and are taking antibiotics. If you are not clear we are always happy to offer you advice if you contact the office.
- Inform your doctor if you are scheduled for any type of surgery as you may need to stop your biologic drug a couple of weeks beforehand and wait before restarting.

### ***Potential Side effects of biologic therapy:***

Please remember that it is rare to experience side effects whilst receiving biologic therapy and most patients do not encounter any problems at all. The most common reason to stop biologic drug is inefficacy (in other words if it does not work). The following list is of some of these rare side effects. We believe that the benefits vastly outweigh the risks.

- An allergic reaction
- Serious infection – around 3-5% (remember even patients NOT on these drugs will get infections!)
- Neurological complications – weakness, tingling and numbness in arms and legs (0.1% of patients)
- Lymphoma – a type of cancer – probably more related to having rheumatoid arthritis than to the treatment
- Liver complications
- Heart failure- very rare – breathlessness, foot/ankle swelling (0.6% of patients with existing cardiac problems)

If you have any concerns about the side effects above, think you may be at an increased risk of developing one of the complications or you have any questions about taking this medication, contact Caroline, the clinic nurse on 613-507-7878 ext 2



## IMMUNIZATION ADVICE

These additional notes do not replace the advice given by Health Canada. In addition, it is difficult to find evidence to support many statements as generally this is not an area where much research exists. In a perfect world it would be best to consider updating immunisation BEFORE patients start immunosuppressant therapy (including prednisone). This is not always possible. Hepatitis vaccine should be considered before starting immunosuppressive medications in patients considered high risk.

Cytotoxic or immunosuppressive drugs used by Rheumatologists include Methotrexate, Azathioprine, Leflunomide, Cyclophosphamide and biologic drugs

The use of live vaccines is contra-indicated unless immunosuppressive drugs are stopped at least 3 months beforehand.

If use of live vaccines is necessary, allow at least 2 weeks (preferably 4 weeks) before immunosuppressive therapy is commenced.

If a patient is vaccinated while taking immunosuppressive drugs they may not mount the appropriate immune response and may require further vaccination after a 3 month period.

### **Live vaccines are included below:**

MMR; Varicella/Zostavax; Oral Polio; Flu mist (nasal vaccine); Yellow fever; Typhoid vaccine; Small pox; BCG

### **PNEUMOVAX**

- In all patients over 65 and most patients who are immunocompromised
- Category C evidence – effectiveness of vaccine not proven but justified by potential benefits and vaccine safety

### **INFLUENZA VACCINE**

- Most patients annually (see notes below)

### **ZOSTER VACCINE**

- Recommended for patients over the age of 60
- Recommended for patients with chronic disease (including many rheumatological diseases who have about double the risk of getting shingles especially if on steroids)
- May be given in patients on methotrexate 25 mg weekly or less (grade c evidence)
- High dose steroids (If Prednisone is more than 20mg daily) and immunosuppression with biologics are a contraindication
- Delay high dose steroids and / or biologics for two weeks after vaccine given
- Approximate risk in older adults in our practice is 1 patient per 100 per year
- Vaccination results in a 50% reduction in risk of shingles
- Vaccination lowers risk of post herpetic neuralgia by 60-70% (About 1 patient in 5 will get neuralgia)
- It is currently not clear what advice to give to a patient who has had shingles recently

### **BCG (Tuberculosis)**

- Contra-indicated in patients on treatment. Consider giving it in juvenile arthritis 4 weeks before immunosuppressive drugs. Patients with juvenile arthritis should be brought up to date with vaccination schedules prior to receiving Methotrexate.



## **POLIO**

- The live oral vaccine must not be given. Killed inactivated vaccine can be given but may need to be obtained from abroad so adequate notice must be given.

## **TYPHOID**

- The live form should not be given. Killed vaccine is available but only 70% protective.  
Inactive viruses can be given e.g. Rabies, Anthrax, Cholera, Plague.

## **YELLOW FEVER**

- This must not be given. Patients should be advised not to travel to countries requiring this vaccine e.g. mid-Africa. If the patient has to travel, an exemption statement may be accepted but the patient will be at risk.

