

Cardiovascular and Neurosciences and the Senses Health Networks

Quick reference guide: Atrial Fibrillation Information for the Health Practitioner

Prepared by the AF Working Group
21st October 2010

This document is considered a draft for discussion, and is in the consultation phase as illustrated in the status bar below



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Definition

Atrial Fibrillation (AF) is an atrial tachyarrhythmia characterised by chaotic atrial electrical activity and rapid, irregular and uncoordinated contraction of the atria. This leads to a loss of atrial mechanical function with increased risk of progressive atrial chamber dilatation and cardiac thromboembolism. AF results in an irregular and usually rapid heart rate if untreated.

Why worry about AF?

- AF is the most common sustained cardiac arrhythmia seen in clinical practice
- It is associated with increased morbidity, mortality and preventable stroke (AF is associated with a 5-fold increased risk of stroke)
- The incidence and prevalence increase with age; lifetime risk of developing AF is 1 in 4 for those aged 40 years and older.^{1,3}

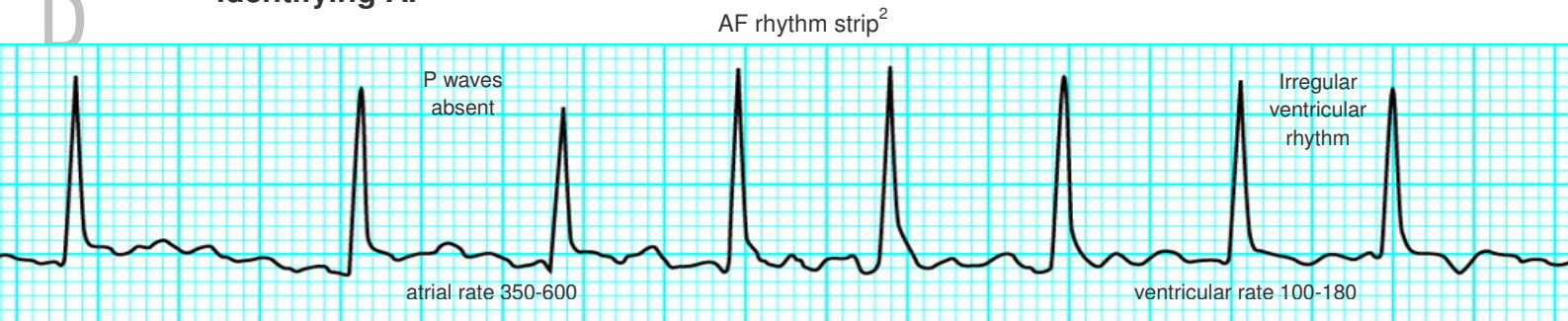
Patterns of AF³

AF is a chronically progressive disease and as such rhythm control strategies should be undertaken at the earliest possible stage.

Table 1: AF as a progressive condition

| First Diagnosed The first time a patient presents with AF irrespective of previous symptoms | | | |
|---|---|---|---|
| Paroxysmal Intermittent AF reverting spontaneously to sinus rhythm within 7 days (and usually within 48 hrs). | Persistent AF > 7 days or requires electrical or pharmacological termination. | Long –standing Persistent AF longer than one year | Permanent AF Permanent presence of AF is accepted by the patient and physician. |

Identifying AF



Clinical Assessment

- ECG is mandatory to confirm rhythm, assess rate and identify other pathologies including cardiac ischaemia, LV hypertrophy or pre-excitation
- Patient history and physical examination, in particular, assess for haemodynamic compromise, heart failure and cardiac ischaemia
- Stroke risk assessment (see algorithm A, page 3)
- Pathology: renal, hepatic, thyroid (exclude hyperthyroidism), clotting factors (baseline), electrolytes, BSL (exclude diabetes), FBC (exclude anaemia)
- Consider AF in relation to the patient's overall cardiovascular risk
- Echocardiogram recommended especially in patients with symptomatic AF, known or suspected heart disease or cardiac risk factors³
- Refer to an Emergency Department or Specialist when necessary.

