

Cardiac Sonographer Network News

1.800.443.9898 childrenshospitalofil.org

Winter 2013

Welcome to the newsletter created just for you: sonographers who perform pediatric echocardiograms in a primarily adult echo lab and for interested referring physicians. Each issue features tips on echocardiography of congenital heart disease, short case reports, congenital heart center news, and information on upcoming educational programs.

We send this newsletter as an electronic file each quarter. If you or any of your colleagues would like to be on our distribution list, please send an email to:

gregory.b.frary@osfhealthcare.org

Please include your name and facility affiliation.

Copies of all of our newsletters can also be accessed on our website at

www.childrenshospitalofillinois.org

Click on **"Services and Clinics"** in the top center of the page, then click on **Cardiology/Congenital Heart Center** then click "Sonographer Newsletters" under "PROGRAMS"

We want you to be successful in performing studies even on newborns that may have critical heart disease. After all, prompt diagnosis and emergency treatment will yield the best outcome for our patients. If you have any questions regarding necessary views or anatomy while doing an emergent echo, please call the Congenital Heart Center "on call" cardiologist. They will always be glad to speak with you. The "on call" cardiologist can be reached by calling 309.655.7257.

Thank you for your efforts to provide the best diagnostic images for children and adults suspected with congenital heart disease. We look forward to hearing from you!

Demystifying Fetal Echocardiography:

Are you interested in fetal echocardiography? Attend our 3rd annual “Demystifying Fetal Echocardiography” seminar. It will be held Saturday, October 12, 2013. Please call 309.655.2254 for information and a brochure.



We have a new Technical Director...

Our present Technical Director, Sue Bally retired effective December 31, 2012. This will give her an opportunity to spend more time with her husband, children, and grandchildren as well as to take time to travel. Sue has been our technical director since 2003. She has had a long and rewarding career in many areas of medicine including nursing, vascular sonography, adult echo, congenital echo, and fetal echocardiography. We wish her the best! Sue will continue to work with us on a PRN basis performing fetal echocardiography.


We welcome Rebecca “Becky” Looney as our new technical director. Becky comes to us from Little Rock, Arkansas where she worked at Arkansas Children’s Hospital as the lead sonographer in the Echo lab.

Sonographer Tip:

Imaging the Bicuspid Aortic Valve... What's the Big Deal?

Circulation

JOURNAL OF THE AMERICAN HEART ASSOCIATION

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Frequency by Decades of Unicuspid, Bicuspid, and Tricuspid Aortic Valves in Adults Having Isolated Aortic Valve Replacement for Aortic Stenosis, With or Without Associated Aortic Regurgitation
William C. Roberts and Jong M. Ko

Circulation 2005, 111:920-925; originally published online February 14, 2005
doi: 10.1161/01.CIR.0000155623.48408.C5

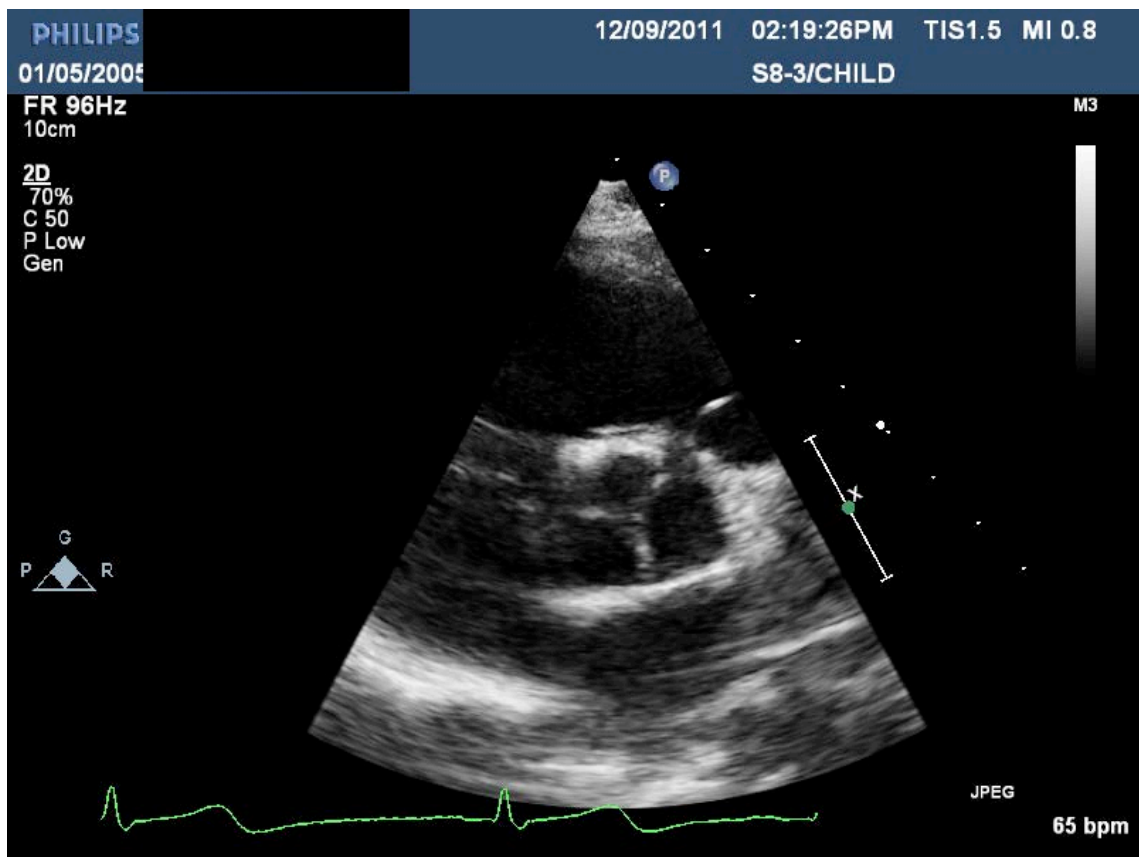
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75214

