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Dr. Michael Duchowny, Director of the Comprehensive Epilepsy Program



from the National Institute of Neurologic Disorders and Stroke—a division of the National Institutes of Health—for a clinical research study of childhood absence (petit mal) epilepsy.

The grant funds a comparison of the three most commonly used anti-epileptic drugs for absence seizures, which account for 10 to 15 percent of all cases of epilepsy in children.

The goal is to determine the best initial medicine for childhood absence epilepsy. The five-year study will enroll 439 children—ages 2 to 13—at 20 sites throughout the country. Miami Children’s Hospital is one of these sites.

“The grant is the largest ever awarded for a clinical research study of pediatric epilepsy, and the clinical trial will be the largest comparison of available drugs for the treatment of pediatric epilepsy ever conducted,” said Dr. Michael Duchowny, Director of the Comprehensive Epilepsy Program at MCH who is spearheading the hospital’s participation in the study.

Staving off the Devastation of Huntington’s Disease

Collin Hovinga, Pharm.D, a research neuropharmacologist with the MCH Brain Institute was awarded a contract to work with the National Institutes of Health (NIH) to help identify drugs to prevent the progression of Huntington’s disease, a devastating degenerative brain disorder for which there is currently no effective treatment or cure.

Dr. Hovinga is the lead investigator in the multicenter study, which seeks to identify the most promising treatments for Huntington’s disease. The effort is supported by the National Institute of Neurological Disorders and Stroke, a division of NIH and is funded by High-Q Foundation, a non-profit organization dedicated to finding and developing treatments for Huntington’s disease. To date the project has identified approximately 200 drugs or other compounds that have shown potential to modify the progression of the disease. “Huntington’s disease is a devastating genetic disorder that destroys the lives of those who inherit it. Through our efforts, we give new hope to families who carry the Huntington’s disease gene,” said Dr. Hovinga.

Saving the Sight of Babies with Cataracts

The Miami Children’s Hospital Department of Ophthalmology is participating in a National Institutes of Health-funded study to determine the optimal means of correcting the vision of infants who have undergone cataract surgery.

Thirteen centers nationwide are participating in the study, which will compare lens implants (intraocular lenses) and contact lenses as a means of correcting the vision of children under 7 months of age who have had a cataract removed from one eye. MCH is the only center in South Florida participating in this important research.

Dr. Stacey Kruger is spearheading MCH’s participation in the study. Children will be randomly assigned to receive either the intraocular lens or a contact lens. The effectiveness of the two treatments will be measured over time, comparing visual acuity as the infants mature, the frequency of complications, the need for subsequent surgeries and parental stress.

Helping Find the Best Treatment for a Chronic Kidney Disease

The Miami Children’s Hospital Department of Nephrology is participating in a national, multi-center study to identify optimal treatment for children and young adults with focal segmental glomerulosclerosis (FSGS), a chronic disease of the filtering units of the kidney.

The study, sponsored by the National Institutes of Health, and the National Institute of Diabetes and Digestive and Kidney Diseases, seeks to determine which of two accepted drug treatments offers the best outcomes.

FSGS is a kidney disorder that progresses to end-stage renal disease in approximately 50 percent of patients. It accounts for 15 percent of end-stage renal disease in children and 5 percent in adults. This study will enroll 500 children and young adults throughout the U.S. Dr. Ana Paredes is the lead investigator at Miami Children’s Hospital.



BUILDING ON A

GROUNDBREAKING AMBULATORY CARE BUILDING

Work begins on a new ambulatory building

With the tilt of a shovel, ground was broken in 2004 on a new 68,000 square-foot Ambulatory Care Building on the hospital's main campus—the final phase of Miami Children's "Building on a Dream" expansion and renovation program.

The planned three-story structure will provide much-needed space for high-demand services and will be connected to the existing hospital corridor system on all three floors. When the new building is completed in 2006, it will house the hospital's Pediatric Care Center, Congenital Heart Institute, Brain Institute, Plastic Surgery and the Craniofacial Center, as well as a new café. "This new structure will enable us to better meet the needs of the fast-growing South Florida pediatric population," said Thomas M. Rozek, President and CEO.

