



# Center for Children at HJD

## e-News – Spring/Summer 2012

Dear Reader:

We are excited to announce the launch of the *Center for Children eNews*, and present to you our first edition. Here, we aim to share the latest information, news, and research in pediatric orthopaedics with our colleagues who treat and manage pediatric patients with musculoskeletal and neuromuscular disorders.

The Center for Children at HJD, part of NYU Langone's new Hassenfeld Pediatric Center, is led by a brilliant team of physicians specializing in musculoskeletal and neuromuscular conditions and injuries, including cerebral palsy, hip preservation, limb length discrepancies, clubfoot, upper extremity issues, and scoliosis. Since the Center's founding in 1979, its faculty and staff have been dedicated to providing world-class, patient-centered care with a multidisciplinary approach to treatment.

In addition, plans are underway to relocate Rusk Institute of Rehabilitation Medicine's pediatric programs from its 34th Street location to reside within HJD, which will enhance the continuum of care across the pediatric services, both inpatient and outpatient.

As part of an academic medical center, our faculty are dedicated to education and research in addition to patient care, as highlighted in this first edition. The orthopaedic residency program is based at HJD, one of only five institutions in the world solely dedicated to the preven-



Division faculty, left to right: Alice Chu, MD; William Hennrikus, MD (visiting professor); David Godfried, MD; Donna Phillips, MD; David Feldman, MD; Norman Otsuka, MD; Jenny Frances, MD; Wallace Lehman, MD. Not pictured: Gail Chorney, MD; Alfred Grant, MD; Andrew Price, MD.

tion and treatment of musculoskeletal diseases, and the Department of Orthopaedics is ranked among the nation's top 10 by *U.S. News & World Report*.

All of these developments will revolutionize the way we care for children with musculoskeletal and neuromuscular disorders. We look forward to providing ongoing updates on our progress in future editions of *Center for Children eNews*.

Sincerely,

David S. Feldman, MD  
Chief, Division of Pediatric  
Orthopaedic Surgery

Norman Y. Otsuka, MD  
Director, Center for Children

## In The News

- We are the first pediatric hospital in the New York metropolitan area to introduce the J-tip needle-free anesthetic system. The J-tip is a unique syringe that uses a small canister of pressurized carbon dioxide instead of a needle to push buffered Lidocaine (1%) into the skin, numbing the area before a venous procedure, such as drawing blood, in less than a minute.

- On February 7, 2012, the Division of Pediatric Orthopaedic Surgery

received the amazing gift of \$30,000 from the KiDS of NYU Langone Foundation to be used to establish an upper extremity motion analysis laboratory specifically geared towards pediatric patients. This fund will allow the purchase of pediatric-sized hand sensors and funding staff to analyze data from videos, motion analysis, and EMG signals. The first step towards a specialized upper extremity center has been taken!

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## Hot Topic: Arthrogryposis

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Within the Division of Pediatric Orthopaedic Surgery and the Center for Children we treat many rare and often potentially crippling disorders in children; one of these is arthrogryposis.

Imagine not being able to bring your hand to your mouth, or having knees with a 90 degree angle and feet that are turned in so far that you can't wear shoes.

Literally meaning "curved (or crooked) joints," between 400-1,200 children are born each year in the United States with this disorder. While there appears to be many causes, the commonality is that the children suffer, to varying degrees, from joints that do not move and muscles that are quite weak.

Over the last ten years we have optimized the care of these children from birth through adolescence and on, but there is still much to be done. This year we are embarking on a major expansion of our arthrogryposis center, in three key areas:

- Developing an upper and lower extremity gait lab in order to understand and more accurately treat children with this and other neuromuscular (nerves and muscle) diseases. The upper extremity lab will be unique in understanding how various interventions may help children achieve improved function and independence.
- Unifying the care of children with arthrogryposis, utilizing resources within NYU Langone

Medical Center and worldwide to enable patients to seamlessly receive care from multiple medical specialists needed for the optimal care of the child. This will be achieved with a dedicated, specialized staff ensuring each child and family is properly matched to the appropriate professionals.

- Working collaboratively to "translate" basic laboratory research to the treatment of these children. We are embarking on a partnership and creation of a laboratory specifically for this goal.

