



# TEAM Newsletter

VOLUME 2/ May 10, 2009

*Purpose: Echocardiography is the most common imaging technique for the diagnosis and management of a wide range of cardiovascular disorders. Over the past several years, the clinical use of echo has expanded significantly. Our goal is to provide information, education, and to become an invaluable resource for all those interested in broadening their knowledge in the field of Echocardiography.*

Topic for Review:  
Aortic Stenosis (AS)



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Make Plans Now to Join Us at The Next TEAM Events for 2009 & 2010

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TEAM Website Celebrates nearly 40,000 Requests

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TEAM Conference 2009 : Helping You Meet Your Educational Goals

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## JOB WATCH

**Echocardiographer:**  
Froedtert Hospital  
Full & Pt. Time, 1st Shift  
[www.careers.froedtert.com](http://www.careers.froedtert.com)

**Echo Sonographer**  
Waukesha Memorial  
Part Time  
[www.proheathcare.org](http://www.proheathcare.org)

**Echo/Vascular Specialist**  
University of WI Hospital  
Full Time  
[www.uwhealth.org](http://www.uwhealth.org)

**Echo Sonographer**  
West Allis Memorial  
Part Time  
[www.aurora.org](http://www.aurora.org)

**Echo Sonographer**  
William F. Middleton  
Memorial VA Hospital  
Full Time  
[www.madison.med.va.gov](http://www.madison.med.va.gov)

For more job information please visit:  
[www.careerjet.com](http://www.careerjet.com) or [www.jobs.com](http://www.jobs.com)

## Topic in Review: Aortic Stenosis (AS)

*The use of 2-D and Doppler echocardiography for assessing cardiac hemodynamics for the evaluation of valvular heart diseases has become increasingly dependent on the echo exam. Here's a quick topic review of aortic stenosis (AS)*

A normal aortic valve (AV) has three thin cusps and an unrestricted systolic opening. The area of a normal AV is 3 - 4 cm<sup>2</sup>. The most common form of AS is caused by degenerative valvular calcification. The leaflets become thickened and calcified over time decreasing systolic opening. Aortic stenosis (AS) may occur at one of three levels: valvular, subvalvular or supra-valvular.

Valvular AS has 3 main causes:

1) Calcific/degenerative AS is associated with aging. Minor thickening of the AV is found in 20% of the population above the age of 65 and 40% of those older than 75.

2) Rheumatic heart disease occurs in isolation in only 2% of the population and it is usually associated with mitral valve disease.

3) Congenital bicuspid valve is found in 1-2% of the population and a bicuspid AV is found in about 40% of middle-aged individuals with AS.

Figure 1: Valvular AS



Subvalvular AS is caused by obstruction proximal to the aortic valve. This may be attributed to : a subaortic membrane, a hypertrophic cardiomyopathy, or a tunnel subaortic obstruction, or an upper septal bulging which is due to fibrosis and hypertrophy, usually seen in elderly individuals.

Supra-valvular AS occurs in some congenital conditions such as Williams syndrome (which includes growth failure and mental retardation.)

Echo is an excellent and important method of assessing the degree of severity of AS, but remember there are important clinical features to consider which might suggest severe AS. 5 A - Symptoms 5 AS may be:  
1. Asymptomatic, 2. Angina, 3. Arrhythmia, 4. "Attacks of unconsciousness" or (syncope), 5. "Asthma-like symptoms (cardiac caused).  
(Continued on page 2)

# Comments Regarding TEAM Conference 2009

TEAM Conference 2009 was held at The Grand Geneva Resort in Lake Geneva, WI on April 4-5. Here's what our Attendees had to Say:

## Content Quality

80% of our attendees found the Content Quality to be Excellent  
15% Found it to be Very Good  
5% Reported it to be Good

## Accommodations

75% of our attendees found the Accommodations to be Excellent  
20% Found it to be Very Good  
5% Reported it to be Good

## Registration

75% of our attendees found the Registration to be Excellent  
15% found it to be Very Good  
5% Reported it to be Good

