

LOCAL ENHANCED SERVICE SPECIFICATION - NHS FORTH VALLEY 2014/15

Anticoagulation monitoring – Revised March 2014

Significant changes for 2014-2015:

- **6.3 Bundles remain the same from 2013-14 but data submission only September 2014 and March 2015**
- **7.0 Changes to practice remuneration Reduction of one off fee to £100 (remainder of this budget has been transferred to Patient safety work within WSW; reduced initiation fee for atypical antipsychotics**
- **Appendix 8 - New time line for 2014-15 external meetings in alignment with CREATE and WSW meetings**

1. Introduction

This enhanced service specification for the provision of safe and reliable anticoagulant monitoring outlines the more specialised services to be provided. The specification of this service is designed to cover the enhanced aspects of clinical care of the patient, all of which are beyond the scope of essential services. No part of the specification by commission, omission or implication defines or redefines essential or additional services. It has been adapted to be compliant with National Guidance published in Jan 2013

2. Background

Warfarin is being used in the management of increasing numbers of patients and conditions, including people with atrial fibrillation, thromboembolic disease (deep vein thrombosis (DVT) and pulmonary embolism (PE)) and other disorders. FV figures show a steady rise in the amount of INRs done in primary care, as a surrogate marker for the number of patients on warfarin. This is despite the advent of novel oral anticoagulants (NOACs). Whilst warfarin is a very effective drug in these conditions, it can also have serious side effects, notably haemorrhage, as it has a narrow therapeutic window. We know approximately 6% of hospital admissions are due to adverse drug reactions (ADRs)¹. 3.7% are drug related and preventable²; and warfarin being a common cause. Warfarin is therefore an intrinsically high risk drug requiring care to ensure that its prescription is

¹ Pirmohamed M, James S, Green C, Scott AK, Walley TJ, et al. Adverse drug reactions as cause of admission to hospital: prospective analysis of 18 820 patients. *BMJ* 2004; 329(7456):15-9.

² Howard RL, Avery A, Slavenburg S, Royal S, Pipe G, Lucassen P, et al. Which drugs cause preventable admissions to hospital? A systematic review. *British Journal of Clinical Pharmacology* 2007; 63(2): 136-47.

appropriate and that anticoagulation is carefully monitored to minimise risk. The National Patient Safety Agency (NPSA) recommendations state that key information about patients on warfarin should be clearly recorded³.

3. Aims

An anticoagulation monitoring service is designed to be one in which:

- The service to the patient is safe, reliable and convenient.
- Non-urgent therapy is normally initiated in primary care.
- The need for continuation of therapy is reviewed regularly.
- The therapy is discontinued when appropriate.
- Initiation is appropriate.
- There is an unambiguous clinical indication that is clearly recorded.
- The patient makes an informed decision about starting warfarin.
- Appropriate baseline tests have been done.
- The patient is provided with key information about what they can do to make their use of warfarin safe (diet, other drugs, dosing, monitoring, etc).
- The initiation regime is appropriate to the urgency of anticoagulation and the individual starting warfarin.
- Monitoring and drug dosing is appropriate.
- Duration of therapy is clearly recorded and patients on short-term anticoagulation therapy are clearly identified, so that treatment is stopped at the right time.
- The appropriateness of 'indefinite' anticoagulation is reviewed:
 - if an individual's circumstances change significantly, and
 - at annual medication review.

4. Service outline

Under the terms of this local enhanced service, GP practices will be contracted to:

- 4.1 **Develop and maintain a register.** Practices should be able to produce an up-to-date register of all patients treated by the anticoagulation monitoring service.
- 4.2 **Record individual management plans.** Patients receiving warfarin should have the following information clearly highlighted in their notes:
 - their contact telephone number
 - diagnosis
 - planned duration of treatment, and
 - target INR level.
- 4.3 **Follow current guidance.** The British Haematological Society guidelines 2011 recommends that using computer assisted dosing (C.A.D) software e.g. RAT, Dawn AC or INR Star systems to complement clinical judgement improves INR control. Therefore warfarin dosing and advice on the interval for blood testing given to the patient follows a recognised C.A.D. or current

³ NPSA. Actions that can make anticoagulant therapy safer. Birmingham: National Patient Safety Agency, 2007.

