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## HIGHLIGHTS FROM THE PICS-VIII & ENTICHS-II (PEDIATRIC INTERVENTIONAL CARDIOVASCULAR SYMPOSIUM & EMERGING NEW TECHNOLOGIES IN CONGENITAL HEART SURGERY) IN CHICAGO

*By Ziyad M. Hijazi, MD*

The Eighth Pediatric Interventional Cardiac Symposium (PICS-VIII) and 2nd Emerging New Technologies in Congenital Heart Surgery (ENTICHS-II) was held in Chicago, September 19-22, 2004. The symposium was attended by 700 professionals from over 50 countries.

On Sunday, September 19th, the meeting started with oral abstract presentations in three separate rooms. Each room was full of attendees and a total of 38 abstracts were presented. On the same day, in two separate rooms, *Meet the Expert Sessions* took place and again, both rooms were full to capacity and many difficult cases were discussed.

That evening, a welcome reception was held in the exhibit area where the attendees viewed the exhibit area and interaction with the industry was evident.

On Monday, September 20th, 2004 the meeting officially was opened by a speech from Dr. Hijazi who welcomed all attendees. Then live case transmissions took place from Great Ormond Street Hospital for Sick Children in London where Dr. Philipp Bonhoeffer performed four cases (two cases of transcatheter pulmonic valve replacement using the Medtronic/Bonhoeffer valve), one case of

mitral valvuloplasty using the multitrack system and finally an excellent and challenging case of perimembranous VSD closure). All four cases were excellent and educational. Then Dr. Mario Carminati from San Donato, Milan performed three live cases including two cases of membranous VSD closure and a coarctation stenting case. Then Dr. William Hellenbrand from New York Children's Hospital performed two cases.

On Tuesday, September 21st, 2004 live cases were performed from University of



Figure 1. Dr. Ziyad Hijazi opening PICS VIII & ENTICHS II Symposium in Chicago, IL

Chicago, where Dr. Ziyad M. Hijazi performed four cases including a case which was done in collaboration with Dr. Emile Bacha, the Chief of Pediatric Cardiac Surgery at the University. The case was of a baby with Swiss cheese VSD's. A Hybrid intervention (combined surgery and catheter technique) was performed on a beating heart to repair the VSD's using devices. Then Dr. Zahid Amin from Omaha Children's Hospital performed three cases including a large ASD closure in a small child, followed by Dr. Tom Jones from Seattle Children's, who performed a live case. At the end of the day, the PICS

***“Next year PICS/ENTICHS will take place in ... Buenos Aires, Argentina immediately preceding the World Congress of Pediatric Cardiology and Cardiac Surgery, September 15-18th, 2005.”***



Figure 2. left to right (Dr. Lee Benson, Dr. Emile Bacha, Dr. Frank Ing, Dr. Rainer Schrader, Dr. Luigi Ballerini).

Achievement Award was given to Dr. Shakeel Qureshi from Guys Hospital in London. On Tuesday evening the attendees were invited to a Gala night at Union Station in Chicago. It looked like everyone enjoyed the evening, which included a drawing for free registration to next year's PICS in Buenos Aires, Argentina sponsored by B Braun and AGA Medical.

On Wednesday, September 22nd, the last day of the meeting, live cases were performed again from University of Chicago, from Miami Children's Hospital performed by Drs. Evan Zahn, David Nykanen and Redmond Burke. Finally, cases from Texas Children's Hospital were performed by Dr. Ron Grifka.

During the three days, many excel-



Figure 3. Exhibit area at PICS VIII & ENTICHS II Symposium

lent lectures on catheter intervention and hybrid intervention were given by the distinguished faculty.

Each day, a debate took place between two physicians. The first one was on Monday between Dr. Jose de Leso Suarez from Cordoba, Spain argued for interventional treatment of coarctation, and Dr. Tom Karl from UCSF argued for the surgical treatment. On the second day, Dr. Peter



Figure 4. Dr. Mario Carminati from San Donato, Milan performing a live case membranous VSD closure.



Figure 5. Tony Carlson, Pediatric Cardiology Today, with Dr. Mark Levine, Dr. John Moore, and Dr. Horacio Faella.

Koenig from University of Chicago argued for the use of intracardiac echocardiography to guide device closure of ASD and PFO while Dr. Charles Kleinman from Columbia New York Children's Hospital argued for the use of transesophageal echo-



Figure 6. Dr. Chuck Mullins discussing "Everything you need to know about stents"

cardiography to guide such procedures. Finally, on Wednesday, Dr. Toshio Nakanishi from Tokyo argued for the need of a cardiac catheterization prior to a Glenn or a Fontan procedure while Dr. Mark Fogel from Children's Hospital of Philadelphia argued for the use of MRI instead.

Next year PICS/ENTICHS will take place in the beautiful city of Buenos Aires, Argentina immediately preceding the World Congress of Pediatric Cardiology and Cardiac Surgery, September 15-18th, 2005. For more information please visit the website: [www.picsymposium.com](http://www.picsymposium.com)

For comments to this article, send email to: [NOVZMH@PediatricCardiologyToday.com](mailto:NOVZMH@PediatricCardiologyToday.com)

~PCT~



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## FROM PICS VIII & ENTICHS II DEBATE: ECHOCARDIOGRAPHIC MONITORING OF DEVICE PLACEMENT FOR ASD REPAIR—TRANSESOPHAGEAL ECHOCARDIOGRAPHY REMAINS THE GOLD STANDARD

By Charles S. Kleinman, MD

### Preface:

There were no clear winners or losers at the PICS VII & ENTICHS II Debates. Convincing arguments were advanced by all the protagonists. Unfortunately, we did not receive the very cogent arguments of Dr. Charles Kleinman until after our publication deadlines. However, we think his discussion in favor of staying with what we know best is well worth waiting for.

### Dr. Kleinman:

How do I get myself into these things? At the time that I was invited to participate in this year's PICS meeting I was the one who suggested that I partici-

***“Lest we be overwhelmed by our natural enthusiasm for the latest in cutting edge technologies, perhaps we should reconsider whether we really need a newly-designed mousetrap to get this job done.”***

participate in a “Controversies” format. I have always felt that my role at these meetings was to stimulate discussion. As an echocardiographer in a sea of interventionalists the challenge is to maintain a level of interest between the live cases

and trips to obtain box lunches, visit the commercial exhibits, network with friends and colleagues, and answer nature's call.

I thought, for sure, that I was going to be called upon to debate the role of catheter intervention in the fetus. This time, however, Ziyad and Bill have really called my bluff. My role is to convince the world of pediatric interventionalists that transesophageal echocardiography (TEE) is the preferred means of obtaining echocardiographic monitoring of device placement for ASD closure, despite the availability of intracardiac echocardiography (ICE).

My first chore is to make a credible argument that I can believe myself. Certainly, in the traditional “controversies” format I will attempt to inject some humor into the proceedings, so I will have to present at least one photo of Steve Bartman deflecting the foul ball that kept the Cub's century of frustration intact.

