Healthcare Improvement Scotland

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SIGN 129 • Antithrombotics: indications and management

Quick Reference Guide

Updated June 2013

Evidence

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This Quick Reference Guide provides a summary of the main recommendations in **SIGN 129 Antithrombotics: indications and management.**

Recommendations are graded **A B C D** to indicate the strength of the supporting evidence. Good practice points ✓ are provided where the guideline development group wishes to highlight specific aspects of accepted clinical practice. Details of the evidence supporting these recommendations can be found in the full guideline, available on the SIGN website: **www.sign.ac.uk**.

This Quick Reference Guide is also available as part of the SIGN Guidelines app.

Available on the App Store

Available from Android Market

Introduction

This quick reference guide provides recommendations based on current evidence for best practice in the management of adult patients on antithrombotic therapy. It includes antiplatelet therapy, parenteral and oral anticoagulant therapy and thrombolytic therapy for prophylaxis and treatment in a range of clinical conditions such as atrial fibrillation, peripheral arterial disease and cerebrovascular disease.

Antithrombotic therapy during pregnancy and for patients with intravascular devices is also covered. The use of antithrombotic therapy in the management of established ischaemic heart disease is not included here, but is covered in SIGN's suite of cardiovascular guidelines (SIGN 93-97).

Antiplatelet agents

Aspirin

Contraindications noted in the British National Formulary include:

Known allergy to the drug; use other than as an antiplatelet in children and adolescents under 16 years (risk of Reye's syndrome); active peptic ulceration; history of recent gastrointestinal bleeding; history of recent intracranial bleeding; and bleeding disorders including haemophilia, von Willebrand's disease, severe thrombocytopenia (eg platelets <30x10^9/l) and severe liver disease with coagulopathy.

Cautions noted in the British National Formulary include:

Asthma; moderate thrombocytopenia (eg platelets 30-80 x10^9/l); uncontrolled hypertension (risk of intracranial bleeding); previous peptic ulceration (risk of gastrointestinal bleeding: proton pump inhibitors or H_2-receptor antagonists may be considered for prophylaxis); glucose 6-phosphate dehydrogenase deficiency (at doses of >1g/day); concomitant use of drugs that increase risk of bleeding; and dehydration.

A **To minimise the risk of bleeding, the lowest recommended dose of aspirin should be used for the clinical indication.**

✓ The standard dose of aspirin for thromboprophylaxis is 75 mg.

✓ Aspirin discontinuation is not generally required prior to invasive procedures. The risk-benefit ratio of interrupting aspirin prophylaxis should be assessed individually, with consideration given to the type of planned procedure.

Dipyridamole

Cautions noted in the British National Formulary include:

Rapidly worsening angina; aortic stenosis; recent myocardial infarction (MI); left ventricular outflow obstruction; heart failure; may exacerbate migraine; hypotension; myasthenia gravis (risk of exacerbation); coagulation disorders and concomitant use of drugs that increase risk of bleeding.

✓ Discontinuation of dipyridamole is not generally required prior to invasive procedures, but as is the case for aspirin, the risks of interrupting therapy, and of bleeding if continued, should be individually assessed.

Clopidogrel

Contraindications noted in the British National Formulary include:

Active bleeding

Cautions noted in the British National Formulary include:

Patients at risk of increased bleeding from trauma, surgery, or other pathological conditions; concomitant use of drugs that increase risk of bleeding. The BNF advises that clopidogrel should be discontinued seven days before elective surgery if the antiplatelet effect is not desirable.

- ✓ If a coronary stent has been placed within the last 12 months, cardiology advice should be sought prior to discontinuation of clopidogrel.
- ✓ Any effect of various PPIs on the clinical efficacy of clopidogrel remains unclear; the relative risks of GI bleeding and thrombosis should be considered in each individual case. In cases where PPIs are not preferred a histamine (H_2)-receptor antagonist may be a suitable alternative, although cimetidine should be avoided.

Parenteral anticoagulation

Unfractionated Heparin

✓ After clinical assessment has demonstrated an indication for heparin treatment, the patient's medical and drug history should be assessed and baseline blood tests including platelet count, coagulation screen (in order to check baseline APTT ratio is normal), urea, electrolytes and liver function tests should be obtained. These may reveal contraindications or risk factors for bleeding, such as anaemia, thrombocytopenia, renal failure, or coagulopathy (eg due to severe liver disease).

