CONTROLLED DOCUMENT

University Hospitals Birmingham NHS Foundation Trust

Management of Atrial Fibrillation

CATEGORY:	Clinical Guidelines
CLASSIFICATION:	Clinical
PURPOSE:	*To standardise the management of atrial fibrillation as set out by the current European Society of Cardiology guidance 2016.*
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Approved By:	Clinical Guidelines Group
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Distribution: **Information for:**	*Intranet guidelines page* *All clinical staff involved in the management of patients presenting with atrial fibrillation.*

1. Executive & Overview

This guideline is to guide the management of patients presenting with atrial fibrillation across all clinical areas within the trust. In the majority of cases atrial flutter is treated in the same way as atrial fibrillation with regards to the options for rate control, rhythm control and anticoagulation.

2. Flow Charts

These are included within the body of the guideline. Please see below:
Figure 1 – Management of haemodynamically unstable tachyarrhythmias.
Figure 2 – Acute Rate control of AF (ESC 2018).
Figure 3 – Long-Term Rate control of AF (ESC 2018).
ANTICOAGULATION FOR AF - CHA2DS2-VASc AND HAS-BLED SCORES
Figure 4 – Management of thromboembolic risk in AF (ESC 2018)

3. Body of Guideline

Atrial Fibrillation (AF) management

For haemodynamically unstable patients

Unstable patients should be managed as per resus council guidelines See Figure 1

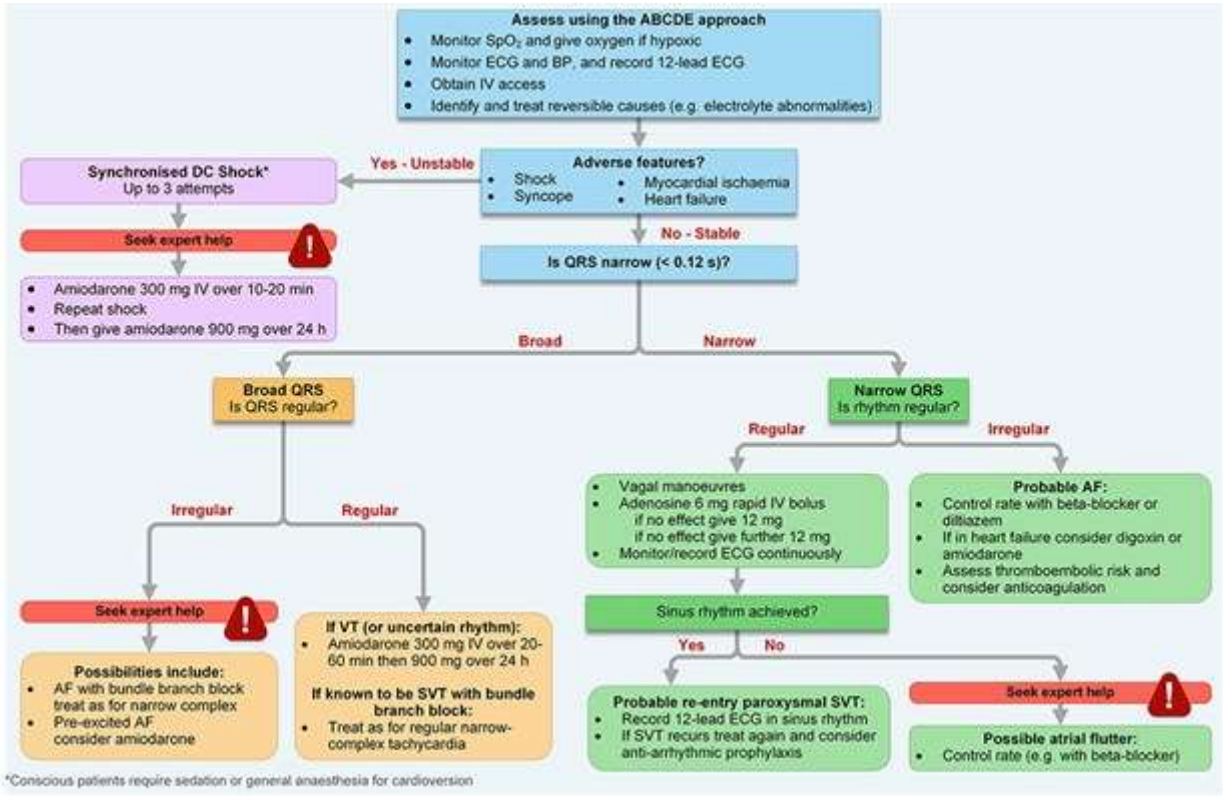

Figure 1. Management of haemodynamically unstable tachyarrhythmias

Resuscitation Council (2015)