local written guidance (see Appendix 1). The patient's INR level should be maintained within 0.5 of the target INR wherever possible. NHS Forth Valley Warfarin Guidance including Management of over anticoagulation can be found at: http://www.nhsforthvalley.com/__documents/qi/ce_guideline_prescribing/warfarin-guidance.pdf

- 4.4 **Commence therapy in primary care, unless patients are started on warfarin as an inpatient.** If the hospital requests the practice to take over anticoagulant care a week or less after initiation, the practice is eligible to claim an initiation fee. Initiation of warfarin should be carried out in accordance with the recognised initiation protocols, for recognised indications for specific lengths of time.
- 4.5 **Have systems for call and recall.** To ensure that systematic call and recall of patients on the register is taking place, GP practices should clearly inform patients of the advised dose and date of follow-up blood test and record this information in the patient's notes. The INR frequency should be determined by following local guidance or a recognised C.A.D. Practices should have systems for identifying patients who have not attended for their INR blood test within the recommended timescales.
- 4.6 **Ensure compliance with monitoring.** GP practices are required to consider how to work with individual patients who have difficulties complying with monitoring requirements.
- 4.7 **Work collaboratively to maintain professional links.** GP practices are required to work together with other professional healthcare staff when appropriate.
- 4.8 **Follow referral policies.** When necessary, to refer patients promptly to other services or relevant support agencies, according to locally agreed guidelines where these exist. (See Appendix 1 - Guidelines for primary care management of patients on Warfarin including the management of raised INR, and the use of Vitamin K)
- 4.9 **Provide education to newly diagnosed patients.** The practice should provide the patient with the 'yellow booklet' or other approved written education about their warfarin therapy and record that this has been given in the patient's notes. Patients should be aware of the reasons for anticoagulation, their target INR and the duration of treatment. Patients are provided with key information about what they can do to make their use of warfarin safe (diet, other drugs, dosing, monitoring, etc).

Contact details for ordering Yellow Booklets (also see Appendix 2):

Primary Care Stationary, Central Supplies Dept, Unit 2, Colquhoun St, Stirling, FK7 7PX

Tel: 01786 433863 Fax: 01786 451156

Warfarin Information Leaflet – see Appendix 3

- 4.10 **Appropriate clinical review at least annually.** This should include consideration of potential complications and, as necessary, a review of the patient's own monitoring records. Also a review of the patients understanding of the information given to them on initiation (see 4.9) and, if necessary, an assessment of suitability / need for continued treatment. Ensure that all clinical information related to the LES is recorded in the patient's GP-held lifelong record.
- 4.11 **Maintain records.** Maintain adequate records of the performance and results of the service provided, incorporating available information as appropriate.
- 4.12 **Ensure staff are trained.** Each practice must ensure that all staff involved in providing any aspect of care under the LES has the necessary training and skills to do so.

5. Data collection by GP practices-systems

The following information will be required to ensure GP practice systems are safe and reliable:

5.1 All practices involved in the LES, should it be required (e.g. for practice contract verification visits), should be able to provide the following information annually:

- 5.1.1 Details of any local protocol/guidance followed and/or C.A.D software used, as well as a description of the arrangements for internal and external assurance.
- 5.1.2 Details of any near patient testing equipment used and a description of the arrangements for internal and external quality assurance.
- 5.1.3 Information about starting regimes, e.g. a description of the typical starting regime used for patients in the practice. In addition, a copy of the protocol followed for educating patients who are commencing warfarin therapy.
- 5.1.4 Details of arrangements for informing patients, e.g. a description of the practice's system for informing patients of their INR result, warfarin dose, and date of next blood test. Practices should outline the arrangements for informing patients of their system.

5.2 Significant event analysis (SEA)

Practices should carry out an SEA:

- When a patient has been admitted as a consequence of warfarin use
- When anticoagulation has jeopardised patient safety

Throughout the year a copy of any SEA reports (Appendix 7) should be submitted **preferably by e-mail** or by post. Details found below.

E-mail address: FV-UHB.ForthValleyCESS@nhs.net

or

Postal address:
 Quality Improvement Support Service,
 Euro House,
 Wellgreen Place,
 Stirling
 FK8 2DJ

5.3 Practice reflection

Not required as part of the ES for 2014-2015

5.4 Collaborative learning

There will also be a patient safety themed stream within the Locality CREATE sessions on May 21nd and June 27th 2014.

6. Data collection by GP practices – Clinical.

GP practices continue to collect regular bundle data on the prescribing and monitoring of warfarin, both to identify where the care provided is unreliable and to act as a focus for improvement.

