

# Clinical Connection

News, Updates, and Support for Healthcare Professionals



Kennedy Krieger Institute  
UNLOCKING POTENTIAL

REHABILITATION • DEVELOPMENTAL MEDICINE • BEHAVIORAL THERAPIES



Dear Colleague,

For over 75 years, Kennedy Krieger Institute has been a national leader in providing patient care for children and young adults with disorders and injuries of the brain, spinal cord, and musculoskeletal system.

Our medical staff of more than 200 physicians, representing more than 50 specialties, and a staff of more than 2,400 dedicated employees provide your patients unique access to the latest in research and treatment models in the areas of neurorehabilitation, behavioral disorders, and other developmental disorders.

To ensure that your patients receive the best care possible, we take an interdisciplinary team approach that starts with you, the referring physician. Our staff works closely with you and your patients and families to develop comprehensive and individualized treatment plans. Depending on their needs, we can offer your patients care in a variety of settings, including a 70-bed inpatient unit, outpatient programs that see more than 20,000 patients each year, day treatment services, and home- and community-based programs.

In addition to the news, updates, and inspiring stories you'll find inside *Potential* magazine, we've provided an overview of the Institute's programs and services, as well as clinical and research updates. If you have any questions or would like to learn more about any of our patient care programs, please call our Physician Referral Line at **443-923-9403** or email us at **FindASpecialist@KennedyKrieger.org**.

Sincerely,  
Gary W. Goldstein, MD

## OUR CULTURE OF CARE

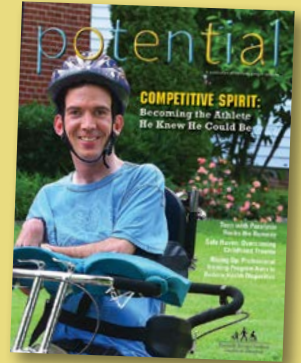
Kennedy Krieger Institute recognizes and respects the rights of patients and their families and treats them with courtesy and dignity. Care is provided in a manner that preserves cultural, psychosocial, spiritual and personal values, beliefs, and preferences. We encourage patients and families to become active partners in their care by asking questions, requesting resources, and advocating for the services and support they need.

## PROGRAM NEWS & UPDATES:

- Personalized genomic medicine for pediatric neurological disorders
- Audiological screenings for adolescents
- Inpatient care for complex conditions
- Research: gender and autism diagnosis

## INSIDE POTENTIAL MAGAZINE:

- **Innovative therapies** for cerebral palsy
- Combating the **effects of childhood trauma**
- Teen with **paralysis** lives out dream
- Training program aims to **reduce health disparities**
- Research: **pediatric clinical trials**



Visit **PotentialMag.KennedyKrieger.org** to access articles and search publication archives.

## REFERRING YOUR PATIENTS

To support the needs of physicians and healthcare professionals, our care management team is available to provide information on appropriate clinical programs, handle referrals, obtain consultations with Institute specialists, and schedule appointments for patients and families.

Call **443-923-9403** to reach our Physician Referral Line or visit **Referrals.KennedyKrieger.org** for information and resources for physicians and healthcare professionals.

For general information, call **1-888-554-2080** or visit **KennedyKrieger.org**.

## ADOLESCENTS NEED AUDIOLOGICAL SCREENINGS TOO

Although audiological screenings for infants and young children are routinely done, screenings for adolescents rarely occur. This has become a concern due to increasingly high levels of noise exposure, particularly from mobile devices. A CDC study has shown that 12.5 percent of children ages 6 to 19 have sustained some degree of sensorineural hearing loss secondary to noise exposure. Extended or repeated exposure to sounds at levels



of 85 decibels or higher can cause noise-induced hearing loss (NIHL). Personal music players (iPods and MP3 players) are among the chief culprits of NIHL among children and teens, although

other factors such as loud concerts may also play a role. NIHL is preventable. The National Institute on Deafness and Other Communication Disorders recommends the use of earplugs or other protective devices when around loud noises.

NIHL may initially be difficult for an individual to detect, but over time sounds may become distorted or muffled. Conversations may become difficult to follow, especially in a noisy background, a significant problem for children who are listening for extended portions of the day in relatively noisy classrooms.

To prevent or mitigate NIHL, physicians should conduct routine hearing screenings for adolescents or refer to an audiologist.

