

JAA Class 1/2 certification - Aortic valve stenosis

Aortic valve murmur

Flying may need to be restricted
(note 1)

If no cardiac symptoms:

Cardiology review (note 2) to include:
Echocardiography
Other investigations as necessary
(ie: [Exercise ECG](#))

**Results acceptable
to the AMS (note 3)**

**Certification based on echocardiogram
findings and clinical assessment**
(note 4)

Follow up (AMS - note 5)

NOTES:

- 1) May require OML (Class 1) or OSL (Class 2) whilst under investigation.
- 2) By a cardiologist acceptable to the Aeromedical Section (AMS). Systolic function should be normal (EF >60%) and Aortic valve calcification should be minimal.
- 3) The cardiology report will be reviewed by the AMS. It may be necessary to see the investigations in which case the actual tracings/films/videos will be requested. In difficult cases a secondary review panel of cardiologists will be convened.
- 4) The principal measurement to determine medical certification of pilots with aortic stenosis is aortic valve area during echocardiography. Suggested certificatory assessment, based on European Society of Cardiology Guidelines:

VALVE AREA	MEAN AORTIC GRADIENT (Echo-Normal flow conditions)	SEVERITY	CERTIFICATION
>1.5cm ²	0 - 30 mm Hg	Mild	Unrestricted Class 1/2
1-1.5cm ²	30 - 50 mm Hg	Moderate	Class 1 OML / Unrestricted Class 2
<1cm ²	> 50 mm Hg	Severe	Unfit all classes

Indexing valve area to Body Surface Area (BSA) can be useful in cases of unusually large or small BSA (Moderate 0.6-0.9cm² /m² ; Severe <0.6cm² /m²)

However, other factors will need to be considered in each case, including:

- Left ventricular hypertrophy
- Reduced left ventricular diastolic function
- Reduced left ventricular ejection fraction
- Aortic regurgitation
- Pull back pressure gradients measured during catheter studies are 10-15 mm Hg lower than echocardiographically measured peak pressures

- 5) Follow up at the discretion of the AMS - at least annual echocardiography if mean pressure gradient 30 mm Hg or more.

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