## **TRAVEL ADVICE**

Only 2 live attenuated viruses, yellow fever and polio, are used regularly for foreign travel.

## **HOME ADVICE**

Oral live Polio Vaccine (OPV) must not be given to patient or household contacts.

Inactivated form (IPV) can be used.

Measles, Mumps, Rubella (MMR) – all three live vaccines and must not be given to patient but use is not contraindicated in household contacts. Exposure to measles should be treated with immunoglobulin regardless of prior immunisation.

## **PATIENTS ON BIOLOGICS**

Few data are available on the effects of vaccination in patients receiving biologics. At present is advised not to give live vaccines concurrently with these drugs.

## **PATIENTS ON STEROIDS**

Live vaccines must not be given to patients taking moderate or high doses of steroids for longer than 2 weeks.

There is no consensus as to what is a low dose of steroid (10mg per day or below is thought a sensible compromise). A full immunosuppressive dose may be 20mg per day and not 40mg as previously accepted.

There are no contra-indications to using live vaccines if:

- Steroid use is for less than 2 weeks
- Treatment is alternate day with short acting steroid
- By topical application
- By intra articular or soft tissue injection
- Replacement therapy with physiological doses e.g. adrenal insufficiency
- Long term low dose steroids
- Moderate or high dose steroid must be stopped 3 months before live vaccines can be administered.

**PATIENTS TAKING LEFLUNOMIDE**

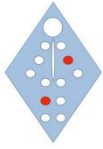
The long half-life of Leflunomide should be considered when contemplating administration of a live vaccine after stopping the drug.

**PATIENTS TAKING METHOTREXATE or AZATHIAPRINE**

In immunosuppressed patients, the immunological response to inactive virus vaccines may not be as good as in the healthy and more frequent boosters may be required. There is an increased risk in the immunocompromised from secondary bacterial infections following influenza. Immunisation against Pneumococcal, Meningococcal, Haemophilus B, Tetanus and Hepatitis B infection might be indicated.

Check Hep B titres 3 months after the 3rd injection.

Check Varicella zoster titres prior to immunisation if appropriate.



## INFLAMMATORY ARTHRITIS AND EXERCISE

Maintaining a healthy body weight is an important part of Arthritis management. By increasing physical activity, you can make a difference not only to your overall health but also to your joints.

The benefits of regular activity include increased range of movement in joints; increased bone strength and activity; increased muscle strength and of course a better level of fitness.

Cartilage, ligaments and bone become stronger and more resilient with exercise and cartilage actually depends on joint movement to absorb nutrients and remove waste.

Health Canada recommends that you should aim to do at least 60 minutes of physical activity daily and strengthening activities should be incorporated into your routine at least twice weekly.

Your physical activities should be enjoyable and also appropriate for your body:

**Walking:** Most people find that they are able to walk for a short distance and this is much safer for joints than running.

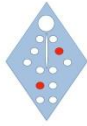
**Cycling:** An activity that many people with joint problems can enjoy is cycling as it does not put too much strain on your joints provided that your seat is at the right height and your gears are used properly.

**Aqua-fit:** If you have knee, hip or foot problems you may find it easier to do some aqua fit activities as your body is supported by water and will not strain joints that may be affected by walking or cycling. This is usually done in warm, shallower water so you do not have to be able to swim to participate.

Your exercise routine should be adjusted to cope with “flares” as overuse of a hot, painful joint can increase the risk of joint damage so you may need to rest your joints if they are inflamed. However, it is important that you continue to move your joints regularly during these periods.

For more advice and information on exercise and exercise suggestions please refer to The Arthritis Society guide “Physical Activity and Arthritis” available at our clinic or at [www.arthritis.ca](http://www.arthritis.ca).

You can also self-refer to a trained Physiotherapist at The Arthritis Society for more personal advice.



## SMOKING AND ARTHRITIS

### **Smoking and Joint disease:**

Smoking has been linked to an increased risk of Rheumatoid and Psoriatic Arthritis but even if you have already been diagnosed with one of these diseases, research shows that smokers tend to have more aggressive disease activity than non-smokers.