6.1 Monthly Data Collection

All practices involved in the LES should provide details of the number of patients being prescribed warfarin **monthly** (Via Primary Care Contractor Services for practice remuneration).

6.2 Annual data collection

Practices are no longer obliged to submit the following annual baseline data to Quality Improvement Support Services. However, we recommend auditing this information internally on an annual basis (this information may be used to update practice registers accordingly):

- Contact phone number

- Diagnosis
- Planned duration of treatment
- Target INR level
- Whether the last INR was within 0.5 of target

6.3 “Bundle” data collection

Practices are required to submit cumulative bundle data in April 2014 and repeated data collection once only in Jan 2015

The practices will randomly sample **10 patients** to see if the patients are reliably receiving the following care:

1. Warfarin dose is prescribed according to local guidance - written FV guidance or other approved C.A.D software
2. Treatment Plan - Is the Target INR and duration of warfarin treatment clearly indicated in the notes?
3. Communication - Whether it is recorded in the clinical record that the patients has been advised of the dose of warfarin and date of follow up blood test
4. INR is taken according to previous recommendation - INR is taken within 7 days of planned repeat INR?
5. Patient receives regular education – whether it is recorded in the notes that the patient has been provided with/offered written education about their warfarin in the last 12 months.
6. Have all elements been met for each patient - the ‘all or nothing’ (composite) measure?

Note: bundle measures are locally agreed and not the same as the nationally agreed bundle measures

See Appendix 5 – Bundle Pack - for the background to this “bundle” approach to quality improvement. Also available is how to easily generate random numbers for your sampling and how the “all or nothing “(composite) measurement (number 6 above) is documented.

Further assistance regarding how bundle data can be collected and used in practice can be obtained by contacting Quality Improvement Support Services should it be required (Tel: 01786 431144).

At some point, we hope that bundle data will be submitted centrally on line. If and when this happens we will provide you with adequate warning and appropriate training.

7. Practice remuneration

Each practice contracted to provide this service will receive:

£ 95.90 per patient, per annum

£ 75.00 initiation payment (a single fee for patients who are initiated at practice level).

The one off payment of £500 has been reduced to £100 in recognition of reduced bundle data collection and loss of mid year reflection. The other £400 has been moved to Patient safety work within the WSW workstream (Principally Med Rec)

8. References

- 1 Pirmohamed M, James S, Meakin S, Green C, Scott A K, Walley TJ, et al. Adverse drug reactions as cause of admission to hospital: prospective analysis of 18 820 patients. *BMJ* 2004;329(7456):15-9.
- 2 Howard RL, Avery AJ, Slavenburg S, Royal S, Pipe G, Lucassen P, et al. Which drugs cause preventable admissions to hospital? A systematic review. *British Journal of Clinical Pharmacology* 2007;63(2):136-47.
- 3 NPSA. Actions that can make anticoagulant therapy safer. Birmingham: National Patient Safety Agency, 2007
- 4 Baglin TP, Keeling DM, Watson HG; British Committee for Standards in Haematology. Guidelines on oral anticoagulation (warfarin): fourth edition - 2011 update. *Br J Haematol* 2011;. Available at: <http://www.bcshguidelines.com>
- 5 Scottish Intercollegiate Guidelines Network. Antithrombotic therapy. A national clinical guideline. Guideline no 36. Edinburgh: SIGN, 1999. Also available at: <http://www.sign.ac.uk/guidelines/fulltext/36/>

8. Appendices

Please note: Appendix 5 documents are provided as hyperlinks (hover your mouse over the appendix title and follow the pop-up instructions to access them). Remaining appendices are provided as hard copies on the following pages. Should you require electronic copies of any documents please contact Quality Improvement Facilitator: leslie.simpson@nhs.net

Clinical Material

Appendix 1 [NHS Forth Valley warfarin guidance including management of over anticoagulation – Revised May 2013](#)

Other clinical guidance such as advice on [LMWH bridging](#) , and [perioperative guidance for warfarinization](#) , are available via this link-

Appendix 2 Order process for yellow booklet

Appendix 3 Warfarin Information Leaflet

Appendix 4 Guidelines for Warfarin Interactions

Data Collection

Appendix 5 Bundle pack

- a) [what is a care bundle?](#)
- b) [all or nothing explanation \(composite measure\)](#)
- c) [random number generator spreadsheet and instructions](#)
(save to computer prior to adding data)
- d) [bundle data collection spreadsheet](#)
(save to computer prior to adding data)
- e) [warfarin bundle element rationale](#)