Management Priorities (SO, AF):

Sroke prevention– consider antithrombotic therapy to reduce the risk of systemic thromboembolism that can lead to stroke and death [See Algorithm A](#)

Rate **O**r **R**hythm control strategy in the long-term [See Algorithm B](#)

Assess and relieve symptoms - this is usually obtained by rate control in the short-term

Factors: Treat associated or causative factors – may abort the arrhythmia

Note that interim rate control is still necessary for most patients in whom a rhythm control strategy is chosen. Depending on the patient's course, the strategy initially chosen may be unsuccessful in which case the alternative strategy is adopted. Regardless of whether a rate or rhythm control strategy is used, attention must also be directed to antithrombotic therapy to prevent thromboembolism.

Follow Up³:

- Regular follow-up - review the patient at least annually
- Reassess AF pattern – has it changed?
- Reassess antithrombotic need - have indications for antithrombotic treatment changed?
- Risk profile assessment – eg new diabetes or hypertension
- Review current therapy effectiveness – symptoms, heart rate, signs of proarrhythmia
- Patient education - including risk factors and antithrombotic therapy
- Provide patients with a structured care plan for follow up and management of AF
- 12 lead ECG, biochemistry, other investigations as indicated
- Holter monitoring may be indicated if unsure of treatment response to rate or rhythm control
- Consider exercise testing to assess effective ventricular rate control in younger, active patients.

Consider referral:

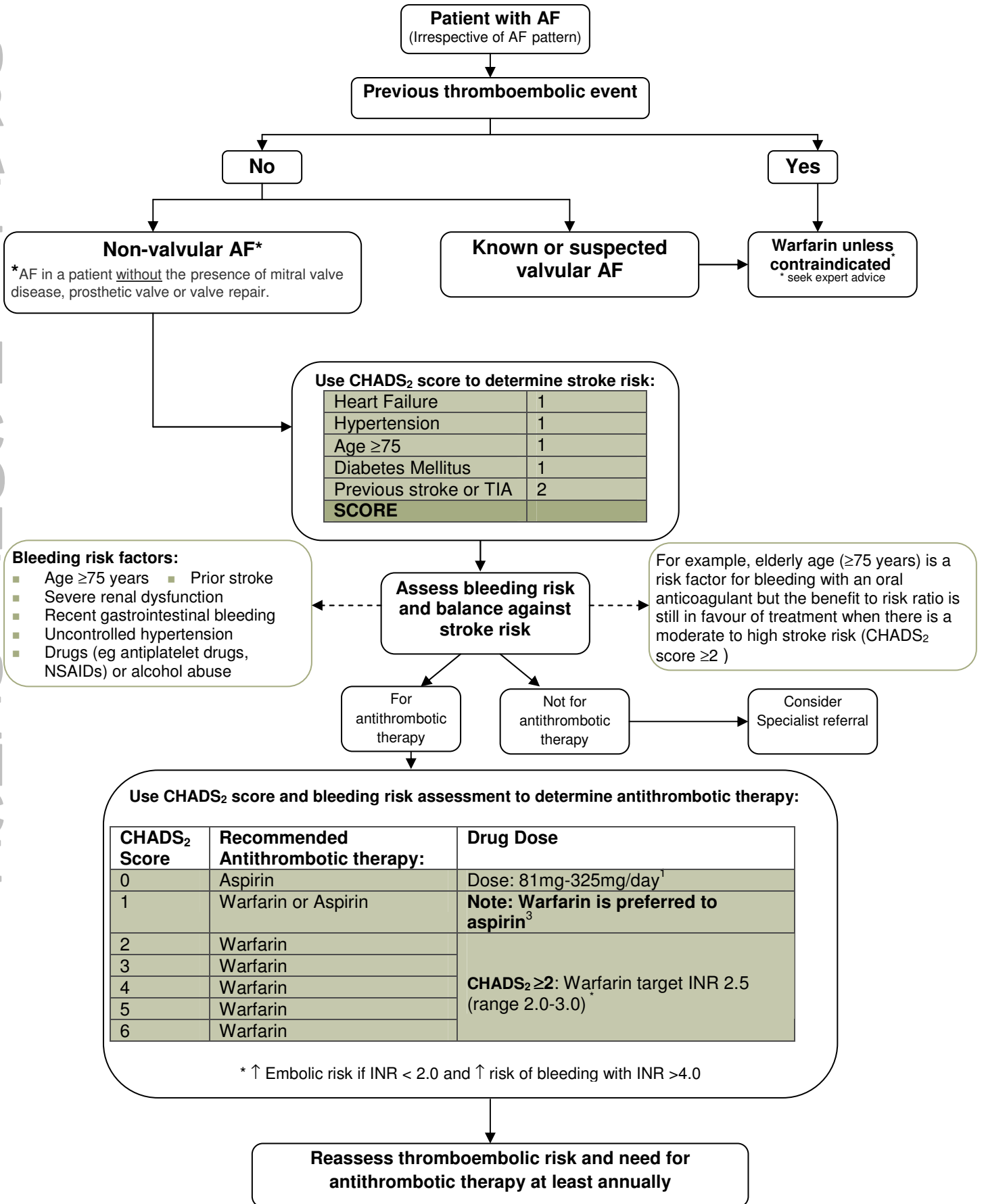
- First episode of AF of less than 24hrs duration discuss with cardiology regarding possible cardioversion
- Symptomatic patient or patients with limitations to their normal activity
- Underlying or suspected cardiovascular disease
- Management difficulties
- Requires antiarrhythmic treatment
- Antithrombotic treatment is problematic or contraindicated
- Refer all patients with atrial flutter as catheter ablation is often the most effective initial treatment.

