

# Kids Connection

a monthly newsletter from MUSC Children's Hospital



January 2008

## Letter from the Chair

Dear faculty, Children's Hospital staff and friends,

It dawned on me that we all work very hard. A few days off with family and friends underscore the importance of providing care to our patients. I have always thought that we need to treat every patient as if they were a close relative. The difference between what we want to do and what we do most days boils down to our love and respect for our patients. Unfortunately, we have to be the "enforcer" from time to time.

As I look at the changes in the world over the last 50 years that I can remember, I find that there has been an erosion of a community ethic that once encouraged us to take care of each other. I have a son-in-law in the Navy and a niece in the Air Force. I have a much better understanding of how important their commitment is than before. I saw a slogan that I liked over this season that proclaimed: "America, land of the free, because of the brave." I noted that while we are willing to protect ourselves from foreign enemies; however, we are not committed to helping to stop killing in our cities by eliminating hand guns. We are not been willing to enforce seat belt laws, support ATV bills, or provide for universal health care. We are free because of the brave, but we must be the brave as well and make these tough choices. In addition, we must reach every child and provide the opportunity to get an early educational foundation. Without this foundation, our



**L. Lyndon Key, MD**  
Professor and Chairman  
Department of Pediatrics

population will have difficulty competing in the market place.

Our purpose should not be to pick up the pieces, but to strive to improve health. I am very excited about many of our programs at MUSC, and I will continue to advocate for new and better facilities and more creative ways to extend the knowledge and care that will reduce disease, accidents, obesity, and injuries that can be prevented. This year needs to be the year that we start to take back, not just our own values, but to extend a hand to those who can help us to ensure that all Americans have a chance to be the land of the free, a true beacon for the world.

We must stand tall. We must keep the "big stick" close by, but we must work for peace. Certainly, this year has pointed out that we have created many enemies. However, our purpose is to help to promote peace, prosperity and goodwill. This time of the year is a time of new beginning. This is time of personal reflection, a time that is rife with opportunities to help each others. During my lifetime, I have seen the legal rights of minority populations extended, but now it is time that we guarantee the opportunities to live in peace, to work in harmony, and to obtain an education that will allow a hard worker to succeed. America is about equality. All should be given a chance to reach their dreams.

Sincerely,

L. Lyndon Key, MD  
Chair, Department of Pediatrics



### FEATURE STORY

**CHF events large and small raise money year-round for kids**  
See page 2.



## CHF events large and small raise money year-round for kids

The MUSC Children's Hospital is one of the top ranked children's hospitals in the country, and the Darby Children's Research Institute stands out as one of just 15 in the US. None of it would have been possible without the community and its big and small contributions, says Barbara Rivers.

As director of development for the hospital, Rivers oversees and helps create and direct all the fundraising events and activities of the Children's Hospital Fund (CHF). For 23 years, the fund has played a major role in the development of programs within the Department of Pediatrics and the Children's Hospital.

"The Children's Hospital wouldn't be what it is today if it weren't for the community participating in these events, from small to big acts of giving," says Rivers. As well as sponsoring several major events each month, the CHF coordinates a host of smaller benefits and appreciation events, conducts tours for current and future business partners, and hosts awareness activities.

"The work we do through the Children's Miracle Network, which has been here since the start, has always been special and important," explains Rivers. "And we have grown our special events to include large functions like our upcoming BB&T Darius Rucker Big Band concert, and our annual Nucor and Bulls Bay golf tournaments. Twelve years ago, we were raising \$1 million. This year, our goal is \$6 million."

Until a couple years ago, the CHF was intent on securing funds for the DCRI, and raised more than \$18 million. Now the focus is on the expansion of several areas including cardiology, oncology, neurology and nephrology.

Some of the year's highlights: This month, hundreds of college students will dance for hours to raise money for kids at the second annual College of Charleston's Dance Marathon. On January 26, the Jerry Lee Lewis Concert, held at the Charleston Music Hall, promises to be very entertaining, with all net proceeds going towards the CHF.

Darius Rucker of Hootie and the Blowfish puts on one of his rare big band performances on February 15 at the Charleston Music Hall. "Darius has done this just twice before, so this event is something you will not want to miss," says Rivers. "It's magical and remarkable. He's better than Frank Sinatra." The event is expected to raise more than \$100,000.

On February 15, the CHF partners with the Southeastern Wildlife Festival for events including a live auction expo. Rock N Research, held on March 29, is the CHF's big gala, featuring a silent auction of rocking horses signed by celebrities including Oprah, Kenny Chesney and Bill Clinton.