For more information about the Audiology Program at Kennedy Krieger Institute, please visit [KennedyKrieger.org/Audiology-Clinic](https://www.kennedykrieger.org/Audiology-Clinic) or email [FindASpecialist@KennedyKrieger.org](mailto:FindASpecialist@KennedyKrieger.org).

## PERSONALIZED GENOMIC MEDICINE FOR PEDIATRIC NEUROLOGICAL DISORDERS

The **Neurology and Neurogenetics Clinic at Kennedy Krieger Institute** provides advanced diagnostic services including genomic testing, genetic counseling, and therapeutic interventions for a broad spectrum of complex disorders affecting the brain and nervous system.

Patients are referred from around the country and around the world, and we often see puzzling or unusual cases that have previously defied diagnosis. We combine decades of experience in childhood neurological disorders with cutting-edge genomics technology to conduct precision medicine, and in 40 percent of patients with a neurodevelopmental disability of unknown cause, we are able to determine a genetic diagnosis using exome sequencing. Our interdisciplinary team of neurologists, geneticists, genetic researchers, and genetic counselors works together to offer accurate diagnoses and treatment plans tailored to each patient.

Although many neurological disorders cannot yet be cured, the symptoms and related concerns can be managed through treatment and therapy. Accurate diagnoses can guide care and intervention, helping to improve quality of life for patients and their families.

Some of the conditions that we treat and manage in children include:

- Cerebral palsy
- Intellectual disability
- Leukodystrophies
- Metabolic disorders
- Mitochondrial disorders
- Movement disorders
- Rett syndrome
- Seizure disorders
- Sleep disorders
- Stroke
- Sturge-Weber syndrome
- Tuberous sclerosis complex

To learn more about pediatric neurology at Kennedy Krieger, visit [KennedyKrieger.org/Neurology](https://www.kennedykrieger.org/Neurology). To refer a patient, call **443-923-9403** or email [NeurologyReferrals@KennedyKrieger.org](mailto:NeurologyReferrals@KennedyKrieger.org).

### INPATIENT CARE FOR COMPLEX MEDICAL CONDITIONS

Kennedy Krieger Institute provides intensive, around-the-clock, therapeutic care for children and adolescents with complex medical conditions at our specialty pediatric hospital. We offer inpatient rehabilitation for patients from birth to age 21 with a variety of complex medical needs, including ventilator weaning, nutrition management for children with new feeding tubes, BIPAP management for weaning tolerance, pain medication weaning, and tracheostomy tubes, for the following conditions:

- Brain disorders and injuries, including low responsiveness
- Spinal cord disorders and injuries
- Medically fragile
- Chronic pain
- Feeding disorders
- Severe and self-injurious behavior

Our interdisciplinary approach to patient care brings together professionals from numerous fields and specialties to create

treatment plans tailored to the individual needs of each patient throughout all levels of care. The team includes wound-certified nurses, around-the-clock respiratory therapy staff, two pediatric hospitalists, child life specialists, behavioral psychology support, case managers and social workers for discharge planning, and pediatric-certified nursing staff.

For more information about admissions, questions about a specific patient concern, or to find a pediatric specialist, call our Physician Referral Group at **443-923-9403** or email us at **FindASpecialist@KennedyKrieger.org**.



### RESEARCH SPOTLIGHT: GENDER AND AUTISM DIAGNOSIS

Girls are diagnosed with autism spectrum disorder (ASD) later than boys, possibly because females exhibit less severe symptoms, according to a study from the Interactive Autism Network at Kennedy Krieger Institute, the world's largest online autism research effort.

In a data review of the Interactive Autism Network registry of almost 50,000 individuals and family members affected by ASD, researchers found girls were diagnosed with pervasive developmental disorder, an ASD impacting the development of many basic skills, at a mean age of 4 years compared to 3.8 years for boys. The finding was similar for Asperger's syndrome; girls were diagnosed at a mean age of 7.6 years for the condition, which affects language and behavioral development, vs. 7.1 years for boys.

In addition, researchers found that girls struggled more with social cognition—the ability to interpret social cues—while boys had more severe mannerisms, such as repetitive behaviors and hand flapping, and highly restricted interests. Older boys, ages 10 to 15, also had more difficulties with the ability to recognize social cues and use language in social situations.

This study was supported by a grant from Johns Hopkins Medicine International (SYSU-JHU Pilot Grant Program on Clinical and Translational Research). For more information about the Interactive Autism Network, a project of Kennedy Krieger Institute and the Simons Foundation, visit **IANCommunity.org**.