Appendix 6 reflection template-removed for 2014-15

Appendix 7 SEA Anticoagulation template

Appendix 8 LES Timeline

Appendix 1 NHS Forth Valley Warfarin Guidance including Management of over Anticoagulation (Adapted from Lothian Guidance)

http://www.nhsforthvalley.com/_documents/qi/ce_guideline_prescribing/warfarin-guidance.pdf



Guidance on Management of Patients on Warfarin

Relates to Appendix 1 LES Anticoagulation

Revised May 2013

Table 1

Target INR and Ranges for Patients on Warfarin Therapy		
Indication	Target INR	Range
Pulmonary embolus	2.5	2-3
Proximal deep vein thrombosis	2.5	2-3
Calf vein thrombus	2.5	2-3
Recurrence of venous thromboembolism when off warfarin therapy	2.5	2-3
Recurrence of venous thromboembolism when on warfarin therapy	3.5	3-4.5
Symptomatic inherited thrombophilia	2.5	2-3
Antiphospholipid syndrome	2.5	2-3
Non-rheumatic atrial fibrillation	2.5	2-3
AF due to rheumatic HD, congenital HD and thyrotoxicosis	2.5	2-3
Cardioversion	2.5	2-3
Mural thrombus	2.5	2-3
Cardiomyopathy	2.5	2-3
Mechanical prosthetic heart valve – aortic	3.5	3-4.5
Mechanical prosthetic heart valve – mitral	3.5	3-4.5
Bioprosthetic valve	2.5 if anticoagulated	2-3
Ischaemic stroke without atrial fibrillation	Not routinely indicated	NA
Retinal vessel occlusion	Not routinely indicated	NA
Peripheral arterial thrombosis	Not routinely indicated	NA
Arterial grafts	2.5 if anticoagulated	2-3
Coronary artery thrombosis	2.5 if anticoagulated	2-3
Coronary artery graft	Not indicated	NA
Coronary angioplasty and stents	Not indicated	NA

Table 2

Maximum recall periods during maintenance therapy *	
Current INR	Next INR check
One INR therapeutic (6 weeks after elective induction or on discharge)	2 weeks
Two INRs therapeutic at two weekly monitoring intervals	4 weeks
Two INRs therapeutic at four weekly monitoring intervals	8 weeks
Two INRs therapeutic at eight weekly monitoring intervals	12 weeks
* Does not apply to patients with prosthetic heart valves where the maximum recall is 6 weeks. This patient group may need more frequent INRs in the first few weeks following discharge from hospital.	

Table 3

Duration of therapy:	
Clinical Setting	Duration
DVT/PE associated with surgery/ immobilisation/COCP or HRT	3 months at least
Unprovoked DVT/PE	6 months at least
DVT/PE associated with cancer	6 months with LMWH initially
2 nd or subsequent DVT/PE off warfarin	Lifelong
The above durations are a guide only. If in doubt as regards duration of therapy seek advice from initiating clinician or consultant haematologist	