The annual Nucor Steel Golf Tournament in April takes place on three different golf courses on Seabrook Island and Stono Ferry, and generates more than \$300,000.

In late May/early June, CHF celebrates the Children's Miracle Network broadcast. "All year long, the local stores of national chains, including Publix, Costco, Wal-Mart and Sam's Club, Eckerd's, ReMaxx and Sonoco, are raising funds for us through different programs. Last year Wal-Mart alone raised \$220,000, and continues to raise more each year," explains Rivers.

These other fundraisers, month after month, culminate in the broadcast, during which sponsors and organizations present checks to the CHF.

It's this year-round, grassroots fund-raising that Rivers credits with helping to create and establish several different divisions at the Children's Hospital.

"We put on a lot of big functions, but there are also a lot of things we do day in and day out through the Children's Miracle Network that raise money all year. It's a big day, a chance to recognize all these organizations and their contributions," says Rivers.

Several large annual events also help direct funds to particular divisions. Each July the Monica Kreber Golf Tournament raises funds that specifically benefit pediatric oncology. Overall, the tournament has garnered more than \$300,000 – which has been leveraged into more than \$3 million in NIH funding.

Every August the annual Fishing for Miracles, a King Mackerel fishing tournament at Ripley's Marina, raises about \$25,000 that's earmarked for the pediatric intensive care unit.

Longstanding fundraisers are the beloved holiday cards, featuring the hand-made artwork by young patients, and available in numerous local retail stores. "For 15 years this project has been embraced by the community because it's about children helping children. It's a really special program, and raises about \$75,000 annually," says Rivers.

Wrapping up the holiday season and the CHF's yearlong roster of events are the Reindeer Run, a family-oriented 5K race that runs through downtown Charleston, and the Mercedes-Benz/Baker Motor Company Bulls Bay Golf Challenge. "This tournament is one of the major events of the year, raising \$200,000 for kids," says Rivers.

It's the combined impact of each one of these contributions that helps to provide greater and greater care for more and more children each year.

"These funds also help bring physicians and researchers to the DCRI, people who are the best in their fields and who are making an amazing 80 to 90 new discoveries each year," notes Rivers. "That translates, simply, into some of the best care in the nation available right here."

She credits the community with building the Children's Hospital into what it is today through participation, donations and gifts.

"Whether it's someone running in the Reindeer Run, giving a dollar at Wal-Mart, or making a large gift -- they all help to make these things happen," she continues. "And it's paid off -- the Children's Hospital is one of the top in the country. It's something our community has done that you simply cannot repay, especially when it's your child. And it's a privilege to be a part of it all."

## Message from our Medical Director

### *Plans Ramp up at the End of the Year*

Looking back on 2007, one thing is certainly clear at MUSC's Children's Hospital - despite the national shortage in so many areas, it was a banner year for recruiting pediatric sub-specialists. Some of our most critical recruits came from the surgical subspecialties. Our success started right at the top when Andre' Hebra, MD, came back to us from All Children's Hospital in St. Petersburg, Florida to be our Chief of Pediatric Surgery and Surgical Director. Dr. Hebra's expertise in minimally invasive surgery will be fully



**J. Philip Saul, MD**  
Medical Director  
Pediatric Cardiology

utilized with the addition of a daVinci surgical robot to our surgical suites. Also, while we're sad to see Dr. Tuite leave, we are delighted to have Steven Glazier, MD, take over our Pediatric Neurosurgery Department. He will also be the division chief for all neurosurgical services and is a world renowned expert in the surgical treatment of epilepsy. With Dr. Glazier's arrival, MUSC will be the only center in South Carolina with an epilepsy surgical program. Our last surgical recruit was in Orthopedic Surgery, when Jennifer Hooker, MD, came from Atlanta to join Drs. Mooney and Gross. I'm happy to report that we've already seen significant increases in orthopedic procedure volume.

On the medical side, we have also filled some critical gaps in areas of national shortages. Ian Kang, MD, has joined Dr. Pillai in Pediatric Gastroenterology, a welcome addition. Michelle Hudspeth, MD, came from Johns Hopkins in Baltimore to our Hematology Oncology Division, where she is now running the Bone Marrow Transplant Program, already doing more transplants in the first six months than in all of the prior year. With the division of General Pediatrics assuming care direction in the non-ICU newborn nursery, Bill Randazzo, MD, was recruited out of a private practice in New Jersey to assume leadership of that program. We have a new Chief of Pediatric Neurology, Dr. Stephen Kinsman, and finally, in the Division of Pediatric Cardiology, we were very happy to have one of our own trainees, Tony Hlavacek, MD, join us on staff with expertise in non-invasive imaging, including CT and MRI.