### KENNEDY KRIEGER INSTITUTE NAMES DR. AMY J. BASTIAN AS FIRST CHIEF SCIENCE OFFICER



Amy J. Bastian, PhD, a neuroscientist who serves as director of Kennedy Krieger's Motion Analysis Lab, has been chosen as the Institute's first chief science officer (CSO). As CSO, Bastian will lead the strategic direction of neuroscientific research at the Institute, which currently numbers 288 active research studies. Bastian intends to put a heavy focus on translational science that informs the underlying mechanisms by which the brain and body recover and learn. Research efforts will target improving outcomes and finding preventions and cures for individuals with disorders of the developing brain, spinal cord, and musculoskeletal system.



Kennedy Krieger Institute

707 North Broadway  
Baltimore, Maryland 21205

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## PATIENT CARE PROGRAMS & SERVICES

### Inpatient Pediatric Units

Feeding Disorders Unit  
Neurobehavioral Unit (NBU)  
Rehabilitation Unit—Brain Injury, Pain Rehabilitation,  
Post-orthopedic Surgery, and Spinal Cord Injury

### Outpatient Centers, Programs, and Services

International Adoption Clinic  
Albright Clinic  
Aquatic Therapy Program  
Assistive Technology Clinic  
Audiology Program  
Center for Autism and Related Disorders  
Barth Syndrome Clinic  
Behavior Management Clinic  
Bone Disorders Program  
Brachial Plexus Clinic  
Brain Injury Outpatient Clinics  
Brain Injury Responsiveness Program  
Phelps Center for Cerebral Palsy and  
Neurodevelopmental Medicine  
Child and Family Support Program  
Child and Family Therapy Clinic  
Community Rehabilitation Program  
Constraint-Induced and Bimanual Therapy Program  
Cranial Cervical Clinic  
Deafness-Related Evaluations Clinic  
Center for Development and Learning  
Developmental Cognitive Neurology Clinic  
Pediatric Developmental Disorders Clinic  
Down Syndrome Clinic and Research Center  
Pediatric Epilepsy and Neuropsychiatry Program  
Pediatric Feeding Disorders Program  
Fetal Alcohol Spectrum Disorders Program  
Focused Interdisciplinary Therapy Program  
Fragile X Clinic  
Healthy Lifestyles Therapy Program  
Center for Holoprosencephaly and Related Malformations  
Intrathecal Baclofen Program  
Limb Differences Clinic

Moser Center for Leukodystrophies  
Military Behavioral Health Services  
Movement Disorders Program  
Center for Genetic Muscle Disorders  
Neurobehavioral Outpatient Program  
Neurology and Developmental Medicine Program  
Neurology and Neurogenetics Clinic  
Clinical Neurophysiology Clinic and Laboratory  
Neuropsychology Outpatient Clinics  
Neurorehabilitation Concussion Clinic  
NICU Follow-up Clinic  
Nutrition Clinic  
Occupational Therapy Clinic  
Orthopedic Clinic  
Osteogenesis Imperfecta Clinic  
Pediatric Pain Rehabilitation Program  
Physical Therapy Clinic  
Pediatric Psychology and Consultation Clinic  
Psychiatric Mental Health Program\*  
Seating Clinic  
Sickle Cell Neurodevelopmental Clinic  
Sleep Disorders Clinic and Laboratory  
Specialized Transition Program (STP)  
Speech and Language Clinic  
Philip A. Keelty Center for Spina Bifida  
and Related Conditions  
International Center for Spinal Cord Injury  
Hunter Nelson Sturge-Weber Center  
Center for Child and Family Traumatic Stress  
Tuberous Sclerosis Clinic  
Weight Management Program

### Continuums of Care

Continuums allow patients to be seen through all stages of care, including 24-hour inpatient programs, day treatment, home- and community-based services, and outpatient programs. They include **Pediatric Feeding Disorders, Neurobehavioral Disorders, and Pediatric Rehabilitation (brain injury, pain management, post-orthopedic surgery, spinal cord injury).**

*\*Indicates new programs, clinics, and services.*

For a complete listing of all diagnoses, disorders, programs, and services, visit [KennedyKrieger.org/PatientCare](http://KennedyKrieger.org/PatientCare) or call 888-554-2080, TTY 443-923-2645, or Maryland Relay 711.