NHS FV Warfarin Guidance Management, Dr S Randfield, May 2013 1

Table 4

Over-Anticoagulation and bleeding					
<ul style="list-style-type: none"> Risk factors (RF) for bleeding include: history of past bleeding, recent surgery, hypertension, cerebrovascular disease or stroke, serious heart disease, recent MI, renal insufficiency, liver disease, other pre-existing bleeding disorder, eg thrombocytopenia, age >65, severe anaemia, diabetes, concomitant medications that potentiate bleeding Bleeding that occurs whilst the INR is within the therapeutic range should be investigated for other underlying causes The absorption of IV vitamin K1 preparation given orally is as complete and onset of action as rapid as the IV preparation given IV, hence IV access may not be required when reversing excess anticoagulation Konakion® MM Paediatric (phytonadione injection 10mg/mL) is licensed for oral use 					
INR	Target 2.5 (+/- 0.5)	Next Appt	INR	Target 3.5 (+/- 0.5)	Next Appt
1.0-1.4	Increase dose by 1mg, repeat INR in 1 week	1 week	1.0-1.4	Increase dose by 1mg, repeat INR in 1 week	1 week
1.5-1.9	Increase dose by 0.5mg, repeat INR in 1 week	1 week	1.5-1.9	Increase dose by 1mg, repeat in 1 week	1 week
2.0-3.0	SAME DOSE	See table 2	2.0-2.9	Increase by 0.5mg, repeat in 1 week	1 week
3.1-3.9	Decrease weekly dose by 10% then divide by 7 for new daily dose	1 week	3.0-4.0	SAME DOSE	See table 2
4.0-5.0	Omit one dose then reduce weekly dose by 10-20% and divide by 7 for new daily dose	4-5 days	4.1-5.0	Decrease weekly dose by 10% then divide by 7 for new daily dose	1 week
5.1-8.0	Stop warfarin Check INR daily Restart when INR <5 Reduce weekly dose by 20% and divide by 7 for daily dose	5 days after restarting warfarin	5.1-8.0	Stop warfarin Check INR daily Restart when INR <5 Reduce weekly dose by 20% and divide by 7 for daily dose	5 days after restarting warfarin
>8.0 (not bleeding)	Stop warfarin Give 5mg Vit K orally (2mg if patient has mechanical mitral valve) Check INR daily Restart when INR <5 Reduce weekly dose by 20% and divide by 7 for daily dose	Daily until INR<5 3-5days after warfarin restarted	>8.0 (not bleeding)	Stop warfarin Give 5mg Vit K orally (2mg if patient has mechanical mitral valve) Check INR daily Restart when INR <5 Reduce weekly dose by 20% and divide by 7 for daily dose	Daily until INR<5 3-5days after warfarin restarted

Table 5

MAJOR BLEEDING	
Major bleeding, in terms of anticoagulation reversal, can be defined as limb or life threatening bleeding that requires complete reversal within 6-8 hours	
Action	
Patient should be REFERRED URGENTLY TO FVRH for reversal of anticoagulation with Prothrombin Complex Concentrate (Beriplex) independent of their INR level.	
MINOR BLEEDING	
Patients with non-major bleeding (as defined above) can be managed with dose reduction or temporary discontinuation of warfarin and either iv 2mg vitamin K (in hospital) or oral 5mg vitamin K in the community, if appropriate to the clinical and social situation (i.e. the GP feels comfortable to manage the patient at home and can follow up appropriately)	
Note 1	Intravenous vitamin K produces a more rapid correction of the INR than oral vitamin K.
Note 2	Significant correction of the INR is seen within 6-8 h after intravenous vitamin K use; recheck INR the day after oral Vitamin K
Note 3	Patients bleeding at therapeutic levels of anticoagulation should be investigated for the source of bleeding.
Note 4	Haematuria is not a feature of anticoagulation and patients with this symptom at therapeutic levels should be investigated for possible bladder and renal tract malignancy.

Table 6

<p>Recommendations for specialist advice</p> <ul style="list-style-type: none">• Recurrent DVT/PE if INR>3.5• Chronic venous insufficiency/post-phlebotic syndrome• Patient on another vitamin K antagonist (eg phenindione)• Episodes of skin necrosis or purple toe syndrome	<p>Contact Numbers:</p> <p>Haematology Department: 01324 566753 Haematology Consultant: 9am-5pm 01324 567084 (weekends and out of hours – via switchboard FVRH) Day Medicine FVRH: 01324 567511</p>
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References: BCSH Guideline on anticoagulation with warfarin – 4th edition 2011

Date of Implementation Feb 2012
Revised May 2013
Date of next review Feb 2016

Appendix 2 Order process for yellow booklet

Please complete the GP Stationery Order Form below stating the quantity of 'Anti-coagulant Therapy Books' you require and return by post or fax using the contact details provided at the top of the form.



To : Primary Care Stationery, Central Supplies department
Unit 2, Colquhoun Street, Stirling, FK7 7PX