What is it that we expect from echocardiography in the cath lab, anyway?

- Images that are, at once, unique and complementary to the fluoroscopy during the cath

In this regard, both TEE and ICE provide imaging of soft tissue margins of defects that are radiolucent. Providing that the operator is familiar with the orientation of the images, either technique should allow the rims of the defect to be assessed for their adequacy

to accommodate the device in question, without undue hazard of device dislodgement or interference with vena caval or pulmonary venous flow, atrioventricular valve integrity, or damage to atrial wall and/or adjacent aortic root.

This becomes somewhat difficult to argue, since it seems to this observer that at each PICS meeting there is less, rather than more, of a consensus about which, and how much rim margin is necessary and sufficient to allow safe and secure device implantation. This has changed as devices have become more “forgiving” (e.g. potentially retrievable) in their design, and as increasing experience has made operators more facile with device placement. I have even had the experience of observing an ASD device deployed by a bona fide ECHOCARDIOGRAPHER!! (a scary thought, even in retrospect).

When Bill Hellenbrand, Frank McGowan, and I initially applied TEE for the purpose of monitoring device placement, we were using the original Rashkind ASD Occluder. Now THAT was an exciting undertaking. That device could rightly be described as a potential weapon, with its fishhook-tipped tentacles, which, if dislodgement occurred, guaranteed a hurried trip to the operating room! Predictably, as devices became more user-friendly, their use proliferated. This certainly continued with FDA approval of the Amplatzer Atrial Septal Occluder, to the point where tens of thousands of these devices have been shipped

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The recent reports of rare late complications, including atrial wall and aortic erosions, with late hemopericardium, pericardial tamponade, and aortoatrial fistula formation, stimulated an effort to review the post-approval monitoring data, in order to explain, and possibly avoid, such events. The initial findings, and tentative recommendations of this review will have been discussed at other forums at this meeting. Suffice it to say, however, that efforts to identify a "smoking gun" were hampered by a surprising dearth of intraprocedural echo monitoring data from many of the reporting centers, raising the question of whether some operators have become so relaxed with the overall procedure that they selectively employ echocardiography in the cath lab, altogether, despite the recommendations on the packet insert from the manufacturer.

#### ICE is inherently safer than TEE

Certainly, if one can avoid the use of inhalation anesthesia there MUST BE a small statistical safety advantage. On the other hand, despite the fact that we are talking about treatment of a congenital cardiac malformation, the average age of patients undergoing placement of these devices is well beyond that of the average "pediatric" patient undergoing cardiac catheterization in 2004. The use of general anesthesia for cardiac catheterization has certainly increased in recent years, to the point where it is "routine" in many cath labs. The newfound zeal to avoid general anesthesia for patients undergoing transcatheter ASD repair seems somewhat disingenuous in this setting, and seems to this observer to be a specious argument, that is invoked when

we put on our hats as amateur medical economists, and try to convince ourselves that ICE is more "cost effective" than TEE, despite the fact that the disposable probes carry an enormous cost to the healthcare institution, and an even larger cost to the consumer, after the "traditional" mark-up is added.

The size of the ICE catheter, and the accompanying requirement for a jumbo-sized intravascular sheath, makes ICE unfeasible, at present, for the majority of young pediatric patients who may be considered candidates for ASD repair, but not for the "average" patient, who, as noted above, is likely to be in the school age to "school teacher" age group. This may well change, as smaller ICE probes, requiring smaller sheaths, are introduced.

From the safety perspective, there are certainly rare reports of dental, oropharyngeal, and esophageal trauma associated with TEE. On the other hand, while my review of the literature has failed to produce documentation of hazards related to vascular damage or deep vein thrombosis, associated with placement and manipulation of ICE probes, it is hard to believe that such reports will not start to appear, as the technique is more widely applied, and as follow-up is extended.

#### ICE is more cost-effective than TEE

I think that we can agree that this argument ONLY makes sense if one makes a simple arithmetic calculation totally eliminating the cost of providing anesthesia services, and perhaps removing the cost of having an echocardiographer in attendance.

ON THE OTHER HAND, I would maintain that the more traditional pediatric patient undergoing ASD repair- that is, a preschooler, is more likely than not to

receive general anesthesia for cardiac catheterization in 2004.

In addition, having ICE catheter manipulation performed by the interventionalist is standard-of-care, but having image interpretation solely in the hands of the interventionalist, without having an echocardiographer present, is less than ideal, and certainly is no more acceptable for ICE than to have the interventionalist serve as the sole interpreter of TEE images, while having the anesthesiologist manipulate the probe.

More importantly, I believe that we completely waste our time to discuss "Cost Effectiveness," without having considerably more knowledge of medical economics than the mean or median represented at our forum. The term "cost effectiveness" rolls off our tongues quite comfortably, but the concept of calculating this composite measure requires that one relate cost to goal attainment. In such a case, we must identify who the consumer is, what are the costs we are talking about, and what are the desired results.

For example:

1. Are we measuring out of pocket costs to the patient vs. desired outcome (closure of the defect, minimal pain, minimal "down time")?
2. Are we measuring cost/benefit to the healthcare institution? (minimizing expenses for capital equipment, personnel, consumables vs. reimbursements, teaching, legitimizing organizational activities to external agencies)?
3. Are we measuring cost/benefits to third-party payers? They are likely to pay a fixed, prenegotiated, fee for the procedure, and, if the payer



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is Medicaid, almost certainly the reimbursement to the physician will barely cover the costs inherent in generating and collecting the bill for services.

When it comes to discussing "cost effectiveness" I can't help but comment on the tendency that appears to be developing in some centers to use the "Mallory" approach to catheter therapy of ASD and even VSD, that is, climbing Mt. Everest simply "because it is there."

For example, based on the morbidity and mortality of appendicitis in the elderly and the safety and "cost effectiveness" of laparoscopic appendectomy, should we consider universal prophylactic appendectomy at the age of 50? On the other hand, why wait until 50?

We were recently asked to render a second opinion regarding a recommendation that had been made to perform urgent catheter closure of a 6 mm in diameter secundum ASD in a thriving (75th percentile), asymptomatic 8-month-old infant, simply because there was associated right ventricular dilation, that might have long-term, deleterious consequences to the child.

What is the "cost effectiveness" algorithm for this case? Which is better in this particular case, TEE or ICE? I would submit, that before we start cost accounting our activities, and try to evaluate the overall costs of our activities to society, that we seek consensus, based at least in small part, on a knowledge of natural history, and, in larger part, on a modicum of common sense.

#### **ICE gives better views of the postero-inferior rim of the ASD than TEE**

I am not sure that this is correct, but

even if one accepts this as true, I would have to ask my interventionalist friends whether an isolated deficiency of rim near the IVC, in an otherwise "routine" ASD is a "deal breaker?" Today, I am not sure of the answer to that one.

