

MANAGING YOUR THORACIC AORTIC ANEURYSM AND BICUSPID AORTIC VALVE

WHAT IS THE PROBLEM?

A “ballooning out” of the main blood vessel that exits your heart to supply blood to the rest of your body (the ‘aorta’), sometimes associated with a common birth abnormality of the heart called Bicuspid Aortic Valve (BAV).

WHY IS IT DANGEROUS?

The ‘ballooned out’ aorta is thinner and more fragile than a normal blood vessel, and can be at risk for complete or partial rupture (also called ‘aortic dissection’), and can also cause a leaky heart valve. BAV is strongly associated with aortic valve problems that often require intervention in younger patients.

HOW DID I GET IT?

Mostly a genetic risk that you were born with. Environmental factors such as high blood pressure and smoking may affect the course of the disease.

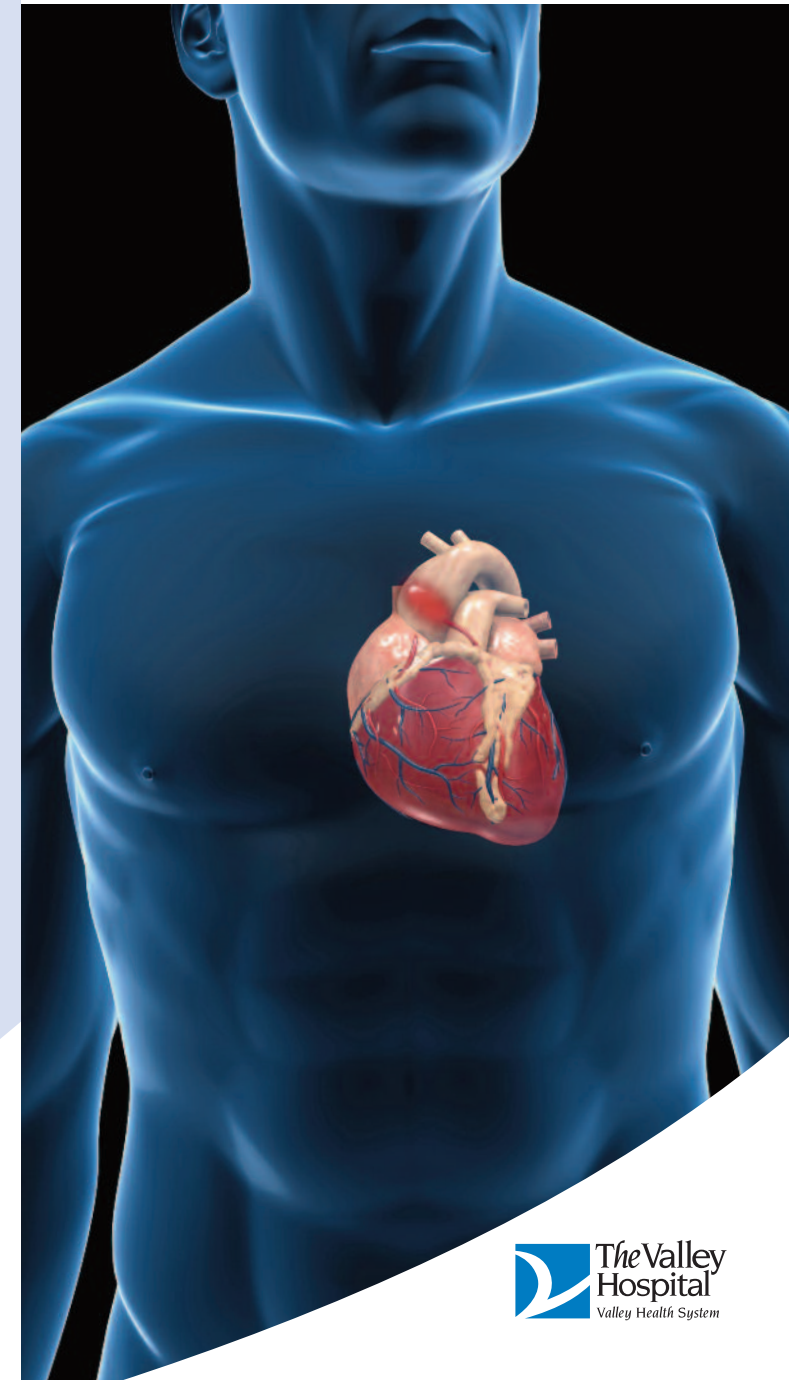
DOES IT EVER GO AWAY ON ITS OWN?

No, and the natural history is for the aneurysm to continue to grow over time. BAVs can function normally for life, but require close surveillance.