## Environment

80% of our attendees found the Environment to be Excellent  
10% Found it to be Very Good  
5% Found it to be Good

## Audiovisuals

75% of our attendees found the Audiovisuals to be Excellent  
20% Commented Very Good  
5% Reported Good

## Food and Beverage

90% of our attendees commented the Food & Beverage to be Excellent  
5% Commented Very Good  
5% Reported Good

## Topic in Review: Aortic Stenosis (AS)



### Clinical Evidence of Severe Aortic Stenosis

A patient with severe AS can be *asymptomatic* - AS is often an incidental finding. *Angina* - Even with normal coronary arteries, a patient may complain of chest pain caused by an increase in left ventricular (LV) oxygen demand, due to elevated wall stress or left ventricular hypertrophy (LVH). A patient may present with a complaint of palpitations due to an *arrhythmia*. An "*attack*" of *unconsciousness* or syncope may be caused by an arrhythmia or a left ventricular outflow tract obstruction (LVOT) but not always related to pressure gradient across the valve. A patient may present with "*asthma-like symptoms*" where a patient may appear breathless, due to raised LV diastolic pressure. It is not true asthma. Pulmonary edema which can lead to wheezing due to LV failure in severe AS is a very serious and often fatal occurrence taking place in the late disease process.

The severity of AS is not always related to the loudness of the murmur. Turbulent flow across a mildly narrowed valve can cause a very loud murmur. Also, a severely narrowed valve may cause a restriction of blood flow and possibly cause a very soft murmur.

### Echo Assessment of Aortic Stenosis

The m-mode features of AS will sometimes have dense echoes throughout systole and diastole, which may make cusp movement difficult to see. The 2-D echo using parasternal long and short axis views along with the apical 5 chamber view should demonstrate the aortic cusps which may be thickened, calcified and found to have reduced motion. The cusps may also appear to "dome" - which is usually in itself

diagnostic of AS. There may be LVH due to pressure overload. LV dilatation occurs if heart failure has developed and is usually a poor prognostic feature. In some cases, post-stenotic dilatation of the aorta may be seen.

Doppler is most useful in determining the severity of AS by estimating the pressure gradient across the AV. The aortic valve area can be calculated by using the continuity equation. Severity of AS correlates with valve area, peak velocity across the valve, peak pressure gradient and mean pressure gradient-which is often more accurate than the peak. The AV pressure gradients depend on cardiac output. They can be overestimated in high output states such as anemia and underestimated in low output states such as systolic heart failure. The continuity equation helps in this case. The principle is simple: the same volume of blood that leaves the LV in a given time must be the same volume that crosses the AV and enters the aorta.

All available transducer windows should be used to obtain the Doppler signal most parallel with the direction of the stenotic jet flow, which will provide the highest velocity recording. A non-imaging continuous wave Doppler transducer is smaller and easier to manipulate between ribs and in the suprasternal notch. A complete echo exam should provide a comprehensive structural, functional and hemodynamic assessment of the valve. With this information, physicians can better decide on the optimal treatment strategy for our patients.

*This article is presented by Jan Samolyk, RDCS and is adapted from "The Echo Manual" by, Oh, Seward and Tajik and "Echo Made Easy" by Kaddoura*

