

Cardiology 2007 THE SYMPOSIUM DAILY

From Congenital Cardiology Today

DAY 2 - FEBRUARY 22—THURSDAY

Notes from the Course Director – What's on Tap for Thursday

By Gil Wernovsky, MD, RC



"It is impossible for a man to learn what he thinks he already knows."

~ Epictetus

Good morning, and welcome to Day #2 of Cardiology 2007! Earlier this morning, we had the opportunity to participate in a number of "hands-on" sessions with the faculty, including NIRS, cardiopulmonary bypass and ECMO, AEDs and pacemakers. The first of our morning plenary sessions will review the heterogeneous condition known as "double outlet right ventricle" – including anatomic definition, "live" review of heart specimens with Dr. Weinberg's "Heart-Cam"™, echo correlates and surgical management. We will then have an in depth review of coronary artery disease in children, which will be followed by the second debate of the meeting: "Should an asymptomatic child with a coronary anomaly undergo elective surgical repair?" Drs. Tweddell and Feltes are likely to present very cogent arguments for each position.

After our lunch break (outside, weather permitting) we will split up into discipline-specific breakout sessions for cardiovascular nursing, administration and perioperative care. In the late afternoon session, small group sessions in echocardiography and perfusion will be held. Throughout the afternoon will be a special session for medical students, residents, fellows and junior faculty, on Career Planning. All of these sessions provide opportunity to mingle and network with attendees with similar interests. At 5:30 pm, there will be small group receptions to continue discussions from the day. Dinner is on your own tonight.

Please remember to visit the exhibits during the day today, and throughout the meeting. Our sponsors have been very supportive of our meeting, and have excellent material to share with you. We would not be able to produce this meeting without them, and I personally thank them for their support.

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Pre-Conference In-Depth Review of Cardiac Anatomy

By Meryl Cohen, MD



The faculty - from left to right: Diane Spicer, Professor Robert Anderson, Dr. Paul Weinberg, Dr. Mark Fogel, Dr. Jeffrey Hellinger, Dr. Leo Lopez, and Dr. Girish Shirali

Cardiology 2007 launched today with an outstanding series of talks focusing on several congenital heart lesions. Professor Robert Anderson, of Great Ormond Street Hospital in the U.K. opened our session with a wonderful discussion about the importance of viewing anatomy and describing morphology in an anatomically correct position. It turns out that the posterior descending coronary should more appropriately be called the inferior descending coronary! This lecture was followed by a review of normal cardiac anatomy by Dr. Paul Weinberg. We then had the privilege to see both of these experts "go at it" regarding what to call a ventricular septal defect. Professor Anderson emphasized the importance of using "American" language to describe ventricular septal defects based on surrounding structures while Dr. Weinberg made the argument that you should give each lesion a name so that everyone knows exactly what you are talking about. The audience was left to decide which approach to use, however the terms "supracristal" and "infracristal" are definitely out! These lectures were followed by a session where Dr. Weinberg and Diane Spicer, who works in pathology at the Congenital Heart Institute of Florida in Tampa took us through various specimens demonstrating the various types of ventricular septal defects. Dr. Leo Lopez, of Miami Children's Hospital followed with an excellent demonstration of two-dimensional echocardiography of ventricular septal defects. And we had the opportunity to see three-dimensional images of ventricular septal defects (the surgeon's view) by Dr. Girish Shirali of Medical University of South Carolina Children's Hospital.

In the afternoon, Professor Anderson took us eloquently through the anatomic

considerations regarding inlet abnormalities including double inlet, absent connections and discordant atrioventricular connections. Diane Spicer and Paul Weinberg followed with demonstration of spectacular pathologic specimens of these disorders. Dr. Lopez and Dr. Shirali followed with echocardiographic examples of inlet defects.

The last part of the conference provided an excellent review by Dr. Weinberg of

the anatomy and embryologic origin of vascular rings and other anomalies. He demonstrated all the ways that things can go wrong. Dr. Mark Fogel of CHOP then showed us these vascular abnormalities by cardiac magnetic resonance imaging and emphasized the clarity of these images in three-dimensional reconstruction. Last but not least was a lecture by Dr. Jeffrey Hellinger, a radiologist at CHOP who showed some of the benefits of CT imaging particularly in urgent situations to assess airway abnormalities in patients with vascular rings. The conference was a great success thanks to our outstanding faculty.

