

# Bicuspid Aortic Valve



**Children's Heart Centre**  
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## What is a bicuspid aortic valve?

A bicuspid aortic valve (BAV) is a common heart condition developed before birth. A BAV has two sections that form the valve, rather than the usual three (see diagram).

BAV can run in families so your cardiologist may recommend other family members also see a specialist. The cause of a bicuspid aortic valve is not known. Experts do not think this is caused by anything that the mother has done during pregnancy.

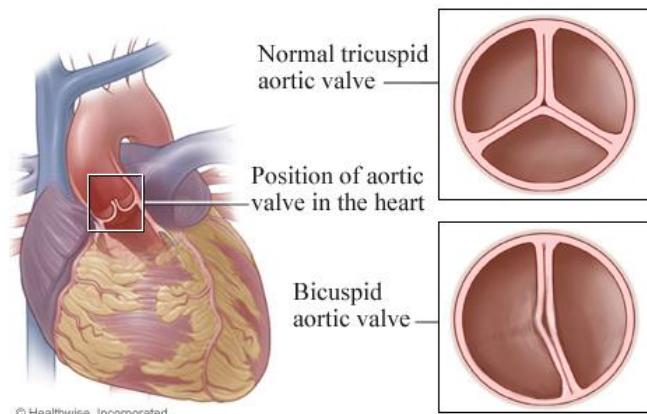
## How does a BAV affect the heart?

There are 4 valves in the heart. The job of each valve is to open and close as blood pumps forward with each heartbeat. Closed valves prevent backward flow.

The job of the aortic valve is to open and allow the blood to travel from the left ventricle (bottom left chamber of the heart), through the aorta (the largest blood vessel in the body) out to the body.

## A bicuspid aortic valve may:

- A) Work and function normally
- B) Become stiff over time and unable to open fully (aortic stenosis). With aortic stenosis the left ventricle needs to squeeze harder to push the blood through the valve.
- C) Become stiff and unable to close properly so some blood leaks back (aortic regurgitation). With this leaking, the left ventricle has to pump more blood through the valve.
- D) Have some degree of B) stenosis and C) regurgitation. The doctor will use the terms mild, moderate or severe to describe the amount.



<https://www.webmd.com/heart/bicuspid-aortic-valve>

## How is a BAV diagnosed?

A doctor may recognize BAV by hearing a murmur or click when physically examining a child. Diagnosis is confirmed by echocardiogram, a painless ultrasound picture of the heart that shows the doctor what the valve looks like and how well it is working.

## Is special treatment or follow up needed?

YES! Everyone with a BAV should have regular medical follow up with an echocardiogram from time to time. This is because all valves will change over time, especially as your child grows. This is usually a slow process over many years, but may lead to more stenosis, or regurgitation, as well as changes in the aorta. This is because the abnormal blood flow from the valve can affect the wall of the artery.

A BAV does NOT require special dental antibiotics (Infective endocarditis precautions). However, good dental hygiene is very important.

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**My Heart/My instructions given on date:** \_\_\_\_\_

- No stenosis or regurgitation:** Watch for changes over time with regular follow up and testing
- No aortic root dilatation:** Watch for changes over time with regular follow up and testing
  
- Mild stenosis:** Watch for changes over time with regular follow up and testing
- Mild regurgitation:** Watch for changes over time with regular follow up and testing
- Mild aortic root dilatation:** Watch for changes over time with regular follow up and testing
  
- Moderate stenosis:** Watch for changes over time with regular follow up and testing. Follow exercise guidelines.
- Moderate regurgitation:** Watch for changes over time and possibly use medication to ease the work of the left ventricle to prevent long term changes to the heart. Follow exercise guidelines.
- Moderate aortic root dilatation:** Watch for changes over time. Follow exercise guidelines.
  
- Severe stenosis:** Intervention to open the valve is necessary. This may be done during a procedure called a cardiac catheterization in which a balloon is used to stretch open or dilate the valve. Sometimes an operation to repair or replace the valve may be necessary.
- Severe regurgitation:** Close follow up is required. Intervention may be required. Usually an operation to replace the valve is recommended.
- Severe aortic root dilatation:** Intervention is required. An operation to replace the root is recommended. Sometimes an operation to replace the valve is needed. Your intervention will be designed for just for you.

**Next Appointment:**

**Symptoms to watch for:**

**Exercise Restriction:**