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From this article 932 patients underwent aortic valve replacement in adulthood 504 had congenitally malformed valves, and **458 were bicuspid**.

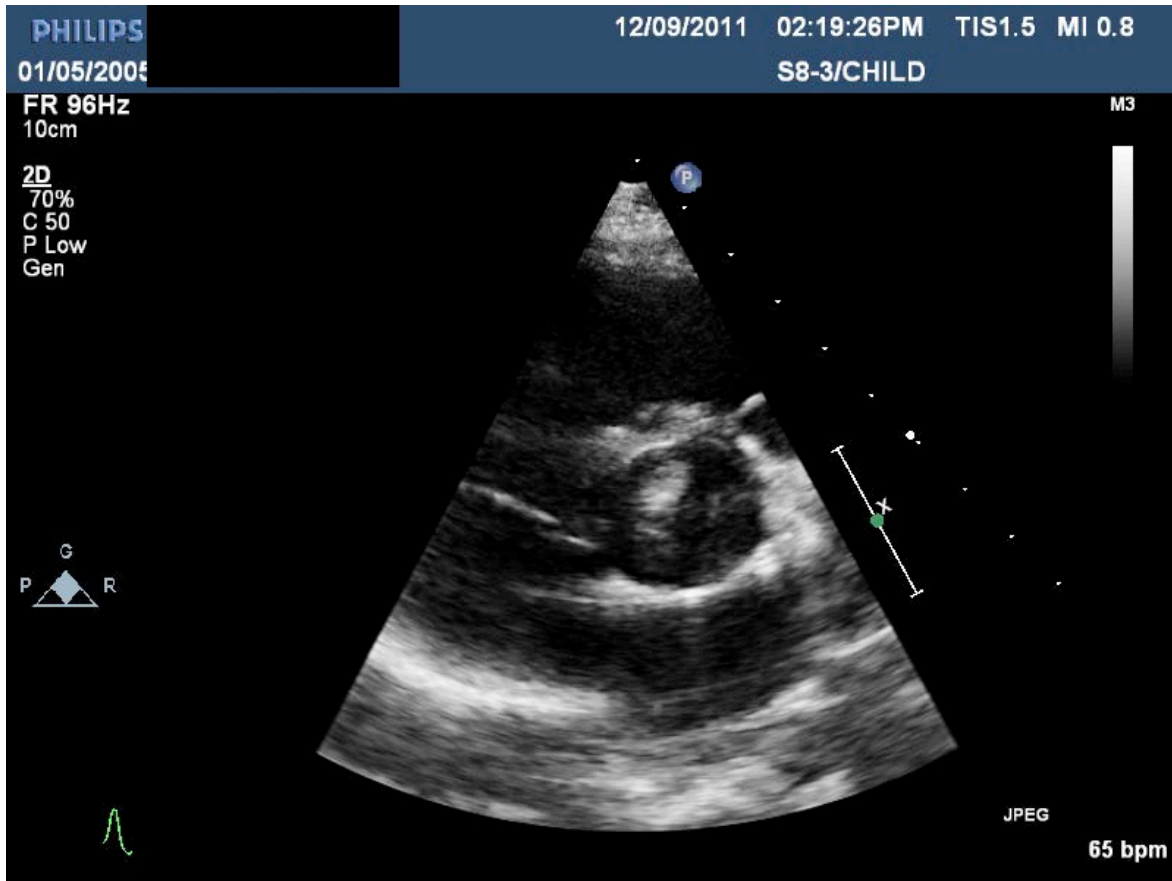
7,592 Aortic Valve Replacements (2007 U.S.Data)Therefore, approximate surgeries due to BAOV is 8,800. What is the morbidity and mortality? Who Knows What The Economic Cost Really Is?

