GUIDELINES FOR MAINTENANCE OF WARFARIN IN PRIMARY CARE

CHECKLIST BEFORE COMMENCING MAINTENANCE DOSING OF WARFARIN POST HOSPITAL DISCHARGE

- ü Ensure patient has provided you with both the electronic discharge form detailing warfarin discharge information & the 'Warfarin discharge voucher' for a free Doctor's visit.
- ü Set up patients warfarin template on Medtech 32 for annual warfarin payment. (See warfarin template guidelines in warfarin launch pack).
- ü Generate invoice on Medtech 32 using service code 'WAR' for automatic claiming to Kōwhai Health Trust.
- ü GP's accepting **new** patients to the practice, discharged from HVDHB on warfarin may claim twice. (i.e. invoice two claims for these patients).
- ü Provide patient education - supply patient with a red anticoagulation booklet and patient information sheet (use these as counselling tools). Supply prescription for warfarin (Marevan® preferred brand).

1. WARFARIN DOSE ADJUSTMENT FOR PATIENTS INITIATED IN SECONDARY CARE

Refer to warfarin initiation protocol over page for warfarin dosing adjustment within first 14 days of therapy.

2. FREQUENCY OF INR TESTING

A change in warfarin dose can take several days to influence the INR therefore testing INR within 1 to 2 days of a dose change may not reflect the steady-state or true response to change.
Stabilised patients: Once INR has been therapeutic for 2 weeks consider increasing frequency of testing to every 3 to 4 weeks then every 6 weeks if INR continues to be stable. (Recommend testing INR every 6 weeks once stable).
Unstable patients: Patients experiencing a fluctuating INR may need to have their INR tested every 3 to 4 days until stable. Remember to avoid excessive changes in warfarin doses as this can cause 'ping ponging' INR results.

3. MANAGEMENT OF OVER ANTICOAGULATION

INR higher than therapeutic range but < 5.0. No bleeding	• Lower dose or omit next dose of warfarin & consider reasons for elevated INR • Resume therapy at a lower dose when INR reaches therapeutic range
INR 5.0 – 9.0. No bleeding	• Stop warfarin & consider reasons for elevated INR • If high bleeding risk consider giving oral vitamin K 5mg • Measure INR next day & resume at reduced dose once INR therapeutic
INR > 9.0. No bleeding Low risk of bleeding	• Stop warfarin & consider reasons for elevated INR • Give oral vitamin K 5mg & remeasure INR next day • Restart warfarin at reduced dose when INR therapeutic
INR >9.0 No bleeding High risk of bleeding	• Stop warfarin & consider reason for elevated INR • Give oral vitamin K 5mg • Admit to hospital

Table abridged from Consensus guideline MJA 2004;181:492-497.

4. TROUBLESHOOTING – POTENTIAL REASONS WHY INR MAY BE FLUCTUATING

Self medication (OTC/herbal/complementary)	↑ or ↓	Dietary changes – avocados & green vegetables high in vit K e.g. spinach, broccoli	↓	Antibiotics	↑
Drug interactions (refer below)	↑ or ↓	Increased alcohol intake	↑	Congestive heart failure	↑
Poor comprehension (consider stopping warfarin if continues)	↑ or ↓	Vitamin K deficiency	↑	Malignancy	↑
Compliance - not taking - wrong dose	↑ or ↓	Diarrhoea	↑	Hepatic disease	↑

5. WARFARIN DRUG INTERACTIONS (NB this is not an exhaustive list – check BNF or http://www.bnf.org/bnf/ if medication not listed)

Drugs that may ***INCREASE*** anticoagulant effect

Antibiotics/Antifungals	Anti-inflammatory & Analgesics	Cardiac	Psychiatric	Herbal	Other
Azithromycin Cephalosporins Ciprofloxacin Cotrimoxazole Clarithromycin Erythromycin Fluconazole Metronidazole Miconazole (including oral gel – daktarin ®)) Norfloxacin Roxithromycin	Salicylates Paracetamol (regular) Dextropropoxyphene Tramadol Allopurinol Corticosteroids N.B NSAID's are not a contraindication to warfarin use as long as cytoprotection co prescribed e.g. PPI	Amiodarone Propranolol Fibrates Simvastatin **GIT Drugs** Omeprazole Cimetidine Cisapride	Paroxetine Fluoxetine Citalopram Venlafaxine	Cinchona Ginseng (may also ↓) Danshen (Tan Seng) Devil's claw Dong Quai Garlic Ginger Gingko biloba Papaya Echinacea Feverfew	Phenytoin Sodium valproate Thyroxine Carbimazole Tamoxifen Alcohol

Drugs that may ***DECREASE*** anticoagulant effect

Azathioprin Acetretin	Carbemazepine Rifamycins	Oral contraceptives St Johns wart	Coenzyme Q10 Phenobarbital	Primidone Sucralfate	Vitamin K