✓ A baseline platelet count should be carried out for the assessment of possible subsequent development of heparin induced thrombocytopenia, an important complication of heparin use.

✓ Coagulation test monitoring of prophylactic doses of UFH is not required.

B **In patients given treatment dose unfractionated heparin therapy, routine monitoring of the APTT ratio** (at least daily) **and adjustment of heparin doses according to a local protocol, to achieve the target therapeutic range of anticoagulant effect** (APTT ratio) **is recommended.**

Unfractionated heparin has a short half-life after intravenous administration (30-120 minutes), which is dose dependent. Stopping treatment leads to reversal over a few hours. Where more rapid reversal is required protamine sulphate should be used.

✓
- The dose of protamine is determined by the heparin exposure (1 mg of protamine neutralises 80–100 IU of UFH when administered within 15 minutes of the heparin dose).
- Less is required if protamine is given after a longer period because of the short half-life of intravenous UFH.

Low Molecular Weight Heparins

D **LMWH should be used with caution for those in whom standard or weight-adjusted dosing is likely to be unreliable, especially in:**
- **patients with acute kidney injury or stage 4-5 chronic kidney disease**
- **patients in extreme weight ranges**
- **pregnant women**
- **neonates and infants.**

✓ Monitoring of prophylactic or therapeutic doses of LMWH is not required routinely.

✓ Anti-Xa assay may also be of some value in the investigation of unexpected bleeding in a patient receiving LMWH. Local laboratory assay validation for the heparin in use should be carried out.

✓ When LMWH is to be continued after hospital discharge there should be a record of the patient's weight, renal function, indication and duration of anticoagulation.

Intravenous protamine reverses the anticoagulant effect of LMWHs incompletely, perhaps reversing around 60% of the activity, and somewhat variable between LMWHs.

✓
- The initial dose of protamine depends on the dose of LMWH given and the length of time since the last dose of LMWH was administered. The maximum recommended protamine dose is 50 mg.
- Plasma infusion is ineffective for reversal of the anticoagulant effect and should not be used for this purpose.

Oral anticoagulation with vitamin K antagonists

Initiation, dosage and monitoring of oral anticoagulants

Contraindications noted in the British National Formulary include:

Haemorrhagic stroke or significant bleeding

Cautions noted in the British National Formulary include:

Conditions in which risk of bleeding is increased, eg history of gastrointestinal bleeding, peptic ulcer, recent surgery, recent ischaemic stroke, recent childbirth (delay warfarin until risk of haemorrhage is low; usually five to seven days after delivery), bacterial endocarditis (use only if warfarin otherwise indicated); uncontrolled hypertension; concomitant use of drugs that increase risk of bleeding. The BNF also suggests that cranberry juice should be avoided. VKAs cross the placenta, are teratogenic and may cause fetal bleeding.

- ✓ After clinical assessment has demonstrated an indication for oral anticoagulant treatment, the patient's medical history, drug history, and compliance with medication should be assessed. Many drugs affect the response to a VKA, most by enhancing, but some by suppressing the anticoagulant effect. The drug regimen should be simplified if possible. Where possible, non-interacting drugs within a class should be selected and aspirin avoided unless combination therapy is indicated. In patients with peptic ulcer, H. pylori eradication therapy should be considered *(see SIGN guideline 68: Dyspepsia)*.
- ✓ The indication for oral anticoagulants, the appropriate target therapeutic range of the INR, and the proposed duration of treatment should be recorded in the case records, along with other medications.
- ✓ A baseline blood sample for blood count (including platelet count), coagulation screen and renal and liver function tests should be obtained prior to starting oral anticoagulants. This may show contraindications or risk factors for bleeding, such as anaemia, thrombocytopenia, renal failure, or a prolonged prothrombin time due to liver disease.
- ✓ The daily dose of warfarin should be taken at a fixed time.
- ✓ An anticoagulant treatment booklet should be issued to patients (available from: nhsforms@spsi.uk.com).
- ✓ Prior to hospital discharge, the hospital should communicate with the general practitioner (or other medical professional assuming the patient's care) to advise the recommended INR target range and the duration of therapy, and ensure arrangements for continued patient and INR monitoring. Prior to discharge, patients should be given clear information on the date and place of the next monitoring visit.