Signs of instability

Signs of instability include patients with any of the following features:
1. Reduced conscious level
2. Systolic BP less than 90mm Hg
3. Chest pain
4. Signs of heart failure

For DC CardioVersion (DCCV)

- Procedural sedation will require anaesthetic support or the support of an individual trained to manage the airway (please see procedural sedation policy).
  http://sharepoint/policies/Procedures/ConsciousSedationProcedureHGS.docx
- For atrial fibrillation, start with 120–150 J synchronised DC shock and increase in increments if this fails (please refer to individual defibrillator recommendations).
- Atrial flutter and regular narrow-complex tachycardia will often be terminated by lower energies: start with 75–120 J.

For haemodynamically stable AF patients

Patients without significant compromise can be managed with either a **rate control strategy** or **rhythm control strategy.**

RHYTHM CONTROL

a. Acute Rhythm Control for AF

In patients with Atrial Fibrillation with a definite onset of less than less than 48hrs can be considered for immediate cardioversion either pharmacological or DCCV. This should take into account patient choice and suitability.

All patients undergoing cardioversion for recent onset AF require administration of low molecular weight heparin (eg. enoxaparin 1.5md/kg S.C OD)prior to procedure. **(N.B if creatinine clearance is less than 30ml/min adjust dose to 1mg/kg S.C OD)** CHA2DS2VASc score will then dictate the need for ongoing anticoagulation with an oral anticoagulant (see below for when continue anticoagulation). Patients can be switched directly to a NOAC of required with no further doses of LMWH. If using Warfarin LMWH should be prescribed until INR in therapeutic range (greater than2).

Pharmacological cardioversion

Flecainide:

- Patients with a structurally normal heart presenting without chest pain or pulmonary congestion can be administered flecainide 2mg/kg iv (up to a maximum of 150mg) over 30 minutes. Expect cardioversion within 1 hour but may take up to 6 hours. Single dose Oral flecainide 50 - 100mg bd may be used instead but cardioversion may several hours. (The decision to continue flecainide regularly/pill in pocket approach should be made with input from cardiology team.)
- Patients should be kept on a cardiac monitor and have a repeat ECG following cardioversion to check QRS morphology and QTc duration. Patients require monitoring for 6 hours post infusion/oral administration but can then be discharged if no arrhythmic features on ECG or monitoring, with outpatient referral to cardiology.

Amiodarone:

- In patients with structural heart disease, ischaemic heart disease or LVF, DCCV or rate control is preferable. Only consider the use of amiodarone if needed post operatively or in ITU/HDU setting. Dose required is300mg iv over 60 minutes followed by a continuous iv infusion via a central venous line. Cardioversion with amiodarone can take up to 24 hours. Patients who undergo pharmacological cardioversion require continuous medical supervision and ECG monitoring during drug administration and for a 6 hour period afterwards to detect arrhythmic events such as ventricular proarrhythmia, sinus node arrest, or AV block.

DCCV

This can be performed for rhythm control (anaesthetic support will be required).

b. Long-term Rhythm Control for AF

Long term pharmacological rhythm control is associated with pro-arrhythmic side-effects and is associated with poor outcomes in certain patient groups – as such this should only be initiated following discussion with the cardiology team on-call.

RATE CONTROL

In patients with AF greater than 48 hrs, or those not suitable for rhythm control then a rate control strategy should be employed.