2004 also marked the completion of the hospital's lobby renovation. The new lobby borrows circular themes and color schemes from the exterior to create a playful and

inviting space for families arriving at the hospital. Enhancing the lobby are two original wall murals generously donated by Fort Lauderdale artist, Libby Hodges.

Other completed elements of the hospital's "Building on a Dream" expansion and renovation program include a new 10,000 square-foot MRI building and a new raised helipad.

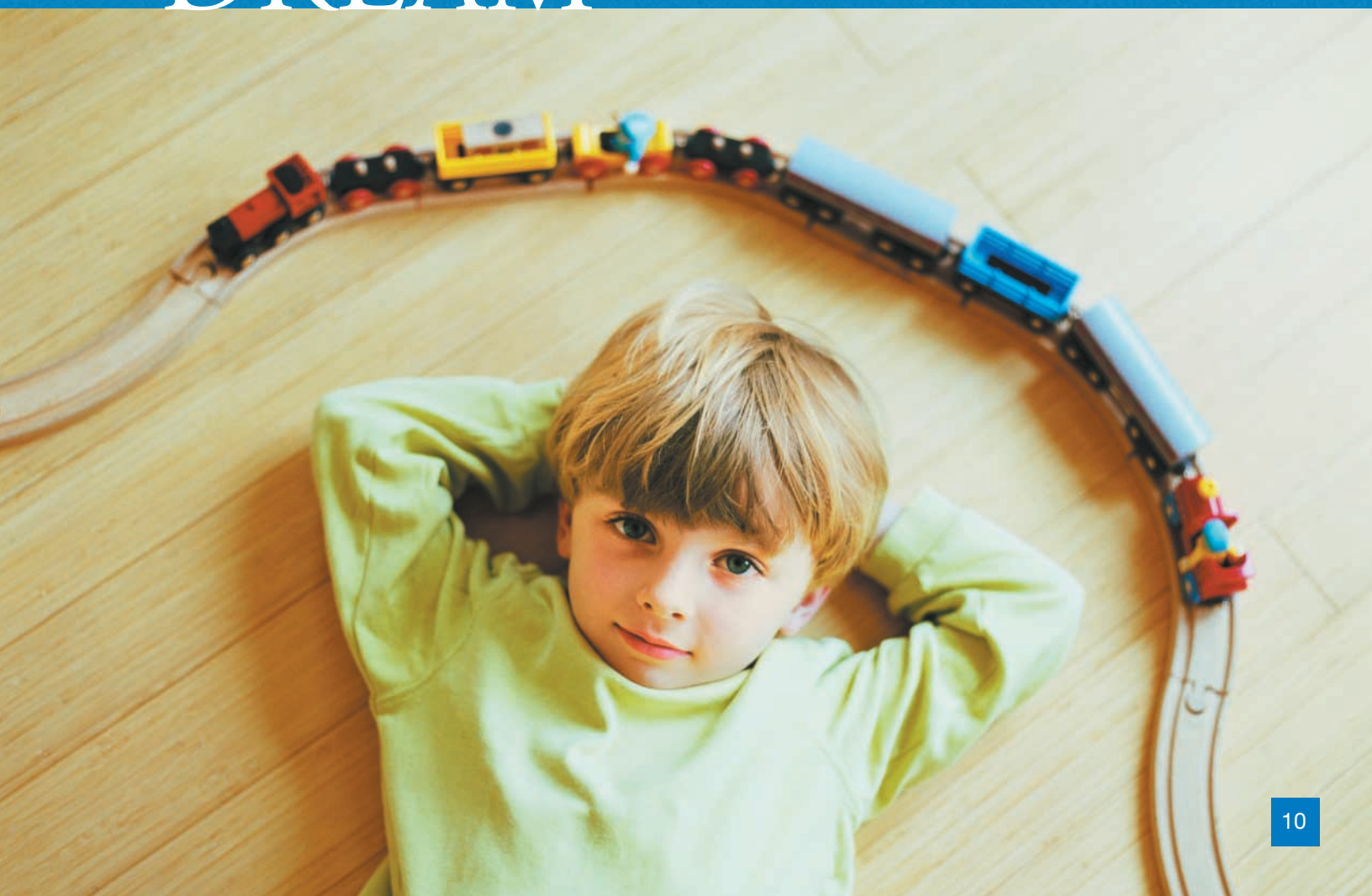
In addition, the hospital has been encased in storm-resistant paneling. The panels have been anchored to the hospital's exterior to boost the facility's ability to withstand a major hurricane. The unique design of the paneling has also given a dramatic boost to the hospital's appearance, dividing the exterior into separate pavilions that create a more intimate and inviting scale. Each pavilion hosts a different color scheme and character, incorporating circular forms, pitched roofs, checkerboard patterns and sculptural relief treatments depicting Florida animals.