There is no doubt that ICE and TEE provide different perspectives on the same cardiac structures. There may well be situations in which ICE may provide the precision of view required to obtain adequate device placement in the presence of postero-inferior rim deficiency. On the other hand, TEE, with the advantage of greater familiarity, in general, with the views, also provides images of the entire heart that are unavailable with ICE. This may ultimately be crucial for the ultimate determination of candidacy for device closure.

It has been our experience that 5-10% of patients referred from other institutions for transcatheter ASD closure have additional, or completely different, diagnoses, resulting in a need for a change in management plans. Such cases, including isolated, or associated major anomalies of pulmonary venous return, are much more readily diagnosed by TEE. The availability of multi-planar imaging, and the impending introduction of real-time 3-D TEE will also change the perspective of comparison of TEE with ICE.

In many ways the difference in perspective of the two techniques is reminiscent of the parable of the 6 blind men examining an elephant.

The recent publication of Kardon, et al<sup>1</sup> emphasizes the utility of transthoracic echocardiography for assessment of candidacy and for intraprocedural monitoring of ASD device closure.

Lest we be overwhelmed by our natural

enthusiasm for the latest in cutting edge technologies, perhaps we should reconsider whether we really need a newly-designed mousetrap to get this job done.

In conclusion, I would urge that we keep the advantages of echocardiographic guidance of catheter-based therapies in mind for all of these cases. Collaboration between the interventionalist and the echocardiographer should involve consideration of the advantages of TEE, ICE, and TTE for each of these cases, with the ideal result being selection of the single, or combination, of imaging techniques that is most advantageous for the individual patient.

In the meantime, I would still maintain that we are comparing the efficacy and safety of ICE and TTE to a gold standard, that remains TEE.

#### **Reference**

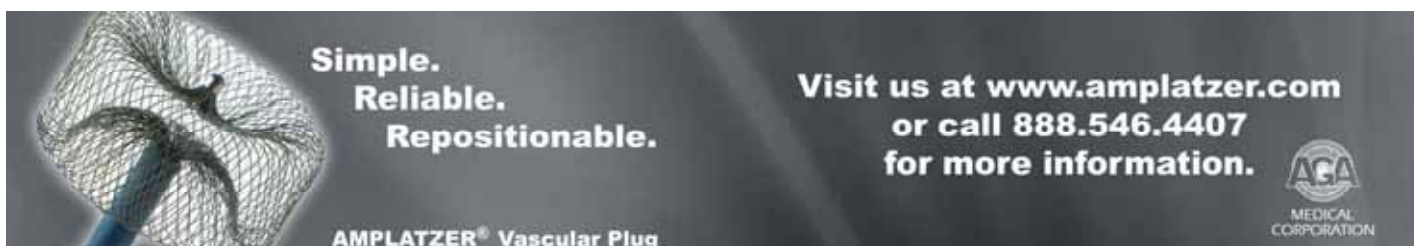
1. Kardon RE, Sokoloski MC, Levi DS, Perry, JS II, Schneider DJ, Allada V, Moore JW, *Transthoracic echocardiographic guidance of transcatheter atrial septal defect closure*. Am J Cardiol 2004;94:256-260.

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## DOCTORS TEST SENSOR-ENABLED TOOL FOR FETAL HEART SURGERY

By Jeff Karoub, *Small Times* Staff Writer

This article originally appeared in *Small Times* (<http://www.smalltimes.com>) on July 27, 2004. It is reprinted here with permission from *Small Times*.

Verimetra Inc. ([www.verimetra.com](http://www.verimetra.com)) and a Pittsburgh-based team of medical and robotic researchers have begun testing what could lead to groundbreaking fetal surgeries.

The group met in June at Children's Hospital of Pittsburgh ([www.chp.edu](http://www.chp.edu)) to begin animal tests with a sensor-enabled surgical tool that one day could repair a defective fetus heart while measuring the blood flow and providing other tactile feedback to surgeons.

Verimetra has embedded a microsensor and a series of bar codes on the tip of a catheter used in balloon angioplasties before inserting it into a rat, whose heart is similar in size to that of a 20- to 24-week-old fetus.

Early results have shown that the catheter can be visualized and the MEMS-based sensor can track blood flow changes as the catheter progresses through the heart's vessels.

"We were very pleased," said Dr. Bradley Keller, the hospital's chief of pediatric cardiology. "There's still significant work we need to do to translate this experiment into a clinical catheter we can use in patients, but we're certainly moving in the right direction."

Although the research team had been working for more than a year, they are still in need of seed money to move into prototype development and testing. The researchers learned in early 2004 that it would get \$100,000 from the Pittsburgh Life Sciences Greenhouse.

The money follows a \$58,000 grant last fall from Pittsburgh-based PNC Trust to the Children's Hospital Foundation for its cardiac intervention program. In addition, the team received another earlier grant for developing software to image fetal hearts using robotics.

***"Today, the chances of surviving into adulthood with ... [hypoplastic left heart syndrome] are less than 50 percent."***

The Greenhouse funds, shared by Verimetra, Children's Hospital and Carnegie Mellon University's Medical Robotics Technology Center, specifically calls for developing sensors and guidance technologies embedded on tiny catheters to treat obstructions in the fetal heart's left ventricle.

That's important, according to team members, because such an obstruction can eventually lead to hypoplastic heart syndrome, a condition where the heart's left side fails to grow properly and considered fatal 20 years ago.

According to the team's research, infants born today with hypoplastic



Photo courtesy of Verimetra Verimetra has embedded its "serpentine" sensors in a catheter less than 1 millimeter in diameter.

left heart syndrome require at least three surgeries. And that's just to make it possible for the right ventricle to do all of the heart's pumping and circulation work. Today, the chances of surviving into adulthood with the syndrome are less than 50 percent.

"Heart and blood vessels and valves require mechanical stress of blood flow to grow," Keller said. "If you restore that flow, you can allow the heart to grow close to normal. It's a critical window we're trying to target."

***"Verimetra Inc. and a Pittsburgh-based team of medical and robotic researchers have begun testing what could lead to groundbreaking fetal surgeries."***



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**Symptoms:** Cardiomyopathy, Neutropenia, Muscle Weakness, Exercise Intolerance, Growth Retardation

Cardiovascular experts say preserving both ventricles results in the best chance of long-term survival, which is why surgeons are investigating fetal surgeries. But such surgeries have been rare in part because of a lack of imaging technology.

Of course, sensors only fill part of the bill; coming up with an integrated system has also required the expertise of Carnegie Mellon's robotics center.

Jim Osborn, the center's executive director, said last year that the complete system must collect all information from the sensors, as well as from other sources like the ultrasound used before and during operation. Then, the system must offer a meaningful and useful graphical display for the surgeon, who suffers from an inherent sensory deficit while operating within the fetus.

