

STROKE PREVENTION IN PRIMARY CARE: IMPROVE MANAGEMENT OF ATRIAL FIBRILLATION

MAXIMISE YOUR QoF POINTS IN THE FUTURE

AF 6	In those patients with Atrial Fibrillation in whom there is a record of a CHADS2 score of 1, the percentage of patients who are currently treated with anti-coagulation drug therapy or an anti-platelet therapy.	6 points	50-90
AF 7	In those patients with Atrial Fibrillation in whom there is a record of a CHADS2 score of greater than 1, the percentage of patients who are currently treated with anti-coagulation drug therapy	6 points	40-70

Prepared by:

Juelene White
Service Development Manager – AF Project Lead
Coventry & Warwickshire Cardiovascular Network

Contact details:-

juelene.white@warwickshire.nhs.uk

Phone:- 01926 493491 ext 397

Mobile:- 07808 910088

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Stroke prevention in primary care: addressing Atrial Fibrillation

The aim of the Atrial Fibrillation project is to provide support to practices to deliver Chapter 8 of the CHD National Service Framework for Arrhythmias and Sudden Cardiac Death, Quality Marker 2 Managing Risk of the National Stroke Strategy and proposed new criteria for QoF 2012 - 2013. Indicators below –

In those patients with Atrial Fibrillation in whom there is a record of a CHADS2 score of 1, the percentage of patients who are currently treated with anti-coagulation drug therapy or an anti-platelet therapy.

In those patients with Atrial Fibrillation in whom there is a record of a CHADS2 score of greater than 1, the percentage of patients who are currently treated with anti-coagulation drug therapy

To deliver these aims we need to drive forward the necessary changes in Atrial Fibrillation management in primary care.

What is required to achieve these improvements?

- General Practice to maximise opportunistic pulse checks
 - Finding undiagnosed patients
- More patients being investigated for the cause of their AF and managed appropriately
 - Increasing prescribing and uptake of anticoagulation in all patients diagnosed with Atrial Fibrillation and Flutter with special attention to >75 years of age and especially women
 - Use tools such as CHADS2, CHA₂DS₂-VASc and HAS-BLED to support decision making about starting patients on anti-coagulation therapy
- Rapid access to diagnostics – ECG, echocardiogram and Electro Physiology Studies
- Ensure all patients diagnosed with AF are appropriately supported and educated about their condition
 - Providing information about the benefits/risks of anti-coagulation therapy and the importance of compliance with anti-coagulation therapy
- Ensure that all patients not suitable for warfarin therapy are appropriately Read coded and if appropriate offered alternative anticoagulation therapy i.e. Dabigatran or Rivaroxaban

What are the expected outcomes?

- Reduction in number of strokes
 - Every 5 minutes someone in the UK suffers a stroke and there are c. 150,000 new cases per year
 - Around one third of strokes could potentially be prevented
 - Currently only 40% of the UK population know the symptoms of stroke
 - Most strokes are age-related. More than 75% occur in people over 65 years of age, but 1,000 people under 30 have a stroke in the UK each year
- Improved patient care / outcomes
- Reduction in inappropriate OP referrals
- Reduction in bed days
- Potential cost saving

Included in this pack :

- Algorithm for Diagnosis and Initial Management of patient with newly diagnosed AF
- 10 Steps before you refer for atrial fibrillation (BJC – October 2011)
- Clinical Rationale for Treatment of Atrial Fibrillation / Stroke Prevention
- Anticoagulation therapy or Aspirin
- Risk Scoring Templates and other information
- Example letter to patients to invite them for review
- Information leaflet for patients
- Discussing anticoagulation therapy with your patient
- List of Read codes

10 STEPS before you refer for ATRIAL FIBRILLATION

(Rosie Heath MB, BS, MRCGP, DCH, DRCOG and Gregory Y H Lip MD, FRCP, FACC, FESC)

Step 1: Diagnose AF

Opportunistically screen for AF whenever possible (e.g. clinic visits) as the condition is often undetected.
Confirm diagnosis with an ECG or 24 Holter monitor or 7 day event monitor.