If patient unconscious and pulseless commence CPR and follow BLS/ALS algorithm

Algorithm A

Stroke Risk Stratification and Antithrombotic Therapy

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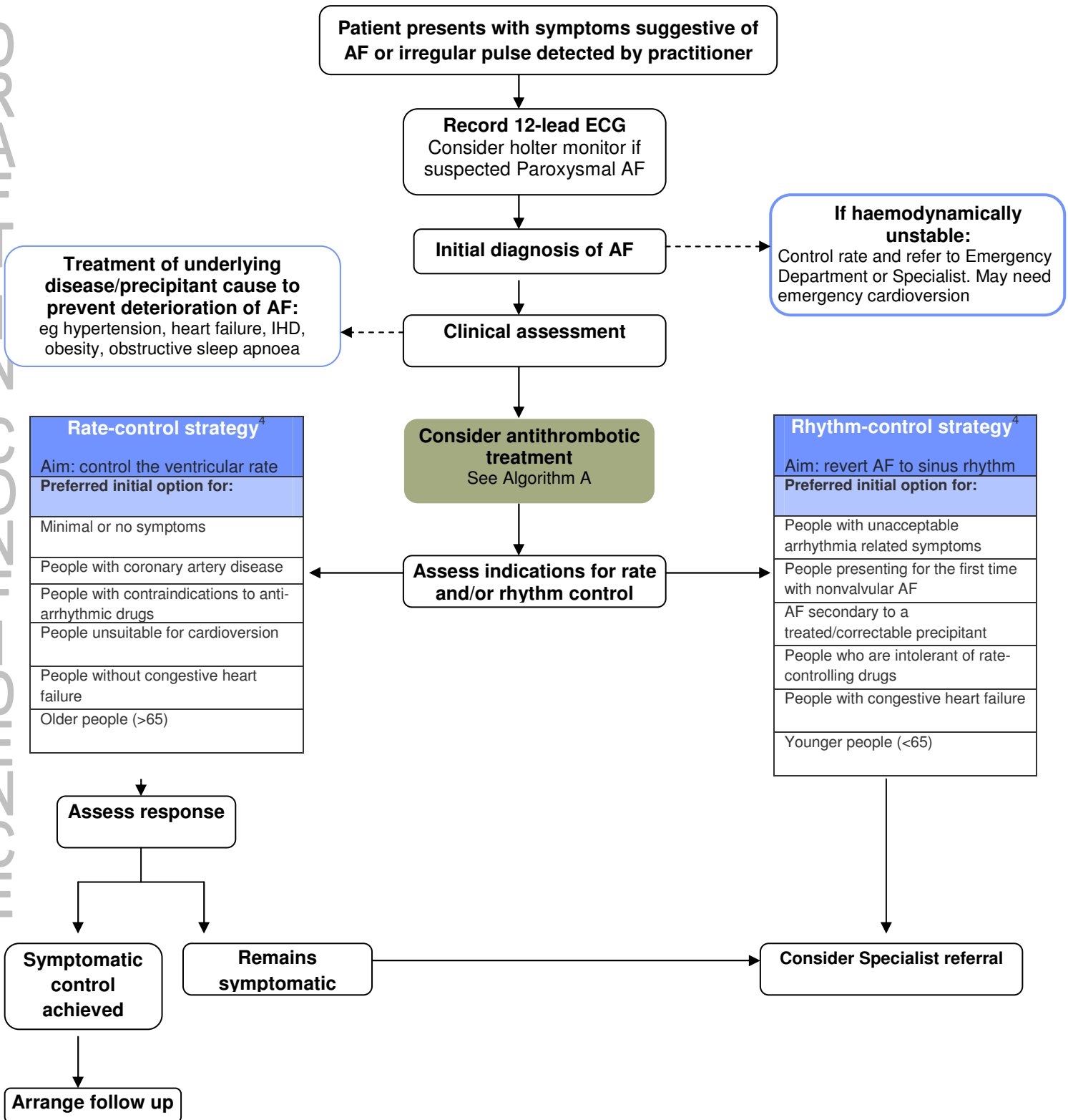


