At a Glance Guide for the Prevention of Stroke and Systemic Embolism in Patients with Non-valvular Atrial Fibrillation

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References:

1. NICE clinical guideline 180. Atrial Fibrillation: the management of atrial fibrillation. June 2014 http://www.nice.org.uk/guidance/cg180
2. UKMi document - Medicines Q&As436.1. 'How do we assess and manage bleeding risks in patients requiring oral anticoagulation for atrial fibrillation?' https://www.sps.nhs.uk/wp-content/uploads/2014/09/QA436_1_Bleedingrisks.doc
3. UKMi document: 'Common Questions and Answers on the Practical Use of Oral Anticoagulants in Non-Valvular Atrial Fibrillation' https://www.sps.nhs.uk/wp-content/uploads/2016/09/swmitrtdc-OAC-comparison-jan16-final-Version-2.1.pdf
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NICE states: Do **NOT** offer aspirin monotherapy solely for stroke prevention to people with atrial fibrillation, [1] new evidence shows that aspirin is not as effective as anticoagulants in preventing stroke and is no safer than anticoagulants in terms of bleeding risk.

Adult with non-valvular atrial fibrillation (ECG confirmed) *(AF in the absence of moderate or severe rheumatic mitral valve stenosis or prosthetic valve)*
Paroxysmal, persistent or permanent AF / Atrial flutter
Continuing risk of arrhythmia recurrence after cardioversion back to sinus rhythm

Assess stroke risk[1] Use CHA2DS2VASc

Score of 0 for Men or 1 for Women

No anticoagulation required or anticoagulation contraindicated *
Do NOT offer anticoagulation to people at very low risk of stroke**.** Adults <65yrs with AF and no risk factors, other than if they are female

See NICE Pathway for further guidance

Score of 1 for Men

Consider Anticoagulation[1]
Dependent on clinician's assessment of patient's clinical condition

Score ≥ 2

Offer Anticoagulation[1]
Do NOT withhold anticoagulation solely because the person is at risk of falls

Discuss options for anticoagulation including benefits and risks of newer oral anticoagulants compared with warfarin (see table page 2)

Base choice on clinical features, patient's preferences and use HAS-BLED to assess bleeding risk. [1]
Choices include: vitamin K antagonist e.g. warfarin or a DOAC (Direct Oral Anticoagulant/Non vitamin K antagonist) e.g. apixaban, dabigatran etexilate, edoxaban, rivaroxaban

***N.B. Poor adherence with any oral anticoagulant agent will reduce benefits but may increase risk associated with use*.**

The HAS-BLED **score** is a useful clinical prediction tool for assessing bleeding risks in AF patients however; it should not be used to exclude anticoagulation. Rather, it should be used to identify and address modifiable risk factors such as uncontrolled hypertension, poor anticoagulation control (labile INRs) concomitant use of drugs associated with bleeding and excessive alcohol consumption. [2] https://www.sps.nhs.uk/wp-content/uploads/2014/09/QA436_1_Bleedingrisks.doc

If patients require more detailed information before making a decision you may wish to signpost them to the **patient decision aid**:
https://www.nice.org.uk/guidance/cg180/resources/patient-decision-aid-pdf-243734797

*For further comprehensive information please consult the UKMi document '**Common Questions and Answers on the Practical Use of Oral Anticoagulants in Non-Valvular Atrial Fibrillation**' *https://www.sps.nhs.uk/wp-content/uploads/2016/09/swmitrtdc-OAC-comparison-jan16-final-Version-2.1.pdf*

Which Anticoagulant Should I choose?

