

# Class 1/2 certification - Aortic valve stenosis

**Aortic valve murmur**

Limitation may need to be applied  
(note 1)

**If no cardiac symptoms:**

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

**Results acceptable**

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

**Follow up ( note 5)**

**NOTES:**

- 1) May require OML (Class 1) or OSL (Class 2) whilst under investigation.
- 2) By a cardiological specialist. Systolic function should be normal (EF >50%) and aortic valve calcification should be minimal. A history of systemic embolism is disqualifying.
- 3) The cardiology report will be reviewed by the Authority Medical Section (AMS) for class 1 and by the AME for class 2. 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) Bicuspid valve: may be assessed as fit if no other aortic abnormality is demonstrated. The principal measurement to determine fitness for 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<br>(Echo-Normal flow conditions) | SEVERITY | CERTIFICATION                      |
|-------------------------|---|----------|------------------------------------|
| >1.5cm <sup>2</sup>     | 0 - 20 mm Hg  | Mild     | Unrestricted Class 1/2             |
| 1.0 -1.5cm <sup>2</sup> | 20 - 40 mm Hg   | Moderate | Class 1 OML / Unrestricted Class 2 |
| <1.0cm <sup>2</sup>     | > 40 mm Hg  | Severe   | Unfit*                             |

Indexing valve area to Body Surface Area (BSA) can be useful in cases of unusually large or small BSA (Moderate-0.6-0.85cm<sup>2</sup> /m<sup>2</sup>; Severe <0.6cm<sup>2</sup> /m<sup>2</sup> )

However, other factors 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

\*Cases with a mean gradient of 40-50mmHg and favourable other factors may be considered for class 2 OSL

- 5) Follow up: at least annual echocardiography if mean pressure gradient 20 mm Hg or more.

**PLEASE PRINT THIS DOCUMENT AND TAKE TO YOUR SPECIALIST ADVISOR**