



ChildrensHospitalLosAngeles

International Leader in Pediatrics

Richard D. Cordova, FACHE
President and Chief Executive Officer

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Dear Friend,

A hospital dedicated to the treatment of the sickest, most seriously ill children is a truly remarkable place. Children differ from adults physically, developmentally and emotionally, and they require highly specialized medical care, regardless of their illness or injury. Among children's hospitals, Childrens Hospital Los Angeles is unique because of our commitment to family-centered care, education and research; this commitment is demonstrated throughout the hospital, and certainly in our Centers of Excellence.

There are nearly 100 pediatric medical and surgical subspecialties and subspecialty support service areas at Childrens Hospital Los Angeles that provide both the very best care for patients and their families and the infrastructure for extraordinary postgraduate education and pioneering research. Our medical staff, most of whom hold faculty positions at the Keck School of Medicine of the University of Southern California (USC), offer interdisciplinary care in an environment that fosters opportunities to enhance and improve training of the next generation of pediatricians, pediatric surgeons and pediatric nurses, as well as to conduct leading-edge clinical, translational and basic research. I want to take this opportunity to update you on some of the really exciting things taking place within some of our larger treatment areas—including cancer and blood diseases, diabetes and endocrine disorders, heart disease, maternal-fetal and neonatal problems, musculoskeletal disorders and injuries and complex forms of eye disease. Our breadth of specialties, however, extends well beyond the treatment areas mentioned here.

The Childrens Center for Cancer and Blood Diseases

The Childrens Center for Cancer and Blood Diseases (CCCBD) is one of the nation's largest pediatric hematology/oncology programs, with one of the largest pediatric bone marrow transplant programs in the United States. The CCCBD has been a National Cancer Institute referral site since 1955, and is the pediatric component of the National Institutes of Health-funded Kenneth Norris, Jr./USC Comprehensive Cancer Center. Under more than three decades of leadership by Director Stuart E. Siegel, MD, the CCCBD provides a comprehensive range of patient care services, teaching and research in oncology, hematology, hematopoietic stem cell transplantation, pediatric radiation oncology and psychosocial services. In 2006, the CCCBD at Childrens Hospital Los Angeles assumed leadership of Pediatric and Adolescent Hematology-Oncology Associates at Miller Children's Hospital in Long Beach; and in 2007, the CCCBD opened a joint inpatient/outpatient clinical program in conjunction with Ventura County Medical Center. These initiatives are strengthening pediatric cancer care in greater Los Angeles, and provide greater geographical breadth for CCCBD programs.

Respect • Service • Excellence • Knowledge • Teamwork

The CCCBD is the only pediatric cancer program in the country that serves as the headquarters for three multi-institutional consortia studying new approaches to treating acute leukemias, neuroblastoma and brain tumors in children who have not responded to all other available treatments. Physician-scientists at Childrens Hospital Los Angeles also have discovered a new type of “vector,” or virus that can deliver genes into cells. Donald B. Kohn, MD, co-director of the CCCBD and director of the Gene, Immune and Stem Cell Therapy Program at The Saban Research Institute, has worked with Gay M. Crooks, MD, director of the Childrens Hospital Los Angeles Stem Cell Project, to collect immune-forming stem cells and insert a gene that has the power to make cells divide significantly faster. This method for increasing cell division rates may aid in rebuilding the immune system after stem cell transplantation, a major challenge in such a procedure.

The Center for Endocrinology, Diabetes and Metabolism

The largest pediatric endocrinology program in California and one of the three largest in the country, the Center for Endocrinology, Diabetes and Metabolism (CEDM) addresses issues such as type 1 and type 2 diabetes, obesity, nutrition, growth disorders and bone metabolism through treatment, education, research and advocacy.

Francine R. Kaufman, MD, head of the CEDM, traveled around the world for a truly remarkable documentary, “Diabetes: A Global Epidemic,” which aired some months ago on The Discovery Health Channel. Dr. Kaufman, who is past president of the American Diabetes Association, visited six continents, exploring the challenges and successes of people with diabetes. The documentary highlighted what the World Health Organization has recognized as a global epidemic—240 million people are estimated to have the disease, and the number is projected to more than double by 2030. The concurrent obesity epidemic affecting some 22 million children around the world has created an unprecedented rise in the incidence of type 2 diabetes, a disorder in which the pancreas does not produce enough insulin, or the body cannot effectively use the insulin it produces.

The CEDM is involved in a number of studies to unravel the mystery of obesity. One such project is studying two recently identified hormones believed to play an important role in appetite—ghrelin, which is released by the stomach and acts on the brain to signal hunger, and peptide YY, which is secreted by the intestines and acts on the brain to signal fullness. Ghrelin and peptide YY appear to act differently in obese adults than in lean adults. Studies indicate that obese adolescents have the same pattern defects in these hormones as obese adults. This research may help us understand who is at risk of becoming obese and suggest hormone therapies to prevent obesity and its associated health risks.

The Childrens Orthopaedic Center

Orthopaedic surgeons collaborate with nurse specialists, orthopaedic oncologists, rehabilitation specialists, physical therapists and biomechanical engineers at the Childrens Orthopaedic Center (COC) to evaluate and treat congenital conditions and traumatic injuries affecting bones, muscles and joints. The COC, which is under the leadership of Vernon T. Tolo, MD, and David L. Skaggs, MD, is one of the nation’s largest and most comprehensive orthopaedic programs dedicated to children and adolescents.

