Standing Order for Primary Health Care

(Insert Practice Name/ Logo)

Warfarin-INR Dose Adjustment Standing Order

Medicine standing order	INR Management/ Warfarin Sodium
Rationale	**To improve the safety of warfarin management, by providing anticoagulant control through a nurse-led service, to patients.**
Scope of use **(the condition and patient group)**	i. Patients who are on long-term warfarin monitoring programme ii. Patients who have a determined therapeutic range i.e. lower INR- 1.5 to upper INR 4.0 unless otherwise specified by the medical practitioner and documented in the FOLLOWING: *(delete which is **NOT APPLICIABLE**)* ▪ PMS ▪ or where relevant, the PATIENTS WARFARIN MONITORING CHART iii. Patients who have been initiated on warfarin for the following conditions: ▪ Atrial Fibrillation ▪ Pulmonary embolism ▪ Mural thrombus ▪ Patients with high risk of thrombosis ▪ Mechanical Heart Valve ▪ Transient ischaemic attack ▪ Deep Vein thrombosis
Medicine(s)	Warfarin sodium (tablet) **<u>Caution:</u>** There are two brands of Warfarin Sodium that can be prescribed. The dosages of each medication are different and NOT interchangeable. The two brands are: ▪ Marevan™ (1mg, 3mg and 5mg) which is the more common medication dispensed ▪ Coumadin™ (1mg, 2mg, 5mg)
Dosage range/ instructions	**Dose Adjustment:** ▪ Changes in warfarin dosage may take several days to affect an INR. Therefore, frequent dosage adjustment (<4-5 days' interval) is **<u>NOT</u> recommended.** ▪ Older people are more likely to have a slower response to a dose adjustment**.**

INR 2.0 - 3.0	INR 2.5 - 3.5	Dosage Adjustment

	< 1.5	<2.0	Increase weekly dose by 20% and give one time top-up additional amount equal to 20% of weekly dose Consider concomitant Clexane for those with recent DVT/PE (within last 4 weeks)
	1.5-1.9	2.0-2.4	Increase weekly dose by 10%
	2.0-3.0	2.5-3.5	No change
	3.1-3.9	3.6-4.4	No change – recheck in one week. If persistent, decrease weekly dose by 10-20%
	4.0- 5.0	4.5-5.0	Omit 1 dose; decrease weekly dose by 10-20% and recheck in 2-5 days
	>5.0	>5.0	**Patients with an INR higher than the therapeutic range i.e. < 5 (without bleeding) are to be discussed with a medical practitioner** **Refer to** **https://aucklandregion.healthpathways.org.nz/18972.htm**

Route of administration	Per Oral
Exclusions/ contraindications and precautions for using this medication	**Contraindication:** ▪ Where the hazard of haemorrhage might be greater than the potential clinical benefits of anticoagulation**.** ▪ Pregnancy (**Teterogenic)**
	Exclusions: (patients with the following are to be referred to medical practitioner for management) ▪ Hypersensitivity to warfarin ▪ Clinically significant bleeding e.g. haematemesis, melena, hematochezia ▪ High risk of haemorrhage, active ulceration ▪ Patients started on warfarin, yet still require Clexane to reach a therapeutic range ▪ Within 72 hours of major surgery with risk of severe bleeding ▪ Younger than 18 years ▪ Breast feeding ▪ Indications of severe renal or hepatic disease ▪ Patient on any interacting medications (Refer to https://www.nzf.org.nz/)
Persons authorised to administer this standing order	An authorised Registered Nurse (RN), working within *(insert PRACTICE NAME),* who is able to demonstrate a competency in working with this Standing Order.
Competency and training for the authorised person(s)	Prior to administering Warfarin under this Standing Order, RN staff are required to have: ▪ Attended a relevant education session on the use of Standing Order ▪ A current BLS/ CPR certificate. ▪ An annual review of competency in administration of this Standing Order by the Issuer. ▪ Training includes the attendance at formal education session on the medical conditions and rationale for using warfarin