REMEMBER - AF is often precipitated by other factors so always look for and treat the underlying cause eg. Thyrotoxicosis, Sepsis, Deranged electrolytes, Pneumonia, PE.

a. Acute Rate Control for AF

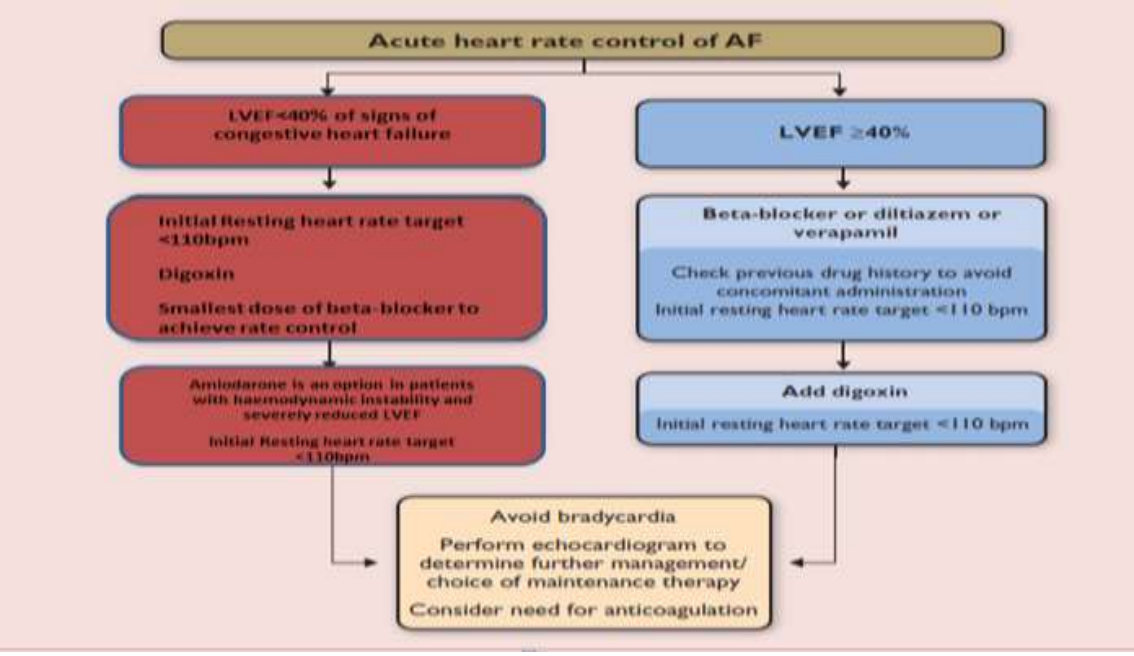

Figure 2 – Acute Rate control of AF (ESC 2018).

NB. In this Trust, digoxin is the preferred agent **for rate control** in the setting of acute heart failure with pulmonary oedema, even though it has a slower onset of action. Oral digoxin loading is preferable to iv, unless the patient is NBM.

