

General On-Call Guidelines For Warfarin Management TWH – Family Health Centre

The following tables are guidelines to assist you in the management of warfarin after regular clinic hours. In most cases, you can advise the patient to hold that particular dose and the pharmacist can assess and manage the following clinic day. However, there may be some situations whereby you will need to change the dose and/or administer Vitamin K. The most important factors are the degree of INR elevation and the patient's individual risk for bleeding or clotting. **Please leave a message with your team pharmacist if you have any on-call issues related to warfarin therapy (2357 – South; 3389 – North).**

Risk Assessment: Bleeding vs. Clotting

Risk of bleeding	Risk of clotting
<p>The "Outpatient Bleeding Risk Index":</p> <ul style="list-style-type: none"> <input type="checkbox"/> Age >65 years <input type="checkbox"/> History of stroke (ever) <input type="checkbox"/> History of GI bleeding (ever) <input type="checkbox"/> Recent MI (within previous 1 month) or Severe anemia (Hct <30%) or Renal insufficiency (SCr > 130 µmol/l) or Diabetes mellitus <p><i>If none:</i> Low risk (3% in 12 months) <i>If 1-2:</i> Intermediate risk (12% in 12 months) <i>If 3-4:</i> High risk (48% in 12 months)</p> <p>Other <u>acute</u> risk factors for bleeding may include:</p> <ul style="list-style-type: none"> - Warfarin started within previous 1 month - Severe liver dysfunction - Uncontrolled hypertension (BP >160/90) - Change of >2.0 INR units from last INR - Malignancy - Recent surgery - Concomitant NSAID therapy 	<p>There is a greater risk of clotting in the following circumstances. This may warrant accepting a higher risk of bleeding.</p> <ul style="list-style-type: none"> - Mechanical prosthetic valve - Bioprosthetic valve < 3 months - DVT/PE < 12 weeks of therapy - Antiphospholipid syndrome or > 1 hypercoagulable state - Atrial fibrillation + valvular heart disease, prior stroke or systemic embolism +/-12 weeks of therapy - History of embolization on anticoagulant therapy - Acute MI within previous 12 weeks

- Lowest incidence of bleeding occurs with INR ≤ 4.9
- Overall bleeding risk increases significantly with INR > 5
- Intracranial hemorrhage risk increases significantly with INR > 4

Prepared by FHC Pharmacists, Sept 07 (taken from from FHC Policy and Procedure: "Warfarin Maintenance Dosing by Nurses and Pharmacists")

Guidelines for Vitamin K Administration

- In the Family Health Centre, Vitamin K should be given orally only; do not inject it subcutaneously or intramuscularly as these routes provide erratic and less predictable absorption.
- If INR reversal is needed more urgently (i.e. within 12 hours), then the patient should be sent to the emergency department (e.g. for IV Vitamin K, fresh frozen plasma, etc.)
- For oral use, use an insulin syringe to withdraw the prescribed dose from a 10 mg (1 mL) ampoule of parental Vitamin K.
- Vitamin K is generally not required for INR <5 with no significant bleeding; instead the warfarin dose should be lowered or held

Patient's INR	Clinically significant bleeding present?	Rapid Reversal required:	Recommendations
< 5.0 (no significant bleeding)	No	No	Lower the dose of warfarin Or Omit 1 dose of warfarin, monitor more frequently and resume warfarin at a lower dose when INR is within therapeutic level If INR is only minimally greater than the therapeutic range, dose reduction may not be required
Between 5 and 9	No	No	Omit 1 or 2 doses of warfarin, monitor more frequently, and resume warfarin at a lower dose when INR is within therapeutic range Or Omit 1 dose of warfarin and administer 1 to 2.5 mg vitamin K orally (especially if patient is at increased risk of bleeding)
		Yes	If more rapid reversal if needed (e.g. urgent surgery required), administer up to 5 mg vitamin K orally; reduction in INR should occur within 24 h. Repeat with 1 to 2 mg vitamin K orally if INR remains high.
> 9	No	No	Hold warfarin, and administer 5 to 10 mg vitamin K orally; substantial reduction in INR should occur within 24 – 48 h. Monitor more frequently and use additional vitamin K, if necessary. Resume warfarin at a lower dose when INR is within therapeutic range
Any elevated INR	Yes	Yes	Refer to ER (patient may require IV Vitamin K, fresh plasma, prothrombin complex concentrate or recombinant factor V11a depending on urgency of situation)

(Source: adapted from Ansell J et al. Chest 2004; 126: 204S-233S)

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