These are lofty goals and we look forward to reporting on our progress.

## Announcements

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Faculty members Dennis Cardone, DO, and Warren Young, MD, are happy to announce a new clinical initiative for our young patients: the Center for Young Athletes.

This newly established program provides orthopaedic care for children and adolescents involved in competitive sports. The goal of the Center is to safely return kids to the playing field as quickly as possible, whether the patient has suffered a serious fracture or just a simple overuse injury. In addition, Dr. Cardone and Dr. Young are willing to work with families and coaches to make sure that student athletes are

performing to the best of their abilities in a safe environment.

"We believe that adult athletes are not the only ones who need specialized sports medicine care," says Dr. Young. "Dr. Cardone and I are committed to helping young athletes prevent injuries, maximize performance and also manage some of the most common medical issues that arise in sports care such as sprains, concussions and asthma-related complications."

The Center is a collaborative program of the Divisions of Pediatric Orthopaedic Surgery and

Primary Sports Medicine as well as the Pediatric Physical Therapy Department. For more information call 877-YNG-ATHL (964-2845) or e-mail Dr. Warren Young at [warren.young@nyumc.org](mailto:warren.young@nyumc.org).



## Clinical Spotlight: Cerebral Palsy

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Cerebral palsy (CP) is a group of permanent disorders affecting the development of movement and posture that are attributed to non-progressive disturbances that occur in the developing fetal or infant brain. The motor disorders of CP are often accompanied by disturbances of sensation, perception, communication, behavior, epilepsy, and secondary musculoskeletal problems.

CP and other neuromuscular diseases are treated in the Center for Children. Our goal is to provide a multidisciplinary approach and consistent quality care to children and families with special needs. The Center for Children holds clinics for spasticity, Botox injections, intrathecal baclofen pump, rehabilitation, equipment, and pre-operative medical clearance for children up to the age of 18.

Our CP team includes pediatric orthopaedic surgeons, a pediatric neurologist, pediatricians and subspecialists, nurse practitioners, physician assistants, genetic counselors, a clinical psychologist, physical and occupational therapists, orthotists, nurses, social workers, and child life specialists. Norman Y. Otsuka, MD, a recognized leader in CP, is the director of the Center for Cerebral Palsy

and Neuromuscular Disorders. Eduardo del Rosario, MSN, FNP-C, is the clinical coordinator and can easily be reached at 212-598-6388 regarding children with CP or neuromuscular disorders.

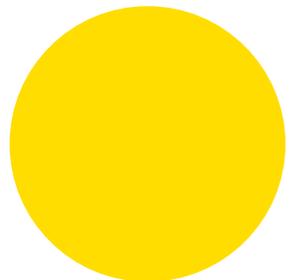
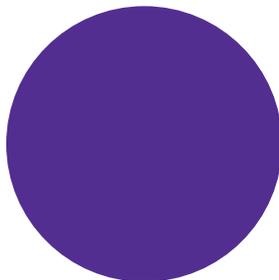
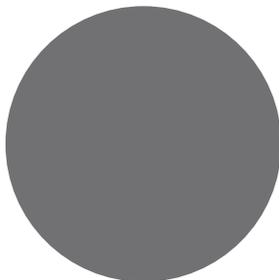
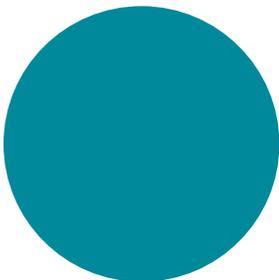
The patients are assessed by our team on an individual basis with a focus on improving patient outcomes. Certain measures are utilized to determine plans for operative and non-operative treatment. Moreover, we evaluate the relationship between the Pediatric Outcomes Data Collection Instrument (PODCI) and the School Function Assessment (SFA).

The Center's CP Support Group is designed to assist the caregivers of patients diagnosed with all ranges of cerebral palsy, providing them with psycho-educational and emotional support. The group is facilitated by Michelle Romano, LCSW, and Jaye Vergara, RN, along with our hospital volunteers. Child life specialists provide separate activities for the patients and siblings. The sessions are held quarterly with a growing number of attendees. Caregivers are vital to the patient's quality of life, and the Center recognizes this.