b. Long term Rate Control for AF

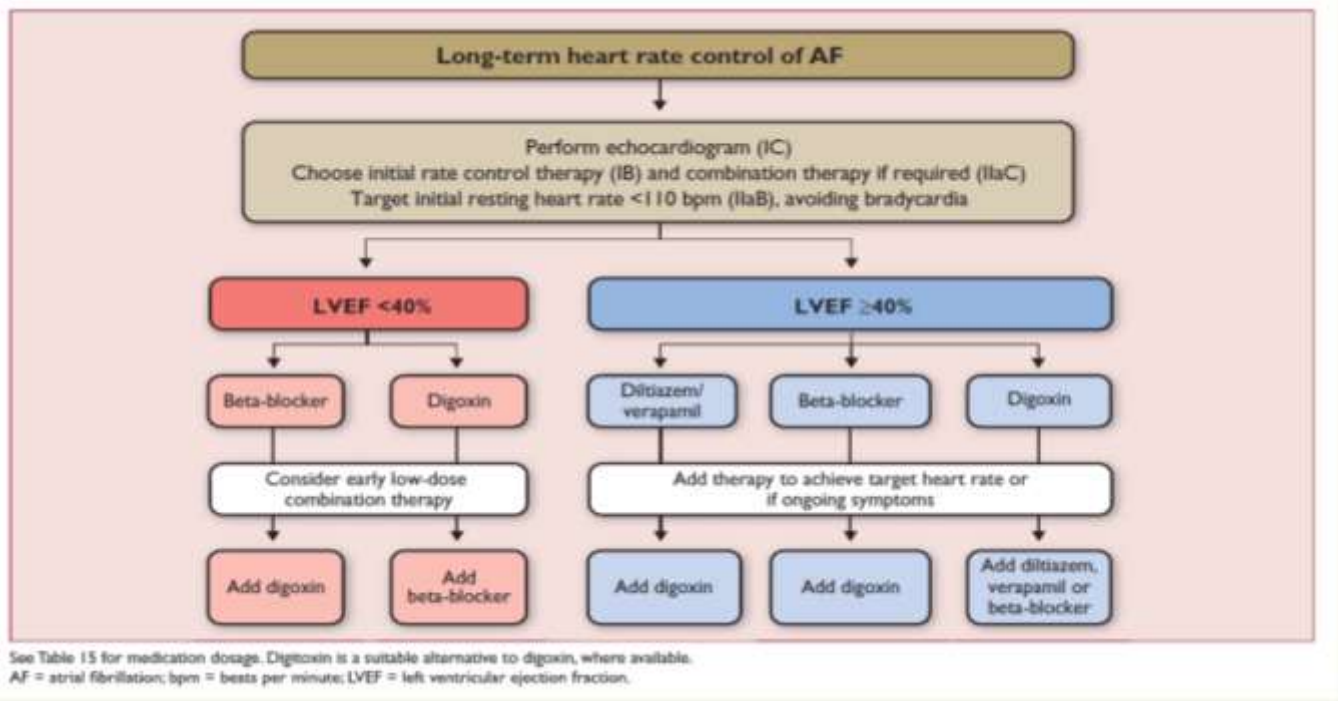

Figure 3 – Long-Term Rate control of AF (ESC 2018).

Note: **DO NOT** give verapamil and beta-blocker **together** as may cause complete heart block.

ANTICOAGULATION FOR AF

Thromboembolic risk in AF is best assessed using the CHA2DS2-VASc scoring system.

THIS SHOULD BE DONE FOR ALL PATIENTS WITH ATRIAL FIBRILLATION or FLUTTER AND INCLUDES PAROXYSMAL ATRIAL FIBRILLATION

- **'C' - Congestive cardiac failure? Yes – score 1**
- **'H' – Hypertension? Yes – score 1**
- **'A' – Age greater than75? Yes – score 2**
- **'D' – Diabetes? Yes – score 1**
- **'S' – Previous stroke/TIA/SE Yes – score 2**
- **'V' – Vascular disease? Yes – score 1**
- **'A' – Age 65-74? Yes – score 1**
- **'Sc' – Sex Category – Female? Yes – score 1**

- Score greater than 2 ('high risk') formally anticoagulate with warfarin/NOAC (INR 2.0-3.0)
- Score = 1 ('moderate risk') to consider Warfarin/NOAC
- Score = 0 ('low risk') Anticoagulation not required