Being a smoker has been shown to be associated with increased radiographic progression in Rheumatoid Arthritis and Inflammatory Spondyloarthritis (such as Ankylosing Spondylitis and Psoriatic Arthritis) and can even speed up the rate of spinal fusion.

Smoking can also affect the effectiveness of medication prescribed for Inflammatory Arthritis making your disease more difficult to control.

### **Smoking and Heart disease:**

The chemicals in tobacco smoke harm your blood cells. They also can damage the function of your heart and the structure and function of your blood vessels. This damage increases your risk of plaque build up in the arteries. Over time, plaque hardens and narrows your arteries. This limits the flow of oxygen-rich blood to your organs and other parts of your body.

Coronary heart disease (CHD) occurs if plaque builds up in the coronary arteries and over time, can lead to chest pain, heart attack, heart failure, arrhythmias, stroke or even death.

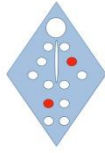
### **Smoking and Lung disease:**

Lung cancer is the most common form of cancer caused by smoking. More than 80% of cases of lung cancer are due to smoking. Cigarette smoke contains many chemicals that interfere with the body's method of filtering air and cleaning out the lungs. The smoke irritates the lungs and leads to overproduction of mucus. It also paralyses the tiny hair-like structures that line the airways and clean out dust and dirt which means mucus and toxic substances accumulate, resulting in congestion of the lungs. This can cause asthma; Chronic Bronchitis; Emphysema and COPD

Smoking is the underlying cause of 1 in 5 deaths in North America.

If you would like advice about quitting smoking, talk to your Rheumatologist or visit

[www.smokers helpline.ca](http://www.smokers helpline.ca)



## Anti-Inflammatory properties of food

### Food:

Blueberries/ Blackberries  
Green Tea  
Beans/ Lentils  
Red Grapes  
Ginger  
Broccoli/ Cauliflower  
Herring/ Mackerel/ Arctic Char  
Turmeric  
Prunes/ Plums/ Eggplant  
Purple Grapes  
Active Yoghurt Culture  
Apples  
Red wine/ Grape juice  
Garlic  
Olives  
Walnuts/ Almonds

### Bioactive Compound/Nutrient:

Anthocyanins  
EGCG  
Fibre  
Flavan-3-ols  
Flavanols  
Isothiocyanates  
Omega-3-Fatty Acids  
Phenolic acid  
Polyphenols  
Proanthocyanins  
Probiotics  
Quercetin  
Resveratrol  
Sulfides  
Tyrol-esters  
Vitamin E

## **Following a Gluten Free Diet:**

Gluten is a specific protein found in Wheat, Rye and Barley. A Gluten allergy (celiac disease) or sensitivity can cause many symptoms which can be “multi-system and multi-symptom”.

Celiac disease and gluten allergy are NOT the same thing but symptoms can be very similar. Symptoms may include weight loss OR obesity; mood changes and depression; Joint pain and inflammation; Anemia and fatigue; Rash (dermatitis herpetiformis); Osteoporosis; vitamin K deficiency and infertility.

It is recommended that a gluten free diet should be followed for at least 3-6 months before you may notice a change in symptoms.

More information and recipes can be found on the celiac disease foundation website:  
[www.celiac.org](http://www.celiac.org)

### **Foods to Avoid:**

Any foods which contain Wheat, Barley or Rye (breads, cake, crackers and cookies)

Cereals with corn or rice (unless they are specifically gluten free)

Beer and Lager

Baked beans

Seasoned chips (plain/salted chips are ok)

Barley malt (used in many flavourings and sweeteners)

Soy sauce

Sausages (unless 100% meat). Some processed deli meats

Some flavoured chocolate (70% cocoa is ok)

Mustards; Salad dressings (unless specifically gluten free) and vinegar

Licorice

Herbal teas and Coffee substitutes

Bouillon cubes and gravy powder

Food colouring

Tinned and packaged Soups

**Remember – ‘wheat free’ does not mean gluten free!**