So, therefore a bicuspid aortic valve can be a really big deal, and we owe it to our patients to make an accurate diagnosis.



Is this a normal or abnormal aortic valve?

This is the same patient as above showing how the valve looks when its open.



Is this a normal or abnormal aortic valve?

To confirm that an aortic valve is a normal tri-leaflet valve, you must show how the leaflets open- not how they look when closed.

A little embryology: Raphe (pronounced rayfee) are the embryologic precursors to the valve cusp margins(commisures). In many, but not all abnormal aortic valves, these raphe can be seen on echo when the valve is closed making it appear that there are three distinct commissures. Normally these raphe split to form the commissures of the valve. If these raphe don't develop normally, the valve will not open normally and can cause long term problems for the patient.

*Its Not How the Valve Looks
When Closed...*

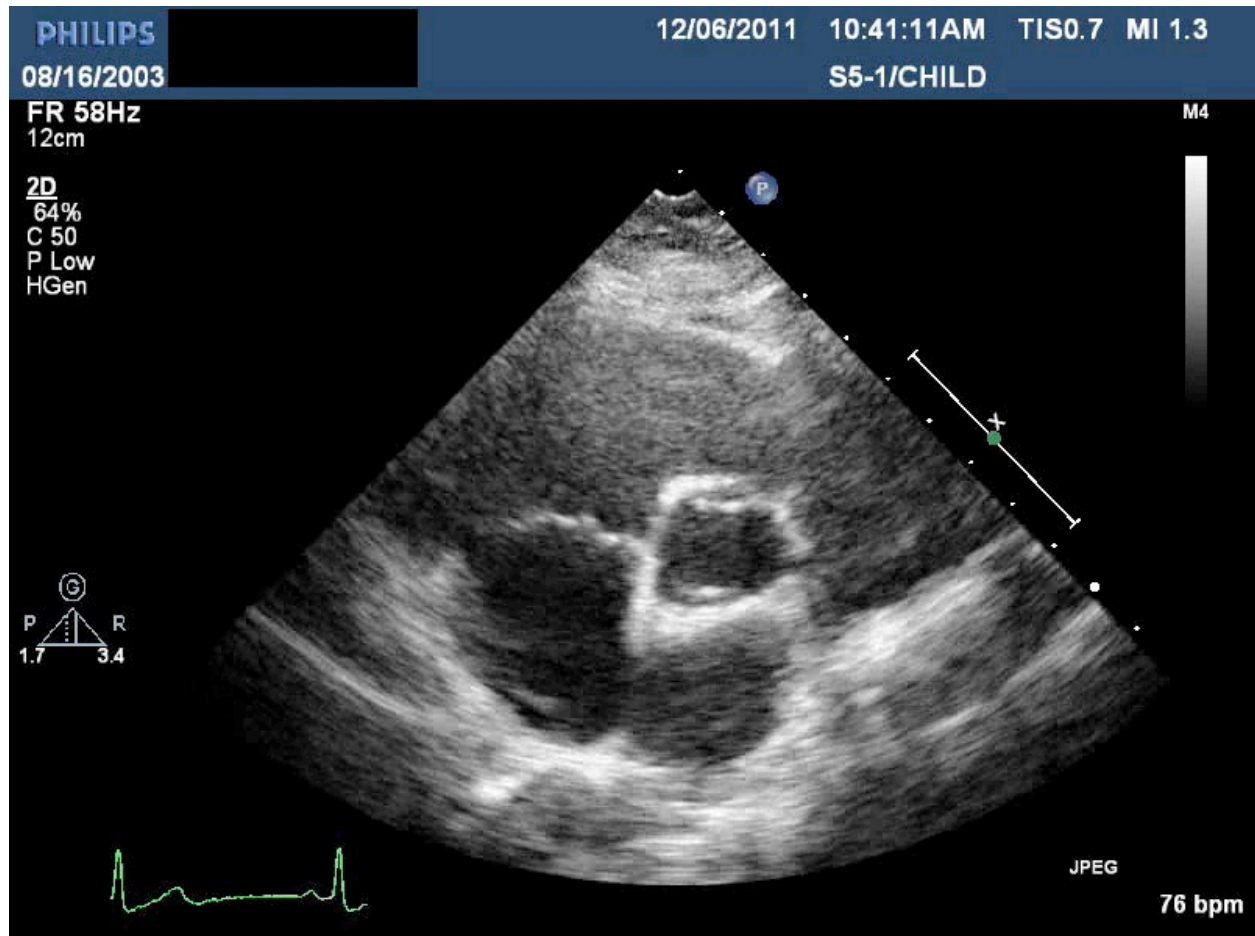
*Its How the Valve Looks
When it Opens!*