Bringing all of these recruits to MUSC required true collaboration between and commitment from a variety of sources, including the individual departments involved, the Department of Pediatrics, the Children's Hospital and MUHA administrations, and the Dean of the College of Medicine. We are delighted not only by this high level of cooperation, but of course having such wonderful new faculty to treat our patients.

## Children's Research Institute News Brief



**Bernard L. Maria, MD, MBA**  
Executive Director  
Darby Children's  
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**Inderjit Singh, PhD**  
Scientific Director  
Darby Children's  
Research Inst.

### *New research could be a start for early diagnosis of congenital birth defects*

Dr. Ed Krug expects his research may ultimately lead to a blood test that provides early diagnosis of congenital heart defects.

In his lab in the DCRI, Dr. Krug, of the Department of Cell Biology and Anatomy, is developing new technology to determine how the valves and septa (internal partitions) of the heart are formed, and under what conditions they might be altered.

"Valvuloseptal defects are a significant problem, occurring in approximately one out of 10,000 live births," says Dr. Krug.

If the heart lacks the correct separation of chambers and proper "plumbing," oxygenated and deoxygenated blood are mixed, resulting in what is commonly called a blue baby.

Though many of these congenital defects can be corrected surgically, Dr. Krug hopes his research will provide the foundation for a discovery that will allow clinicians to detect abnormal patterns of protein expression in the developing heart long before the structural defects become apparent, offering the potential for non-surgical intervention.

He and other DCRI researchers are looking at protein changes during the critical period that occurs just two to four weeks after fertilization. "The heart is the first organ system to form in an embryo, and if development within this brief window doesn't go properly, most likely the embryo is not going to survive."

It's detailed and intricate work: at this embryonic stage, the heart is smaller than the head of a pin. Dr. Krug works with chicken and mouse embryos, which are excellent models of human heart development.

His lab is looking at the impact of physical and nutritional environments, including the effects of trichlor-ethylene (a major contaminant found at Superfund hazardous waste sites, where women experience high rates of infertility and miscarriage) and low levels of alcohol. "Our results show that very early in development, these conditions have an effect on the formation of the cells that become components of the valves and septa of the heart," he notes.

Lots of researchers are studying protein changes in embryos, but what's different about his research is a novel use of MALDI-TOF mass spectrometry, says Dr. Krug: "This technology allows us to characterize individual phases of early heart development that differ by as little as two hours."

Developed in conjunction with Dr. Kevin Schey in the Department of Pharmacology and Dr. John Schwacke in the Department of Biostatistics, Bioinformatics and Epidemiology, the new application came out of the Cardiovascular Proteomic Center at MUSC, funded by a seven-year, \$15.3 million contract awarded by the National Heart, Lung and Blood Institute in 2002. It's one of just ten such centers in the US.

"The application of MALDI-TOF is exciting because it's an inexpensive and rapid methodology that determines changes in protein expression in minute amounts of tissue. It gives us new potential for studying the mechanisms of early heart development towards identifying factors that might lead to congenital abnormalities or spontaneous miscarriages."

It's technology that he hopes will lead, simply, to more research, to more information that will help interpret more experiments. "To really understand what affects heart development, researchers must be able to detect subtle differences over short intervals of time and at high sensitivity – in a highly reproducible manner," he notes.

Dr. Krug believes his is a jumping-off point that could result in genetic screenings and susceptibility issues that offer better predictability.

"The way we analyze congenital defects now is structurally – that is, after they have occurred," he says. "If we can ultimately pick up changes in protein expression that predict changes later on, a physician could alert the expectant mother to potential problems and perhaps circumvent their occurrence with medication and altered lifestyle choices."

The potential? Reducing congenital heart defects, and possibly even early diagnosis. "Those are really far out, because a lot more work remains to be done," says Dr. Krug. "But you build from the foundation up."

## Evidence-Based Tip

### Urinary Tract Infections in Children

My responsibilities as the EBM librarian for Pediatrics allow me to round once a week with the residents and medical students. My job on rounds is to facilitate EBM in action – helping them to form a good clinical question, to PICO it for clarification, to find the evidence, and to discuss its applicability to the patient. Anywhere from three to eight questions may arise, along with many good, teachable moments.



**Laura Cousineau, MLS**  
MUSC Library  
Dept. of Pediatrics  
EBM Faculty

While on rounds last month, we had a case of a child with a urinary tract infection (UTI) due to urogenital abnormalities. The child was soon to be released from the hospital with a regime of prophylactic anti-infective agents. I turned to the medical students and asked them if other children with no abnormalities but with recurrent UTI should be prescribed prophylactic agents.