Step 2: Establish duration and type of AF

Is the AF of recent onset, paroxysmal, persistent or permanent type?
The correct classification helps guide treatment and management

Step 3: Assess symptom severity

Determine EHRA score in the clinical evaluation of patient
Consider whether a rhythm or rate control strategy is most appropriate

Step 4: Establish the cause

Take a careful history to identify any possible precipitant causes of AF

Step 5: Enquire about relevant co-morbidities

These will be relevant to the use of anticoagulation therapy
Assess bleeding risk using HASBLED score

Step 6: Undertake a physical examination of the patient

Record the pulse rate measured at the apex and also measure the BP manually – automated BP measurement in AF is not always accurate. Check for heart murmurs, signs of heart failure and thyrotoxicosis.

Step 7: Undertake the following tests

FBC and clotting screen, U&Es, LDTs, TFTs, glucose, cholesterol
Echocardiography can be helpful in some cases. Raised BNP results should be interpreted with care.

Step 8: Reduce symptoms by prescribing a rate controlling medication

For patients symptomatic on presentation, start a rate control medication before referral
It is important to take a patient-centred approach to AF management and treatment looking at patient symptoms and lifestyle

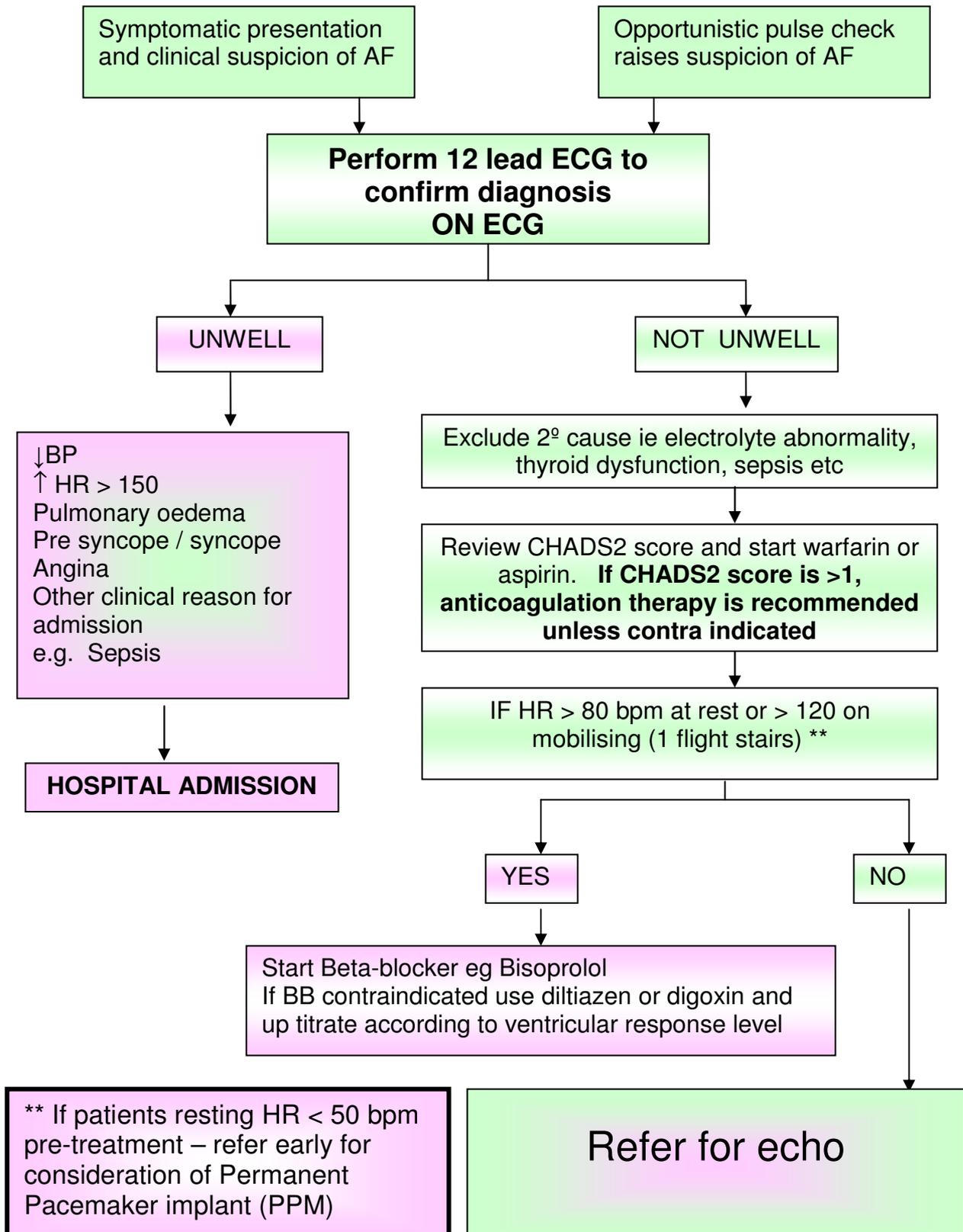
Step 9: Start the patient on appropriate anticoagulation