We have embarked on a city-wide outreach effort to increase

cerebral palsy awareness. Our nurse practitioners have been able to meet with several schools and organizations to offer their knowledge, skills, and clinical services. They have worked with the NYU College of Nursing and the National Association of Pediatric Nurse Practitioners (NAPNAP). Both nurse practitioners are also on the planning committee for the 3rd Cerebral Palsy Continuing Medical Education (CME) Conference hosted by the Division of Pediatric Orthopaedic Surgery which will be held in May 2013 at HJD. Furthermore, senior medical students are sent to the Center for Children for exposure on the multidisciplinary management of children with chronic illness. The Center is also developing a transition clinic to provide a comprehensive evaluation and treatment plan to the adolescent community.

In 2013, the world-class pediatric services of Rusk Institute of Rehabilitation Medicine will be relocating to reside within HJD to further enhance treatment for the patient's needs of mobility and function. The Center for Children aims to be the leader in New York City in providing care and treatment to this unique population.



## Research Roundup

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Research at the Center for Children is a multidisciplinary effort, involving staff within the Center as well as throughout NYU Langone Medical Center. Our pediatric orthopaedic surgeons present at national and international professional meetings and publish papers covering a wide range of topics, including spinal, lower extremity and foot deformities, neuromuscular disorders, congenital and developmental anomalies, hip dysplasia, and trauma.

We are pleased to present some of our current and recent research initiatives:



- The upper extremities of children with congenital and neuromuscular disorders are being studied in a project involving motion analysis in conjunction with neurorehabilitative physiatry at NYU Langone Medical Center. Additionally, the Division of Pediatric Orthopaedic Surgery is in the process of developing registries of patients with various diagnoses and collecting outcome measures to serve as the basis of evaluating therapeutic strategies.
- The New York Ponseti Clubfoot Center has collected data from young patients with clubfoot for more than a decade. The numerous resultant articles and presentations have addressed assessment of the clubfoot deformity, persistent clubfoot and outcome of intervention.

- The Pediatric Musculoskeletal Tissue Bank was created by our Musculoskeletal Research Center to collect biospecimens for future research. The stored samples will be analyzed to investigate the biology, causes, prevention and treatment of pediatric musculoskeletal conditions.
- Our pediatric neurology research focuses on neuromuscular disorders, particularly spasticity, and hereditary muscle and nerve disorders. Some previous projects involved enzyme differentiation in muscular dystrophies, spasticity management with intrathecal baclofen and oral medication, and multidisciplinary evaluation of children with idiopathic toe-walking.
- Our geneticist and genetic counselor have frequently presented interesting cases at professional meetings and published papers regarding the genetic aspects of neuromuscular disorders.
- The KiDS of NYU Langone Foundation is currently funding the investigation of osteoporosis in children with cerebral palsy under the direction of Dr. Patricia Poitevien and in collaboration with the Division of Pediatric Orthopaedic Surgery.
- The pediatric physical/occupational therapy department is actively involved in several ongoing research projects in association with the Clubfoot Center, Brachial Plexus Clinic and Pediatric Psychology. The physical therapists are evaluating the gross motor skills of the young child with clubfoot while the occupational therapists are examining the self-concept of the older child/adolescent with brachial plexus injury.



## Case Report: Correcting Deformity at the Center for Children

A 13-year-old girl presented with untreated Blount's disease, with a marked varus deformity of her left knee (Figure 2). She had undergone corrective surgery at age 7, but suffered recurrence of her deformity. Radiographic measurements revealed a 35 degree varus deformity of the left proximal tibia, depression of the medial tibial plateau and an 8 degree valgus deformity of the distal femur. Due to damage to the medial growth plate associated with severe Blount's disease, the left tibia was 3 centimeters shorter than the right.