The John C. Wilson, Jr. Motion Analysis Laboratory is one of the most advanced facilities of its kind in the United States. Tishya Wren, PhD, director of research for the Wilson Laboratory, is in the final year of a five-year randomized study designed to document the improvement of surgical outcomes through

motion analysis. The only gait laboratory in the Los Angeles area specializing in pediatrics, this three-dimensional computerized motion analysis system enables physicians to improve the walking ability of children with gait disorders by seeing the movement, forces and muscle activity occurring at all joints simultaneously as a child walks. In nearly 90 percent of cases, pre-operative motion analysis results in changes to surgical plans, allowing multiple procedures to be performed at once and resulting in better long-term outcomes for the child.

The Heart Institute

An internationally recognized leader in the treatment of pediatric heart disease, the Heart Institute is the largest pediatric cardiovascular center in the West, and it has been at the forefront of innovations in pediatric cardiovascular care for more than 60 years. Experts in cardiology, cardiothoracic surgery, cardiothoracic transplantation, cardiothoracic intensive care and cardiac research work together to provide the most comprehensive care available anywhere. The Heart Institute includes one of the only dedicated, separately staffed Cardiothoracic Intensive Care Units (CTICU) on the West Coast.

In March, the surgical team at the Heart Institute saved the life of nine-year-old Davik Teng of Cambodia. Davik was brought to Childrens Hospital Los Angeles by the Long Beach-based organization Hearts Without Boundaries for surgery to repair a congenital heart defect that surgeons in her country were unable to fix. Davik's surgery, led by Vaughn A. Starnes, MD, director of the Heart Institute and head of the Division of Cardiothoracic Surgery at Childrens Hospital and executive director of USC's Cardiovascular Thoracic Institute, went perfectly, and her story was featured on both the *Today Show* and the *NBC Nightly News*.

The Center for Fetal and Neonatal Medicine

The Center for Fetal and Neonatal Medicine (CFNM), headed by Istvan Seri, MD, PhD, who also is director of the USC Division of Neonatal Medicine, provides the most advanced interdisciplinary care available anywhere for critically ill fetuses, newborns and infants. The CFNM includes the Institute for Maternal-Fetal Health (IMFH), the Division of Neonatology and the Newborn and Infant Critical Care Unit (NICCU) at Childrens Hospital, as well as the Neonatal Intensive Care Units at LAC+USC Medical Center, Hollywood Presbyterian Medical Center and Good Samaritan Hospital.

As an example of this advanced care, the CFNM recently provided care for a fetus with congenital cystic adenomatoid malformation, a cystic lung lesion that fills with fluid, compressing the heart against the chest wall and obstructing it from pumping blood. The severe form of the disorder usually causes complete organ and body failure in the fetus within a matter of weeks; but, the collaborative approach at the CFNM was able to save the child's life. A shunt placed in the enlarged cyst through endoscopic fetal surgery reduced its size and allowed the heart to begin pumping again and the lungs to grow. The child was born with the shunt in place; after an operation and recovery in the NICCU, the child continues to do well.

Ground-breaking research is equally as important as patient care. Physician-scientists within the Center are currently using ultrasound and near infrared technology to study changes in the delivery of oxygen to organs such as the brain in response to treatments that change an infant's systemic blood pressure and cardiac function. By measuring blood flow and oxygen delivery in the brain and pressure changes while delivering cardiovascular medications or making changes to ventilation settings, treatments can be tailored to individual infants, dose-response patterns can be indentified, and ultimately, industry standards of care and public health policy can be improved.

The Vision Center

The Vision Center, thanks to founding benefactors Alyce and Michael Dalany, builds on the success of the hospital's Division of Ophthalmology. One of the world's largest and most respected pediatric medical facilities dedicated to vision, The Vision Center is comprised of six institutes—Retina, Cornea, Eye Birth Defects, Vision Development, Orbit and Eye Movement and Eye Technology. Led by Mark S. Borchert, MD, it is the only program in the United States with expertise in virtually every pediatric ophthalmologic subspecialty area.

Vision disorders are the most common handicap in American children, and vision impairment significantly impacts the child's ability to explore the surrounding environment, learn and develop relationships. Physician-scientists in The Vision Center are exploring the use of stem cells to treat vision diseases, disorders and injuries in a number of ways. For example, Thomas C. Lee, MD, director of the Retina Institute, is examining ways to grow retinal stem cells, which could one day be used to restore vision to patients with retinal damage. Researchers at The Vision Center also are part of a new Cancer Stem Cell Consortium at Childrens Hospital Los Angeles, studying the theory that cancerous tumors have a small subset of cancer stem cells that are "immortal," and working on ways to target these cells.

The Vision Center is at the forefront of new treatments as well. A. Linn Murphree, MD, director of the Retinoblastoma Program, is using photodynamic therapy in a new way to treat retinoblastoma tumors. Patients are intravenously injected with a normally inactive photosensitive dye. A low-intensity laser is then focused directly at the child's tumor in the eye, activating the dye only in the tumor's blood vessels. The resulting chemical reaction damages the tumor without affecting the rest of the body.

Working together for children's health

Collaboration at Childrens Hospital Los Angeles is a unifying theme throughout our entire organization. The outstanding care provided by our Centers of Excellence is greatly enhanced by cooperation between every department and division within the hospital—great health care does not happen in a vacuum. We also include the family as part of the health-care team, because family-centered care is one of our highest priorities. For additional information about the resources available at Childrens Hospital Los Angeles, I invite you to visit our newly redesigned website at www.ChildrensHospitalLA.org.

Whether we are treating sick children, training the physicians, nurses and caregivers of tomorrow or unlocking the mysteries of illness and injury through state-of-the-art research, we are making a world of difference. Please join us in this critical and transformational endeavor by contacting Melany Duval, associate vice president for Major and Planned Giving, at 323-361-1705, or mduval@chla.usc.edu.

Sincerely,



Richard D. Cordova, FACHE
President and Chief Executive Officer