Reversal of oral anticoagulant therapy in patients with bleeding or high INR

Serious bleeding with INR > 1.1
1. Stop VKA 2. Intravenous vitamin K (5-10 mg) 3. Prothrombin complex concentrate, usually 30-50 IU/kg, but dose-adjusted according to INR (under the supervision of a haematologist whenever possible). Fresh frozen plasma (at least 15 ml/kg) may be used only if PCC is unavailable.
Minor bleeding and supratherapeutic INR
1. Interrupt VKA, reintroducing at a lower maintenance dose when the situation is under control 2. Administer oral or IV vitamin K (1.0-2.5 mg)
No bleeding and supratherapeutic INR
1. Interrupt VKA, monitor INR, restart warfarin at a lower dose when INR <5.0 2. Where the perceived risk of bleeding is high, eg INR >8, or other risk factors for bleeding are present, consider administration of oral vitamin K (1.0-2.5 mg).

✓ When there is an unexpectedly high INR consideration should be given to evidence of poor compliance with therapy, drug interactions and intercurrent illness. Healthcare professionals should take the opportunity to reassess the risk/benefit ratio with regard to the longer term continuation of VKA therapy.

✓ Where life- or organ-threatening bleeding is encountered the risk from bleeding outweighs that of thrombosis and full, rapid reversal of anticoagulation is required, even in patients with an underlying high thrombotic risk.

Management of VKA therapy for invasive procedures

A **Vitamin K antagonists should not be discontinued in patients undergoing outpatient dental surgery, including dental extraction.**

✓ The INR should be checked preoperatively to ensure it is in the target range. Use of topical haemostatic measures such as sutures and collagen sponges, and tranexamic acid as a mouthwash, should be considered. NSAIDs should be avoided.

D **Decisions regarding interruption of VKA therapy for other surgical and invasive procedures, and whether bridging therapy is advisable, should be made on an individual basis dependent upon the perceived risks of bleeding and thrombosis associated with continuation of anticoagulation and discontinuation of anticoagulation, respectively, and the nature of the proposed procedure.**

Recommencing VKA therapy following a major bleeding event

C **Patients with a mechanical prosthetic heart valve who suffer intracranial haemorrhage should, following a careful risk/benefit analysis, be considered for reintroduction of long term VKA therapy after 7-14 days, possibly at a reduced target INR.**

C **Patients who suffer gastrointestinal haemorrhage and who require to start or continue a VKA should be considered for delayed initiation or temporary cessation of therapeutic anticoagulation for 21 days or until there is evidence of healing of the bleeding lesion.**

Interactions

✓ Patients should be advised not to use any over-the-counter medications or dietary supplements without checking with the healthcare team first.

✓ Patients should be advised not to make any substantial changes to their diet while on warfarin, and to check with their healthcare professional before starting any new dietary regimen.

✓ Patients should be advised:

- of the risks of taking concomitant NSAIDs and aspirin
- to minimise major changes in paracetamol use
- to consume alcohol only within the recommended limits.

Atrial fibrillation: prophylaxis of systemic embolism

Calculation of $CHADS_2$ score	
$CHADS_2$ risk factor	**Score**
Heart failure	1
Hypertension	1
Age >75 years	1
Diabetes mellitus	1
Prior stroke/TIA	2

Interpretation of stroke risk		
Risk	**$CHADS_2$ score**	**Annual stroke rate (%)**
LOW	0	1.9
INTERMEDIATE	1	2.8
	2	4.0
HIGH	3	5.9
	4	8.5
	5	12.5
	6	18.2

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D **In all patients with AF, risk factors for systemic thromboembolism should be assessed routinely using $CHADS_2$ or CHA_2DS_2-VASc score.**

B **Patients with AF who are clearly low risk,** (age<65 and lone AF) **do not require antithrombotic therapy. This applies to male patients with CHA_2DS_2-VASc score=0 and female patients with CHA_2DS_2-VASc score=1 in whom the single point is allocated due to female sex.**

A **All patients with AF who have a $CHADS_2$ or CHA_2DS_2-VASc score of ≥1** (one or more clinically relevant risk factors) **should be considered for warfarin at a target INR of 2.5** (range 2.0-3.0) **or a newer anticoagulant. The balance of risks and benefits of anticoagulant therapy should be assessed and discussed annually with the patient, with consideration given to patient preference.**

