

# Class 1 / 2 Certification – Atrial Fibrillation

Atrial Fibrillation

Unfit

Cardiology review (note 1)  
Blood tests  
Exercise ECG  
24 HOUR ECG(s)  
Echocardiogram  
Further tests as necessary

Initial results,  
stroke risk  
assessment,  
and  
treatment  
acceptable  
(note 2)

Class 1 OML  
Class 2 Unrestricted

Follow-up  
results and  
treatment  
acceptable  
(note 3)

Class 1 / 2 Unrestricted  
Follow-up (note 4)

## NOTES:

1) By a cardiological specialist

No significant symptoms and adequate rate control if paroxysmal persistent or permanent.

**Blood tests** – Thyroid function normal. Alcohol as a cause of AF should be excluded with a minimum of LFTs (to include GGT and MCV).

**Exercise ECG** – Bruce protocol and maximal effort or symptom limited on current treatment. At least 9 minutes with no significant abnormality of rhythm or conduction, nor evidence of myocardial ischaemia. (See UK CAA exercise ECG protocol)

**24 hr ECG** – More than one may be required. The following criteria should be met:

**If in sinus rhythm** – no episodes of AF and no pauses >2.5s whilst awake. Ventricular arrhythmia should not exceed an aberrant beat count >2% of total, with no complex forms.

**Established AF** – RR interval >300ms and <3.5s (i.e. no very rapid rates or long pauses).

**Paroxysmal, persistent & permanent AF** – As above plus the longest pause on recapture of sinus rhythm should not exceed 2.5s whilst awake.

**Echocardiogram** – Should show no significant selective chamber enlargement, or significant structural or functional abnormality, and an LVEF of 50% or more.

**Further tests** – may include repeat 24hr ECG recordings, electrophysiological studies, cardiac MRI, myocardial perfusion scanning and / or coronary angiography.

2) For class 1 certificate holders the cardiology report(s) will be reviewed by the CAA. Class 2 applicants will be re-certified by the AME in consultation with the CAA. It may be necessary to see the investigations, in which case the actual tracings / films / videos / CDs will be requested. In difficult cases a secondary review panel of cardiologists may be consulted.

**Risk Assessment** in addition to rhythm control, applicants must have an acceptably low risk of stroke as judged by the CHADSVasc score. See supplement guidance (Pilots with atrial fibrillation: [Assessment of Stroke Risk](#)). Only CHADSVasc scores of 0 and 1 are compatible with class 1 OML and class 2 unrestricted certification.

**Acceptable treatment for rhythm control** includes Sotalol (with QT interval monitoring), Bisoprolol or other beta-blocking drugs, Digitalis, Dronedarone (periodic blood testing required to check for hepatotoxicity), Diltiazem and Verapamil. Exceptionally Flecainide or Propafenone may be used in consultation with the CAA (with 6 months demonstrated stability). Amiodorone is normally unacceptable for class 1, but may be acceptable for class 2 (maximum dose 200mg daily, night flying will require ophthalmological review). Following initiation or change in medication to achieve compliance with criteria in note 1, flying may resume after 3 months if there is no further recurrence or if criteria are satisfied during recurrences.

**Acceptable treatment for anticoagulation** includes Coumadins (e.g. warfarin) and members of the Direct Oral Anti Coagulant class (DOACs). If a pilot is anti-coagulated with a Coumadin, 6 months stability of the INR (with at least 4 measurements within the target range) is required. Class 1 certification will require INR testing with a near patient testing device within 12 hours prior to flying and flight is only possible if the INR is within target range. A pilot taking a DOAC without side effects may return to flying at 3 months and renal function must be monitored.

3) Initial cardiological follow-up should be 6 monthly to include a minimum of 24 hour ECG monitoring. Subsequent follow-up at the discretion of the CAA, normally annual cardiological review with 24hr ECG and echocardiogram. Other tests if clinically indicated.

4) After 2 years follow-up for class 1, only applicants with single original episode of AF with no recurrence may be able to achieve unrestricted class 1 certification. Subsequent follow-up normally annual with 24hr ECG.

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