Pediatric Bone and Mineral Metabolism Disorders Clinic

Welcome to the Pediatric Bone and Mineral Metabolism Disorders Clinic at MassGeneral Hospital for Children (MGHfC). The clinic is a subspecialty area of excellence within Pediatric Endocrinology and Pediatric Nephrology that provides clinical care for infants, children and young adults with disorders affecting bone health and mineral metabolism.

ABOUT THE PEDIATRIC BONE AND MINERAL METABOLISM DISORDERS CLINIC
We specialize in the diagnosis and treatment of a range of disorders affecting bone health and mineral metabolism.

Our providers from the divisions of Pediatric Endocrinology and Pediatric Nephrology collaborate with specialists throughout MGHfC and Massachusetts General Hospital, including Pediatric Gastroenterology and Nutrition, Adolescent Medicine and Pediatric Orthopaedics. Providers from Genetics, Pediatric Neurology and Physical Therapy provide consults as needed.

Our clinic facilitates a seamless transition from pediatric to adult care for older adolescents to ensure ongoing care for their bone health.

CONDITIONS WE TREAT
We welcome referrals for the following conditions:

- Osteoporosis and osteopenia
- Vitamin D deficiency and other disorders of vitamin D metabolism
- Rickets and osteomalacia
- Disorders of calcium and phosphorus metabolism and disorders of the parathyroid gland
- Nephrocalcinosis and kidney stones
- Chronic kidney disease-associated mineral and bone disorders (CKD-MBD)
- Osteogenesis imperfecta and other genetic bone disorders
- Low bone density and osteoporosis in conditions including eating disorders; female athlete triad; inflammatory bowel disease (IBD) and celiac disease; autism spectrum disorders; chronic steroid use; and limited weight-bearing states

Appointments 888-644-3248

STAFF
Pediatric Endocrinology
Rose Marino, MD
Madhusmita Misra, MD, MPH
Deborah Mitchell, MD - Clinic Co-Director

Pediatric Nephrology
Harald Jueppner, MD
Elahna Paul, MD, PhD
Amita Sharma, MD - Clinic Co-Director

Pediatric Genetics
Paula Goldenberg, MD

Pediatric Orthopaedics
Brian Grottkau, MD

Pediatric Neurology
Ann Neumeyer, MD
OUR SERVICES
The following services are offered at the Pediatric Bone and Mineral Metabolism Disorders Clinic:

- Measurement of bone mineral ions, vitamin D metabolites, hormones involved in mineral metabolism and screening tests for other medical problems
- Dual-energy X-ray absorptiometry (DXA) scans to measure bone mineral density and bone mineral content using low-energy X-rays, which are reviewed by specialists with expertise in interpreting pediatric bone mineral and bone density test results.
- Genetic testing, including whole-exome sequencing for conditions such as osteogenesis imperfecta and other rare disorders affecting bone and mineral metabolism
- Bisphosphonate infusions
- Physical therapy

SCHEDULING APPOINTMENTS
Patients can call the Access and New Appointment Center at 888-644-3248 to schedule appointments at our Boston (pictured below) and Concord, Mass., locations:

- **MassGeneral Hospital for Children**
  55 Fruit Street, Suite 6C
  Boston, MA 02114

- **Emerson Hospital Center for Specialty Care**
  54 Baker Ave. Extension, Suite 302
  Concord, MA 01742

OUR RESEARCH
The divisions of Pediatric Endocrinology and Pediatric Nephrology at MGHfC have a rich tradition of basic and translational scientific investigation in bone metabolism and mineral ion homeostasis.

Our seminal findings at MGHfC include the definition of the genetic basis of numerous inherited disorders and exploration of their underlying physiology and the elucidation of the impact of acquired disorders, such as anorexia nervosa and chronic kidney disease, on childhood bone accrual and metabolism.

This tradition continues today. Ongoing studies by our physician scientists include:

- Defining the natural history of hypoparathyroidism and associated renal complications
- Investigating bone accrual in youth with Type 1 diabetes
- Comparing the effects of different methods of estrogen replacement on bone health in female athlete triad
- Assessing the effects of estrogen and IGF-1 replacement on bone health in girls with anorexia nervosa
- Studying the skeletal effects of bariatric surgery in adolescents and young adults
- Evaluating bone health in boys with autism spectrum disorders and determining the impact of oxytocin administration on their bone accrual
- Defining the molecular causes and clinical characteristics of several inherited disorders, such as hypo- and hyperparathyroidism; pseudohyoparathyroidism; hypo- and hyperphosphatemic disorders; primary kidney disease; and collagen abnormalities.

For more information, visit our research websites at [www.aneresearch.com](http://www.aneresearch.com) or [http://clinicaltrials.partners.org](http://clinicaltrials.partners.org).

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Pediatric Endocrinology and Pediatric Nephrology

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For more information please call 888-644-3248

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