

ANTICOAGULANTS

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Patients on anticoagulants are instructed to carry a yellow card and to show it whenever treatment is required. The card carries figures that detail the history of tests and corrections that have been applied to adjust and maintain the International Normalised Ratio (INR).

The International Normalized Ratio is a system established by the World Health Organisation (WHO) and the International Committee on Thrombosis and Haemostasis for reporting the results of blood clotting times. All results are standardized using the international sensitivity index for the particular thromboplastin (anti-clotting agent) and instrument combination utilized to perform the test.

A person taking an anticoagulant might optimally maintain a prothrombin time (a 'pro time' or PT) of 2 to 3 INR. Regardless of which laboratory checks the prothrombin time, the result should be the same - even if different thromboplastins and instruments are used. This international standardization permits the patient on warfarin to travel and still obtain meaningful test results. Low INR values, lower than 2 indicate a predisposition to clot. Figures above 4 indicate a tendency to bleed excessively.

Warfarin is an anticoagulant drug (brand names: Coumarin, Panwarfin, Sofarin) administered to prevent the blood from clotting in the vessels and to treat blood clots and overly sticky/viscous blood. It is also used to reduce the risk of clots causing strokes or heart attacks. Warfarin works by suppressing the production of some clotting factors (interfering with prothrombin activation), thereby inhibiting the clotting of blood. The risk of recurrent venous thromboembolism is high immediately following a deep vein thrombosis (DVT) and reduces over a period of weeks. It is not unusual for a course of anticoagulants to extend over a three-month span. If a need for surgery arises during the first six weeks, either the surgery should be postponed, or the warfarin treatment switched to therapeutic heparin.

Interactions that may enhance the effect of warfarin:

The following interactions may *enhance* the effect of warfarin, and are likely to need close monitoring and clinical intervention, especially when initiating, changing, and stopping concomitant treatment.

Alcohol — Intake of alcohol should not be excessive. Heavy drinkers or people with liver disease should avoid alcohol or should not take warfarin.

Amiodarone — from amiodarone loading onwards, a pragmatic approach is to reduce the warfarin dose by 50%, monitor weekly, and tailor the dose to achieve the target international normalized ratio (INR). This interaction persists for a month or more after amiodarone is withdrawn.

Aspirin or aspirin-containing products — cold and influenza preparations, (and topical salicylates) should be avoided unless they are clinically unavoidable.

Azoles (in particular fluconazole, miconazole, and voriconazole) — the warfarin dosage should be reduced as necessary. Monitoring is also recommended in people using intravaginal or topical miconazole.

Clopidogrel — should be avoided, unless it is considered to be clinically necessary.

Corticosteroids (for example, high-dose prednisolone) — the warfarin dosage should be adjusted as necessary.

Cranberry juice or cranberry-containing products — should be avoided.

Glucosamine — should be avoided.

Those taking warfarin need to be instructed on the importance of regular blood tests, preferably at an 'anticoagulant clinic'. Ongoing prescriptions for warfarin tablets should be obtained from their GP. It is best

to take the warfarin at the same time each day, and not miss doses or take additional doses, without the advice of a healthcare professional. In the case of an accidentally missed dose, they should continue with the prescribed regimen, and *never* take a double dose (unless specifically advised).

The yellow anticoagulant card should be carried at all times and be shown to any healthcare practitioner including their GP, dentist, podiatrist, pharmacist, and foot health practitioner. If pregnant or planning a pregnancy warfarin must be discontinued since it is dangerous to the foetus and pregnant women. Low molecular weight heparin is better in these cases.

If surgery becomes necessary there may be a need to temporarily stop taking warfarin. Outpatient dental surgery (including extractions) can usually be undertaken without temporarily stopping or reducing the dose of warfarin. It is recommended that the INR is checked 72 hours before dental surgery. Whilst the risk of significant bleeding in people with a stable INR within the range 2 to 4 is very small, the risk of thrombosis may be increased if oral anticoagulants are temporarily discontinued. Avulsion of ingrowing toenails does not require discontinuation of warfarin.

“Although there is little published evidence regarding a protocol for carrying out nail surgery procedures on patients on warfarin therapy, advice from the Haematology department, (Raigmore Hospital, Inverness), suggests we should follow the guidance already in place for dental surgery (from British Committee for Standards in Haematology). An executive summary of their guidance is shown below.

Contained within this guidance paper is advice and strategies that can be adopted by podiatrists to ensure that nail surgery carried out on patients on anticoagulant therapy, in primary care, can be done safely”

SURGICAL MANAGEMENT OF THE PRIMARY CARE DENTAL PATIENT ON WARFARIN

Executive summary:

Warfarin does not need to be stopped before primary care dental surgical procedures

Patients requiring dental surgical procedures in primary care and who have an International Normalised Ratio (INR) below 4.0 should continue warfarin therapy without dose adjustment.

Patients on warfarin might bleed more than normal but bleeding is easily treated with local measures.

The risk of thromboembolism after withdrawal of warfarin therapy outweighs the risk of oral bleeding.

From: Podiatric management of the nail surgery patient on Vitamin K antagonist oral anticoagulant medicines (VKA-OAM) in primary care, NHS Highland Podiatry Department December 2008

THE ALLIANCE PROFESSIONAL DEVELOPMENT PROGRAMME

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The questions on this sheet are to be answered on A4 paper and should be of sufficient length to demonstrate understanding. Single word answers are not acceptable. Try to answer in one or two short paragraphs or a few sentences, not more than ¼ page per answer.

Q1. What is meant by the INR? What is its purpose?

Q2. How does Warfarin work?

Q3. Identify some of the agents that may enhance the effect of Warfarin.

Q4. What advice is given to a patient on a course of anticoagulants?

Q5. Is it possible to carry out a nail procedure whilst a patient is taking anticoagulants?

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