

Good Practice Guidance 3: Use of warfarin in Care Homes

Key Points

- Ensure the NPSA Alert for the 'a [Patient Safety Alert](#) on anticoagulants has been reviewed and the required actions implemented within the care home.
- The care home should have written safe procedures for the administration of warfarin and other anticoagulants.
- Warfarin tablets should be taken at the same time each day with a full glass of water.
- If a dose is missed, a note should be made on the blood test form and the Medication Administration record (MAR) chart. Continue the next day with the normal dose; do not give an extra dose to 'catch up'.
- Warfarin should be administered from original packs and should not be included in Monitored Dosage Systems (e.g. nomad or dosette boxes).
- It is important care home staff administering medicines are familiar with the different colours of the various strengths of warfarin tablets as different colours (strengths) of tablets may be required to make up a dose.
- Always double check the most recent INR report when giving a dose - it is essential that dosages are not given from old INR reports.
- There should be a process in the care home for ensuring blood tests are taken at the correct time; that INR results are received and that the correct dose is transcribed on to the MAR chart.
- There should also be a process in place to follow up results if they have not been received within 3 days. If you have not received the record within 3 days the telephone number for contacting the anticoagulation service is on the back of the form.
- It is safe practice to attach the written oral anticoagulant dosage supplied by the lab to the MAR chart.
- **If there are any concerns that the INR result for a resident is out of date, please contact the anticoagulation service for advice.**

Warfarin is the most frequently prescribed oral anticoagulant medicine. The National Patient Safety Agency (NPSA) has published a [Patient Safety Alert](#) on anticoagulants which recommends that care homes have written safe procedures for the administration of warfarin and other anticoagulants.

Anticoagulants are one of the classes of medicines most frequently identified as causing preventable harm and admission to hospital. This guidance includes some background about warfarin, how to ensure it is taken safely and the things that need to be considered when it is given in a care home.

What is it used for?

Warfarin is prescribed to prolong the clotting time of blood and thereby protect against thrombotic events (blood clotting that can cause disease). The most common reasons for the use of oral anticoagulants are:

- atrial fibrillation (abnormal beating of the heart that can cause blood pooling and thrombus (clot) formation in the small chambers of the heart (atria));
- the treatment and prevention of deep vein thrombosis and pulmonary embolus (clot formation in the blood vessels in the lungs);
- the treatment of patients with mechanical heart valves, where the artificial valves may lead to clot formation.

To use this medicine safely the dose needs to be adjusted to maintain the desired effect and reduce side effects; this will be done by either the anticoagulation service or the resident's GP. Under treatment can result in thrombosis (clot formation) which can be life threatening, equally over anticoagulation can result in haemorrhage (bleeding) which can be fatal and outweigh the benefits of preventing the thrombosis. Length of treatment varies, from three to six months for venous thrombosis, to life for cardiac or recurrent thrombosis indications.

How are residents taking warfarin monitored?

Residents must have regular tests of the effect of the warfarin on their blood clotting, measured as an International Normalised Ratio (INR) and which may require adjustment of their tablet dose to ensure good, safe control. Once stable, blood tests are usually monthly, but, when advised by the anticoagulation service, some stable patients may be able to be tested at up to 12 weekly intervals. The date that the next test is required (provided there is no change in the clinical condition / medication regimen or diet) will always be printed on the Anticoagulation Therapy Record.

If a person were not on warfarin their INR would be around 1.0. The longer the blood takes to clot the higher the INR level. For example, an INR of 2.0

means that blood takes roughly twice as long as normal to clot. Each resident on warfarin will have a different target range depending on the condition they are being treated for. The aim of treatment is to keep the INR within or close to this range.

What are the problems with the use of warfarin?

Like all medicines, anticoagulants have side effects. The most common side effect of anticoagulants is bleeding.

You should contact the resident's GP immediately if they experience any of the following:

- nose bleeds that last more than 10 minutes
- blood in vomit or sputum
- passing blood in urine or faeces
- passing black coloured faeces
- severe or spontaneous bruising
- unusual headaches

The dose of warfarin must be carefully adjusted for each resident. Residents are often given supplies of one or more strengths of warfarin tablets, i.e. 1 mg (brown), 3 mg (blue) and 5 mg (pink), to enable doses to be adjusted.

The National Patient Safety Agency (NPSA) recommends that care homes have written safe procedures for the administration of warfarin and other anticoagulants.

The anticoagulant patient safety alert, [advice for social care providers](#) is available on the NPSA website; www.npsa.nhs.uk/

What do you need to know to give it safely?