Remember:

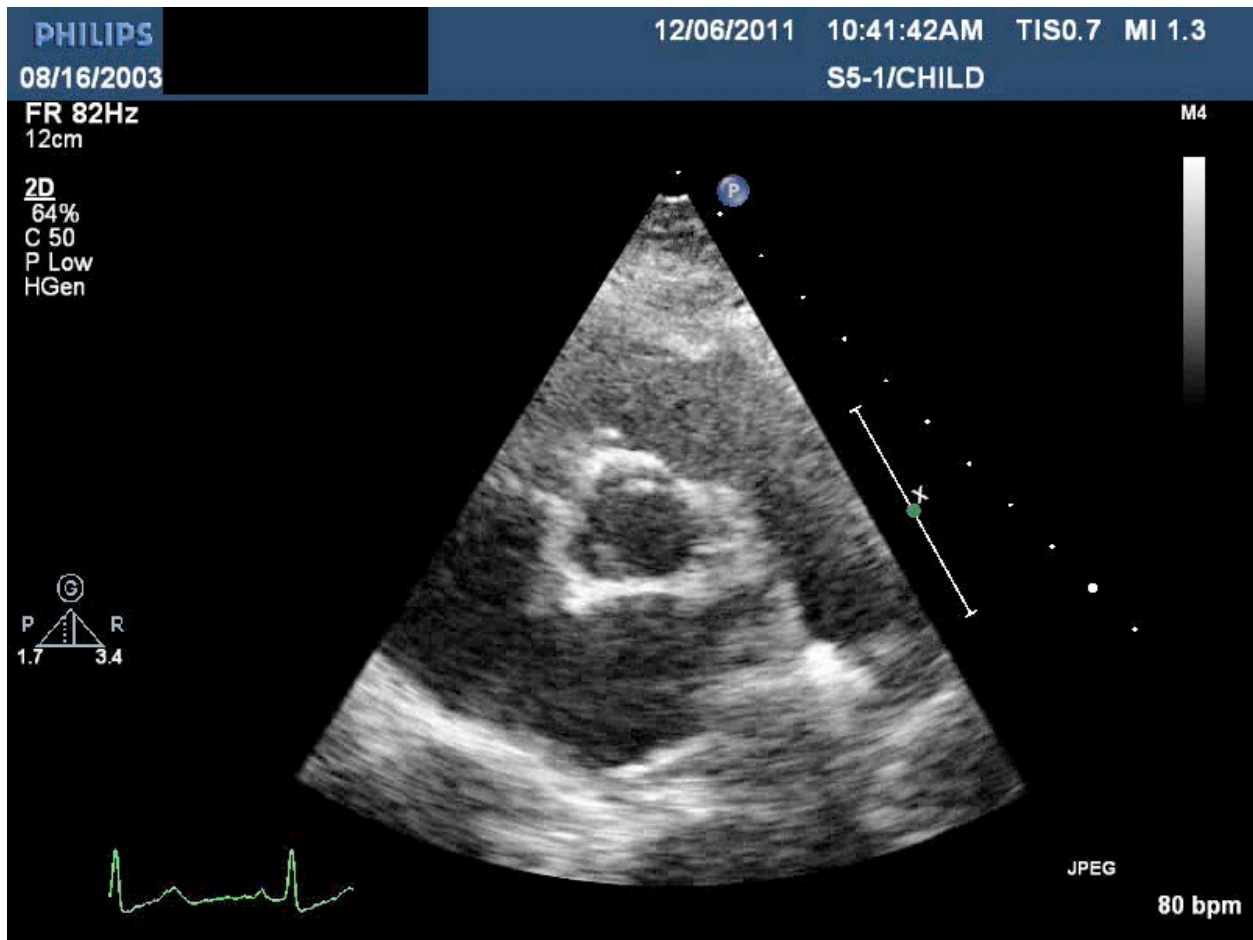
*Its Not How the Valve Looks
When Closed...*

*Its How the Valve Looks
When it Opens!*

Remember your physics... axial resolution is better than lateral resolution. The very thin left coronary cusp is generally parallel to the ultrasound beam and can easily be missed! This can sometimes make a normal aortic valve look bicuspid. Remember, you MUST see all three cusps open normally (to a triangular shape) to confirm a normal aortic valve.



Same patient with slight sliding movement toward sternum now shows that very thin left coronary cusp.



To see these clips in real time click on this link

http://www.youtube.com/watch?v=gGb6_PxhFu4&feature=youtu.be&hd=1

For additional study on this fascinating form of congenital heart disease, see the following selected bibliography.

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