Tel: 01786 433863 Enquiries only
Fax: 01786 451156

GP STATIONERY ORDER FORM

FORM	DESCRIPTION	TYPE	QUANTITY
GP111	A4 Medical Record Folder	Folder (250)	
GP111A	Female Gummed Label	Sheet	
GP111B	Male Gummed Label	Sheet	
GP111E	Hypersensitivity Sheet	Sheet	
GP111F	Clinical Notes Sheet	Sheet	
GP111G	Summary of Important Illness/ Investigations	Sheet	
GP111H	Immunisation/Screening Investigations	Sheet	
GP111J	Maternity Record	Sheet	
GP111K	Paediatric Development Sheet	Sheet	
GP111L	X-Ray / Pathology Investigations	Sheet	
GP111M	Nurses / Health Visitors Records	Sheet	
GP111N	Contraceptive Card	Sheet	
GP111O	Long Term Drug Form	Sheet	
GP112	Request for Outpatient Consultation	Pad	
GP112A	Pre Paid Envelopes Medical Records Dept 1 st Class	Envelope	
GP112B	Pre Paid Envelopes Medical records Dept 2 nd Class	Envelope	
GP112C	Internal Envelope – Medical Records Dept	Envelope	
GP1 C	Change of Name/ Address forms for Patients	Pad	
GP24 R/2	Maternity Services Record Card	Card	
GP24 CC	Maternity Services Co-Operation Card	Card	
GP24 R1	Maternity Services Record Card	Card	
HC 1	Claim for Help with Health Costs	Booklet	
HC 5	Refund Claim Form	Leaflet	
HCS 2	Quick Guide-Help with Health Costs/Travel Costs/Charges	Booklet	
FW 8	Application for Exemption Certificate (Pregnancy)	Sheet	
EC 92 A	Application for Exemption certificate	Sheet	
EC 95	Application for Prepayment Certificate	Card	
MA 1	Maternity Allowance Pack	Pack	
PC 70	Instalment Dispensing Claim Form	Sheet	
Steroid Card	Blue – Steroid Treatment Card	Card	
Anti Coagulant	Anti – Coagulant Therapy Book Starter Pack	Pack	
Anti Coagulant	Anti – Coagulant Therapy Book	Booklet	
Anti Coagulant	Anti – Coagulant Alert Card	Card	
Abortion Form	Green Form - Certificate A	Sheet	
Abortion Form	Yellow Form	Sheet	
CTO 12	Emergency Recommendation for Admission to Hospital	Sheet	

WARFARIN

Warfarin is an **anticoagulant**. This means that it suppresses the normal blood clotting systems, preventing the formation of harmful blood clots within the blood stream. Unfortunately, it can also result in prolonged bleeding and needs to be carefully monitored by regular blood tests. These are called 'INR' (International Normalised Ratio) tests. They measure how long it takes your blood to clot compared to how long it should normally take. The results of the INR tests will determine the dose of Warfarin you need to take and your surgery will advise you on the correct dose.

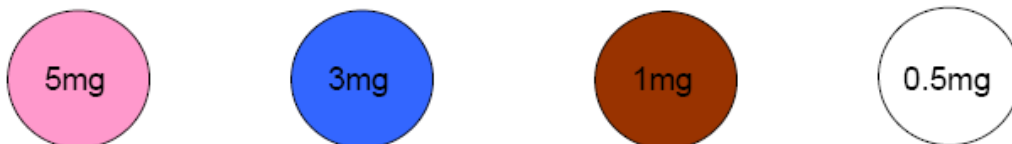
Because your Warfarin dose can change after an INR test, you will need different strengths of Warfarin tablets to keep at home and these are illustrated below. We suggest you keep this coloured guide to remind you which tablets are which.

Make a note of the "Brand" of Warfarin you are receiving and ask your Pharmacist to stick to that brand.

In the UK, the strengths and colours of Warfarin tablets are:

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IMPORTANT INFORMATION



CUT OUT AND KEEP

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You should have been given an anticoagulant record book (the Yellow Book). Read this carefully and always carry it with you to the surgery. Use it to keep a record of your INR and dosage. Ask for assistance filling it in if you are not sure how to do this.

Always carry a Warfarin warning card. If you don't have a Warfarin card then please ask the practice for one.

Appendix 3 – LES Anticoagulation

When to avoid Warfarin

Warfarin can affect the development of a baby in early pregnancy, so it is not routinely used during pregnancy, breast feeding or if you are trying for a baby.

Warfarin should be avoided if you have:

High Blood Pressure which is not controlled by tablets
Peptic Ulcer
Bacterial endocarditis (infection of heart lining and heart valves)

Adverse Effects

The most serious adverse effect of Warfarin is bleeding. You MUST seek medical attention and arrange an urgent test if you experience any of the following:

- Bleeding gums
- Passing blood in your urine or faeces
- Passing black faeces
- Severe bruising
- Long nose bleeds (lasting longer than 10 minutes)
- Blood in your vomit or coughing up blood
- Unusual headaches
- (In women) heavy or increased bleeding during your period, or any other bleeding from the vagina.