***“While the preliminary tests with smart sensors in fetal heart procedures are promising, Verimetra is moving ahead on several other fronts to demonstrate technology that literally sits at the cutting edge of surgical tools.”***

Beyond potential medical benefits, the project provides an opportunity to educate people on robotics.

“This is not what most people think of – it's not what comes to mind when people think of robotics: factory robot arms that are painting and assembling, science fiction, R2D2, Com-

mander Data,” Osborn said. “Those all have a very strong hardware connotation. A lot more of robotics is what you see underneath the hardware packages.”

Keller said the next step will be to perform a fetal trial on a larger animal, such as a pregnant ewe, so the team can test the catheter through an abdominal wall, uterus, and into the fetal heart. If all goes well, he said, the group could be moving into the first human trial in a year, and collaborating with other hospitals involved in fetal surgeries.

While the preliminary tests with smart sensors in fetal heart procedures are promising, Verimetra is moving ahead on several other fronts to demonstrate technology that literally sits at the cutting edge of surgical tools.

The company said it has performed animal trials with undisclosed but major medical device makers in the areas of cancer and heart disease. Michele Migliuolo, Verimetra's president and chief executive, said the medical device makers paid Verimetra “to make catheters smart,” and arranged hospital trials.

He is particularly pleased with the recent progress treating heart-related ailments. “(We are) making progress in showing that MEMS flow sensors add value in the field of angioplasty, in particular, by providing real-time information, in this case about blood flow, to the doctor,” Migliuolo said.

“Flow sensors allow them to measure flow of blood at or near, for example, a constriction in a blood vessel before and after they perform a procedure to open up that constriction.”

Ultimately, Migliuolo seeks more than just surgical success. Verimetra is

negotiating with two large device makers on future investments that could range from a distribution deal to outright acquisition.

“Large medical manufacturers, such as Boston Scientific, Johnson & Johnson and Medtronic, do not perform their own advanced research and development anymore. They acquire it after proving it,” he said. “With us it's not a question of ‘does this technology work?’ We've proven it works... (Investment) is important because it proves the business model.”

*For comments to this article, send email to: NOVJK@PediatricCardiologyToday.com*

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*Jeff Karoub, Staff Writer*

*Small Times (www.smalltimes.com)*

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## NON-PROFIT ORGANIZATION PROFILE: THE ANTHONY BATES FOUNDATION

By Sharon Bates

Just four short years ago a life changing experience caused me to reevaluate my life. Up to that point, I had 20 years in business, and a college education in management and marketing. With 16 years as a computer programmer, project manager and computer consultant my life came to a crossroads. I was riding the Y2K wave all the way to New Jersey. Far from my Phoenix, Arizona home tragedy struck and made me take a 180-degree on the importance of living life with all I had to offer.

It happened one sunny afternoon in July of 2000 when my only child, Anthony Bates, died suddenly from undiagnosed Hypertrophic Cardiomyopathy (HCM) at age 20. Anthony was in Manhattan, Kansas attending Kansas State University on a full athletic scholarship. He was an honor student and a rising athlete in the football program when he had a cardiac episode while driving his truck after a light workout at the K-State weight room.

I couldn't find the link of HCM anywhere in the family. With no direct connection to this genetic disorder I had no family history that could have raised a red flag during any of Anthony's many pre-participation sports physicals. Then how did this slip by year after year in a strong young man with no apparent symptoms? Post mortem I was told Anthony's heart was 3 times the normal size at 680 grams. Could there have been a way to have helped Anthony? According to the HCMA (Hypertrophic Cardiomyopathy Association), the only way to detect HCM was through echocardiography. Normally, an expensive test not administered freely in the cost-conscious insurance society.

During my search and within the first year after Anthony's death, I found more fami-

lies that had similar stories. Sudden death was the only symptom and no known carrier for this condition had been uncovered. HCM has genetic markers known and unknown. According to Dr.



Mountain Pointe High School Heart Screening Event, Aug. 28, 2004 - Joey Muzquiz, (Philips Medical sales representative) and volunteer participant

Barry Maron, Minneapolis Heart Institute, and a leading researcher in HCM, this condition has been known to spontaneously mutate. That mutation would be the start of the genetic link.

Many people told me that HCM was very uncommon and sudden death related to HCM was less common. Then the numbers started adding up to more than uncommon, with 1 in 500 people in the general population at risk of developing HCM. Up to 100 young athletes die every year to sudden cardiac death. According to the American Heart Association, 5,000 to 7,000 young people die of sudden cardiac death each year. Of those deaths, 36%, have been linked to HCM. Many more of those deaths are suspect. The media covers the stories about some of the young athletes, what about the other children? Shouldn't we have a way of protecting our children with early detection of cardiac anomalies?

With that in mind I continued my research in the direction of heart screenings. I knew, as a parent, there had to be more options available. On the internet I found several organizations that had formed with the same thing in mind after the loss of a loved one to sudden cardiac death. Using networking skills two of the organizations, AHeart4 Sports ([www.aheart4sports.org](http://www.aheart4sports.org)) and The Chad Foundation ([www.chadfoundation.org](http://www.chadfoundation.org)), found community people, doctors, sonographers and interested echocardiography manufacturers to lend a helping hand. I spent countless hours learning about the process needed to undertake a heart-screening event. Each of the organizations had wonderful input and lessons to help me take strong steps towards my own heart screening goals.

I moved back to Phoenix, AZ and started to cultivate the process that would start the foundation in my son's name, "The Anthony Bates Foundation." This followed my first two heart screening events October, 2001, at Kansas State University in Manhattan, KS, and also May 2002 at Mountain Pointe High School in Phoenix, AZ.



Mountain Pointe High School Heart Screening Event, Aug. 28, 2004 - volunteer participant, Mike Cyll, sonographer; Dr. Barry Marcus; volunteer participant

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**Foundation Mission**

Education and awareness of HCM is the main purpose of the Anthony Bates Foundation. Each heart-screening event reaches hundreds, maybe thousands of people with their message. Saving young lives through the heart-screening event became the "golden ring and bonus" and the events became the "mission state-

***"The Anthony Bates Foundation offers training packets for interested parties."***

ment." In addition to the heart screening events, the ABF performs education and awareness campaigns which include a 15-minute informational/educational/promotional video, "What is HCM?", ongoing training to individual(s) and group(s) on "How to Run a Community Heart Screening," and presentations to parent groups and school administration on heart screenings, heart health and the need for AED's in schools, to mention only a few.

With the help of the echocardiogram machine manufacturers, including Philips Medical, Seimens-Acuson, and Toshiba, I have been able to create relationships with each of these manufacturers and their local sales forces, who help support the local ABF screening events.

Local doctor offices and hospitals have also come to the aid of The Anthony Bates Foundation. Additional machines through these organizations have also been used at events. ABF screening procedures includes blood pressure readings and echocardiograms on every heart-screening participant. Recently, ECG's are offered to people with abnormal echocardiograms. Measurements of the Left Ventricular Outflow Track, Septal Wall, Posterior Wall Thickness, and Left Ventricular Wall are taken and read by the attending cardiologist. These procedures and protocol have been consistent in the

last seven events providing services for over 1,400 participants.