A **Antiplatelet therapy should only be considered where warfarin or one of the alternative new anticoagulants has been declined.**

A
- **In patients with AF the combination of aspirin and warfarin is not recommended.**
- **If warfarin is indicated for moderate- or high-risk AF it should be used alone even in the presence of concomitant stable cardiovascular disease.**

Cardioversion

D **Patients with very recent onset AF** (48 hours or less) **being considered for urgent cardioversion require immediate assessment and treatment with heparin.**

D **If AF has been present for more than two days, warfarin should be given to reduce the risk of thromboembolism for three weeks before cardioversion and continued for at least four weeks after cardioversion.**

✓ In patients undergoing cardioversion who are given warfarin to reduce the risk of thromboembolism a target INR of 2.5 (range 2.0-3.0) is advised.

Novel antithrombotics in AF

A **Dabigatran etexilate, rivaroxaban or apixaban can be considered as an alternative to warfarin in the management of patients with atrial fibrillation with one or more risk factors for stroke.**

✓ In selecting dabigatran etexilate consideration should be given to:

- the relative lack of experience of long term use compared with a VKA or aspirin
- the lack of a licensed product for rapid reversal of the anticoagulant effect of dabigatran etexilate (although the half-life is relatively short)
- the higher rates of gastrointestinal bleeding, especially with the higher dose regimen and in the elderly
- the limited data on use in patients at the extremes of body weight and those with renal and hepatic impairment.

✓ In selecting rivaroxaban consideration should be given to:

- the relative lack of experience of long term use compared with a VKA or aspirin
- the lack of experience with rapid reversal of the anticoagulant effect with PCC, in patients
- the higher rates of gastrointestinal bleeding
- the limited data on use in patients at the extremes of body weight and those with renal and hepatic impairment.

✓ In selecting apixaban consideration should be given to:

- the relative lack of experience of long term use compared with a VKA or aspirin
- the lack of a licensed product for rapid reversal of the anticoagulant effect of apixaban
- the limited data on use in patients at the extremes of body weight and those with hepatic impairment.

Other cardiac causes of systemic embolism

High risk
Rheumatic heart valve disease (especially mitral stenosis) Prosthetic heart valves • mechanical • bioprosthetic, if: - the patient has atrial fibrillation - the patient has had previous systemic embolism - the patient has left atrial thrombus at surgery - the valve is mitral, for first three months only. Left ventricular mural thrombus • acute myocardial infarction (especially anterior Q-wave) • left ventricular aneurysm.
Moderate risk
Dilated cardiomyopathy Non-rheumatic heart valve disease with atrial fibrillation Congestive cardiac failure.
Low risk
Uncomplicated acute myocardial infarction, other than large anterior Q-wave infarctions Minor valve abnormalities in sinus rhythm Hypertropic cardiomyopathy.
The risk of embolism increases in the presence of atrial fibrillation or previous history of embolism.

Rheumatic mitral valve disease

D **Long term warfarin prophylaxis** (target INR 2.5, range 2.0-3.0) **should be considered in patients with rheumatic mitral valve disease and recommended if the patient is in atrial fibrillation.**

Mitral valve prolapse, mitral annular calcification, and isolated aortic valve disease

D **Long term warfarin prophylaxis** (target INR 2.5, range 2.0-3.0) **is recommended for patients with mitral valve prolapse, mitral annular calcification, or isolated aortic valve disease only in the presence of previous systemic embolism or atrial fibrillation.**

Cardiomyopathies and cardiac failure

✓ Long term warfarin prophylaxis (target INR 2.5, range 2.0-3.0) is recommended for patients with dilated cardiomyopathy or cardiac failure only in the presence of previous systemic embolism or atrial fibrillation.

Mechanical heart valves

D **Patients with mechanical heart valves should receive long term prophylaxis with warfarin.**

D **The target INR should depend upon type and position of valve** (aortic or mitral) **and cardiac factors specific to the patient.**

A **Addition of aspirin or dipyridamole should be considered in patients with mechanical heart valves who suffer systemic embolism despite adequate intensity warfarin.**

D **Systemic thrombolysis is recommended for the initial treatment of acute obstructive prosthetic heart valve thrombosis.**

Bioprosthetic heart valves

Recommendations for use of aspirin and warfarin in patients with bioprosthetic valves are included in the guidelines from the ACCP and BCSH.