You must seek immediate medical attention if you:

- Are involved in a major accident
- Receive a significant blow to the head
- Are unable to stop any bleeding from cuts, wounds or shaving

Less Common Adverse Effects

Less common adverse effects of Warfarin include:

- Rashes
- Nausea (feeling sick)
- Vomiting
- Diarrhoea

Appendix 3 – LES Anticoagulation

Interactions with Other Medicines

When two or more medicines are taken at the same time, the effects of one of the medicines can be altered by the other. This is known as a drug interaction. Warfarin can interact with many medicines. This includes common medicines such as some painkillers and some antibiotics.

If you want to check that your medicines are safe to take with Warfarin, ask your GP or LOCAL PHARMACIST, or read the patient information leaflet that comes with your medicine. It is safer to buy medicine from a chemist where the pharmacist is available than buying over the counter medicines in a supermarket.

Lots of herbal medicines, such as St. John's Wort and supplements can interact with Warfarin. Do not start taking any new herbal medicine or supplement without checking with your GP or pharmacist.

Aspirin and other Painkillers

If you are on Warfarin:

- Do not start taking Aspirin or drugs that contain Aspirin
- Do not take Ibuprofen, Diclofenac or Naproxen
- You can take Paracetamol but do not take more than the recommended dose. Be aware that Paracetamol 'Plus' contains Aspirin.

Interactions with food

Some foods affect the level of Warfarin in your body and changing your diet suddenly can affect your Warfarin levels.

- Foods that contain Vitamin K will lower your INR and increase the risk of blood clotting. This includes leafy green vegetables, such as broccoli, cabbage, spinach and brussels sprouts. These foods are good for you so there is no need to avoid them but you need to keep your intake consistent from day to day.
- It is recommended that you avoid cranberry juice as it increases the risk of bleeding.
- If you have any specific questions or need further advice, ask your GP or practice nurse.

Interactions with Alcohol

- It is dangerous to binge drink or get drunk while taking Warfarin. Doing this may increase the effect of Warfarin and so increase the risk of bleeding.
- Do not drink more than 3 units of alcohol a day if you are a man, or 2 units a day if you are a woman. It is not safe to save up units to have on one day.
- One unit is roughly equivalent to half a pint of beer or lager, a single measure (25ml) of a spirit such as vodka, or a small glass (125ml) of wine.
- People with liver disease who are taking Warfarin should not drink alcohol.

Appendix 3 – LES Anticoagulation

Taking your Warfarin

Warfarin is taken once a day. It is important to take your tablet(s) at the same time each day washed down with a full glass of water.

It is often best to take it at about 6pm as this fits in with the timing of your blood results. Very high or very low INR results are usually phoned to the practice on the day of the test. It means we can contact you to adjust your warfarin that day.

It is essential that you inform the practice of any changes in your contact details.

Missed Doses

If you forget to take your dose of Warfarin but remember within three hours, you can still take that dose.

If it is more than three hours late, you should not take it. Make a note in the yellow booklet that you missed a dose and take a normal dose the next day at the usual time. Never take a double dose to catch up.

If you are not sure what to do if you have missed a dose, ask your GP.

Extra Doses or Wrong Doses

If you accidentally take an extra dose or take the wrong dose of Warfarin, contact your GP for advice and make a note in the yellow booklet.

Important Information About Warfarin

- Never take more than the prescribed dose. If you suspect that you or someone else has taken an overdose of this medicine go to the Accident and Emergency Department of your local hospital at once.
- This medicine is for you. Never give it to other people even if their condition appears to be the same as yours.
- Never stop taking Warfarin without medical supervision.

FREQUENTLY ASKED QUESTIONS:

What happens if I need an operation or teeth taken out?

Due to the risk of bleeding, your dose of Warfarin may have to be lowered or stopped a few days before an operation or removal of teeth. You must tell your surgeon or dentist you are on Warfarin.

What do I do if I have a nosebleed?

If you have a nosebleed, carry out normal first aid:

Appendix 3 – LES Anticoagulation

- Lean your head forward
- Pinch just below the bridge of your nose firmly for at least 10 minutes

If the nosebleed lasts longer than 15 minutes or you have regular nosebleeds, contact the surgery to get your INR checked.

Can I have normal vaccinations?