She underwent correction of her deformity with an osteotomy elevating the medial joint, and another osteotomy at the proximal tibia with gradual correction and lengthening using a Taylor Spatial frame. A distal femoral osteotomy corrected her valgus deformity to obtain a joint line parallel with the floor. In addition she underwent a lateral tibia epiphysiodesis to prevent recurrence, a fibular osteotomy and stabilization of the distal syndesmosis, and a fasciotomy. After surgery she had intensive physical therapy to regain full range of motion. There was a persistent knee flexion deformity. Radiographic parameters revealed that some of this deformity was due to a procurvatum at the proximal tibia. This was addressed with a new program adjusting the Taylor Spatial frame to correct the procurvatum. After 7 months, the Taylor Spatial frame was removed. She has been very happy with the results, and remains pain free.

Correction of severe deformity and limb length discrepancy in children can successfully restore alignment and length, preventing future early arthritis. The process of correction and lengthening with the Taylor Spatial frame is lengthy, complicated and associated with a very high rate of potential minor and major complications that often require close follow up and early treatment. However, for those patients willing to invest time and effort, reliable correction can be obtained with this treatment method.



Figure 1. Preoperative (a) and postoperative (b) clinical photographs.



Figure 2. Preoperative (a) and postoperative (b) standing lower extremity radiographs.



### Patient Testimonial

*"Hi, my name is Natalie Valentine. I'm in 9th grade and before the surgery, I had a disease called Blount's disease. Thanks to Dr. Frances and Dr. Feldman, the surgery came out perfect. It was a long journey, but it was worth it!"*

## Event Updates



The Division of Pediatric Orthopaedic Surgery faculty are engaged in a variety of continuing education activities, both in learning and teaching.

- The 6th International Clubfoot Congress was held in Prague, Czech Republic on September 8, 2011, in conjunction with the XXV Triennial Meeting of the International Society of Orthopaedic Surgery and Traumatology (SICOT). It was organized by Wallace B. Lehman, MD, director, New York Ponseti Clubfoot Center at the Center for Children in collaboration with his international colleagues.
- On September 15-16, 2011, division faculty conducted the continuing medical education conference, "Maximizing Potential: Transitioning the Cerebral Palsy Child into Adulthood." The day- and-a-half course discussed goals of transitioning and the challenges clinicians, patients, and families face as the child with cerebral palsy enters adolescence and then adulthood. It was led by HJD faculty and staff including Norman Y. Otsuka, MD, Linda Leva-Schrank, PT, and David S. Feldman, MD.
- On September 22-23, 2011, Israeli, Palestinian, and Nigerian physicians learned how to perform the Ponseti technique for correcting clubfoot at Rambam Health Care Campus in Haifa, Israel. This was done through lectures, workshops, and surgical video shown to participants. Wallace B. Lehman, MD, director, New York Ponseti Clubfoot Center at the Center for Children was one of the course coordinators.
- The First Annual Lorna Ramos Course on "Management Strategies for the Rehabilitation of a Child with a Brachial Plexus Birth Injury" was held at Miami Children's Hospital on November

3-4, 2011. It was sponsored by HJD and Miami Children's Hospital faculty member, John Grossman, MD, in collaboration with our occupational therapy department. HJD faculty included Dr. Grossman, Andrew E. Price, MD, Michelle Pasqualetto, OTR, CHT and Lauren Rosenbaum, MS, OTR, SIPT.

- On March 18-22, 2012, David S. Feldman, MD, chief, Division of Pediatric Orthopaedic Surgery had the distinct opportunity to be a guest speaker about the management of cerebral palsy at the 18th Mediterranean Meeting of Child Neurology in conjunction with the 5th Fred J. Epstein International Symposium on New Horizons in Pediatric Neurology, Neurosurgery and Neurofibromatosis which was held in Dead Sea, Israel.
- On April 21, 2012, division faculty conducted the continuing medical education conference, "ABCs of Pediatric Orthopaedics and Sports Injuries." The full-day course reviewed the latest in diagnosis and management of pediatric orthopaedic pathologies, pediatric trauma and sports injuries commonly treated in the community. It was led by faculty members Jenny Frances, MD, MPH, and Alice Chu, MD.

### Upcoming Events

- July and October 2012 - Cerebral Palsy Support Workshop
- September 2012 - Clubfoot Workshop Series
- October 2012 - Alfred D. Grant Professorship Lecture

Visit [www.centerforchildren.med.nyu.edu](http://www.centerforchildren.med.nyu.edu) for updates as these event dates and details are finalized.

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