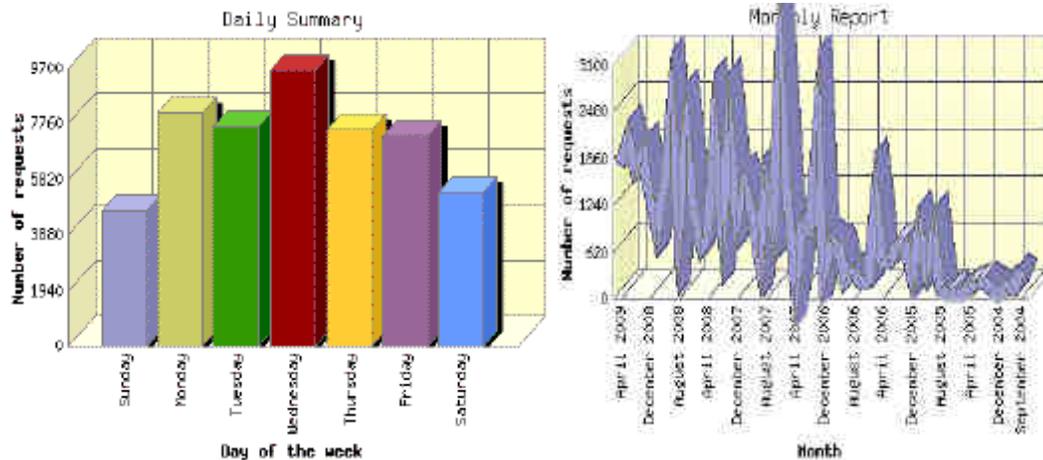


24th Annual  
"Advances in Contrast Ultrasound"  
ICUS Bubble Course 2009  
OCTOBER 22-23, 2009  
The Millennium Knickerbocker Hotel  
Chicago, IL USA  
Two days of expert presentations & lively discussions by  
some of the world's leading experts from around the world  
Director: Steven B. Feinstein, MD  
Co-Directors: Barry Goldberg, MD and Stephanie Wilson, MD



Contact: Ms. Geri Somerville, gsomervi@rush.edu

## TEAM Website Report: Over 40,000 Requests



# 4 2009 TEAM Events

Please mark your calendars for our upcoming events for 2009. Our meetings are designed to be educational and informational with plenty of time for networking.

○ | **June 4, 2009**

Join us at United Health Systems  
St. Catherine's Campus  
9555 76th Street, Kenosha  
(East on Hwy. 50)

*"Interesting Cases in Review"*

Dr. Carroll Martin, Presenter  
He is a great teacher and you don't want to miss this meeting.  
1 AMA Credit Available  
1.5 CEU for sonographers

○ | **July 17, 2009**

This year we will offer a Meeting from 6:00 p.m. - 7:00 p.m. And then the TEAM Summer Sizzle will follow. Look for a postcard in the mail  
Location & Topic: TBA

○ | **September 15, 2009**  
**TEAM 6th Anniversary**

ASMC- Milwaukee Heart Institute  
960 N. 12th Street - Milwaukee  
First Floor Conference Room  
Join Us for an exciting evening!

○ | **November 11, 2009**

This TEAM Meeting will be a ICAEL Workshop Event. We will focus on the accreditation process & Quality Assurance. It will be an informative sharing of information. Location: TBA

### About Our Meetings

Dinner at 5:30 p.m.  
Meeting at 6:30 p.m.  
Discussion at 7:30 p.m.  
Remarks & Dismissal 7:45 p.m.  
RSVP to all of our Events by calling  
414-219-5563 or email:  
teamecho\_3@hotmail.com

In September 2004, we celebrated our First Anniversary by launching our website. Since that time, we have been able to post Newsletters, Job Openings, Meeting Schedules, Pictures from meetings and Case Reviews. Our busiest times precedes our TEAM Conferences and the busiest day of the week is Wednesday.

If you have ideas or suggestions for the website, please contact us at [www.teamech04u.org](http://www.teamech04u.org) (as in '04) or via email: [teamecho\\_3@hotmail.com](mailto:teamecho_3@hotmail.com)

## TEAM Meetings 2010

"Taking Our Show on the Road"



As a TEAM member, you have a unique opportunity to help plan our calendar and meeting agendas for 2010. Please consider hosting a meeting at your place of work or suggesting a topic. We have the following dates available:

January 20 or 21, 2010

March 24 or 25, 2010

June 2 or 3, 2010

July 16, 2010 - Summer Sizzle Meeting

September 22 or 23, 2010

November 17 or 18, 2010

Dinner starts at 5:30 p.m.

Meeting begins at 6:30 p.m.

Questions & Answers 7:30 p.m.

Announcements/Dismissal at 7:45 p.m.