D **Low-dose aspirin** (75 mg daily) **is recommended in patients with a bioprosthetic valve in the aortic position who have no other indication for VKA therapy.**

D **Patients with a bioprosthetic valve in the mitral position should receive three months treatment with warfarin** (target INR 2.5) **followed by low-dose aspirin if in sinus rhythm and with no indication to continue warfarin.**

D **Patients with a bioprosthetic valve and a history of systemic embolism should receive at least three months of anticoagulation after valve insertion with warfarin, target INR of 2.5.**

D **Patients with a bioprosthetic valve and left atrial thrombus at surgery should receive warfarin** (target INR 2.5) **until the clot has resolved.**

D **Patients with a bioprosthetic valve and other risk factors such as atrial fibrillation and low ventricular ejection fraction should receive long term warfarin** (target INR 2.5)**.**

Primary prophylaxis of vascular disease

A **Aspirin is not recommended for primary prevention of vascular disease when benefits are considered against the increased risk of haemorrhage.**

Peripheral arterial disease

A **Antiplatelet therapy is recommended for patients with symptomatic peripheral arterial disease.**

A **In patients with PAD who have an indication for treatment with a vitamin K antagonist aspirin should not be added to improve anticoagulation.**

B **Heparin is not indicated in the management of intermittent claudication.**

B **Further treatment with LMWH after bypass surgery is not recommended.**

B **In individual patients with acute peripheral arterial occlusion CDIA is preferred to systemic thrombolysis. In assessing the individual patient the increased risk of haemorrhagic adverse events** (including stroke) **associated with CDIA thrombolytic therapy should be balanced against the risks of anaesthesia and surgery.**

✓ When CDIA thrombolytic therapy for PAD is performed, it is recommended that low-dose continuous infusion regimens be administered in preference to more intensive high-dose forced infusion/pulse spray regimens in order to minimise the complexity and frequency of angiographic re-assessment and surveillance of associated systemic thrombolysis effects.

Myeloproliferative disorders

B **Patients with polycythaemia rubra vera should be considered for treatment with aspirin, unless there are contraindications.**

Disseminated intravascular coagulation

✓ In patients with DIC where thrombosis predominates, such as arterial or venous thromboembolism, purpura fulminans, or organ failure with presumed ischaemic pathogenesis, therapeutic doses of heparin can be considered.

✓ In these patients, due to the coexisting high risk of bleeding, there may be benefit in using continuous infusion of UFH rather than subcutaneous UFH or LMWH due to its short half-life and reversibility.

- Monitoring the APTT in these cases may be complicated as the clotting time may be prolonged prior to introduction of heparin; clinical observation for signs of bleeding is important.
- Weight-adjusted doses (eg 10 IU/kg body weight/hr) may be used without the intention of prolonging the APTT ratio to 1.5-2.5 times the control.
- In critically ill, non-bleeding patients with DIC, prophylaxis for venous thromboembolism with UFH or LMWH can be considered.

Cerebrovascular disease

Acute prophylaxis of further vascular events

A **Aspirin 300 mg should be commenced within 48 hours of ischaemic stroke and continued for at least 14 days.**

A **The routine use of anticoagulants is not recommended for the treatment of acute ischaemic stroke nor in patients with progressing stroke.**

A **In patients at high risk of venous thromboembolic disease LMWH should be considered in preference to UFH.**

D **Following administration of intravenous thrombolysis, heparin should not be given in any form for 24 hours.**

C **Intravenous UFH or subcutaneous LMWH followed by warfarin therapy should be considered in patients with cerebral venous thrombosis.**

D **In patients with AF and acute stroke:**

- **in the absence of haemorrhage, anticoagulant therapy should begin after two weeks but may be delayed in the presence of a large infarct**
- **in the presence of haemorrhage, anticoagulant therapy should not be given.**

✓ In all patients with AF who have had an acute stroke, any uncontrolled hypertension should be appropriately managed before antithrombotic therapy is started.

✓ In patients with AF and acute TIA in the absence of cerebral infarction or haemorrhage, anticoagulation therapy should begin as soon as possible.