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DREAM



OK FINE PROGRAM HELPS KIDS STAY FIT AND PROMOTES SCHOOL SUCCESS

MCH and MCH Foundation team up with the Department of Education to help children stay fit

Good health is known to contribute to academic achievement. To help children in the city's Overtown community reach their academic potential, Miami Children's Hospital in 2004 teamed up with the Florida Department of Education, the Alonzo Mourning Foundation and other sponsors to develop the OK FINE (Overtown Kids-Fitness, Involvement, Nutrition and Education) program.

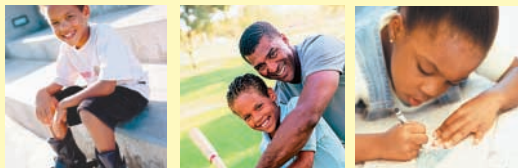
"Through this collaborative effort, Miami Children's Hospital and its foundation aim at improving the health of at-risk children by giving them the support they need in promoting good nutrition and physical fitness, identifying and treating medical conditions, and improving self-esteem," said Dr. Deise Granado-Villar, Director of Preventive Medicine and Community Pediatrics. "Our efforts with these children will ultimately lead to enhancing their academic performance and contribute to the shaping of their future. We are proud to be able to play a role in improving health outcomes of this community where the needs are so vast."

OK FINE is housed in the Overtown Youth Center, a facility donated by the Alonzo Mourning Charities, and offers recreational and academic after-school and summer programs for children at risk of poor classroom performance. The program is being considered as a model for other communities. Since it was launched in March of 2004, the program—the first of its kind to be funded by the Florida Department of Education—has touched the lives of more than 900 children and families.

Children participating in the program are offered a health assessment that includes physical, behavioral, nutritional and fitness components. The outcome of the assessment determines the type of intervention appropriate for each child. Services include individual and group health promotional activities, including fitness and nutrition classes, programs to promote self-esteem, and psychosocial assessments and counseling. The staff includes a program coordinator, a nutritionist, a fitness instructor, a nurse practitioner and social workers. Emphasis is placed on providing children with a medical home for routine care.

The OK FINE staff strives to involve parents in improving children's health. "It is a highly rewarding experience to see how children adopt healthy practices learned from our team members. Parents play a most important role by being informed and getting involved in their children's issues so that our efforts are reaffirmed in the household," said Adebola Olayinka, Program Coordinator for OK FINE.

The OK FINE program is made possible through the commitment of Miami Children's, the Florida Department of Education, The Ethel and W. George Kennedy Foundation, Peacock Foundation, Inc., Collins Center for Public Policy, Inc., Dade Community Foundation, The Estee Lauder Companies, P.L. Dodge Foundation, General Mills Foundation, AT&T Foundation and the Embrace Girls Foundation.