Some further information relating to antithrombotic therapy is detailed on page 6 in the FAQs section.

Algorithm B

AF Management Cascade

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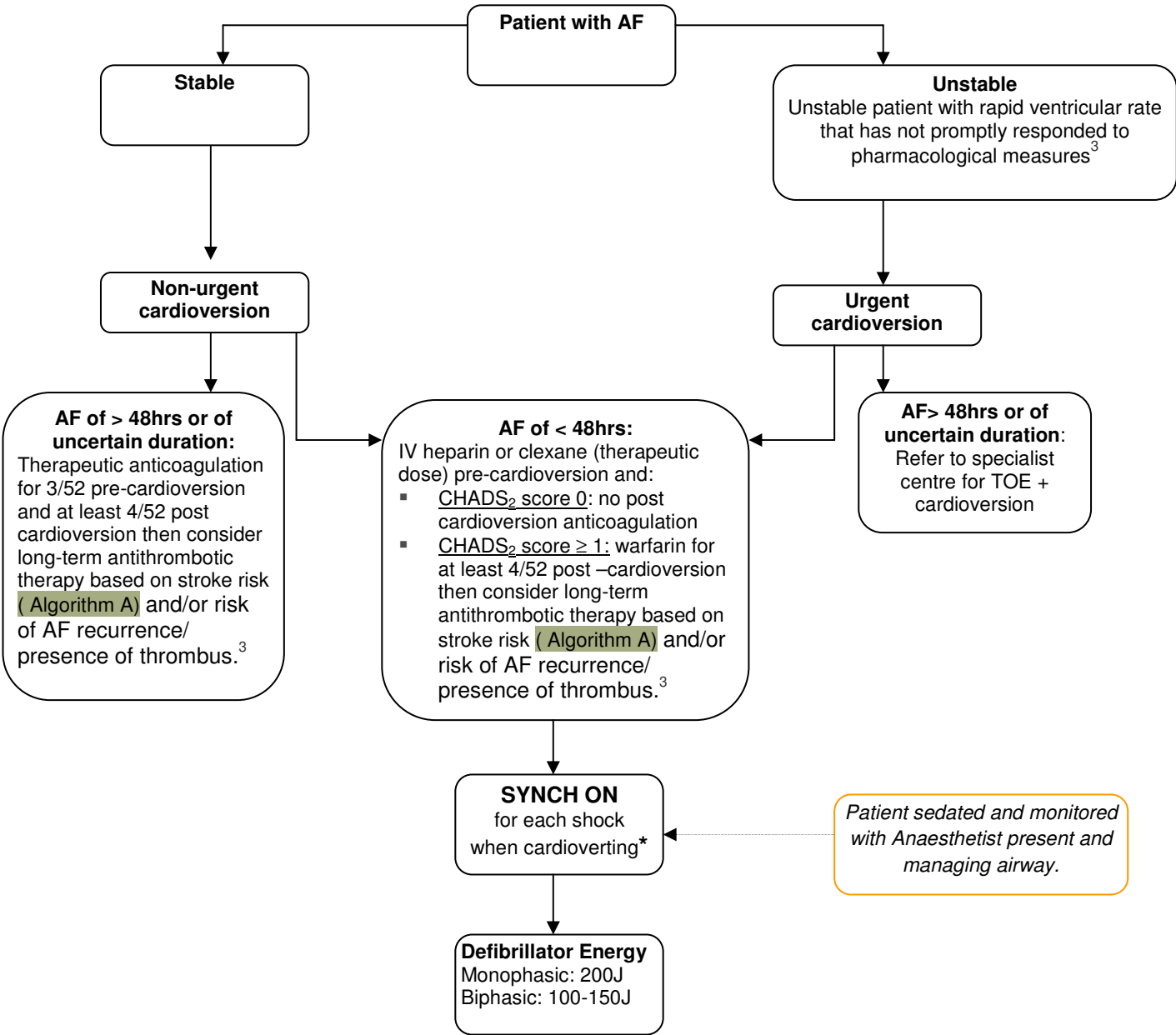
Note:
Rate control: Use β -blockers or rate-slowing calcium channel blockers. Note that digoxin is ineffective at controlling heart rate (especially during exercise), but has a secondary role in patients with congestive heart failure.
Rhythm control: Use amiodarone, sotalol or flecainide only after expert advice.