They chose to present on this question in the final session of their Pediatric Roundtable rotation.

#### Their question:

Do prophylactic antibiotics decrease the incidence of recurrent urinary tract infections in children?

#### Their PICO (population, intervention, comparison, outcome):

**P:** Children with urinary tract infections

**I:** Prophylactic antibiotics

**C:** Usual care of UTI, no prophylactic antibiotics

**O:** Recurrence of UTI

#### After their search, they selected as the best level of evidence:

**Williams GJ, Wei L, Lee A, Craig JC. Long-term antibiotics for preventing recurrent urinary tract infection in children. Cochrane Database of Systematic Reviews 2006, Issue 3.**

With the help of this top-level evidence, they were able to conclude that they would not recommend prophylactic antibiotics. The studies showed that although certain antibiotics may prevent infections from reoccurring, the side effects of these drugs could make the children feel more unwell than the infection itself.



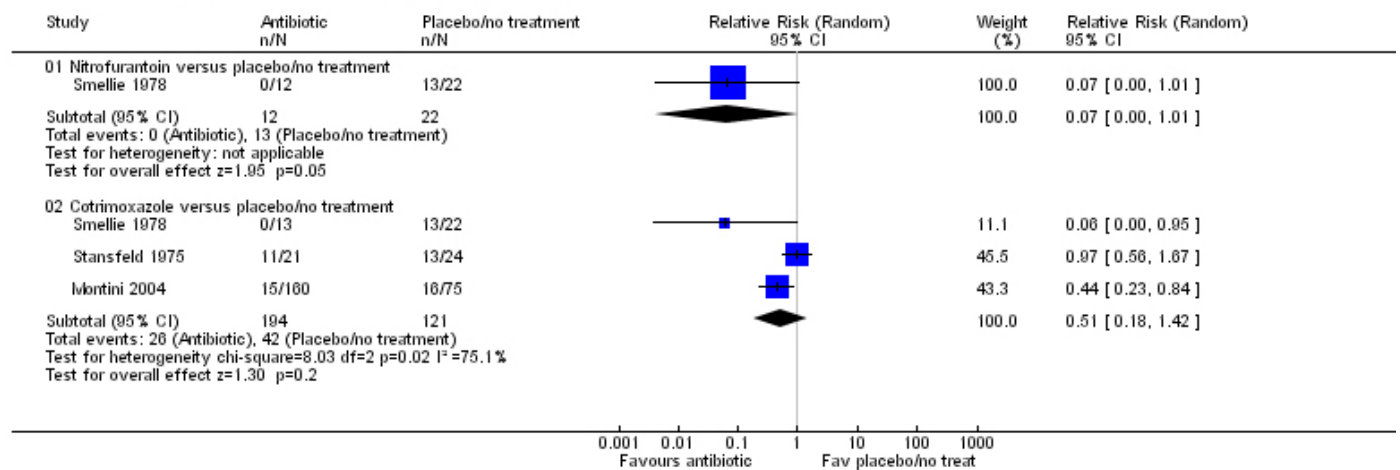
# The Cochrane Library

Evidence for healthcare decision-making

An important characteristic of a well-done systematic review, such as those in Cochrane, is the ability to quickly find implications for practice. Because of the thoroughness of the search and the expert analysis of the methodology and validity of the research found, health care providers can put more confidence in the recommendations of these systematic reviews. Coupled with that analysis, a quick look at the tables provides information about the therapies and outcomes most relevant to a patient's care.

## Analysis 01.04. Comparison 01 Antibiotic treatment versus placebo/no treatment, Outcome 04 Repeat positive urine culture (subgrouped by antibiotic) [Show Statistical Analysis](#)

Review: Long-term antibiotics for preventing recurrent urinary tract infection in children  
 Comparison: 01 Antibiotic treatment versus placebo/no treatment  
 Outcome: 04 Repeat positive urine culture (subgrouped by antibiotic)



One of the tables in this Cochrane Review. Although one intervention favors the antibiotic, the review points out the flaws in that study that may over inflate the treatment benefits.

I was very proud of the medical students who presented that day. They did a good job formulating the question, then searching and finding the best evidence. They did a thorough evaluation of the evidence they found, and drew conclusions for their practice. It makes me feel that their patients will be in very good hands. They will have more than the knowledge base learned in medical school. They will have ability to constantly upgrade their knowledge, and treat their patients on the basis of the best available evidence.

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