Opening and CPR Plenary Session

By David Hehir, MD

Cardiology 2007, Tenth Annual Update on Pediatric Cardiovascular Disease officially opened with an entertaining talk by Martin Elliot entitled "Cutting wit." With characteristic tongue-in-cheek style, Dr. Elliot focussed on the role of humor in medical practice, medical training, and as therapeutic tool. Dr. Elliot chronicled his own medical education via humiliation as both the butt and originator of cruel jokes, public embarrassment, and politically incorrect humor. Dr. Elliot closed with a poignant message of the role hu-

mor plays in our patients lives, and encouraged us all to keep smiling.

The second talk of the evening by Girish Shirali entitled "Image is everything...Or is it?" highlighted the advances in 3D imaging. Opening with impressive state of the art 3D ECHO images of mitral abnormalities and complex ventricular septal defects, Dr. Shirali explained how recent advances in 3D technology allow the echocardiographer to display an image from the "surgeon's view." Noting that "Image is powerful, but content is everything," Dr. Shirali reviewed recent advances in both qualitative and quantitative studies using 3D technology. Recent work done by his group has demonstrated the utility of 3D imaging in catheter guided interventions, volume calculations, and ventricular function.

This was followed by John Epstein, chairman of Cell and Developmental Biology at the University of Pennsylvania, explaining "Why (and what) Pediatric Cardiovascular Practitioners Should Know About Basic Science Research." Using the examples of DiGeorge Syndrome, Noonan Syndrome, and Ebstein's anomaly, Dr. Epstein explained how advances in molecular biology are helping us to better understand cardiac development and may lead to reclassification of cardiac defects. Dr. Epstein highlighted multiple reasons that a grasp of genetics and developmental biology is critical to the education and practice of pediatric cardiologists, from improving treatment strategies to better informing patients.

Finally, course director Gil Wernovsky closed the session with an insightful talk "Cognitive Dissonance and Congenital Heart Disease." Dissonance is defined as "an inharmonious or harsh sound; discord; cacophony; disagreement or incongruity." In social psychology cognitive dissonance occurs when a presented fact conflicts with a previously held conviction. In response to such cognitive dissonance, we tend to dismiss the new, conflicting fact as untrue. In the practice of pediatric cardiology, we often dismiss intervention strategies which conflict with those we hold true despite evidence to the contrary. Likewise, we tend to support research which confirms our own practice, regardless of its validity. In closing, Dr. Wernovsky challenged us to recognize dissonance in our clinical practice and interpretation of the literature, and to evaluate the evidence in an even-handed manner, imploring us to "be skeptical of dogma," noting "if you've always done it that way, you're probably wrong," and finally, to "be aware of your own dissonance."

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DAY 2 - FEBRUARY 22—THURSDAY

Welcome Cardiology 2007 to the Walt Disney World® Resort!

By Anne Hamilton
Vice President, Resort Sales and Services
Disney Resort Destinations

On behalf of the Cast Members of the *Walt Disney World®* Resort, we're happy to serve as the host location for Cardiology 2007. You're here at an ideal moment in our history, as we celebrate *The Year of a Million Dreams* -- a first-of-its-kind event celebrating your dreams and the dream-making magic Disney Cast Members create for Guests like you every day.

While you're with us, I hope you'll take full advantage of everything Disney's Yacht Club Resort and the rest of our "World" has to offer. Disney's Yacht Club is a complete resort experience, combining business support services with incredible amenities like the Yachtsman Steakhouse, health club and feature lagoon pool. In addition to our picturesque lakeside location, the excitement of both Disney's BoardWalk entertainment district and *Epcot®* are just a short stroll away. Of course, you also have access to five championship golf courses, luxurious spas, dazzling nightlife and endless recreational opportunities throughout our 47 square miles.