Key points that care home staff need to think about when reviewing the safety of warfarin administration in a care home include:

- Warfarin tablets should be taken at the same time each day with a full glass of water.
- If a dose is missed, a note should be made on the blood test form and the Medication Administration record (MAR) chart. Continue the next day with the normal dose; do not give an extra dose to 'catch up'.
- Warfarin should be administered from original packs and should not be included in Monitored Dosage Systems (e.g. nomad or dosette boxes).
- It is important care home staff administering medicines are familiar with the different colours of the various strengths of warfarin tablets as

different colours (strengths) of tablets may be required to make up a dose.

- Always double check the most recent INR report when giving a dose - it is essential that dosages are not given from old INR reports.
- GPs and pharmacists should check that the residents INR is at a safe level before issuing a prescription for warfarin. It is important to discuss with the resident's community pharmacist how they would like care home staff to provide them with this information.
- There should be a process in the care home for ensuring blood tests are taken at the correct time; that INR results are received and that the correct dose is transcribed on to the MAR chart.
- There should also be a process in place to follow up results if they have not been received within 3 days. If you have not received the record within 3 days the telephone number for contacting the anticoagulation service is on the back of the form.
- It is safe practice to attach the written oral anticoagulant dosage supplied by the lab to the MAR chart.

INR Blood results

Most GP practices use the Oxford Radcliffe Hospitals Anticoagulation Service. They will send a patient's blood test (INR) result on an Anticoagulation Therapy Record. A copy of a dummy record is included in Appendix A.

On the top (white) half of the form is:

- the most recent INR result
- the dose instructions
- when the next blood test is due
- the target range for the resident's condition

The bottom (pink) half of the form should be sent with the blood sample and allows extra information to be sent to the lab about any changes to the resident's medication, any bruising or bleeding, missed doses, illness or dates of surgery or dental procedures planned. This will help the thrombosis nurses to calculate the correct dose of warfarin for care home residents.

Blood sent to the lab should be tested within 24 hours and a resident should continue on the current dose pattern until you receive the new dose. The new dose should be received within 3 days – see above if this is not the case. Where an urgent change of dose is required, or if doses are to be omitted as a result of a high INR, this will be communicated by telephone on the day the sample is analysed in the lab. The telephone advice will be followed up by

written confirmation.

If there are any concerns that the INR result for a resident is out of date, please contact the anticoagulation service for advice.

What factors can affect the control of anticoagulation?

Other medicines

Many medicines can interact with anticoagulants. If, during a course of anticoagulants, a resident is also starting or stopping another medication, the prescriber may advise that they should have a blood test within 5 to 7 days of starting or stopping the new medication. This is to make sure that the INR remains within the desired range. Please contact the anticoagulant clinic for further advice.

Oral anticoagulants interact with a wide variety of other medicines (for example, commonly prescribed antibiotics and painkillers), in most cases leading to an increased anticoagulant (blood thinning) effect.

Before using over-the-counter medicines, including alternative remedies, a care home or resident should get advice from their pharmacist.

Diet

It is important for residents to eat a well balanced diet.

Any major changes in diet may affect how a resident's body responds to anticoagulant medication.

Foods rich in vitamin K may affect an INR result. Such foods include green leafy vegetables, chick peas, liver, egg yolks, cereals containing wheat bran and oats, mature cheese, the seaweed found in sushi, blue cheese, avocado and olive oil. These foods are important in a diet but eating them in large amounts may affect the INR result. It is important to take the same amount of these foods on a regular basis. It is the change in the vitamin K intake that affects an INR result.

A moderate intake of alcohol will not affect anticoagulation but changing the amount a person drinks or drinking large quantities is dangerous.

Drinking cranberry juice can also affect your INR and so should be avoided in large quantities.

**The Oxford Radcliffe Anticoagulation Service can be contacted on
01865 857555.**

The Horton Hospital Anticoagulation Team on 01295 229224.

Further Information

- Further information on managing medicines in care homes is available in Outcome 9 of the [CQC Essential Standards of Quality and Safety](#).
- Further information on [The handling of medicines in Social Care](#) can also be found on the Royal Pharmaceutical Society website: www.rpharms.com
- The Nursing and Midwifery Council (NMC) provides guidance and [advice on a number of topics](#) which is available on their website; www.nmc-uk.org
- The National Patient Safety Agency also contains safety alerts related to medicines; <http://npsa.nhs.uk/>

The above links are made available solely to indicate their potential usefulness to users. The user must use their own judgment to determine the accuracy and relevance of the information they contain.