Please send an email to:

[teamecho\\_3@hotmail.com](mailto:teamecho_3@hotmail.com) and to let us know when you will host a meeting.



Ultrasound Imaging Now

Possible with a Smartphone

On April 24, Technology.Am, announced that Washington University Computer engineers have developed a USB-based ultrasound probe technology with a smart-phone. This will enable a compact, mobile platform and a medical imaging device to capture ultrasound images of pregnant women and blocked carotid arteries, display them immediately on a screen and send images just as you would send a text message or a video message. It will be small enough to fit in the palm of your hand.

William D. Richard and David Zar have made commercial USB ultrasound probes compatible with Microsoft Windows Mobile-based smart phones. Richard and Zar demonstrated a fully functional smartphone at Microsoft Research Techfest 2009 World Health Care Congress held in Washington, DC from April 14-16, 2009. How long will it be before the Smartphone Technology arrives in an Echo Lab near you?

○ EDUCATION   ○ INFORMATION   ○ NETWORKING

**TEAM: Together Everyone Accomplishes More**  
[www.teamech04u.org](http://www.teamech04u.org) (as in '04)

## CME and CEU on the WEB:

*Some free, some for a fee*

www.Asecho.org  
www.Echo-web.com  
www.SDMS.com  
www.SVUNet.org  
www.Biosound.com  
www.PhilipsUltrasound.com  
www.Sonocredits.com  
www.Siemens.com  
www.GE.com  
www.TheHeart.org  
www.freeCME.com  
www.cmeweb.com  
www.studentdoc.com  
www.modernmedicine.com  
www.ama-assn.org



It's not too late to sign up for ASE Scientific Sessions June 6 - 10, 2009 at the Gaylord National Hotel & Convention Center in Washington, DC  
You may earn up to 36 CME credits for the sessions and experience the cutting edge of echo from experts from around the world. Find out more at [WWW.asecho.org](http://WWW.asecho.org) and sign up today on line

# Helping You Meet Your Educational Goals

## DISCIPLINE MATTERS

Although we understand the process of selecting a location and inviting great speakers, we are forever learning in the area of obtaining CME credits for our meetings. It seems that each year there are different regulations to address. We have been fortunate to have ASE provide CEU's for sonographers for all of our meetings. Those of you who attended all of the sessions, were awarded 10 CEU's. This year, Waukesha Memorial Hospital provided 6.5 CME's for physicians for our Conference thanks to the hard work of Jerry Cook, for which we are incredibly grateful.

Although the talks themselves were educational and relevant, due to difficulties with some of our speaker's disclosure status, their talks were not approved for CME's. This was very disappointing. We will continue to work hard and strive to provide approved CME's for all of our members. We've included a list of on-line sites that provide CME credits in this newsletter. Our next meeting in Kenosha is approved for 1 AMA Category 1 credit and 1.5 CEU's, in case you need a few more credits for this year. We want you to know that we are working hard to help you meet your educational goals.

*Jan Samolyk, TEAM President*

*TEAM Conference 2009 was recently held in Lake Geneva, Wisconsin and it was an overwhelming success. Our speakers were top-notch. The location was great. The turn-out was fantastic. Our exhibitors were knowledgeable and supportive. The food was fabulous. The price was an excellent value. Every thing was perfect - almost.....*

## EXPERIENCE MATTERS

This is the third time that we have hosted this bi-annual meeting so you would think that it should get easier to plan a successful meeting where everyone's need for Continuing Medical Education is met. I was a bit worried when the Board voted to change the location of the Conference to Lake Geneva; but The Grand Geneva was an excellent choice. Our experience has taught us the important questions to ask when selecting a place to host the meeting in the area of location, menu and costs. We have approached exhibitors and received a positive response. I've even become successful at submitting and receiving grants to help with the overall budget.

The overall experience was excellent thanks to Carm Valeri, Beth Thompson, Richard Dettman, Kathy Carlson, Nancy Zietlow, Laura Johnson, Pam Wuesthoff, Janet Burhop, Michelle and Melissa Samolyk who all assisted me in the planning process.



