Guideline

Warfarin Guidelines

1. Purpose

Warfarin is the most commonly used oral anticoagulant of which there are two brands. Brands are not interchangeable.

This clinical guideline outlines the requirement for the use of Warfarin at the Women's.

Availability of tablet strengths

The following table describes the availability of tablet strengths and their corresponding colour.

	1mg	2mg	3mg	5mg
Coumadin	Light tan	Lavender	n/a	Green
Marevan	Brown	N/a	Blue	Pink

2. Definitions

Not applicable

3. Responsibilities

4. Guideline

For acute thrombosis or thromboembolism, commence warfarin when the patient is receiving heparin. A minimum of 5 days of heparin should be given, even if the INR reaches the desired level beforehand.

Most patients require 3-5 days of warfarin before achieving a stable maintenance phase.

Target INR range for clinical indication (individual patients may vary)

	Target	Target Range
Deep Vein Thrombosis/P.E.	2.5	2.0-3.0
CVL clot prophylaxis	1.5	1.2-2.0
Mechanical Valves	3.0	2.5-3.5
Cardiomyopathy	2.5	2.0-3.0
Ischaemic stroke	2.0	1.5-2.5

4.1 Warfarin dosing

Warfarin is NOT evenly distributed within each tablet. Doses should be given in whole tablet sizes. Many patients will require alternate day doses or dose reduction.

If the woman has previously been taking warfarin and is recommencing warfarin after surgery, begin warfarin therapy at the usual dose.

Loading dose: day 1

For adult patients commencing warfarin begin with a loading dose of 5 -10mg. The lower dose should be used if there is poor oral intake, liver impairment concurrent antimicrobial therapy or age>60.

Loading dose: days 2-4

Subsequent loading doses are based on individual INR response.

The dose reductions in the table below are critical to avoid 'over-shooting' the target range.

INR	Warfarin Adjustment
1.1-1.3	Repeat initial loading dose
1.4-1.9	50% of initial loading dose
2.0-3.0	50% of initial loading dose
3.1-3.5	25% of initial loading dose
>3.5	Hold until INR <3.5 then restart at 50% less than previous dose.

If the INR is not >1.5 on Day 4, the patient should be reassessed and the dose increased gradually until the INR is in the desired range.

If the patient is receiving other medicines (e.g. antibiotics) the loading dose may need to be adjusted accordingly. Check with Pharmacy or Haematology.

4.2 Patient/consumer education

Thorough patient education is the key to successful management of patients on oral anticoagulants.

Factors affecting the INR include:

- other medicine use
- Vitamin K content of diet
- alcohol
- many naturopathic or dietary supplements
- herbal medicines.

Women taking warfarin may notice that their periods are slightly heavier.

Women should be advised of the importance of effective contraception if there are taking warfarin.

Avoid aspirin or other NSAIDS unless specifically prescribed by the woman’s physician

4.3 Outpatient follow-up

Heparin can be ceased when the INR is therapeutic for two consecutive days.

Monitor INR within three days of discharge - refer patient to their GP or local pathology provider.

The duration of therapy is dependent upon the indication for anticoagulation.

ALWAYS CHECK THE INR within 5 days:

- of a dose change
- if a concurrent illness develops e.g. diarrhoea or vomiting
- if a new medicine is prescribed

4.4 Warfarin interactions

It must be assumed that all medications will influence the individual's response to warfarin. The INR may

increase or decrease, depending on the medicine.

4.5 Pregnancy

Warfarin embryopathy occurs in approximately 5% of fetuses exposed to warfarin between 6-13 weeks gestation. Warfarin embryopathy is variable in severity and ranges from mild nasal flattening to severe mid face flattening with shortened limbs (dwarfism). Exposure in the second or third trimester carries an additional 5% risk of fetal intracerebral haemorrhage.

All women of reproductive age should be informed of the teratogenic effects of warfarin and advised to seek urgent medical attention if pregnancy occurs.

Women who conceive on warfarin and who wish to continue the pregnancy should be given vitamin K 10mg orally to reverse the warfarin effect and commenced immediately on therapeutic LMWH at a weight adjusted twice daily dose. Each case should be discussed with the woman's physician, haematologist or cardiologist before the warfarin is ceased.

4.6 Perioperative anticoagulation

Warfarin may not need to be stopped for minor procedures such as D&C or Mirena insertion. Check with the consultant gynaecologist.

Women undergoing more major surgery may require bridging anticoagulation.

Advice regarding the need for bridging anticoagulation should be obtained from the treating haematologist or cardiologist. If the warfarin is managed by a pathology provider or general practitioner, refer the patient to the Women's haematology outpatients.

4.7 Adverse events

One of the major adverse events associated with warfarin is bleeding. If a patient on warfarin suffers significant bleeding, withhold any further doses, and seek urgent Haematology consult.

4.8 Urgent surgery

If a woman taking warfarin requires urgent surgery, obtain urgent Haematology consult.

Further information can be obtained by referring to the following journal article:

- Baker RI, Coughlin PB, Gallus AS, Harper PL, Salem HH, Wood EM, The Warfarin Reversal Consensus Group. Warfarin reversal: consensus guidelines, on behalf of the Australasian Society of Thrombosis and Haemostasis. Medical Journal of Australia; MJA 181:9, 1 November 2004. **http://www.mja.com.au/public/issues/181_09_011104/bak10441_fm.pdf**.

5. Evaluation, monitoring and reporting of compliance to this guideline

To be developed

6. References

Ansell J, Hirsh J, Hylek E, Jacobson A, Crowther M, Palareti G. Pharmacology and Management of the Vitamin K Antagonists, Chest. Antithrombotic and Thrombolytic Therapy: American College of Chest Physicians Evidenced-Based Clinical Practice Guidelines (8th Edition). June 2008 133:160S-198S

Baker RI, Coughlin PB, Gallus AS, Harper PL, Salem HH, Wood EM, The Warfarin Reversal Consensus Group. Warfarin reversal: consensus guidelines, on behalf of the Australasian Society of Thrombosis and Haemostasis. MJA • Volume 181 Number 9 • 1 November 2004
http://www.mja.com.au/public/issues/181_09_011104/bak10441_fm.pdf

Bates SM, Greer IA, Pabinger I, Sofaer S, Hirsh J. Venous Thromboembolism, Thrombophilia, Antithrombotic Therapy, and Pregnancy. American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (8th Edition). Chest June 2008 133:844S-886S

Schulman S, Beyth RJ, Kearon C, Levine MN. Hemorrhagic Complications of Anticoagulant and Thrombolytic Treatment. American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (8th Edition),

Chest. 2008 Jun;133(6 Suppl):257S-298S

The Royal College of Obstetricians and Gynaecologists. Thromboprophylaxis during Pregnancy, Labour and after Vaginal Delivery (Green-top 37), January 2004

Refer to Clinical Practice Guideline: Anticoagulant Therapy.

7. Legislation/Regulations related to this guideline

Not applicable

8. Appendices

Not applicable.