	Warfarin (Vitamin K antagonist)	DOAC (Non-vitamin K antagonist)
Compliance	INR testing helps to monitor compliance	Not a safe option in patients who are not suitable for warfarin for reasons of poor compliance or in those deemed to have too high a risk of bleeding for warfarin. [3]
Risk of haemorrhage	Lower incidence of gastrointestinal haemorrhage than DOACs[3]	DOACs have been demonstrated to have lower risk of catastrophic intracerebral haemorrhage[3] some DOACs (rivaroxaban and dabigatran 150mg) have a slightly higher risk of gastrointestinal haemorrhage. [3]
Reversal	Effective, well known antidote	Praxbind (Idarucizumab) a specific reversal agent for dabigatran is now licensed, this reverses the anticoagulant effects of dabigatran. Research is currently in process for further reversal agents for other DOACs.
Renal Impairment	Seek specialist advice - may require adjustment to dose/dosing interval, refer to SPC	Seek specialist advice - dose reduction (or cessation) required with reduced renal function, [5,6,7] - refer to SPCs. Warn patient of bleeding risk and review periodically. Consider apixaban over warfarin with eGFR 30-50ml/min[3]
Frequency of dosing	Once daily	Rivaroxaban/edoxaban once daily (consider if adherence an issue), apixaban / dabigatran twice daily
INR testing	INR testing with warfarin is time consuming, but provides an opportunity to monitor compliance and effectiveness	
Experience	Compared to DOACs there is more clinician experience with long term use of warfarin	Compared to warfarin, there is less clinician experience of long term use of the DOACs
Extremes of BMI	INR monitoring can be used to adjust dose	Relative dose may vary by 20-30% at extremes of bodyweight (<50kg or >100-120kg) – may be problematic given the difficulties in monitoring the therapeutic effects. [3]
History of GI problems	May be preferred option due to more favourable side effect profile[3]	If GI bleed a concern when choosing a DOAC choose apixaban (compared with warfarin, does not significantly alter risk of major GI bleed[3])
Drug Interactions	Many drug-drug interactions and some drug-food interactions may require additional INR monitoring	Check for interactions (some commonly prescribed drugs interact). If patient taking medication that may inhibit metabolism and potentiate bleeding risk with DOAC (e.g. azole anti fungals, ritonavir) probably safer to manage with warfarin as INR may be adjusted accordingly[3]
Time in therapeutic range		DOACs are likely to be more beneficial in patients whose INR is regularly outside the therapeutic range despite good medication adherence. [3]
Hepatic Impairment	Seek specialist advice	Seek specialist advice - varying cautions for use for DOACs[5,6,7]
Pregnancy	Seek specialist advice	Seek specialist advice
Ischaemic stroke despite warfarin?	Seek specialist advice	Seek specialist advice

Existing warfarin if INR stable there is little or no reason to actively swap over to a DOAC. Inadequate control of INR may be a reason to consider a DOAC as are warfarin-specific side effects e.g. alopecia[3]

After 6 months, is INR control satisfactory*?

(Calculate TTR (Time in Therapeutic Range) over maintenance period of at least 6 months - exclude measurements taken in first 6 weeks)

**Satisfactory INR control:*

- no more than one INR value >5 or no INR values >8 within the past 6 months

- no more than one INR value <1.5 within the past 6 months

- TTR more than 65%

Yes → Continue with warfarin/vka

No → Evaluate and address reasons for unsatisfactory INR control e.g cognitive function, adherence to prescribed therapy, illness, interacting drugs, and lifestyle factors including diet and alcohol consumption. If poor anticoagulation control cannot be improved, evaluate the risks and benefits of alternative stroke prevention strategies and discuss these with the person. [1]

Modifiable reason? Yes → Continue with warfarin/vka

Modifiable reason? No → Consider DOAC - see table above and 'Which DOAC to choose?' on the guidance to the right and 'Anticoagulant Conversion Guidance' on the CCG intranet

Initiate anticoagulant of choice after informed discussion between clinician and patient.

Counsel patient on medication of choice and advise they carry anticoagulant alert card at all times (issued by dispensing pharmacy / anticoagulation clinic / primary care)

Clinicians who initiate anticoagulation are reminded of their responsibility to ensure that the following warning note is communicated: 'THIS PATIENT IS ON ANTICOAGULATION WITH NEW ORAL ANTICOAGULANT/WARFARIN please review

DOACs

Tests prior to starting treatment:

Clotting screen, U&Es, LFTs, FBC, BP, renal function

- after 1 month review to check adherence, tolerance, side effects/new GI symptoms, then
- after 3 months to re-check above and assess renal/hepatic function if poor when initiated
- Ongoing Monitoring - If stable, consider regular 6 monthly reviews (U&Es, LFTs, FBC at least once a year or more frequently if impaired renal/hepatic function)

Which DOAC to choose?

Consider factors in above table and also below

Other factors to consider when choosing a DOAC are detailed in the UKMi link on first page e.g. contraindications, wheat/lactose content, when to avoid specific OACs, pre-testing and monitoring, doses, dose adjustment for renal impairment, variance in risk of bleeds between OACs, bleeding reversal, common side effects, half-lives, how to switch, main drug interactions, dose adjustment for dental treatment or surgery.