During an event each participant receives an Exam Completion Form showing his or her screening results. If the participant has indicated on their questionnaire, the association forwards the screening results to that person's family doctor. This allows ABF another opportunity to inform and educate individuals as well as the medical profession.

**Training Packets**

The Anthony Bates Foundation offers training packets for interested parties. Dr. Barry Marcus, Scottsdale, AZ, adds, "The procedures and process are extremely well organized and thought-out." Examples of letters, documents, permission forms, questionnaires, and presentation materials are included in the training materials. Each event will take on a unique flare and have new challenges and circumstances. I hope that more people will have the desire to take on a Community Heart Screening Event.

*For comments to this article, send email to: NOVCSK@PediatricCardiologyToday.com*

~PCT~



*Sharon Bates, President  
The Anthony Bates Foundation  
smbates@cox.net*

**The Anthony Bates Foundation**

For more information and/or to assist in future heart-screening events contact:

The Anthony Bates Foundation  
428 E. Thunderbird Rd., # 633  
Phoenix, AZ 85022  
(602) 482-5606

[www.AnthonyBates.org](http://www.AnthonyBates.org)

**MEDICAL CONFERENCES**

**Pediatric Cardiac Intensive Care**  
*December 1- 4, 2004; Miami, FL*  
[www.PCICsymposium.org](http://www.PCICsymposium.org)

**International Meeting on Interventional Cardiology**  
*Dec 6-7 2004; Tel Aviv, Israel*  
[www.kenes.com/intercard/](http://www.kenes.com/intercard/)

**2nd Asian Pacific Congress of Heart Failure 2005 (Asian Pacific Society of Cardiology, World Heart Federation)**  
*January 10 – 12, 2005; Singapore*  
[www.mpgroupasia.com/event.htm](http://www.mpgroupasia.com/event.htm)

**41st Annual Meeting of The Society of Thoracic Surgeons (STS)**  
*January 24 – 26, 2005, Tampa, FL*  
[www.sts.org](http://www.sts.org)

**Cardiology 2005: 8th Annual Postgraduate Course in Neonatal and Pediatric Cardiovascular Disease**  
*Feb. 16-20, 2005; Lake Buena Vista, FL*  
[www.chop.edu/cme/#c2005](http://www.chop.edu/cme/#c2005)

**4th Annual Charleston Mini-Symposium**  
*Feb. 25-27, 2005; Charleston, SC*  
[www.pediatrics.musc.edu/pedscard](http://www.pediatrics.musc.edu/pedscard)

**ACC (American College of Cardiology) 54th Annual Scientific Session 2005**  
*March 6-9, 2005 Orlando, FL*  
[www.acc.org](http://www.acc.org)

**2005 SIR (Society of Interventional Radiology) 30th Annual Scientific Meeting**  
*March 31 - April 5, 2005; New Orleans, LA*  
[www.sirweb.org](http://www.sirweb.org)

**AATS (American Association for Thoracic Surgery) 85th Annual Meeting**  
*April 10 – 13, 2005; San Francisco, CA*  
[www.aats.org/annualmeeting/](http://www.aats.org/annualmeeting/)

**28th Annual Scientific Sessions and Melvin P. Judkins Cardiac Imaging Symposium**  
*May 4-7 2005; Ponte Vedra, FL*  
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## CLINICAL TRIAL ABSTRACTS (CLINICALTRIALS.GOV)

**Multidisciplinary Study of Right Ventricular Dysplasia***~ currently recruiting patients~***Sponsor:** National Heart, Lung, and Blood Institute (NHLBI)**Purpose:** To investigate the cardiac, clinical, and genetic aspects of arrhythmogenic right ventricular dysplasia (ARVD), a progressive disorder that predominantly affects the right side of the heart and causes ventricular arrhythmias.**Condition:** Heart Diseases; Ventricular Arrhythmia; Arrhythmogenic Right Ventricular Dysplasia**Study Type:** Observational**Study Design:** Natural History, Longitudinal, Defined Population**Further Study Details:** BACKGROUND: Arrhythmogenic Right Ventricular Dysplasia (ARVD) is an uncommon disorder, but is considered a major cause of sudden death and life-threatening arrhythmia, in particular in the young population. The prevalence of ARVD is unknown, but is certainly underestimated because of the difficulties in obtaining a correct diagnosis. It appears to be particularly frequent in certain geographical areas, probably for a founder effect, such as in the North-East Italy, where a large number of ARVD cases and families have been described.

The etiology of ARVD was unknown until very recently. The main hypothesis involved apoptotic mechanisms and, in some cases, a viral infection. However, in the last couple of years, two genes causing ARVD have been identified. The first one encodes plakoglobin, a protein of the cardiac junctions with adhesive and signaling functions. The second ARVD gene is the cardiac ryanodine receptor (RYR2). In fact, this discovery is so recent, that in this study, RYR2 is still considered a potential candidate. The discovery of the first disease genes provides the basis for a candidate gene approach following the hypothesis of a "final common pathway."

**DESIGN NARRATIVE:** Multidisciplinary, multi-center, collaborative study investigating the cardiac, clinical, and genetic aspects of arrhythmogenic right ventricular dysplasia. The specific aims are:

- 1) to establish a North American ARVD Registry enrolling ARVD patients and their family members, based on standardized diagnostic test criteria, in a prospective longitudinal follow-up study;
- 2) to determine the genetic background of ARVD by identifying chromosomal loci and specific gene mutations associated with this disorder
- 3) to determine the influence of the genotype on the clinical course of patients with ARVD and explore phenotype-genotype associations that will contribute to improved diagnosis, risk stratification, and therapy
- 4) to develop quantitative methods to assess right ventricular function in order to enhance the specificity and sensitivity of ARVD diagnosis.

**Eligibility:** Both genders**Criteria:** No eligibility criteria**Location and Contact Information:**

University of Arizona, Tucson, AZ; Frank I. Marcus, M.D., Study Chair 520-626-6358

**Study chairs or principal investigators:**Frank Marcus, University of Arizona  
Jeffrey Towbin, Baylor College of Medicine  
Wojciech Zareba, University of Rochester

*Study ID Numbers 983*  
*Study Start Date September 2001;*  
*Estimated Completion Date July 2006*  
*Record last reviewed February 2004*  
 NLM Identifier NCT00024505  
 ClinicalTrials.gov processed this record on  
 2004-08-06  
<http://www.arvd.org/>

**Dexamethasone Treatment for Congenital Heart Block (CHB) in Newborns with Lupus***~ currently recruiting patients~***Sponsor:** National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)**Purpose**

Some newborns are born with congenital heart block (CHB), a temporary condition occurring in babies with neonatal lupus. The first part of the study will test the effectiveness of fluorinated steroids, including dexamethasone, in improving the heart function and general health of newborns who have auto-antibody-associated CHB. The second part of this study will use ultrasound and heart monitoring to observe high-risk pregnant women and their fetuses during the third trimester of pregnancy.