Algorithm C

DC Cardioversion Guidelines

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Consider cardioversion in highly symptomatic patients when other therapy has failed
 Cardioversion is contraindicated in digitalis-toxic patients



Note: A delay once shock button is depressed is normal while the defibrillator searches for R or S wave to synchronise with.

***Equipment required:**

- IV access
- Monitoring equipment
- Airway management equipment

***Anaesthetic agents required:**

- Short acting sedation (propofol or midazolam)
- Opioid eg fentanyl
- Anaesthetist
- Reversal agents eg flumazenil/ naloxone available

Frequently Asked Questions

What happens if warfarin needs to be stopped for general surgery?

Pre-Op

- Patients with AF who have a high short-term thromboembolic risk (eg., mitral stenosis, prosthetic valves, previous thromboembolic event) should have warfarin withheld 5 days before anticipated date of surgery, and IV heparin cover or LMW heparin (at arterial doses) commenced when INR has fallen to around 2.0
- For other patients, warfarin can be ceased for 5 days pre-operatively without heparin cover

Post-Op

- Recommence usual antithrombotic therapy without loading dose immediately post – operatively or day 1 post-op assuming adequate haemostasis 3

What to do if the patient with AF is on antiplatelet therapy?

Some patients who develop AF will already be on single or dual antiplatelet therapy for coronary stents and/or post-acute coronary syndrome. In general, the combination of aspirin and warfarin is associated with a relatively modest increased risk of bleeding compared to warfarin alone, and is safe in patients with a low bleeding risk. By contrast, the 1-year bleeding risk of warfarin combined with dual antiplatelet therapy is around 12%, hence specialist advice should always be sought before triple antithrombotic therapy is considered. Please note that warfarin alone is not effective at preventing stent thrombosis.

When should I consider specialist referral for catheter ablation?

In general, catheter ablation should be reserved for patients with paroxysmal or persistent AF who remain symptomatic despite optimal medical therapy including rate and rhythm control. Left atrial catheter ablation is a complex ablation procedure with possibly severe complications and expert advice is required before recommending catheter ablation in an individual patient with symptomatic AF.