No visit to *Walt Disney World®* Resort would be complete without a visit to our four Theme Parks -- and to help you experience the magic, Disney's After 2pm and After 4pm Meeting/Convention tickets are designed with a busy conference schedule in mind. If you're here with family and friends, special Multi-day tickets are also available. Be sure to mention you're with the Cardiology 2007 conference before you purchase your tickets here at the hotel, as they're not available at the Theme Park ticket windows.

No other destination on earth offers so much to see and do -- and there's no better time or place to make all of your dreams come true. Again, welcome, and best wishes for a successful meeting!

Pre-Conference Session on Mock Codes

By Stacie B. Peddy, MD

A diverse group of practitioners took part in the first ever Cardiac Simulation program yesterday. "*Practice Makes Perfect: Cardiac Postoperative Simulations & Mock Codes*" kicked off bright and early Wednesday morning and welcomed practitioners from 3 countries and included cardiologists, intensivists, advanced practice nurses, physician assistants and perfusionists.

Through technology and techniques developed by CHOP's simulation center, cardiac intensive care scenarios were simulated for a truly "hands-on" clinical experience. Working in small groups, the participants were taken through many of the predictable (low cardiac output, tachyarrhythmias) and sudden, unanticipated events (respiratory failure, cardiac tamponade and shunt thrombosis) that characterize the 24-48 hours after cardiopulmonary bypass. In addition, pre-operative scenarios (hypercyanotic spell in the unrepaired Tetralogy of Fallot) and medical scenarios

(acute fulminant myocarditis) were used as well.

Each Simbaby station was staffed with clinical and simulation facilitators and teams of 3-4 participants "rotated" through all 7 scenarios. Through open communication and role assignment each team actively worked through the clinical scenario presented to them. The learning objectives were reviewed and an inclusive debriefing session was given at the completion of each scenario.

Through simulation we all trained to excellence!!!

Pre-Conference Golf Tournament

By Paul Stephens, MD



Fore! The weather could not have been better for the 3rd annual pre-conference golf tournament at the beautiful Lake Buena Vista golf course, one of Disney's finest. Twenty golfers of diverse talents journeyed from the farthest reaches of the earth (like Michigan and Wisconsin) to gather for their Wednesday morning tee times. And off they went, blasting soaring drives and towering approach shots. The team of Doug Blagg, Dom Spadafore and Deb and Bill Torowicz started us off, and competed for the tournament's top prize, a diet coke with Christine and your own Dr. Robert Anderson. However, they came up a little short, nevertheless their 1 under par was a most respectable score. They did however win the longest drive competition.



Kathy and John Charpie teamed with Richard and his father-in-law, who oddly was called Bonnie, wasted no time in putting pressure on the eventual winners. They finished a few over par, but there is no doubt they'll contend in future events.

Jim Tweddell, Mitch Cohen, Christine Anderson and yours truly, nick-named the Stephens' sparklers, started like Tiger, a favorite here at Disney, but finished like Tigger. Their 5 birdies and lone bogey gave them the winning score of 4 under, a shot ahead of the Fleenor foursome (Jon, Mike Mulreany, Scott Maurer and Bert Ross). But it was Scott Maurer who hit the longest drive on the par 4 ninth, which plays 360 yards. His tee shot landed only 30 yards from the green, so if my math serves me right, that is 330 yards of muscle and accuracy. John Lozier and Martin Bocks got delayed on the airport runway, but their playing partners Aaron Pulver and Joe Armstrong managed the course exceptionally well. We also had a closest to the pin contest, but we unfortunately forgot to record who actually won it (if you think you were closest



to the pin on the second hole, let me know, we'll mention you in next years' update). All in all, this couldn't have been a more fun outing...good course, good golf and good friends. Remember, we are trying to establish a lasting tradition, so next year come early and join in the fun. So irrespective of your skill level, just remember that playing golf in Orlando beats shoveling snow in Milwaukee.

Signing off,

Paul

Posters in Review

By Geoffrey Bird, MD

Greetings from the Cardiology 2007 Research Desk!

Attendees were thrilled to view posters in the Wednesday to Thursday Abstract/Poster session which started 21 February in the afternoon's break. For the meeting as a whole, over 100 abstracts were submitted. The faculty accepted more than 60 contributions from 40 institutions and 30 countries.