A **Patients admitted with stroke within four and a half hours of definite onset of symptoms, who are considered suitable, should be treated with 0.9 mg/kg** (up to maximum 90 mg) **intravenous rt-PA.**

A **Streptokinase should not be used for treatment of patients in the acute phase of stroke.**

Secondary prevention after acute ischaemic stroke or transient cerebral ischaemic attack

A **Clopidogrel monotherapy** (75 mg daily) **or aspirin** (75 mg) **in combination with dipyridamole** (200 mg extended release twice daily) **should be prescribed after ischaemic stroke or TIA for secondary prevention of vascular events.**

A **Standard antiplatelet treatment should be given after carotid endarectomy.**

Pregnancy

Pregnancy failure

B **Prophylactic doses of heparin with or without low-dose aspirin may be considered in women with antiphospholipid antibodies and recurrent pregnancy failure or fetal death in whom no other cause is identified.**

✓ In practice, LMWH is favoured because of its safety profile and ease of patient use.

✓ In identifying women who may benefit from antithrombotic therapy to prevent pregnancy failure consideration should be given to the pattern of antibodies:

- **lupus anticoagulant is more strongly associated with clinical events than anticardiolipin and anti-beta2 glycoprotein I**
- high titre antibodies and those of immunoglobulin G class are more clinically relevant than lower titre antibodies and those of immunoglobulin M class, and
- persistence of antibody positivity is essential for the diagnosis of antiphospholipid syndrome.

A **Antithrombotic therapy is not indicated in the management of recurrent miscarriage in the absence of antiphospholipid syndrome.**

Mechanical heart valves

C **In women with mechanical prosthetic heart valves the treatment options are:**

- **adjusted-dose, 12 hourly, subcutaneous LMWH throughout pregnancy with anti-Xa monitoring**
- **adjusted-dose, 12 hourly, subcutaneous UFH throughout pregnancy with APTT monitoring or anti-Xa monitoring**
- **adjusted-dose UFH or LMWH from ≤6 to 13 weeks gestation, followed by warfarin until two weeks before delivery when heparin is reintroduced.**

✓ In women with mechanical valves at very high risk of thromboembolic complications

- discuss the risks and benefits of continuing warfarin throughout pregnancy (with conversion to heparin close to delivery)
- consider addition of aspirin (75-100 mg per day).

Myeloproliferative disorders

✓ Pregnant women with chronic myeloproliferative disorders:

- should be considered individually in terms of thrombosis risk and pregnancy failure
- should be considered for 75 mg aspirin daily during pregnancy.

✓ Thromboprophylaxis with LMWH can be considered after and/or during pregnancy when there are additional risk factors for VTE.

Intravascular devices

C **Thromboprophylaxis in patients with central venous catheters is not routinely recommended.**

✓ Anticoagulant treatment of catheter-associated upper extremity DVT without removal of line may be considered appropriate in some patients.

B **Normal saline should be used to maintain the patency of arterial catheters.**

B **For occluded non-haemodialysis central venous catheters local treatment with short dwell instillation of thrombolytic agent is recommended.**

Models of Care for long term anticoagulation with VKAs

A **Self monitoring and self dosing is safe and effective and can be considered for some patients.**

B **Computer-assisted dosing should be considered.**

✓ For patients who are self monitoring, appropriate education and training should be provided, clinical advice should be available on request, and provision should be made for quality assurance.

✓ Healthcare professionals providing dosing advice on INR should be appropriately trained and able to provide documented evidence of competence.

✓ Healthcare professionals undertaking POC testing should be trained in its operation and maintenance prior to use, including the requirement for robust quality assurance of the INR measurements.

Sources of further information

National organisations specific to antithrombotic therapy

AntiCoagulation Europe
PO Box 405
Bromley
Kent BR2 9WP

Phone: 020 8289 6875
E-mail: admin@anticoagulationeurope.org
Website: www.anticoagulationeurope.org

AntiCoagulation Europe is a UK registered charity providing information, education and support to patients and their families. A range of information including short videos is available on their website on topics such as self-testing and self-management.

Atrial Fibrillation Association
PO Box 1219
Chew Magna
Bristol BS40 8WB

Phone: 01789 451837
Email: info@atrial-fibrillation.org.uk
Website: www.atrialfibrillation.org.uk

The Atrial Fibrillation Association is an international charity providing information and support to patients who have atrial fibrillation.