**Condition:** Congenital heart block, Neonatal lupus, Atrioventricular nodal dysfunction, Myocardial injury**Treatment or Intervention:** Drug: Dexamethasone or other corticosteroid**Study Type:** Interventional**Study Design:** Treatment, Non-Randomized, Open Label, Uncontrolled, Factorial Assignment, Efficacy Study**Official Title:** Study of Dexamethasone in Neonatal Lupus Congenital Heart Block; PRIDE (PR Interval and Dexamethasone Evaluation) in Congenital Heart Block**Further Study Details:** CHB is a temporary abnormal condition of newborns strongly associated with maternal antibodies to SSA/Ro and SSB/La ribonucleoproteins. This study hopes to clarify the causes of CHB and develop appropriate treatments. The study has two parts.

The first part of the study will be interventional; it will determine if fluorinated steroids given to women prior to birth improves the heart function and well-being of their newborns. This part of the study will evaluate fetuses diag-

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nosed in utero with CHB during the third trimester of pregnancy. Diagnosis of CHB must occur at least 6 weeks before the baby is born to allow for sufficient data collection. It will be the decision of the physician and the mother as to whether a steroid will be administered. Fetuses will be evaluated before delivery by electrocardiogram (ECG) to detect abnormal fluid collection and by ultrasound to monitor heartbeat. After birth, newborns will be assessed for overall pumping strength of the heart and for abnormal heartbeat. Blood will be drawn from the mother at the time of enrollment and during delivery. Visits will occur over a span of approximately 5 months.

The second part of this study will be observational; the purpose is to identify classic indicators of heartbeat dysfunction and heart injury in newborns with CHB. The goal of this part of the study is to better understand the stages of heart injury, the role of anti-Ro/La antibodies in CHB, and procedures that may reverse heart block. Mothers considered to be at high risk for having a child with CHB will undergo weekly ECGs from 16 weeks into their pregnancy until Week 28, then will have an ECG every other week from Week 28 through Week 34. There will be a total of 15 visits to conduct these ECGs. Blood will be drawn at the first ECG visit and during delivery. Visits will occur over a span of 4 months.

For both parts of the study, babies will undergo ECGs after delivery and at one year of age. Additional tests not related to the study may be ordered by the physician.

**Eligibility:** 16 - 50 Years old, Females Eligible for Study; Accepts Healthy Volunteers

**Criteria:**

**Inclusion Criteria for Interventional Part of Trial:** Mother must have anti-Ro and/or anti-La antibody; Fetal bradyarrhythmia (slow, abnormal heart rhythm)

**Exclusion Criteria for Interventional Part of Trial:** Fetal heart abnormalities that may cause newborn CHB and could account for atrioventricular (AV) block

**Inclusion Criteria for Observational Part of Trial:** Mother must have anti-Ro and/or anti-La antibody; Fetus must have documented normal heartbeat prior to the 16th week of

pregnancy; Fetus must have a structurally normal heart; Mother must be enrolled during the 16th, 17th, or 18th week of pregnancy

**Exclusion Criteria for Observational Part of Trial:** Mother is taking more than 10 mg of prednisone per day

**Expected Total Enrollment:** 150

**Location and Contact Information:**

Yale University Medical Ctr., New Haven, CT; Joshua A. Copel, MD [joshua.copel@yale.edu](mailto:joshua.copel@yale.edu)

Hospital for Joint Diseases / New York University Medical Ctr., New York, NY; Elaine Kiang [prideinchb@yahoo.com](mailto:prideinchb@yahoo.com); Jill P. Buyon, MD, Principal Investigator; [jill.buyon@med.nyu.edu](mailto:jill.buyon@med.nyu.edu)

St Lukes-Roosevelt Hospital Ctr., New York, NY; Deborah Friedman, MD, Principal Investigator - [dfriedman@slrhc.org](mailto:dfriedman@slrhc.org)

*Study ID Numbers* NIAMS-055; R01 AR46265  
*Study Start Date* October 2000;  
*Estimated Completion Date* October 2004  
*Record last reviewed* June 2004  
*NLM Identifier* NCT00007358  
*ClinicalTrials.gov processed this record on* 2004-08-06

**CLINICALTRIALS**  
**[www.ClinicalTrials.gov](http://www.ClinicalTrials.gov)**

*Clinical Trial Abstracts* has been abstracted from the ClinicalTrials.gov Database (The U.S. NIH, Dept. of Health and Human Services, through the NLM). See *ClinicalTrials.gov* for additional up-to-date detail.

ClinicalTrials.gov provides regularly updated information about federally and privately supported clinical research in human volunteers. ClinicalTrials.gov gives you information about a trial's purpose, who may participate, locations, and phone numbers. You may search the database by a number of criteria.

**USEFUL WEBSITES**

- Agency for Healthcare Research and Quality - Department of Health & Human Services**  
[www.ahrpr.gov](http://www.ahrpr.gov)
- British National Formulary (BNF)**  
[www.bnf.org](http://www.bnf.org)
- California Healthcare Foundation**  
[www.chcf.org](http://www.chcf.org)
- CenterWatch Clinical Trials Listing Service**  
[www.centerwatch.com](http://www.centerwatch.com)
- CDC (Centers for Disease Control and Prevention) - CVH Cardiovascular Health**  
[www.cdc.gov/cvh/index.htm](http://www.cdc.gov/cvh/index.htm)
- CTSU (Clinical trial Service Unit (Oxford University))**  
[www.ctsu.ox.ac.uk](http://www.ctsu.ox.ac.uk)
- CCT (Current Controlled Trials)**  
[www.controlled-trials.com](http://www.controlled-trials.com)
- FDA - CDRH (Center for Devices and Radiological Health) Databases**  
[www.fda.gov/cdrh/databases.html](http://www.fda.gov/cdrh/databases.html)
- FDA (Food and Drug Administration) - Center for Biologics Evaluation and Research**  
[www.fda.gov/cber/index.html](http://www.fda.gov/cber/index.html)
- Heart and Coeur (Congenital Heart Defect and Cardiology)**  
[www.heartandcoeur.com](http://www.heartandcoeur.com)
- NHLBI (National Heart Lung and Blood Institute) Information for Health Professionals - Heart and Vascular Diseases**  
[www.nhlbi.nih.gov/health/prof/heart/index.htm](http://www.nhlbi.nih.gov/health/prof/heart/index.htm)
- NIH (National Institute of Health) Bioethics Resources on the Web! Department of Health & Human Services**  
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## MEDICAL NEWS

**Rare Childhood Genetic Syndrome Identified - Multiple Problems Include Cardiac Arrhythmias and Atypical Autism**

Researchers at Children's Hospital Boston, Howard Hughes Medical Institute and the University of Utah have identified a rare, previously undiscovered genetic syndrome that is often fatal by the second year of life, but which may be treatable with calcium channel-blocking drugs. Findings are reported in the October 1 issue of the journal, *Cell*.