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### CONTACT INFO:

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### TEAM Board Sonographer Staff

Jan Samolyk, President  
Kathy Carlson, Membership  
Jerry Cook, Coordinator  
Richard Dettman, Recruiter  
Laura Johnson, Treasurer  
Susan Musurlian, Coordinator  
Beth Thompson, Education  
Coordinator  
Carm Valeri, Event Planner  
Pamela Weusthoff, Coordinator  
Nancy Zietlow, Coordinator

### Medical Advisors

Rami Gal, MD, Ijaz Malik, MD,  
Kiran Sagar, MD, Sam Wann, MD

## DEAL or No DEAL Echo Review

This year our Saturday evening dinner was followed by a very crude rendition of the popular game show; Deal or No Deal. The purpose of the Game was to review echo information as a candidate for the registry. There were a total of 90 questions-some simple others not so simple. Knowing that sometimes the schedule in Echo Labs does not always afford you the opportunity to take a lunch break, our prizes were given in "to go containers" and the "brown bag". It was hilarious at times.

It was interesting to note that all of our professionals were not comfortable standing before their peers attempting to answer two questions correctly for a chance at a "free lunch". The "gifts" housed in the lunch containers were quite fabulous. We'd like to take this opportunity to say Thank You to people who freely donated their finance, time equipment, goods & services. Please remember our benefactors when you need their goods or services. Make sure you let them know that you're appreciative for their gifts to TEAM. A special Thank You to Ron Falnes of Philips for providing finance as a co-sponsor of our Friday night Welcome Reception. Thanks

I want to say to Dave Burpee of Lantheus Medical for providing his computer and projector for our meeting. Thanks to Matt Omalley who brought his computer along for our use. Audiovisuals are key in a meeting like this so it's great to have his support. Finally, the TEAM Conference 2009 trophy was awarded to Leslie Jahnke, RDCS. She has the lowest registry number in our Society. We are quite proud to have this brilliant hardworking woman on our TEAM. Here's a list of our contributors - please patronize their business. *That's Amore Italian Restaurant \$15 Gift Certificate*  
*6 GE Mugs donated by Marie Sacco*  
*De Riah Salon Gift Certificate for a cut & color valued at \$80*  
*Bosley Restaurant on Brady Street \$25 gift certificate*  
*Aala Reed on Brady Street a Dion tie*  
*Marquette University Gift Set Valued at \$120*  
*Aala Reed On Brady Street Crystal Earrings valued at \$40*

*Louis Valeri Car Repair in Racine Donated Zardetto Bottle of Wine*  
*\$10 Bath & Body Gift Certificate*  
*\$10 Bath & Body Gift Certificate*  
*\$25 Kohl's Department Store Cert.*  
*Schmitt Sohne Riesling Thanks Carm & Louie*

*Kathy & Tony Carlson donated Schmitt Sohne Riesling 4 pk*  
*Sutter Home Chardonnay 4 pk*

*Grand Geneva Resort & Spa donated a 2 night stay with golf for two. Our winner greatly deserves it!*  
*Jan Samolyk donated gift sets: Elderberry & Fig Bath Set*

*Russ Darrow donated 4 detailing kits and 3 oil changes. He is located on Hwy 18 1421 E Moorland Blvd.*

*In addition a Details Gift set from Bath & Body Work was donated.*

*An overnight stay at The Intercontinental Hotel in Downtown Milwaukee will be awarded to the TEAM member who has extended themselves. We will be selecting that person at our Wrap Up Meeting and announcing the winner at our Summer Meeting in Kenosha.*

*All in all it was a great evening. The dinner was great and then the game began. We have some pretty smart cookies in the Echo Cookie Jar. The questions were derived from the Sidney Eidelman Review and the ACLS Review website. If you have ideas for our Game Show Echo Review for next time, email us [teamecho\\_3@hotmail.com](mailto:teamecho_3@hotmail.com)*