Start antithrombotic therapy without delay discussing carefully the risks and benefits to the patient.
Assess stroke risk using CHADS2 and CHA2DS2-VASc scoring to help determine the truly low risk patient with AF

Step 10: Carefully consider the reason for referral.

Is referral still necessary once above protocol has been followed?
Some patients can be managed in primary care, others will need referral to a cardiologist, such as those with underlying structural heart disease or difficult to achieve good rate or rhythm control. The expertise of the Electrophysiologist is needed for patients with recurrent Atrial Flutter and those with symptomatic AF despite optimal therapy.

Diagnosis and Initial Management of patient with newly diagnosed AF



Treatment of Atrial Fibrillation / Stroke Prevention

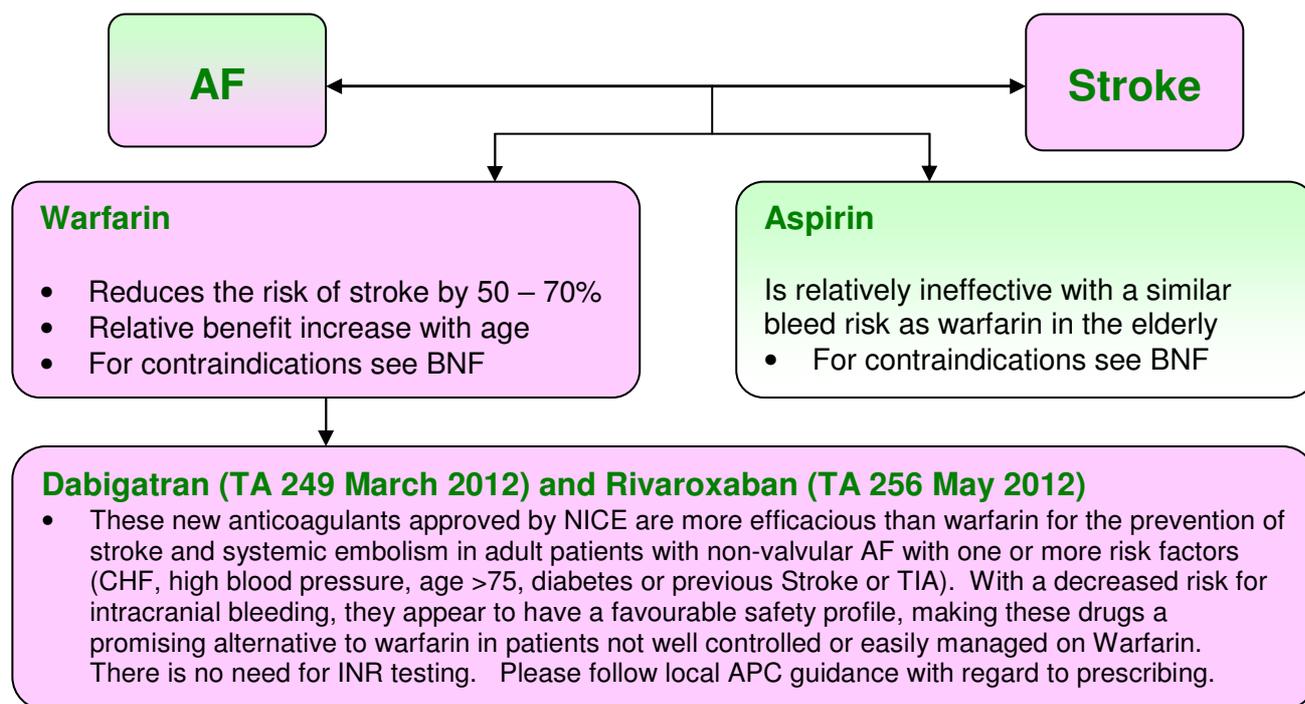
CLINICAL RATIONALE

- Incidence of ischaemic stroke is 5% per year in people with AF - 15% of all strokes, resulting in a significant cause of mortality.
- 25% admissions for stroke, who are known to have AF, are not on anticoagulation
- Only 54% of patients with diagnosis of AF known to be on anticoagulation