The disease, named Timothy Syndrome after one of the paper's authors, is characterized by a variety of problems including heart arrhythmias, congenital heart abnormalities, webbed hands and feet, a weakened immune system, cognitive abnormalities, and, surprisingly, autism. The researchers have identified 17 children with the syndrome, seven of whom were living.

Despite the complexity and severity of Timothy Syndrome, the researchers show that it arises from a single, spontaneous, very subtle gene mutation in the mother's egg or father's sperm - substitution of a single base pair. The reason so many body systems are affected is that mutation impairs a very fundamental molecule - a type of calcium channel - that is found in many tissues and organs.

Calcium channels control how much calcium can get inside a cell. Calcium is one of the body's most important signaling molecules, and normally, cellular calcium levels are tightly regulated. Dr. Mark Keating, senior author of the study and a Howard Hughes Medical Institute investigator at Children's Hospital Boston, likens the calcium channel to a screen door.

"After you go through the screen door, it automatically closes," he says. This mutation dismantles the automatic closing mechanism, so the door just stays open."

As a result, cells are overwhelmed by an influx of calcium. Because calcium-channel blocking drugs can ameliorate calcium overload, these medications may be useful for treating arrhythmia and cognitive deficits in individuals with Timothy syndrome, Keating says.

Experiments also showed that the gene encoding the calcium channel was active not only in heart muscle cells, but in tissues of the gastrointestinal system, lungs, immune system, smooth muscle, testes, and brain - including brain regions that are known to show abnormalities in autism. Keating notes, however, that autism is a complex disorder with many different causative factors.

The study was led by Igor Splawski, PhD, in the Cardiovascular

Research Division at Children's Hospital Boston in collaboration with the University of Utah and the Boston University School of Medicine. The researchers will continue to treat patients with Timothy Syndrome and evaluate their response to calcium-blockers. They will also continue to look for arrhythmia genes and other calcium channels that might be involved in arrhythmia, and try to determine whether this calcium channel is involved in other forms of autism.

Children's Hospital Boston is a leading pediatric medical center, and the primary pediatric teaching hospital of Harvard Medical School. In addition to 325 inpatient beds and comprehensive outpatient programs, it houses the world's largest research enterprise based at a pediatric medical center. More than 500 scientists, including eight members of the National Academy of Sciences, nine members of the Institute of Medicine and 10 members of the Howard Hughes Medical Institute comprise Children's research community.

For more information contact: <http://www.childrenshospital.org>.

**Heart Gene Yields Insights Into Evolution, Disease Risk**

DURHAM, N.C. -- Analyzing the frequency among human populations of a variant in a gene that influences vulnerability to heart disease, biologists have found evidence that the gene has been influenced by the pressure of natural selection. What's more, this evolutionary pressure has influenced heart disease risk.

An analysis of data on the genetic variation among 2,400 British middle-aged men indicated that the men would have suffered 43 percent more heart attacks had the positive selection for the gene variant not occurred.

The researchers, led by Duke University Professor of Biology Gregory Wray, published their findings in the September 7, 2004, issue of the journal "Current Biology." Lead author of the paper was graduate student Matthew Rockman of Duke. Other co-authors were, Dagan Loisel of Duke, Matthew Hahn of the University of California at Davis and Nicole Soranzo and David Goldstein of University College London.

The researchers said their findings offer an intellectual model for a broader evolutionary study of genetics. Said Rockman, "Our research, and that of other evolutionary biologists, is directing us toward a new, more nuanced view of genetic variants which is that, in fact, variation is part of what it means to be human. And that this variation is not just harmful mutation, but really a process that contributes to the health of populations."

In their study, Wray, Rockman and their colleagues explored the



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evolutionary history of one particular variant in a gene called MMP3. Such variants are called "alleles."

The MMP3 gene is one of a family of genes that serves as the blueprint for a protein enzyme with a broad array of functions in the body. However, the variant they studied does not affect the structure of the protein itself, but regulates how much of the protein is produced in the cell. The variation, or polymorphism, is tiny, adding one genetic unit, or nucleotide, to the more than 1,600 that make up the regulatory region of the gene.

However, the single alteration in the MMP3 protein regulatory region causes a functional difference that has important clinical implications. The MMP3 protein is an enzyme that plays a role in regulating the elasticity and thickness of blood vessels. While its effects are complex, said the researchers, overall the variant they studied tends to retard the progress of coronary artery heart disease.

Because of this clinical effect, considerable human data had been gathered on the MMP3 variant, making the gene attractive in exploring the possible effect of natural selection on the frequency of the variant. Rockman said, "the nature of the variation offered an opportunity to study how mutation, selection and the demography of populations contribute to the variation in the gene and its effects on disease."

Rockman, Wray and their colleagues first compared the structure of the gene region among non-human primates -- including the chimpanzee, gorilla, orangutan and baboon. This comparison revealed that that region of the gene is rapidly evolving and had been a "hotspot" of mutation for tens of millions of years.

The researchers next compared the variation in the regulatory region of the MMP3 gene among seven populations from around the world -- Cameroon, China, England, Ethiopia, India, Southern Italy and Papua New Guinea. They compared the pattern of variation with the random genetic variation taking place in a group of neutral genetic markers. These analyses revealed that the variation in the gene among populations could be attributed to evolutionary positive selection.

Particularly interesting they said, was that their analyses of data on the genetic variation among the sample of British middle-aged men indicated that the men would have suffered 43 percent more heart attacks had the positive selection for the gene variant not occurred.

"We really don't know why this selection occurred, because this gene is involved in so many different processes," said Rockman. "Because heart disease is a relatively recent disease, it's more likely that the selection was for some other function of MMP3, and the heart disease effect was incidental," he said

Beyond the insight into evolution of the MMP3 gene, the research offers broader lessons, said Wray.

"I think for the medical profession, one lesson is to not to think of alleles as good alleles or bad alleles," he said. "Rather, there is a

complex set of interactions, and in certain circumstances and in certain combination with certain other alleles, which allele is best can differ. So we're advocating a more nuanced view of how we view the genetic bases of disease.

"Also, we'd like the evolutionary biologist to take away from this study that traditional evolutionary biology has all but ignored the evolution of regulatory regions, versus those regions that code for protein structure," he said. "However, with new analytical techniques at our disposal, we can now start to look at the 'wiring diagram' of the genome and how it is influenced by evolution."