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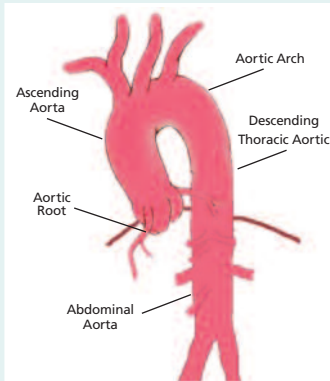
THE THORACIC AORTIC ANEURYSM AND BICUSPID AORTIC VALVE (TABAV) PROGRAM AT THE VALLEY COLUMBIA HEART CENTER

A systematic and comprehensive approach to your chest (thoracic) aneurysm and bicuspid aortic valve (BAV)

FIRST STEP: DIAGNOSIS AND ANATOMY

Thoracic aneurysms are often found incidentally by echo (cardiac ultrasound) or chest CT scanning.

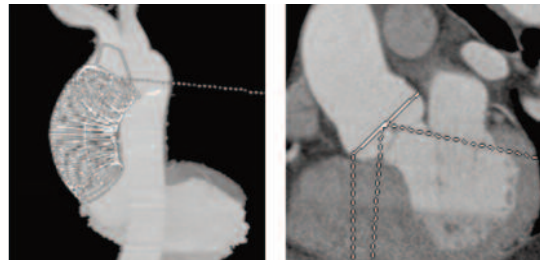
They occur in predictable locations (**especially with BAV**), alone or in combination, and the location of the aneurysm(s) has important implications on risk as well as specific management. **Aortic valve issues (leaking or blockage)** are commonly associated with both BAV and thoracic aneurysm, and can be detected by cardiac ultrasound. BAV-associated aneurysms exhibit more aggressive behavior in general. **Most patients will warrant surveillance and counseling alone.** Rarely an intervention will be indicated to prevent a complication, ranging from stenting to open heart surgery.



NEXT STEP: RISK ASSESSMENT

Symptoms – the most important predictor of aortic complications. Fortunately most patients are completely asymptomatic. Chest, back or throat discomfort, **especially associated with high blood pressure**, may occur. Often, symptoms dictate urgent or even emergent intervention.

Significant personal or family history of connective tissue disorders (Marfan Syndrome), Bicuspid Aortic Valve (BAV), aneurysms and especially aneurysm-related events or premature death of a first degree relative.



Quantitative analysis of 3-D reconstructed images.

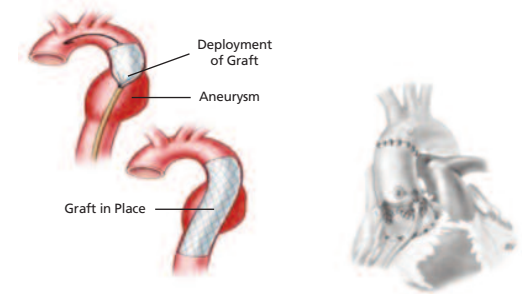
Anatomic features: Most doctors pay attention to only one important detail: the maximum diameter of the aneurysm. We use established as well as newly developed **sophisticated techniques to better define individual risk.** These include comparing aneurysm diameter to overall body dimensions (relative, rather than absolute, aortic size), and we have developed advanced and unique 3-D imaging techniques that **can diagnose BAV when cardiac echo cannot**, and detect subtle changes in aneurysm characteristics over time. Certain aneurysms **smaller than even 5 cm** may require intervention.

FINAL STEPS: COUNSELING AND SURVEILLANCE

- Smaller aneurysms that do not require an intervention still carry a real risk of complications, and these events often occur in the setting of surges in blood pressure.
- Heart rate and **blood pressure** must be tightly controlled with medications. Home blood pressure monitoring is ideal.
- Patients cannot participate in activities that result in temporary dramatic increases in blood pressure: heavy lifting or **straining of any kind.**
- Long-Term Surveillance: Enrollment in the **TABAV Registry**, which assumes all responsibility for arranging cardiac ultrasound (echo), CT Scan/MRI, and follow-up phone interviews at 6-, 12-, or 24-month intervals to **detect interval changes in the aneurysm or BAV** that suggest 'malignant behavior' and the need for intervention.

IF AN INTERVENTION IS MANDATED

We utilize an approach to aneurysm surgery that has been associated with the most advanced 'brain and heart protection', and our survival rates for elective aortic surgery are 99 percent over the last 5 years. We specialize in treatment of all **thoracic aneurysms**, and particularly those involving the **aortic root**,



including a highly specialized, valve-preserving operation called the '**David**' procedure. Another focus of our program is treating aneurysm in patients who have had **previous heart surgery**, utilizing both traditional and hybrid (endovascular stent-grafting) approaches. One other focus of the TABAV is **Aortic Valve Repair** for both BAV and tri-leaflet aortic valve leaking.

For more information, please call 201-447-8418 or e-mail us at webinfo@valleyhealth.com.



THE VALLEY
HEART &
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INSTITUTE

The Valley Hospital Heart and Vascular Institute builds upon the expertise of more than 60 Valley cardiologists, invasive cardiologists, electrophysiologists, cardiac surgeons, and vascular surgeons to provide a continuum of prevention and wellness services, diagnostic and treatment services, research, and education for all types of cardiac and vascular disease.