Yes. Your GP or practice nurse will take extra precautions to avoid the risk of bleeding, such as applying firm pressure to the injection site for 10 minutes afterwards.

Can I play sports?

Yes, you should try to lead as normal a life as possible but due to risk of bleeding:

- Sports such as football, rugby, cricket and hockey are best avoided if played competitively
- Martial arts and kickboxing must be avoided

Non-contact sports such as running, athletics, cycling and racquet sports can be played. Wear the right protective clothing, such as cycle helmets and knee padding.

Can I still go on holiday?

If you are going on holiday, in this country or abroad, tell your GP and arrange to have your INR checked just before you go. If you are away for longer than a month, you may need to arrange to have your INR checked locally.

Make sure you have enough Warfarin tablets to last your trip.

Finally

Never be afraid to ask any of the practice nurses or doctors for advice in relation to any queries or problems you encounter while taking Warfarin. We are here to provide a quality service and guidance when required.

Adapted with kind permission from the Orchard Medical Practice, Haddington
May 2011

Appendix 4 Guidelines for Warfarin Interactions

Appendix 4 - Guidelines for Warfarin Interactions

BCSH guidelines in 1998, updated in 2005, suggested the following:

“If the drug change lasts < 5 days, then either no change to warfarin dose, minor dose change (suggested in other papers as 10 – 20% dose reduction) or omit one complete dose of warfarin if the drug is a known potentiator of warfarin action. (level G, grade IV evidence).

If the drug change lasts > 5 days then check INR (1 week) after start of new drug and adjust warfarin dose on the basis of this result (returning to the previous maintenance dose after stopping the therapy) (grade C, level IV evidence).”

“Almost any drug can interact with warfarin, (see list below for antibiotics)”.

In summary, the evidence is lacking for clear guidelines on warfarin dose adjustments when initiating new drugs.

What should we do in practice?

As the list of potential interacting drugs is long, perhaps we should concentrate on drugs that don't interact, especially antibiotics.

Keep prescriptions of short term medications to the shortest effective course possible- ie 5 days rather than 7 days of antibiotics.

Suggesting omitting one dose might be easier to advise and manage, and be less confusing than reduced doses, for courses of medicines lasting < 5 days, if any action is required at all.

No evidence for rechecking INR during short courses of medications (<5? <7 days).

Anti-infective agents and warfarin interactions.

Avoid Miconazole (beware mouth gell!).

Adjust dose Chloramphenicol, Ciprofloxacin, Co-Trimoxazole, Erythromycin, Metronidazole, Ofloxacin, (Rifampacin – needs dose increasing)
Sulphonamides.

Unclear Azithromycin/Clarithromycin, Nalidixic acid, Neomycin, Tetracycline, Trimethoprim, Ampicillin.

No interaction Nitrofurantoin

Appendix 7 ANTICOAGULATION SIGNIFICANT EVENT ANALYSIS

Practices should carry out an SEA:

- When a patient has been admitted as a consequence of warfarin use
- When anticoagulation has jeopardised patient safety

Throughout the year a copy of any SEA reports should be submitted **preferably by e-mail** or alternatively by post using the contact details below:

E-mail address: FV-UHB.ForthValleyCESS@nhs.net

Post address:

Quality Improvement Support Service,
Euro House,
Wellgreen Place,
Stirling,
FK8 2DJ

Event

Date of significant event:

Date of significant event
meeting:

Roles of staff attending meeting

Date report compiled:

What happened?

Why did it happen?

What have you learned?

What have you changed?

Signed: _____

Date: _____

Name:

Practice

Appendix 8

LES timeline for Medicines Reconciliation, Anticoagulation and Near Patient Testing 2014-15 (Incorporating QOF Patient Safety Work)

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Sign up to Enhanced Service												
Attend one Local Learning Session within CREATE												
Do first round case note trigger tool review												
Invite practice team to repeat climate survey												
Collect Medicine Reconciliation bundle data and complete spreadsheets												
Collect NPT and Anticoagulation bundle data and complete spreadsheets												
Submit bundle data spreadsheets to board quarterly												
Submit Medicines Reconciliation reflection to board by 31/12/2014												
Complete climate survey , reflect on results and produce action plan												
Do 2nd round case note trigger tool review (at least 3 months after first round)												
Submit Trigger Tool and climate survey reflection templates to board by 31/03/2015												
Attend external review meeting within <i>WSW</i>												