Prevalence and risk of stroke increases steadily with age:

1% in under age 60; over 5% in 60 - 70 years with 8.8% at age 80-89

- AF is more common in males but females are at greater risk of stroke
- The incidence is substantially higher in those with cardiovascular disease or valvular heart disease
- CT studies have shown that silent cerebral infarction is present in 26% of patients with AF

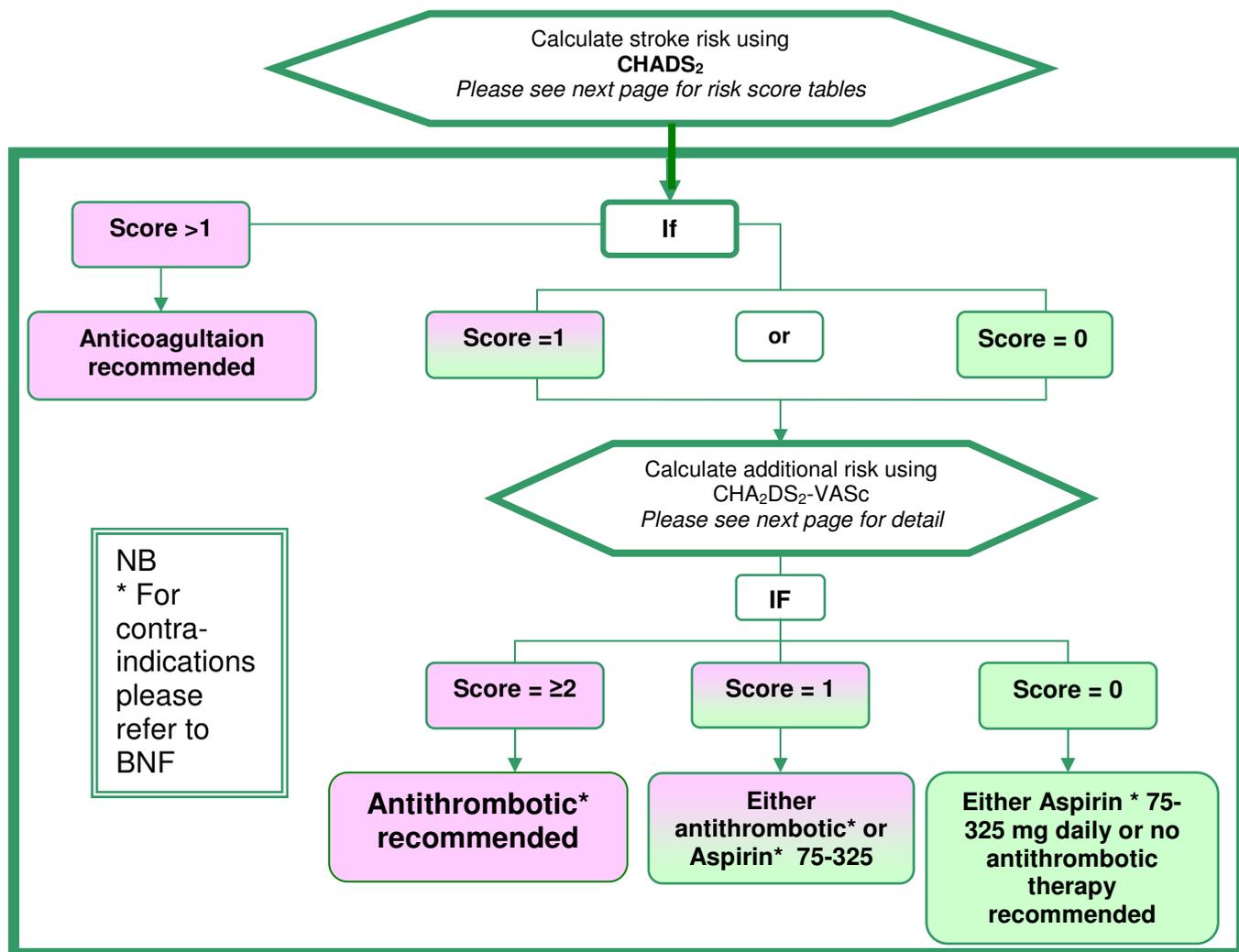


A bit more detail:

