

What are anticoagulants?

Anticoagulants are non habit forming medications that:

1. Keep existing blood clots from growing and
2. Keep new blood clots from forming.

The formation of blood clots is necessary when the body has been cut. Without blood clots to stop bleeding a person would bleed to death from a relatively minor wound.

Sometimes blood clots form when there is no injury. The size and location of these clots could increase a person's risk of a heart attack or stroke. This may occur if a blood clot is large enough to block a blood vessel or if either a blood clot or pieces of clot break off and travel through the blood stream and block a blood vessel in another part of the body. Therefore, anticoagulants may be ordered for heart patients or patients that are high risk.

Anticoagulation therapy

May be prescribed for you in 2 parts:

1. Initially, depending on your diagnosis you may or may not be given an anticoagulant that will work very quickly. It will be given by intravenous or by injection into your abdomen. It may be known to you as fragmin, heparin or enoxaparin.

2. Secondly, you will be given a medication that takes effect in 48 hours but may take a week or two to show a useful effect. This medication is warfarin or coumadin.

Conditions of concern with anticoagulants

Patients should make their physicians aware of any of the following conditions:

- Heart infections (endocarditis)
- Vitamin K deficiency
- Bleeding disorders
- Stomach ulcers past or present
- Aneurysm
- Cancer of the internal organs
- Recent surgery or spinal anesthesia
- Pregnancy (pregnant women cannot take warfarin but may take anticoagulant such as heparin)
- Upcoming medial or dental procedures

Potential side effects

The major risks of anticoagulation are bleeding (if the INR is too high) or clotting (if the INR is too low). Report to your physician if you notice any of the following:

- Unusual bleeding, bruising
- Blood in the stool, dark sticky stool
- Cloudy, dark or red urine
- Skin rash with or without itching
- Sudden pain or swelling
- Cold or painful arms or legs
- Fever, chills
- Confusion
- Blue or purple toes

- Increased menstrual flow or vaginal bleeding
- Chest pain or shortness of breath
- If you have a bad fall, hit your head or injure your back

Drugs and food interaction with anticoagulants

Patients should talk to their physician and /or pharmacist before taking any other medication (prescription or over the counter), nutritional supplements or herbal remedies. They may increase or decrease the effects of anticoagulants. The following are of particular concern:

- Other anticoagulants
- Vitamin K supplements
- Some anti inflammatory medications (aspirin, ibuprofen)
- Some pain medications (containing aspirin)
- Some ulcer medications
- Some antiarrhythmics
- Asthma medications
- Some over the counter medications
- Alcohol
- Barbiturates
- Caffeine
- Nicotine
- Marijuana

For a more complete listing of factors responsible for increase or decrease in INR response please see our supplementary patient information brochure.

Lifestyle considerations

- Avoid operating heavy machinery (driving) until you know how the medication will affect you.
- Take medications exactly as directed and keep all scheduled appointments.
- Undergo regular blood tests (INR) to monitor the medication dosage.
- Avoid cutting yourself, including when shaving. An electric razor is recommended.
- Brush teeth with a soft brush.
- Avoid contact sports or other activity where there is risk of injury.
- Foods that affect INR have lots of Vitamin K. These are green leafy vegetables (spinach, kale, collards, romaine lettuce), oils (soybean, canola, cottonseed, and olive), herbal remedies (ginseng, garlic). If you are starting a weight loss diet, the increased amount of salad usually eaten in such diets will affect the INR result.
- Do not drink grapefruit juice.
- Avoid alcohol.
- Avoid sitting or squatting for a long time.
- If sitting for long periods, such as during a lengthy plane ride, take a short walk once in a while.

General considerations

1. Patients are required to have their blood work done between 8-10AM at Gamma Dynacare Laboratory, located at 2951 Walkers Line. Special needs will be considered on an individual basis.

2. Patients are to take coumadin at the same time daily, usually with the evening meal.
3. For all new start coumadin patients, your INR will be done at least twice weekly. After the dose has been stabilized for 7 days or more, your INR will be done once a week for 2 weeks. Following this your INR care will be transferred to your family doctor. The physician that you are seeing at this clinic will still see you for your other medical problems.
4. For longstanding patients who remain therapeutic, they will continue on the same dose. Interval between INR tests may be increased from weekly to once every 2-3 weeks, with a maximum interval of one month.

Contact numbers:

JBN Medical, 905.331.3101
Press 0 and ask for INR Monitoring Staff

Monitoring staff:

Louise, RN 905.331.3979
Marg, RDCS 905.331.3977
Fern, CMLT 905.331.3973

**JBN MEDICAL DIAGNOSTIC
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ANTICOAGULATION

and

INR THERAPY

Patient Information

JBN MEDICAL INR Clinic

**2951 Walkers Line, Suite 301
Burlington, Ontario, L7M 4Y1**

905.331.3101

Potential drug interactions with Coumadin (Warfarin Sodium) are listed below by specific drugs.