NB. ASPIRIN IS **NOT** USED IN THE MANAGMENT OF THROMBOEMBOLIC RISK IN AF

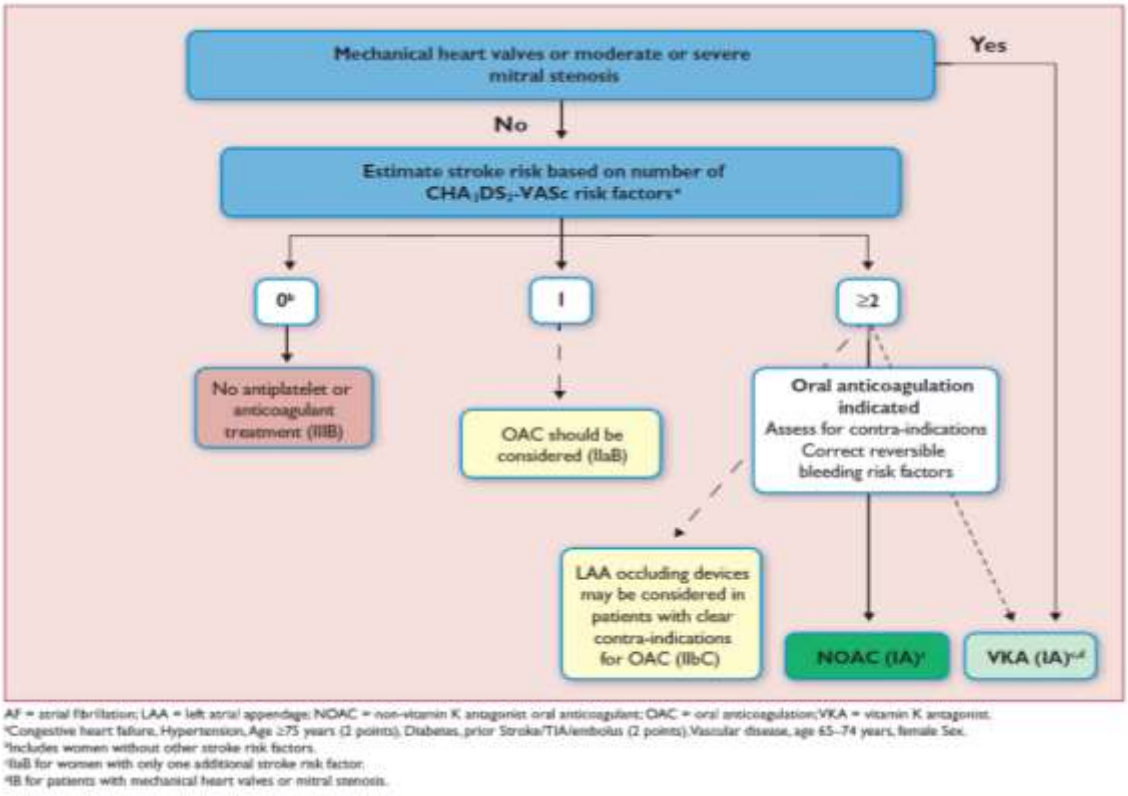

Figure 4. Management of thromboembolic risk in AF (ESC 2018)

The choice of anticoagulation strategy is shown above and can include either Warfarin or a NOAC depending on patient characteristics.

NB. In AF associated with mitral stenosis or mechanical valves warfarin is anticoagulant of choice and NOACS are contraindicated.

Bleeding risk should also be established when considering anticoagulation

HAS-BLED score. Add 1 point for each of the following categories:

H	Hypertension (systolic >160 mmHg)	1
A	Abnormal renal function (chronic dialysis, transplant, serum creatinine ≥200 µmol/L)	1
	Abnormal liver function (chronic hepatic disease or biochemical evidence (e.g. bilirubin >2 x upper limit of normal plus AST/ALT/alk phos >3 x upper limit of normal)	1
S	Stroke	1
B	Bleeding (history or predisposition e.g. diathesis, anaemia)	1
L	Labile INR (unstable/high INR)	1
E	Elderly (age >65 yr)	1
D	Drugs (e.g. NSAIDs, antiplatelet agents) or alcohol abuse (1 point each)	1 or 2

HASBLED Score greater than3 - Bleeding risk high. Exercise caution & ensure regular review for signs of bleeding following start of warfarin or NOAC (Hb monitoring and assessment of clinical signs of blood loss). In the community this will done by GP's and should be made clear on discharge paper work. In patients will be monitored by their parent medical team.

In considering whether to start anticoagulation discuss with patient and carers the risks and benefits.

All patients initiated on anticoagulation require counselling by the initiating clinician. All patients will require follow-up in the anticoagulation clinic. A RICaD will need to be completed for GP continuation of NOAC's.

Please refer to full trust guideline for anticoagulation in non-valvular AF to guide anticoagulation initiation and follow up.

http://sharepoint/policies/Guidelines/AnticoagulantsforthePreventionofStrokeand SystemicEmbolisminNon-ValvularAtrialFibrillation.pdf

Ongoing Management

The majority of patients with atrial fibrillation will NOT need to be seen in a cardiology outpatient clinic.

Please consider further cardiology referral in patients with

- Persistent AF in whom ventricular response cannot be satisfactorily controlled with drug therapy

- Symptomatic recurrent paroxysmal / persistent AF as these groups may be suitable for electrophysiological studies and catheter ablation (usually suited to younger patients with structurally normal hearts)
- Atrial flutter (if recurrent/ particularly young patient and suitable for further electrophysiology studies and intervention)
- Abnormal echocardiogram showing reduced LV function (unless cause already established) or significant valvular heart disease

4. Methodology

This guideline was adapted from the current guidelines on the management of atrial fibrillation set out by the European Society of Cardiology 2016.

5. Monitoring & Suggested Quality Standards

Monitoring will take place via audit of the direct referrals made to the arrhythmia service - examining acute management and subsequent care in line with the above guideline.

6. References, Related Documents and Other Guidance

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7. Revision History

Version No	Date of Issue	Author	Reason for Issue/key points
1	12/1/205	Dr S. Yusef	Original Guideline
2	3/9/2018	Dr L. Pickup /B Freestone	Update of ESC Guidance Simplification of existing guideline