ATRIAL FIBRILLATION (AF)

Top tips for MURs

- Counsel patient on the need to take medication regularly and address any compliance issues
- Ensure patients on 'pill-in-the-pocket' approach store medication appropriately and check expiry date regularly
- Check modified release diltiazem or verapamil are prescribed by brand name
- Check patient understands the purpose of warfarin or the non-vitamin K antagonist oral anticoagulants (NOACs†) and discuss the contents of the warfarin/ NOAC booklet (**see separate MUR quick guide on warfarin and NOACs**)
- Check patients on amiodarone are aware of the need to protect the skin from the sun and the importance of regular eye examinations
- Advise patients taking warfarin to avoid cranberry juice and pomegranate juice and those taking calcium channel channel blockers, amiodarone and dronedarone to avoid grapefruit juice
- Check patients on dronedarone know to seek medical attention if develop symptoms of new-onset or worsening heart failure
- Counsel patients on the signs and symptoms of complications that need urgent referral (**see red flags below**) and common side effects (**see overleaf**)
- Advise patients about the importance of regular reviews with prescriber including appropriate tests
- Report any relevant adverse drug reactions via the Yellow Card Scheme

† Note the term NOAC is interchangeable with DOAC (direct oral anticoagulant) and includes dabigatran, rivaroxaban, apixaban and edoxoban.

Pathophysiology of atrial fibrillation

Atrial fibrillation (AF) is an arrhythmia characterised by disorganised activation of the heart muscle. The normal electrical activation of the atria is lost and replaced by many circuits activating over the surface. On the electrocardiogram (ECG) there is an absence of consistent P waves. The condition is classified according to the pattern of these episodes; paroxysmal (<7 days), persistent (>7 days) or permanent (>1 year). Atrial fibrillation is managed either by controlling the ventricular heart rate or attempting to restore or maintain sinus rhythm. Electrical cardioversion or ablation (treating abnormal area of heart) are attempted with some patients. Atrial fibrillation is a significant risk factor for stroke and thromboembolism. Stroke risk can be assessed using CHA^2DS^2-VASc risk assessment tool and anticoagulation is recommended when score >1 in men or 2 in women. Bleeding risk should be assessed using HAS_BLED risk assessment tool.

	Condition	Points
C	Coronary heart disease	1
H	Hypertension	1
A^1	Age 65-74 years	1
A^2	Age ≥75 years	2

	Condition	Points
D	Diabetes	1
S^1	Female	1
S^2	Stroke, TIA, thromboembolism	2
Vasc	Vascular disease	1

Lifestyle Issues

- Counsel patient on reducing alcohol intake to within safe limits (up to 14 units a week, spread evenly over 3 more days, with several alcohol free days)
- Advise patient to avoid stimulants including excessive caffeine or drug use
- Counsel patient on weight reduction if overweight. Signpost local weight management or exercise schemes (see local authority website for information)
- Advise patients who smoke of benefits of smoking cessation and refer to Pharmacy Stop Smoking services or Stop Smoking Wales if willing to stop
- Advise patient to avoid physical stress, high-intensity or contact sports (particularly if on anticoagulants)

Red flags that need referral

- A rapid pulse (>150 per min) and/or low blood pressure (systolic <90mmHg)
- Loss of consciousness, severe dizziness, ongoing chest pain, increasing breathlessness
- Signs of stroke (numbness, weakness/paralysis, slurred speech, blurred vision, confusion & severe headache)
- Severe bleeding when taking warfarin or NOACs
- Signs of digoxin toxicity (nausea, vomiting, diarrhoea, confusion, blurred vision)
- Signs of hepatotoxicity (nausea, vomiting, abdominal pain, loss of appetite and jaundice)
- Evidence of poor adherence with NOACs or warfarin
- Aspirin monotherapy for stroke prevention in atrial fibrillation

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Update review: Kate Macnamara, ABMU, February 2017

How do drugs used in atrial fibrillation work?

Standard beta- blockers & verapamil / diltiazem	Slows heart rate by blocking the number of electrical impulses that pass through the AV node maintains sinus rhythm.
Digoxin	Slows the heart rate by preventing all the irregular heartbeats from reaching ventricles. Controls ventricular rate at rest; used predominately in sedentary patients or if AF accompanied by congestive heart failure.
Flecainide, propafenone	Maintains normal sinus rhythm. Used for 'pill-in-the-pocket' strategy (self-administration if AF occurs).
Sotalol & amiodarone, dronedarone	Maintains normal sinus rhythm and control heart rate after cardioversion.
Warfarin	Inhibits vitamin K dependent clotting factor. Requires routine INR blood monitoring.
Non-vitamin K antagonist oral anticoagulants (NOACs)	Directly inhibits thrombin or factor Xa development preventing thrombus formation. No routine blood monitoring required.

What are the common side effects to look out for?

Drug	Common side effects	Recommendation
Beta-adrenoreceptor blockers	Cold extremities, difficulty breathing, tiredness, sleep disturbance	Refer to prescriber for potential change to another beta-blocker.
Rate limiting calcium channel blockers (verapamil/ diltiazem)	Ankle swelling	Refer to prescriber.
	Headache, flushing, constipation, rash, tiredness	Take regularly to diminish these effects and use a gentle laxative if constipation remains a problem.
Digoxin	Dizziness, blurred vision, gastrointestinal disturbance, rash	Refer to prescriber.
Flecainide	Oedema, dizziness, visual impairment, shortness of breath, tiredness	Refer to prescriber.
Propafenone	Abdominal pain, gastrointestinal disturbance, dizziness, blurred vision, sleep disorders, taste disturbance	Refer to prescriber.
Amiodarone	Photosensitivity which can continue for months after stopping the drug	Avoid sun exposure, use sunscreen.
	GI disturbance, thyroid disorder, skin discolouration, tremor, jaundice	Seek specialist advice.
	Vision impairment, shortness of breath or cough	Refer to prescriber.
Dronedarone	GI disturbance, rash, itching	Refer to prescriber if symptoms don't improve.
	Signs and symptoms of heart failure e.g. rapid weight gain, oedema, dyspnoea	Refer to prescriber as may need to be discontinued.
Non-vitamin K antagonist oral anticoagulants (NOACs)	Gastro-intestinal disturbances, bleeding, anaemia, rash, headache, dizziness	Refer to prescriber.
Warfarin	Nausea, vomiting, diarrhoea, alopecia, rash, bleeding	Refer to prescriber/INR clinic.

Potential serious drug interactions?

Amiodarone is a potent enzyme inhibitor and can interact with many other drugs. Other drugs used to treat AF can also interact with many other medications and each other - **See BNF Appendix1: Interactions for more details.**

Where can you find more information?

- BNF sub-section 2.3 Anti-arrhythmic drugs and 2.8 Anticoagulants
- WCPPE Cardiovascular disease, atrial fibrillation; e-learning module (**http://www.wcppe.org.uk**)
- NICE CG180 Atrial fibrillation (2014) (**http://www.nice.org.uk**)
- CHADS-VASc and HAS_Bled risk assessment tools (**http://www.chadsvasc.org/**)
- Clinical Knowledge Summary – atrial fibrillation & anticoagulation (**http://www.cks.nice.org.uk**)
- WeMeReC bulletins – atrial fibrillation; newer oral anticoagulants (**http://www.wemerec.org**)
- Atrial Fibrillation Association (**http://www.afa.org.uk**)

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