WARFARIN DRUG INTERACTIONS[1,2]

The drugs in this list are more usually associated with loss of INR control in patients already established on warfarin. This list is not exhaustive - refer to the British National Formulary (BNF) for further information. If any of the drugs below are to be started in these patients then the use of alternatives in the same therapeutic class may be considered. If this is not possible then the patient's INR should be monitored as detailed below. Those drugs highlighted in **bold** are significant interactions and should be avoided or used with caution.

- **Drugs marked * are liver enzyme inhibitors and increase the INR. They act very quickly (can be within 24 hours) and if the drug is withdrawn the effect disappears quickly depending on the drug half-life. The INR should if possible be monitored within 72 hours of starting the interacting drug and on withdrawal.**
- **Drugs marked $ are liver enzyme inducers and decrease the INR. They act more slowly (up to a week) with peak effect at 2-3 weeks and can persist for up to 4 weeks after stopping depending on drug half-life. The INR will need checking after 1 week of concurrent therapy.**
- **Drugs with neither have other mechanisms, which affect the INR.**

N.B. If a patient on warfarin were started on ANY other new medication a repeat INR after 1 week would be a sensible

Drugs that increase the INR and risk of bleed	
Gastrointestinal	**cimetidine*,** omeprazole* and possibly other PPIs
Cardiovascular	**amiodarone*** (liver enzyme inhibition is slow and may persist long after withdrawal requiring weekly monitoring over 4 weeks), **fibrates**, ezetimibe, **propafenone*,** propranolol, statins – no clinically relevant interaction will normally be seen however it is prudent to check INR in the weeks after initiation and at any dose change
CNS	**fluvoxamine***, SNRIs, **SSRIs*, tramadol**
Anti-infectives (anti-infectives in general may cause raised INR's)	**azole antifungals*** (esp. miconazole including oral gel and vaginal), **co-trimoxazol*, macrolides*** (can be serious but unpredictable), **metronidazole***, **quinolones*** (can be serious but unpredictable), **tetracyclines,** influenza vaccine
Endocrine	**anabolic steroids (and danazol), high dose corticosteroids, glucagon (high dose 50mg+ over 2 days), flutamide, levothyroxine**
NSAIDs	Ibuprofen at lowest effective dose (+/-PPI) is probably safest if NSAID is required **N.B. All NSAIDs can increase the risk of bleeds and should be avoided if possible**
Antiplatelets – increased bleed risk	**Aspirin, clopidogrel and dipyridamole**
Miscellaneous	Alcohol (acute), allopurinol*, **benzbromarone*,** colchicine, **disulfiram, fluorouracil**, interferon paracetamol (prolonged use at high dose), **sulfinpyrazone**, **tamoxifen**, **topical salicylates**, zafirlucast*
Herbal preparations/Food supplements	Carnitine, chamomile, **cranberry juice***, curbicin, dong quai, fenugreek, fish oils, garlic, gingo biloba**, glucosamine**, grapefruit juice*, lycium*, mango, quilinggao
Drugs that decrease the INR	
Miscellaneous	**Alcohol[$] (chronic), azathioprine, barbiturates[$],** bosentan[$], **carbamazepine[$], carbimazole, griseofulvin[$], mercaptopurine, nevirapine[$], OCP/HRT**, **propylthiouracil,** raloxifene, **rifampicin[$](most potent inducer),** trazodone
Herbal preparations etc	Avocado, co-enzyme Q10, green tea, natto, soya beans, **St Johns wort[$] (avoid**)
Binding agents	Colestyramine, sucralfate
Warfarin antagonist	**Vitamin K**
Drugs that increase or decrease the INR	
Miscellaneous	Ginseng, phenytoin, quinidine

[1]British National Formularly 55 Edition March 2008

[2] Stockley's Drug Interactions. Edition Eight. Pharmaceutical Press. November 2007

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