Chest Heart and Stroke Scotland
Third Floor, Rosebery House
9 Haymarket Terrace
Edinburgh EH12 5EZ

Phone: 0131 225 6963
Freephone helpline: 0845 0776000
Email: admin@chss.org.uk
Website: www.chss.org.uk

Chest Heart and Stroke Scotland provides a 24 hour advice line offering confidential, independent advice on all aspects of chest, heart and stroke illness. A series of information booklets, factsheets and videos are available free of charge to patients and carers.

Lifeblood: The Thrombosis Charity
PO Box 58
Llanwrda SA19 0AD

Phone: 01558 650 222
Email: lifeblood.charity@googlemail.com
Website: www.thrombosis-charity.org.uk

Lifeblood's website includes a range of information on various conditions linked with thrombosis.

Other national organisations

NHS 24
Tel: 08454 24 24 24
www.nhs24.com

NHS 24 is a nurse-led helpline providing confidential health-care advice and information.

NHS Inform
www.nhsinform.co.uk

The organisation provides quality-assured health information for the public.

Useful publications

Atrial Fibrillation
www.bhf.org.uk/publications/view-publication.aspx?ps=1000952

Atrial Fibrillation
www.bcpa.co.uk/factsheets/AtrialFibrillation.htm

Thrombosis and Pregnancy
www.thrombosis-charity.org.uk/perch/resources/thrombosis-pregnancy.pdf

Understanding Atrial Fibrillation
www.chss.org.uk/publications/documents/Heart/H9_Atrial_Fibrillation_web.pdf

Warfarin
www.chss.org.uk/publications/documents/factsheets/F4_Warfarin.pdf

Warfarin: An information sheet on Warfarin
www.bhf.org.uk/publications/view-publication.aspx?ps=1001218

Checklist for provision of information to patients starting treatment with vitamin K antagonists

This section gives examples of the information patients/carers may find helpful prior to commencing treatment with vitamin K antagonists.

The checklist was designed by members of the guideline development group based on their experience and their understanding of the evidence base. The checklist is neither exhaustive nor exclusive.

- Explain the meaning of anticoagulant and how it affects coagulation factors in the blood resulting in blood taking longer to clot (use of terminology such as 'thins the blood' may be confusing).
- Explain the benefits of this treatment for the patient's condition.
- Explain how a VKA should be taken, ie once a day, at about the same time, with a full glass of water.
- Explain the different strengths and colours of VKA tablets and how to make up different doses.
- Explain what to do if a dose is delayed or missed or the wrong dose has been taken by mistake.
- Explain the importance of regular monitoring, how it is done and why it is necessary to minimise the risks of complications of treatment.
- Explain INR, and that adjustments to dose of VKAs may be made depending on results of this test.
- Explain potential side effects of this treatment, especially bleeding risks, what to do if these occur and when to seek immediate medical attention.
- Go through the information in the yellow anticoagulant book with the patient, and advise them to bring the small book to each anticoagulant appointment so INR results and doses can be written in it.
- Explain about carrying the anticoagulant alert card at all times and about informing other healthcare professionals, eg pharmacist/dentist, about treatment with anticoagulants.
- Explain about interactions with other medications, including over-the-counter medicines, alternative therapies and dietary supplements, and the importance of checking with the healthcare team prior to commencing or stopping any medications, as more intensive monitoring may be required.
- Explain about avoiding concomitant use of NSAIDs and aspirin, or other medications containing aspirin, unless advised to do so by healthcare staff.
- Advise the patient to tell healthcare staff if they regularly use paracetamol as this may necessitate more frequent monitoring of INR.
- Explain the interaction with alcohol, including safe limits and the importance of not binge drinking.
- Explain the importance of avoiding major changes to diet while on VKA therapy.
- Where appropriate, advise women to consult their healthcare team if they are planning a pregnancy and immediately if pregnancy is suspected.
- Advise patients of the need to avoid trauma (especially to the head) and to seek advice before engaging in contact sports or other activities with an increased risk of head trauma.

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The Healthcare Environment Inspectorate, the Scottish Health Council, the Scottish Health Technologies Group, the Scottish Intercollegiate Guidelines Network (SIGN) and the Scottish Medicines Consortium are key components of our organisation.

www.sign.ac.uk