NSW HEALTH

Safety Notice
SN:006/07

12 April 2007

Distributed to:

- Chief Executives
- Directors of Clinical Governance
- Directors of Clinical Operations

Action required by:

- Directors of Clinical Governance

For response by:

- No response to Quality and Safety Branch required

We recommend you also inform:

- Drug and Therapeutic Committees
- Area Directors of Nursing
- Area Directors of Pharmacy
- Pharmacists
- Nurses
- Medical staff

Deadline for completion of action
Not applicable

Quality and Safety Branch
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Warfarin (revised)

Guidelines for prescribing, dispensing and administering warfarin.

Background

Analysis of the first year of data from the Incident Information Management System (IIMS) indicated that there was numerous incidents related to warfarin. As a high-risk medication with a narrow therapeutic range, warfarin was the 5th most notified medication (*Analysis of First Year of IIMS Data Annual Report 2005-2006 Clinical Excellence Commission*, December 2006).

The Australian Council for Safety and Quality in Health Care, in conjunction with a national working party, developed the National Inpatient Medication Chart (NIMC). The NIMC is designed to reduce the potential for error in prescribing, dispensing and administering medications. An evaluation of the use of the NIMC in a pilot study demonstrated a 30 per cent reduction in toxic levels of warfarin.

The NIMC has been implemented successfully in NSW, and it is now time to reinforce the guidelines for prescribing, dispensing and administering warfarin.

Prescribing warfarin

The key issue in prescribing warfarin is that the International Normalised Ratio (INR) blood test results should guide decisions on the dose.

When a patient first starts taking warfarin, blood tests are done frequently until the INR result begins to stabilise. Less frequent tests are done once stabilisation is reached. Warfarin initiation protocols decrease the risk of bleeding and the risk of out-of-range INR results. The target INR should be included when warfarin is initially ordered.

Traditionally, the warfarin dosing time has been mid-evening. The NIMC incorporates a section for prescribing and administering warfarin at 1600 hours (4.00 pm) so that **the team caring for the patient** can use the relevant blood pathology result to determine the dose of warfarin, rather than leaving this task to after-hours staff.

The **recommendation** is to ensure that:

- INR pathology results are available by 1600 hours
- Warfarin dosing time is changed from mid-evening to 1600 hours
- The team caring for the patient views the INR result **prior** to deciding the dose.

The warfarin prescribing section is the second prescribing box on page two of the NIMC and is pre-printed in red. To prevent the omission of warfarin administration, nursing staff should check every prescribing box at every medication round.

Suggested Actions by Area Health Services:

1. Ensure that this Safety Notice is distributed to all relevant stakeholders.
2. Flags, stickers may be used to alert nursing staff that the patient is prescribed warfarin.

*Revised 18 January 2008:NIMC amended- to include warfarin dose time in administrator field and for each day of therapy record the "most recent INR result as per current therapeutic plan".

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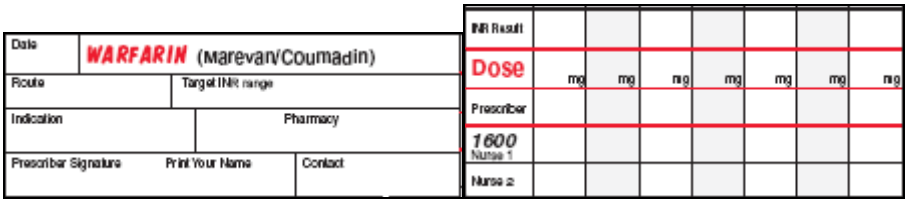
Key reminders for prescribing warfarin



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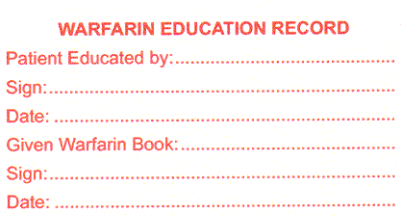
- Two brands may be prescribed: Coumadin® (1 mg, 2 mg and 5 mg) and Marevan® (1 mg, 3 mg and 5 mg).

  Do not substitute one brand for the other as they are not bio-equivalent.
- The warfarin ordering section in the NIMC is pre-printed in red as an additional alert to indicate that it is an anticoagulant and high-risk medicine.
- The standard charting time of 1600 hours allows the medical team caring for the patient to order the next dose based on INR results, rather than leaving it for after-hours staff to do.
- The indication and target INR should be included when warfarin is initially ordered.
- Appropriate prescribing decision support should be used.
- The literature demonstrates that use of warfarin initiation protocols decreases the risk of bleeding and decreases the risk of out-of-range INR.
- For **each day of therapy**, the following information should be documented:
  - Most recent INR result as per the current therapeutic plan *
  - Warfarin dose
  - Doctor's initials (even if the dose is to be withheld)
  - Initials of both the nurse who administers the dose and the checking nurse
  - The pharmacist's annotation, wherever possible
  - Prescription and signature for **each** day's dose.
- Because of the well-documented risks associated with warfarin, all patients should receive counselling and be given a warfarin book. The **warfarin education record** in the NIMC is for verifying that all risk mitigation activities have been completed.



Further reading

Further information about anticoagulant therapy can be found at the Quality and Safety Branch, NSW Medication Safety Strategy website at http://www.health.nsw.gov.au/quality/natmed/index.html.

PD2006_028 Medication Chart – NSW Implementation of the National Inpatient Medication Chart.