At Wednesday's session alone, there were 33 posters on display from 22 centers in 13 of the United States and 6 other countries across the globe. Researchers from abroad included four Canadian posters, three from Slovakia, and others from the United Kingdom, Germany, and Saudi Arabia.

Surgical innovations and practices in complex congenital heart disease were the focus of three posters. Topics covered included a closer look at an adjustable flow device for systemic artery to pulmonary artery shunts, improved outcomes in side-to-side (as opposed to end-to-side) technique in augmenting the ascending aorta of patient with HLHS and the role for arterial duct closure in patients undergoing modified Blalock-Taussig shunt placement.

Nursing and safety interventions were the highlight of many posters. Pharmacist-led pediatric medication safety teams, patient safety checklists at handovers, and targeted mining of administrative databases for cardiovascular medication errors were all shown to play roles in improving outcomes and safety for our most vulnerable patients. Sternotomy pain control augmentation with continuous local anesthetic infusions, the nursing care of Berlin Heart VAD patients, and nurse coordinated programs to improve enteral feeding success with HLHS patients drew comments and crowds in the busy session. Collaboration between institutions was evident in one center's efforts to validate the HLHS follow-up program success of another. High fidelity simulators were shown to significantly improve cardiac center nurses' confidence in critical scenarios -- an important support in times when rapid education and skills development is an issue for many centers.

Simulators were also shown to improve time for cardiac care teams to initiate ECMO. Resuscitation scientists also showed improvements in cardiopulmonary resuscitation techniques with use of a Voice Advisory Manikin system.

Administrators and others taking a 50,000 foot view of our care systems were benefited by a cost analysis of ECMO versus VAD as cardiac support for bridge to heart transplantation, and the role that virtual regionalization models can play in improving outcomes when providers can be mobile but care can't be given under one roof.

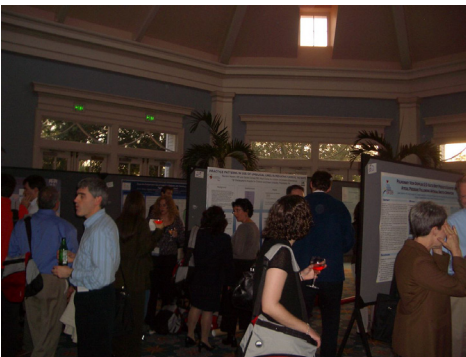
Sonographers and their colleagues had their interests focused on the roles for the discharge echocardiogram in improving outcomes, and that pulmonary vein doppler signals can correlate well with left atrial pressures.

The most challenging aspects of HLHS and other single ventricle heart disease were tackled with researchers showing several "outcome challenges." Areas covered included fetal intervention for intact atrial septum, staged repair of infants with single ventricle and trisomy 21, catheter intervention for HLHS with intact atrial septum, neurodevelopmental abnormalities overall, and the role that inherent coagulation abnormality may play -- even before any surgery -- in patients with single ventricle heart disease.

For other areas of congenital heart disease, many contributions focused on practice variability between and within individual centers. Topics covered included use of milrinone, umbilical lines, pacing wires, bilateral near infrared spectroscopy, prolonged mechanical ventilatory support, early or intraoperative extubation, lower postoperative packed red blood cell transfusion thresholds, and follow-up of patients after surgery for ALCAPA. Preoperative propranolol has limited effect on the post-operative course in patients with tetralogy of Fallot, and intraoperative factors play a certain, but variable role in overall hospital length of stay. The challenges of the older infant presenting with transposition of the great arteries was also described.

The breadth and depth of work presented here is truly amazing. Even considering just the first half of our contributors work (the posters for Wednesday and Thursday's sessions noted above) attendees to Cardiology 2007 were provided a stunning tribute to the efforts of so many of our colleagues tirelessly working to solve challenges for patients living with congenital heart disease. We are looking forward to the Cardiology 2007 Friday/Saturday posters and the work that is sure to come forward during Cardiology 2008!

Faces from Cardiology 2007



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