The following factors, alone or in combination, may be responsible for **Increased PT/INR Response:**

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|------------------------|-------------------------------------|
| acetaminophen | mefenamic acid |
| alcodol | methimazole |
| allopurinol | methyldopa |
| amiodrone HCl | methylphenidate |
| aspirin | methylsalicylate ointment (topical) |
| azithromycin | metronidazole |
| cefamandole | miconazole |
| cefazolin | moricizine hydrochloride |
| cefoperazone | nalidixic acid |
| cefotetan | naproxen |
| cefozitin | neomycin |
| ceftriaxone | norfloxacin |
| chenodiol | ofloxacin |
| chloramphenicol | olsalazine |
| chloral hydrate | omeprazole |
| chlorpropamide | oxaprozin |
| cholestyramine | oxymetholone |
| cimetidine | panax ginseng |
| ciprofloxacin | paroxetine |
| cisapride | penicillin G |
| clarithromycin | pentoxifylline |
| clofibrate | phenylbutazone |
| cyclophosphamide | phenytoin |
| danazol | piperacillin |
| danshen (chinese herb) | piroxicam |
| dextran | prednisone |
| dextrothyroxine | propafenone |
| diazoxide | propranolol |
| diclofenac | propylthiouracil |
| dicumarol | ranidine |
| diflunisal | salicylate-rich herbs |
| disulfiram | |

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|-------------------------|-------------------------------------|
| doxycycline | cramp bark, willow, wintergreen |
| erythromycin | sertraline |
| ethacrynic acid | simvastatin |
| 5-FU | stanazolol |
| fenofibrate | streptokinase |
| fenoprofen | sulfamethizole |
| feverfew | sulfamethoxazole |
| fluconazole | sulfapyrazone |
| fluorouracil | sulfisoxazole |
| fluoxetine/fluoramide | sulindac |
| fluvastatin | tamoxifen |
| fluvoxamine | tetracycline |
| garlic | thyroid |
| ginkgo | ticarcillin |
| glucagon | ticlopidine |
| halothane | tissue plasminogen activator (t-PA) |
| heparin | tolbutamide |
| ibuprofen | tramadol |
| ifosfamide | trimethoprim/sulfamethoxazole |
| indomethacin | urokinase |
| influenza virus vaccine | valproate |
| itraconazole | vitamin E |
| ketoprofen | xeloda |
| ketorolac | zafirlukast |
| levamisole | zileuton |
| levothyroxine | |
| liothyronine | |
| lovastatin | |

The following factors, alone or in combination, may be responsible for **Decreased PT/INR Response:**

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|-------------------|---------------|
| Alcohol | nafacillin |
| aminoglutethimide | panax ginseng |
| amobarbital | paraldehyde |
| atorvastatin | pentobarbital |
| azathioprine | phenobarbital |
| butabarbital | phenytoin |
| carbamazepine | prednisone |
| chloral hydrate | primidone |

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|------------------|------------------------|
| chlordiazepoxide | propylthiouracil |
| chlorthalidone | ranitidine |
| cholestyramine | rifampin |
| corticotropin | secobarbital |
| feverfew | spironolactone |
| ginkgo | sucralfate |
| garlice | trazodone |
| methimazole | vitamin C (high doses) |
| moricizine | vitamin K |
| hydrochloride | |

Vitamin K can reverse the effect of Coumadin (decrease PT/INR). Vitamin K can be found in many foods. Vitamin K content of food is not known with a high degree of accuracy. Foods high in vitamin K are green leafy vegetables, but milk meats, eggs, cereal, and fruits do contain small amounts of vitamin K. Additional foods to avoid are green and herbal tea, fish oil supplements, soybean oil, cotton seed oil, canola oil, olive oil, coriander leaf, mint leaf, seaweed (lava, purple). Listed below is the amount of vitamin K in a 3-1/2 ounce serving.

- 800-830 mcg Swiss chard, kale
- 500-540 mcg Parsley
- 400-440 mcg Spinach, Brussel sprouts
- 300-380 mcg Purslane
- 200-270 mcg Broccoli, turnip greens, watercress, endive, lettuce leaves, spring onions
- 100-170 mcg mustard greens, cabbage, red cabbage, avocados, asparagus, dry roasted peas, dill pickles, keewee fruit, saurkraut, pea pods, abalone, lentils, kidney beans, cucumbers, carrots, sweet peppers, pumpkin, leeks, artichoke, celery, plums, mayonnaise, peanut butter, coffee, cauliflower, pinto beans, potato chips.