References

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http://www.mja.com.au/public/issues/186_04_190207/med11193_fm.html
2. Goodacre S, Irons R. ABC of clinical electrocardiography: Atrial arrhythmias. BMJ. 2002 Mar 9;324(7337):594-7. <http://www.bmj.com/content/324/7337/594.full>
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<http://www.escardio.org/guidelines-surveys/esc-guidelines/Pages/atrial-fibrillation.aspx>
4. National Institute of Clinical Studies, Rate or rhythm control for recurrent atrial fibrillation. Canberra: National Health and Medical Research Council; 2008

Glossary of Abbreviations

| | |
|--------------|---|
| ACS | Acute Coronary Syndrome |
| AF | Atrial Fibrillation |
| ALS | Advance Life Support |
| BLS | Basic Life Support |
| BSL | Blood Sugar level |
| CHADS | Congestive heart Failure, Hypertension, Age, Diabetes Mellitus, Stroke (or TIA) |
| CPR | Cardiopulmonary Resuscitation |
| DC | Direct Current |
| ECG | Electrocardiogram |
| FBC | Full Blood Count |
| IHD | Ischaemic Heart Disease |
| INR | International Normalised Ratio |
| IV | Intravenous |
| LV | Left Ventricular |
| MI | Myocardial Infarction |
| PCI | Percutaneous coronary intervention |
| SOB | Shortness of Breath |
| TIA | Transient Ischaemic Attack |
| TOE | Trans Oesophageal Echo |

Contacts

Medical and Nursing staff are welcome to contact the following centres with any queries regarding AF.

| Hospital | Telephone | Other Information |
|---|------------|---|
| Fremantle Hospital | | |
| Cardiology | 9431 3333 | Main hospital number Ask for on-call cardiologist or cardiology registrar. |
| AF Clinic | | Please list a clinic if one is available |
| Royal Perth Hospital | | |
| General Cardiology During Business Hours | 9224 2244. | Main hospital number Ask for on-call cardiologist or cardiology registrar to be paged. Business hours advice on ECGs Fax: 9224 3175. |
| Out of hours advice: | 9224 2591 | Coronary Care Unit Or call main hospital number as above and ask for cardiology registrar to be paged. Out of hours advice on ECGs Fax: 9224 2605 |
| AF Clinic | | Tuesday AM – Dr Catanchin Wednesday AM – Dr Vince Paul Friday AM – Clinical Professor Rukshen Weerasooriya |
| Sir Charles Gairdner Hospital | | |
| Cardiovascular Medicine | 9346 3333 | Main hospital number Ask for on-call cardiologist or cardiology registrar to be paged. |
| Coronary Care Unit | 9346 1642. | |
| AF Clinic | | Monday morning |

Correct as of Dec 2010

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AF Guidelines

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<http://www.escardio.org/guidelines-surveys/esc-guidelines/Pages/atrial-fibrillation.aspx>
2. Revised 2008. New Zealand Guidelines Group (NZGG)
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3. 2006. National Institute for Health and Clinical Excellence (NICE)
<http://www.nice.org.uk/nicemedia/live/10982/30055/30055.pdf>
4. 2006 ACC/AHA/ESC Guidelines for the Management of Patients with Atrial Fibrillation
<http://content.onlinejacc.org/cgi/reprint/48/4/e149.pdf>
5. National Stroke Foundation Best Care Guide to Stroke Management in General Practice
<http://www.strokefoundation.com.au/stroke-management-gp>

Patient Information

1. The Atrial Fibrillation Association – Australia (AFA-AU) provides information, support and access to established, new or innovative treatments for Atrial Fibrillation (AF).
<http://www.atrialfibrillation-au.org/>
2. Heart Foundation – provides an atrial fibrillation information sheet.
http://www.heartfoundation.org.au/Heart_Information/Heart_Conditions/Atrial_Fibrillation/Pages/default.aspx
3. Living with Warfarin – Patient information booklet
http://www.health.wa.gov.au/docreg/Education/Population/Health_Problems/HP8948_warfarin_B.pdf

AF Working Group

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