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PEDIATRIC POSTGRADUATE COURSE

MCH draws pediatricians from throughout Americas

More than 800 physicians and healthcare professionals from many countries learned about the latest advances in pediatric medicine at MCH's 39th Annual Pediatric Postgraduate Course, "Perspectives in Pediatrics." Participants converged at the Fontainebleau Hilton in January 2004 to participate in programs led by MCH physicians as well as nationally acclaimed physician guest speakers.

"Perspectives in Pediatrics" is the longest-running independent continuing medical education program in the United States and enables pediatric experts from all over the U.S. and Latin America to keep abreast of the latest developments. Conference presenters covered wide ranging topics from neuro-behavioral disorders, pediatric dermatology, pediatric vision screening, lead toxicity, adolescent medicine issues, congenital heart disease and more.





HELPING THOSE WHO NEED US MOST

How MCH fulfills its charitable mission

In 2004, Miami Children's Hospital provided more than \$11.7 million in uncompensated care to meet the needs of South Florida's children.

Most of these funds provide essential inpatient and outpatient services for uninsured children with serious or critical care needs as part of the hospital's important ongoing role as a regional safety net hospital.

In addition, approximately \$500,000 supports primary care of at-risk children through the hospital's Health-on-Wheels outreach program. The program, administered by Miami Children's Division of Preventive Medicine, features two 40-foot mobile medical/dental units that provide primary care services at public schools, migrant camps and community activity centers with high populations of at-risk children.

The mobile units are staffed by board-certified practitioners, nurse assistants and paramedics. To date, the team has served more than 95,000 children and adolescents in Miami-Dade, Broward and Monroe counties. The program targets medically uninsured children and works to establish a medical home for them to ensure continuity of care and promote better health.

Since the program's inception in 1995, more than 462 children with life-threatening diseases have been diagnosed and treated successfully. As of 2004, the Health-on-Wheels program has administered 37,000 immunizations, 4,091 tuberculosis tests and 5,805 hearing and vision tests, provided acute care to more than 49,000, and conducted over 75,000 preventive health screenings.

For more information on the Health-on-Wheels program, please call the Department of Preventive Medicine at (305) 663-6854.

HURRICANE HEROES

How MCH supported the community in a time of need

For most Floridians, 2004 will be remembered as the year of the hurricanes. As storm after storm pounded the state during August and September, Miami Children's prepared for the worst while reaching out to those coping with the effects of the relentless chain of hurricanes.

Here's how Miami Children's made a difference: Immediately after Hurricane Charley left battered Port Charlotte in its wake, Miami Children's LifeFlight® helicopter transport team was airborne. LifeFlight® crews worked for more than 24 hours navigating through bad weather and power outages to transport patients from storm-ravaged hospitals to safe care settings.

As menacing Hurricane Frances hovered off the east coast of Florida, Miami Children's Hospital reached out to families coping with storm-related anxieties. The hospital established a dedicated phone line offering advice and tips for families on how to discuss the storm with their children. The 1-800-KIDSPAL phone line was promoted on the crawl type during local television coverage of Hurricane Frances and resulted in about 150 calls throughout the storm and its approach.

Miami Children's had ample opportunity to fine-tune its hurricane response plans. During the protracted approach of Frances, the hospital provided food and shelter to 938 working employees, physicians and family members.

After Hurricane Jeanne dealt the West Palm Beach area its second major hurricane-related blow, Miami Children's sent its Health-on-Wheels mobile health unit to the region to provide medical care for displaced families. Members of the Division of Preventive Medicine provided care for nearly 100 children during a three-day stay at a tent city in Pahokee, Florida.

"The dedication, teamwork and level of caring demonstrated by the employees, medical staff and volunteers of Miami Children's Hospital before, during and after the 2004 hurricane season have been remarkable. Each and every department has played a vital role in the preparation and execution of our hurricane plan and in supporting those in our community who were affected by the storms," said Thomas M. Rozek, President and CEO.

LifeFlight® crews worked for more than 24 hours navigating through bad weather and power outages to transport patients from storm-ravaged hospitals to safe care settings.