For more information contact [www.duke.edu](http://www.duke.edu)

### Doctors' Interpersonal Skills Valued More than Their Training or Being Up-to-Date

According to the results of a new Harris Interactive® poll of 2,267 U.S. adults conducted online between September 21 and 23, 2004 for the Wall Street Journal Online Health Industry Edition, U.S. adults believe it is extremely important for their doctors to have strong interpersonal skills such as being respectful (85%) and listening carefully to health care concerns and questions (84%), though they also value highly good medical judgment (80%). In addition, adults feel it is important for a doctor to be easy to talk to (84%), to take their concerns seriously (83%) and truly care about them and their health (81%).

The biggest "gap" in what people want from doctors vs. what they actually get is related to how up-to-date their doctors are on the latest medical research and treatment, where 78% feel this knowledge is extremely important for their doctors to have, but only 54% actually described their doctors as being up-to-date.

With interpersonal skills being of so much value to patients, it is no surprise that some have changed doctors due to interpersonal failures. Fourteen percent changed because they didn't feel their doctors listened to them carefully, 12% felt as though their doctors didn't spend enough time with them, and 11% felt that they weren't treated with respect.

The survey also showed that a majority of patients prefer to communicate with their doctors by telephone (71%) when they have a non-urgent question rather than in person (21%) or via email (8%).

"These startling numbers show that doctors' training and knowledge of new medical treatments are less important to many patients than their interpersonal skills -- treating patients with respect, listening carefully, being easy to talk to, taking patients' concerns seriously, spending enough time with them, and really caring," says Humphrey Taylor, chairman of The Harris Poll®. "When it comes to changing doctors, it is overwhelmingly their interpersonal failings -- not listening to patients, keeping them waiting, not spending enough time with them and not treating them with respect -- which drive patients away."



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Treats you with dignity and respect	85	73	-12
Listens carefully to your health care concerns and questions	84	68	-16
Is easy to talk to	84	69	-15
Takes your concerns seriously	83	69	-14
Is willing to spend enough time with you	81	62	-19
Truly cares about you and your health	81	63	-18
Has good medical judgment	80	65	-15
Asks you good questions to really understand your medical conditions and your needs	79	61	-18
Is up-to-date with the latest medical research and medical treatment	78	54	-24
Can see you at short notice, if necessary	71	53	-18
Responds promptly when you call or email with questions or concerns	60	38	-22
Has a lot of experience treating patients with your medical condition(s)	58	45	-13
Could get you admitted to a leading hospital when you need it	55	46	-9
Has been trained in one of the best medical schools	27	25	-2
Is of your own sex or gender	15	36	+21
Is of your own race or ethnic background	10	30	+20

Table 1. What People Want From Their Doctors and What They Get

To read more about the survey: The Wall Street Journal Online/Harris Interactive Health-Care Poll is an exclusive poll that is published in the award-winning Health Industry Edition of The Wall Street Journal Online at: [www.wsj.com/health](http://www.wsj.com/health).



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For our Tucson practice, we are recruiting one generalist who has experience in diagnostic catheterization and echocardiography, including transesophageal and fetal echo. Tucson, the number one resort destination in the Southwest, has more than 27,000 acres of parks, nearly 40 golf courses and in addition to boating and fishing, is only 35 miles from snow skiing.

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## WHO Published Definitive Atlas on Global Heart Disease and Stroke Epidemic

GENEVA -- The Atlas of Heart Disease and Stroke, graphically detailing a global epidemic that is the leading single cause of death worldwide, was launched here today, to coincide with World Heart Day, Sunday September 26, 2004. The Atlas is expected to provide a powerful advocacy tool to stimulate vital action and help promote constructive decision-making by governments, policymakers, national and international organizations, health professionals, individuals and families everywhere.

The Atlas is published by the World Health Organization (WHO), in conjunction with the USA's Centers for Disease Control and Prevention (CDC), of the U.S. Department of Health and Human Services, and is strongly supported by NGOs such as the World Heart Federation (WHF).

Heart disease and stroke kills some 17 million people a year, which is almost one-third of all deaths globally. By 2020, heart disease and stroke will become the leading cause of both death and disability worldwide, with the number of fatalities projected to increase to over 20 million a year and by 2030 to over 24 million a year.

"The old stereotype of cardiovascular diseases affecting only stressed, overweight middle-aged men in developed countries no longer applies," said Dr. Robert Beaglehole, WHO Director of Chronic Diseases and Health Promotion. "Today, men, women and children are at risk and 80% of the burden is in low- and middle-income countries. Heart disease and stroke not only takes lives, but also causes an enormous economic burden. The Atlas should be a significant new resource for global advocacy and education activity."

Dr. Judith Mackay, co-author of the Atlas with CDC's Dr. George Mensah, said: "No matter what advances there are in high-technology medicine, the fundamental message is that any major reduction in deaths and disability from heart disease and stroke will come primarily from prevention, not just cure. This must involve robust reduction of risk factors, through encouraging our children to adopt healthy lifestyle habits and by introducing appropriate policies and intervention programs."

For the first time in one publication, the Atlas captures updated data for each country, which is depicted through colorful maps, photographs and images and provides risk factor statistics for the occurrence of high blood pressure, tobacco, physical inactivity, obesity, lipids and diabetes. The diverse elements of this global epidemic including risk factors, similarities and differences between countries, the economic burden, prevention, policies and legislation, treatment and predictions are chronicled. A world data table is also published for the first time and gives statistics for each country, including the number of healthy life years lost to heart disease and stroke, the prevalence of smoking and the status of policies and legislation.

"While heart disease and stroke is eminently preventable, decision-makers and government funding agencies are, overall, neglecting this public health issue," said Janet Voûte, CEO, WHF, an NGO dedicated to the global prevention of heart disease and stroke. "The WHF strongly endorses the Atlas as a valuable resource for global advocacy and educational activity to fight the heart disease and stroke epidemic. We know how to reduce the burden of heart disease and stroke, but what is needed now is the combination of necessary resources and political will by each country to take effective action."



The Atlas was launched to coincide with World Heart Day, which is a major driving force for encouraging global heart disease and stroke prevention. The focus this year was Children, Adolescents and Heart Disease, because children are increasingly adopting unhealthy lifestyles. Obesity, poor diets, smoking and physical inactivity, the leading causes of heart disease and stroke, are now being seen at an alarmingly early age. Around 100 countries took part in this, the fifth annual, World Heart Day, with member societies organizing educational activities for everyone to get involved. Thousands of people around the world joined one of the walks, runs, jump rope or fitness sessions, had a health check or learned about heart-healthy lifestyles from the public talks, scientific forums and exhibitions.

For further information:

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For further information on the World Heart Federation, visit: [www.worldheart.org](http://www.worldheart.org) or [www.cwnewsroom.ch](http://www.cwnewsroom.ch). Contact: Lauren O'Brien, E-mail: [lauren\\_o'brien@ch.cohnwolfe.com](mailto:lauren_o'brien@ch.cohnwolfe.com).

The Atlas of Heart Disease and Stroke is available in PDF format at: [www.who.int](http://www.who.int) and [www.worldheart.org](http://www.worldheart.org)

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