Oxfordshire CHUMS Working Group & Medicines Management Team

Appendix A

Anticoagulation Therapy Record

NHS Number: **111111111**

Date of test: **27/01/2009**

First Name: **Mickey**
Surname: **MOUSE**
Address: **10 mouse hole road
disneyland
US of A**

Telephone: **01235 555666**

DOB: **10/02/1980** Sex: **Male**

Your INR & Dose Instructions:

INR: 2.5 Take 4.5 mg daily

Your next blood test is due: **10/02/2009**

Anticoagulant Information

Diagnosis: **Above Knee DVT**
Stop Date: **- -**

INR Range: **2.0 to 3.0**
INR Target: **2.5**
Anticoagulant: **Warfarin (S)**

GP Information

Doctor: **Doctor. A**
Address: **The Surgery
Main Road
Headington**

Laboratory Request Form

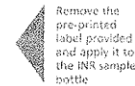
NHS Number: **111111111**

Surname: **MOUSE**
First Name: **Mickey**
DOB: **10/02/1980**
Telephone: **01235 555666**

Doctor: **Doctor. A**
Address: **The Surgery
Main Road
Headington
Oxford. OX1 1DC**

Since your last INR blood test have you:
• been in hospital? if yes, please give details YES/NO
• had excessive bruising or any bleeding? YES/NO
• missed any doses? if yes, when? YES/NO
• started or stopped any new medicines? YES/NO
Please give name & date started / stopped
Please provide any other information below:

**111111111
Mickey MOUSE
10/02/1980 - Male**



Laboratory Use
ID1 () ID2 () PD (4.29) TJJ -
Sample ID () -
(2.0 - 3.0) - Above Knee DVT

Due Date: **10/02/2009**
Date Taken:
Time Taken:

Insert DANGER OF INFECTION sticker here if applicable

HOW TO USE THIS FORM

This form contains information about your anticoagulant medication (usually warfarin).

White Section

The upper part (white section) contains information about you, your anticoagulant medication, general practitioner details and the dose of anticoagulant you should be taking. The date of your next test is shown at the bottom of this section.

You should keep the white section of the form with you and show it to your doctor, dentist or pharmacist before receiving any treatment or medication.

Pink Section

The lower part (pink section) is the request card for your next INR (International Normalised Ratio) blood test. This section should be detached and given to the person who is taking your blood on the day of your test.

Your blood will be tested within 24 hours and you will be sent a new form showing the dose of anticoagulant you should take and date when you should arrange your next blood test. You should continue on your current dose pattern until you receive your new form by post, or a telephone call. If you have not heard within 4 days, or if you need to know *urgently* please telephone

Please tell the person taking your blood, or write onto your request form, any relevant information, including from the list opposite. This is vital in helping us to dose your anticoagulant medication.

- New medication, including date started
- Medication you have stopped
- Excessive bruising or any bleeding
- Missed doses
- Dates of holidays
- Dates for surgery or dental procedures
- Illness

For further advice contact your Anticoagulation Service
Churchill Hospital (01865) 857555 Horton Hospital (01295) 229224

OXFORD RADCLIFFE HOSPITALS NHS TRUST	HEALTH AND SAFETY
DO NOT SEND ROUTINE SAMPLES FOR DOSING ON FRIDAYS	High risk specimens must have the appropriate labels stating "DANGER OF INFECTION" attached to the request card and specimen.
COAGULATION DEPARTMENT, Oxford Haemophilia & Thrombosis Centre, Churchill Hospital Old Road, Headington, OXFORD, OX3 7LJ HOW TO CONTACT THE LABORATORY (Mon-Fri 9am-5pm) Anticoagulation Service (01865) 857555 Coagulation Fax Machine (01865) 225296	Dispose of all sharps safely and use recommended containers only. Seal all specimens in appropriate bags. Do not use staples. Only put specimens from one patient in each primary bag. Do not carry specimens in pockets or loose on trays.
COAGULATION DEPARTMENT, Path Lab HORTON HOSPITAL OXFORD ROAD, BANBURY, OXON, OX16 9AL HOW TO CONTACT THE LABORATORY (Mon-Fri 9am-5pm) Anticoagulation Team (01295) 229224 Coagulation Fax Machine (01295) 229225 For emergencies outside these hours please contact your GP surgery. If you have not been contacted with your new anticoagulant dose please continue on your current dose and wait for your postal instructions. You can telephone the service during working hours if you need to know urgently or have not heard within 4 days.	Follow the recommended guidelines for safe disposal of broken specimens. If in doubt contact the laboratory. Never eat, drink or smoke when you are carrying specimens. If you cut or prick yourself or have an accident however small, tell your immediate manager. Follow local rules for handling specimens and sharps. Specimens transported by post must comply with postal regulations. If samples cannot be transported the same day store them at room temperature and send the following day.

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