MCH BRAIN INSTITUTE BRINGS NEW HOPE

Federal and private funding expands leadership

Expanding Leadership in Neuroscience

Miami Children's Hospital is poised to further solidify its already substantial leadership in pediatric neuroscience practice and research, thanks to a generous grant from the federal government, evolving relationships with Florida International University (FIU) and University of Miami School of Medicine, and several key research grants.

The year 2004 brought significant funding and research-related advancements for the hospital's Brain Institute, the nation's first comprehensive program dedicated solely to the pediatric neurosciences. Served by the largest team of pediatric neurospecialists in the country, the Brain Institute fosters integrated research, and offers the latest diagnostic modalities, and medical and surgical care for children with a full spectrum of neurological disorders, including autism, behavioral disorders, cognition, birth defects, cerebral palsy, headaches, seizures, sleep disturbances, tumors, trauma, metabolic conditions and infections.

Dr. Wei-Chiang Lin was appointed to this professorship in August. He received his doctoral degree in neuroscience from Vanderbilt University, where he served as the principal investigator in numerous projects developing novel optical technology to study the brain. His initial focus will be to develop hand-held optical probes to differentiate normal and abnormal brain tissue boundaries and monitor brain tissue function and vitality.

Research ties with the University of Miami School of Medicine were further strengthened when Miami Children's scientist Dr. Collin Hovinga initiated joint projects with teams from the Miami Project to Cure Paralysis related to protecting the developing brain after acute injuries such as stroke and trauma. Joint studies on autism are also being planned.

A Generous Gift

In November, the Brain Institute received yet another boost when the Ware Family Foundation pledged \$1 million to FIU to support

ADVANCEMENTS IN

"2004 has been an important year for the Brain Institute. It has brought new affiliations and funding sources that promise to bring about significant advancements for children with neurological disorders," said Dr. Prasanna Jayakar, Chair of the MCH Brain Institute Executive Committee.

Federal Funding to Enhance Neurosurgical Outcomes

The Brain Institute received a boost in 2004 when Congress awarded the hospital nearly \$2 million in federal funding, most of it earmarked for the purchase of an intraoperative MRI scanner. This new technology will enable Brain Institute neurosurgeons to perform otherwise impossible-to-achieve brain scanning during surgery, updating images frequently to maximize surgical efficiency and preserving healthy tissue while ensuring the effective removal of tumors or abnormal seizure-producing tissue. The technology also offers tremendous new research opportunities and treatment options for conditions such as movement or behavioral disorders.

Successful Partnerships

2004 also saw the Neuro-engineering Program—a dynamic partnership between the hospital and the FIU Department of Biomedical Engineering—secure \$1 million in funds from the National Science Foundation that promises to further strengthen Brain Institute research and clinical excellence.

The Neuro-engineering Program in 2004 began supporting a clinical professorship in biomedical engineering in the field of neuroscience.

collaborative neuro-engineering research to be conducted at Miami Children's. The gift is to be matched by \$400,000 in state funding.

This funding will establish a Neuro-engineering Research Laboratory at Miami Children's, which will integrate neuroscience and engineering research activities with the goal of bringing the latest neuro-engineering technologies to the care of children. Areas targeted for research include the study of dynamic functions of a child's brain, real-time, imaging-guided surgery, and developing novel tools to help improve quality of life for neurologically handicapped children.

Building on a Strong Foundation

The Miami Children's Brain Institute is already a national leader in neuroscience care, widely recognized for its focus on functional characteristics of the brain. New research developments for 2004 include the study of connecting pathways between brain regions using the technique of "tractography" conducted by scientist Dr. Byron Bernal. Grants from NIH and other agencies support the research by scientist Dr. Collin Hovinga on Huntington's disease and stroke in children.

"We are most grateful for our university collaborations, the South Florida congressional delegation and the Ware Family Foundation for their commitments to the Brain Institute and the children of South Florida," said Dr. Jayakar.

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NEUROSCIENCE