<table>
<tr><td></td><td colspan="2">▪ Training includes the attendance of informal/ formal education session on the INR monitoring and warfarin dose adjustments (e.g. INR testing, over-coagulation)</td></tr>
<tr><td rowspan="3">Monitoring: Countersign or audit</td><td colspan="2">The Issuer of the Standing Order is required to determine whether this standing order will be countersigned or audited (please refer to the MOH 2016 Standing Order Guidelines https://www.health.govt.nz/publication/standing-order-guidelines)
<u>Delete the option which is not applicable</u>.</td></tr>
<tr><td>Option 1: Countersign</td><td>If <u>countersigning</u> is the preferred option, the Issuer of the Standing Order is to specify the period which is required to be shorter than a month, e.g:

This standing order is to be countersigned by the Issuer of the Standing Order within [timeframe to be determined by the issuer e.g. 48 hours, 72 hours, 3 working days, 5 working days)</td></tr>
<tr><td>Option 2: Audit</td><td>If <u>auditing</u> of the Standing Order is the preferred option, then the audit sample size as a minimum is to be used. The audit sample size as a minimum:
▪ 50 per cent of administration and/or supply records if there are 20 or fewer in total
▪ 20- 30 per cent of administration and/or supply records if they are in range of 21–100
▪ 15- 20 per cent of administration and/or supply records if there are over 100
If any administration and/or supply records found to be non-complaint with the standing order, then the sample size is to be doubled.
The audit result is documented, along with any required changes or improvements in relation to the Standing Order documentation, processes or training undertaken.</td></tr>
<tr><td>Documentation and additional information</td><td colspan="2">Under the Standing Order, the notifying RN documents in the PMS the following:
▪ Current INR
▪ Health status
▪ Changes to other medications
▪ Date/time for next test
▪ Other e.g. patient education, home visit arranged
▪ Dosage currently taken
▪ Changed dose
▪ Adverse effects</td></tr>
<tr><td rowspan="6">Definition of terms used</td><td>BLS</td><td>Basic Life Support</td></tr>
<tr><td>CPR</td><td>Cardio-Pulmonary Resuscitation</td></tr>
<tr><td>SO</td><td>Standing Order</td></tr>
<tr><td>RN</td><td>Registered Nurse</td></tr>
<tr><td>INR</td><td>International Normalised Ratio: The test used to monitor</td></tr>
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		Warfarin anticoagulant therapy. The INR is a standardised Prothrombin Ratio calibrated so that INR results from one laboratory are directly comparable with those from another.
	Warfarin Sodium	vitamin K antagonist, which acts by reducing levels of Factors II (Prothrombin) VII, IX and X.
	PMS	Practice Management System

Reference	▪ Auckland Regional Health Pathways: https://aucklandregion.healthpathways.org.nz ▪ BPAC INR testing https://bpac.org.nz ▪ Medical data sheets: Medsafe www.medsafe.govt.nz ▪ Guide for using INR to manage warfarin (BPAC) ▪ New Zealand Formulary: https://www.nzf.org.nz/	
Issued by	Name:	NZMC#
	Title:	Date
	Signature: _____ Date:	
RN Responsibilities	RNs named below agree to the following: ▪ Only RNs operating under standing orders from the named issuer can supply or administer the medication for the condition that has been assessed as appropriate by that RN ▪ The RN will ensure that they meet the regulatory requirements for an RN working under standing orders must have: • The competency and training to assess that the standing order applies to the presenting patient/client • The competency to administer and/or supply the medicine • The knowledge to assess the exclusions/contraindications and precautions ▪ A register of the agreed standing order authorisations between the issuer and the registered nurse must be kept by the nurse and the issuer/practice and reviewed at least annually or when the issuer changes.	
Registered Nurse	Name:	APC#
	Signed	Date
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	Signed	Date
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	Signed	Date

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<tr><td>Document Control</td><td colspan="2">This standing order is valid until it is due to be reviewed
OR Is replaced by a new Standing Order
OR Cancelled by the issuer

<table><tr><td>Issue Date: 29/10/2018</td><td>Review Date: 29/10/2019</td><td>Classification: 0001/1</td></tr></table></td></tr>
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