- Number of AF patients in Coventry 4022 (Prev. 1.1%) and Warwickshire 8200 (1.46%)
- National prevalence 1.2%.
- Optimal treatment would reduce risk by 10%
- The national estimated total cost of maintaining one patient on warfarin for one year, including monitoring, is £383. Local figures vary considerably due to where INR checks are carried out.
- The number needed to treat (NNT) to prevent one stroke is 37.
- Through the appropriate treatment of AF we could prevent 4,500 strokes and 3,000 deaths per year in England, with a potential saving of £134.5million. Increasing the number of patients being anticoagulated in Coventry and Warwickshire we could potentially prevent 130 strokes per year.
- Cost savings per year recurring at (£14,000 per stroke) - £1,820,000. This figure is much higher when total stroke costs, including social costs are calculated which is estimated at £44,000 per case per year, resulting in a total cost saving of £5,720,000 for the Arden Cluster.

Aspirin or Warfarin

AF patients with CHADS₂ score of one and above are at increased risk of having a stroke. Warfarin therapy is vastly superior to Aspirin for stroke prevention, especially in the elderly. New therapies, Dabigatran and Rivoraxoban may be beneficial in some patients who are not well controlled on warfarin and should be considered as alternative therapy.



Discuss benefits of anticoagulation therapy versus antiplatelet therapy. Explain the risks of anticoagulation therapy to patient before initiating anticoagulation and what to do should they suffer a bleed.

Stop Aspirin once patient is warfarinised unless aspirin prescribed because patient diagnosed with coronary artery disease

Regular INR checks required with warfarin therapy
INR target – 2.5
INR Range of 2.0 - 3.0 is considered therapeutic

RISK SCORING TEMPLATE AND INFORMATION

*Calculate stroke risk using CHADS₂ –		
	RISK FACTORS	Score
C	Congestive heart failure	1
H	History of hypertension	1
A	Age ≥75 years	1
D	Diabetes	1
S	Prior stroke or TIA	2

* Calculate stroke risk using CHA₂DS₂-VASc		
	RISK FACTORS	Score
C	Congestive heart failure/LV dysfunction	1
H	Hypertension	1
A	Age ≥75 years	2
D	Diabetes	1
S	Stroke/TIA/thrombo-embolism	2
V	Vascular disease* (Prior MI, peripheral artery disease, aortic plaque)	1
A	Age 65-74	1
S	Sex – female	1

Those with no risk factors are truly low risk and can be managed without aspirin or warfarin.
Those with one or more stroke risk factors should be considered for oral anticoagulation

CHADS 2 Score	Annual Stroke Risk		NNT
	Adjusted Annual Stroke Rate %	95% Confidence Interval	
0	1.9	1.2 -3.0	80
1	2.8	2.0-3.8	55
2	4.0	3.1-5.1	38
3	5.9	4.6-7.3	26
4	8.5	6.3-11.1	18
5	12.5	8.2-17.5	12
6	18.2	10.5-27.4	8

Risk of major bleed (per 100 patients)	
Aspirin 1.5	Warfarin 2.2
<p>“There is an excess of 2 intracranial bleeds per year per thousand patients treated with warfarin however these are associated with patients with either INR >3 or uncontrolled hypertension”</p>	

Dear

Re: Atrial Fibrillation medication

We are currently reviewing the notes of all our patients with a diagnosis of Atrial Fibrillation. We feel, based on best practice and evidence that your condition could be better managed by changing your current medication.

The drug that we propose is an anti-coagulant which helps to prevent blood clots from forming which is something that can happen in patients with Atrial Fibrillation and could cause a Stroke. You may have heard that these drugs can cause bleeding but we know that the risk of a major bleed is small compared to the benefits.

The protection against having a Stroke by being treated with an anticoagulant is 40% greater than Aspirin and that is why we would like to discuss with you the benefits of changing your treatment.

We would like to invite you to make an appointment to see one of the partners to discuss with you the possibility of introducing this change. A leaflet giving brief information about Warfarin (the most commonly used anticoagulant) is enclosed to help you understand why we are proposing this change. Further comprehensive detailed information will be available at the practice.

We look forward to hearing from you.

Yours sincerely

Atrial Fibrillation and Warfarin – Patient Information

Warfarin reduces the risk of people with atrial fibrillation (AF) having a stroke. The main side-effect of warfarin is bleeding and so you have to have regular blood tests to monitor how quickly your blood can clot.

Why is a stroke a possible complication of atrial fibrillation?

The erratic heart rhythm of AF causes turbulent blood flow within the heart chambers. This **sometimes** leads to a small blood clot forming in a heart chamber. A clot can then travel in the blood vessels until it gets stuck in a smaller blood vessel in the brain (or sometimes in another part of the body). Part of the blood supply to the brain may then be cut off, which causes a stroke. **Therefore, the main complication of AF is an increased risk of having a stroke.**

- The risk of developing a blood clot and having a stroke varies, depending on other factors, such as patient's age, blood pressure, diagnosis of diabetes, heart failure and previous stroke or TIA. Using these factors patients are categorised into High and Low risk.

What does warfarin do and how effective is it?

Warfarin acts on the liver to prevent the formation of certain proteins that create fibrin which is the basic component of a clot. Taking warfarin prevents blood clots forming as easily.

Some people call anticoagulation 'thinning the blood' although the blood is not actually made any thinner. Overall, warfarin reduces the risk of stroke by nearly two-thirds. In other words, warfarin treatment can prevent about 6 in 10 strokes that would have occurred in people with AF. The greatest benefit is seen in those people who are in the high risk category of having a stroke.

For example:

- For people with AF who are at high risk of stroke, about 80-90 strokes will be prevented each year for every thousand people treated with warfarin.
- For people with AF who are at a more moderate risk of stroke, about 25 strokes will be prevented each year for every thousand people treated with warfarin.

Are there any risks with taking warfarin?

As with most treatments, there is some risk if you take warfarin. The main risk is that a bleeding problem may develop as the blood will not clot as well.

Most people with AF who have a high risk of having a stroke are advised to take warfarin. The decision to take warfarin is a joint decision between you and your doctor. It involves weighing up the risk of having a stroke against the small risk of a complication from taking warfarin.

Aspirin is another drug that helps to prevent blood clots forming. It is not as effective as warfarin, but is a little less likely to cause serious problems. It is usually advised, only if you have a low risk of stroke, if you cannot take warfarin because there is an increased risk to you taking warfarin, or you refuse to take warfarin.

Warfarin in young women of child bearing age

Warfarin can harm an unborn baby or cause birth defects. Do not use warfarin if you are pregnant. If you have to take warfarin ensure it is stopped prior to planning a pregnancy.

What does warfarin treatment involve?

Most people who take warfarin attend a warfarin/anticoagulation clinic. This may be at your GP practice, or at the local hospital. You will need regular blood tests to check on how quickly your blood clots, when you are taking warfarin. Blood tests (and clinic visits) may be needed quite often at first, but should reduce in frequency quite quickly. The aim is to get the dose of warfarin just right so your blood does not clot as easily as normal, but not so much as to cause bleeding problems. It is very important to have these tests regularly, as advised by your GP or nurse.

You will be advised on how to take warfarin

- **It is important to take warfarin at the same time everyday**
- **Never take a double dose to catch up if you forget a dose**
- **Ask advice if you accidentally took take much**

Other medication whilst taking warfarin

Always tell a doctor, nurse or pharmacist that you are on warfarin if you are prescribed or buy any other drugs. Some drugs interfere with the way warfarin works and your dose of warfarin may need to be adjusted. Also, if you stop another drug or change the dose, seek advice from a doctor or nurse as your dose of warfarin may need to be altered. Some herbal medicines can also interfere with warfarin. For example, ginkgo biloba can increase the level of warfarin in the body whereas ginseng can reduce the effect of warfarin.

Diet and alcohol

Certain foods can decrease or increase the effect of warfarin (cranberry, grapefruit, green leaf vegetables etc.) If you have a major change in your diet you must discuss this with the warfarin clinic as your warfarin dose may need to be adjusted or require closer monitoring.

You should limit the amount of alcohol you drink to a maximum of one or two units a day, and never binge drink.

What if I bleed whilst taking warfarin?

One indication that the dose of warfarin is too high is that you may bleed or bruise easily. If you cut yourself, or have any other bleeding, you must seek medical help as soon as possible if the bleeding does not stop as quickly as you would expect.

Some other general points about taking warfarin

- Always carry with you the yellow anticoagulant treatment booklet which will be given to you. This is in case of emergencies and a doctor needs to know that you are on warfarin, and at what dose.
- If you have surgery or an invasive test then you may need temporarily to stop taking warfarin. You will be advised by your doctor when to stop and restart warfarin treatment.
- Tell your dentist that you take warfarin.
- Do be careful and wear protection such as proper gardening gloves when gardening.
- Consider using a soft toothbrush and an electric razor.
- Try to avoid insect bites. Use a repellent when you are likely to come in contact with insects.

Alternatives to warfarin

There are other newer anticoagulants now available which appear to be as effective as warfarin and no need for INR monitoring. These drugs can be used in patients who fit the criteria as recommended by NICE, however warfarin is the best known drug and will be offered as first line therapy to protect you against the risk of having a stroke.

Discussing Warfarin therapy with your patient

The 2006 NICE guidance on AF costing report concluded that 46% of patients who should have been receiving warfarin did not.¹

- From current local audit results we know that we are not doing better than the national average. Across Coventry and Warwickshire this could result in 130 people suffering a stroke per year that could be prevented. *(based on 20 strokes prevented per 1000 patients with AF, treated per year with warfarin vs. aspirin)*²
- Warfarin is highly effective in preventing stroke in AF, reducing risk of stroke by 64% compared to aspirin at 22%.²
- The annual risk of stroke is 5-6 times greater in people with AF than in those with normal heart rhythm. AF is therefore directly responsible for 14% of all strokes and 18% of patients presenting with stroke are in AF at presentation.³
- Stroke is more common in the elderly, but warfarin at the correct therapeutic dose is a very effective treatment and can reduce the risk of stroke associated with AF.²
- In the older age group the risk of a major bleed increases, however the risk of a bleed from aspirin is very similar or greater than that of warfarin.⁴

How we decide if you need to be anti-coagulated

CHADS2 and CHA2DS2-VASc⁴ – these are classification tools to assess stroke risk in patients with AF, using a point scoring system for each condition identified. These are commonly used by clinicians to support their decision making for individual patients to determine the need and appropriateness for anticoagulation therapy.

Points mean anticoagulation. The higher the number of points the greater the risk of stroke and that is why anticoagulation is recommended! However for some patients even if they are at increased risk of a stroke, warfarin may not be prescribed due to other factors such as –⁵

• pregnancy	• bacterial endocarditis
• hypersensitivity to warfarin	• severe renal or hepatic disease
• surgical procedures in the next few days	• peptic ulcer or severe hypertension

Other important points to mention: (ask questions to ensure the patient understood information)

- Warfarin should be taken at roughly the same time each day
- Make sure you know the number of and which tablets are to be taken each day
- Always inform your dentist that you are taking warfarin
- Always tell your chemist that you are taking warfarin before buying other remedies
- Do not take aspirin when taking warfarin (unless advised by your doctor)
- Be aware of the affect on your INR levels caused by different foods i.e. broccoli and cranberry juice.
- Alcohol consumption must be in moderation

(This information is taken from the Yellow Oral anticoagulant therapy booklet which must be given to patients when they are started on warfarin)

Possible Side Effects⁵

• Bleeding/bruising	• Alopecia	• Purple toes
• Rash	• Diarrhoea	• Hypersensitivity

Further information can be obtained from:

The Atrial Fibrillation Association (AFA) www.atrialfibrillation.org.uk

The Stroke Association www.stroke.org.uk

The Arrhythmia Alliance www.heartrhythm.org.uk

References

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