Pediatric News
An electronic newsletter from the Department of Pediatrics
January 2014

Spotlight: Divisions of Medical Genetics & Clinical Cytogenetics

The Divisions of Medical Genetics and Clinical Cytogenetics faculty includes five board certified medical geneticists and one board certified molecular geneticist. Our staff also includes nine board certified genetic counselors, including one nurse practitioner, as well as 76 laboratory staff.

We have formally integrated our clinical and laboratory departments in order to provide the most comprehensive, accurate and timely genetics services to our medical community and patients. Our clinical staff continues to develop new genetics specialty clinics at Children's Hospital & Medical Center, as well as at the Munroe-Meyer Institute, UNMC and around Nebraska.

Our laboratory is a comprehensive genetic diagnostic service which develops new testing, as requested by the medical community to meet the needs of the region. Our faculty are actively and continually involved in teaching medical students, graduate students, nurses, residents and fellows. We have American Board of Medical Genetics accredited fellowship programs in clinical genetics and clinical cytogenetics.

All faculty are also involved in clinical research projects. We have funding from pharmaceutical companies for several clinical trials, from the Autism Action Partnership, NIH funding through the Children's Oncology Group, an NIH-funded cerebral palsy study, and funding from the Department of Pediatrics and from the Munroe-Meyer Institute. Our faculty authored 26 peer-reviewed research manuscripts and 28 posters/presentations at local, regional and national meetings in 2013.

More information is available on our websites:
www.unmc.edu/mmi/geneticmed.htm
www.unmed.edu/mmi/geneticslab/

Clinical Genetics/Laboratory Faculty
Director
 Physicians

- Warren G. Sanger, Ph.D.
- Bruce A. Buehler, M.D.
- Bhavana J. Dave, Ph.D.
- Tanner Hagelstrom, MBA, Ph.D.
- Richard Lutz, M.D.
- Ann Haskins Olney, M.D.
- Eric Rush, M.D.
- Lois Starr, M.D.

Office Associates

- Cheri Bott
- Kristi Horeis
- Kim Tyrey

Clinical Programs

Genetics Clinics

- Munroe-Meyer Institute Genetics Clinic (five clinics per week)
- UNMC Midtown Adult Genetics Clinic (one clinic per week)
- Down Syndrome Follow-up Clinic (two clinics per month)
- Teratogen Exposure (phone calls daily; clinic visits schedule as needed)

Outreach Clinics

- Scottsbluff (four two-day clinics per year)
- North Platte (six two-day clinics per year)
- Kearney (four two-day clinics per year)

Multidisciplinary Clinics

- Children's Developmental Clinic (one clinic per week)
- Boys Town National Research Hospital Craniofacial Clinic (one clinic per week)
- Children's Hospital Complex Craniofacial Clinic (one clinic per month)
- Children's Hospital Autism Clinic (one clinic per month)
- Children's Hospital Osteogenesis Imperfecta Clinic (one clinic per month)
- Children's Hospital Bone Metabolism Clinic (one clinic per month)
- Munroe-Meyer Institute Fetal Alcohol Syndrome Clinic (one clinic per month)
- Boys Town National Research Hospital Neurosensory Genetics Clinic (one clinic per month)

Prenatal Clinics

- TNMC Maternal-Fetal Medicine Clinic (four days per week)
- Methodist Women's Hospital Maternal-Fetal-Medicine Clinic (five days per week)

Cancer Genetics Clinics

- TNMC Hereditary Cancer Clinics at Munroe-Meyer Institute,
Eppley Cancer Institute, Bellevue Medical Center and Village Point Cancer Center (five days per week)
• Methodist Hospital Estabrook Cancer Clinic (two days per week)

Inpatient Genetics Consultations

• The division provides inpatient genetics consults at the Nebraska Medical Center, Children's Hospital, and most other Omaha hospitals.

Genetic Testing Available

ONCOLOGY TESTING: Chromosome Analysis, FISH, Microarray, Cell Culture, DNA extraction and Cryopreservation

POSTNATAL TESTING: Chromosome Analysis, FISH, Fragile X testing, Chromosome Breakage for Fanconi Anemia, MECP2 del/dup (MLPA), Methylation Analysis, Microarray, Molecular Test by Gene, NextGen Sequencing, Sanger Sequencing, Y-Chromosome Microdeletion, Cell Culture, DNA extraction and Cryopreservation

PRENATAL DIAGNOSTIC TESTING: Chromosome Analysis, FISH, Microarray, Y-Chromosome Microdeletion, Cell Culture, DNA extraction and Cryopreservation

PRENATAL SCREENING: Quad Screen Risk Assessment or Maternal Serum Alpha-fetoprotein (MS-AFP) only, AF-AFP & ACHE, and Preimplantation Genetic Screening

Educational Programs

The division participates in medical education at all levels. Genetics provides approximately 14 lecture hours in genetics to first-year medical students, integrated into the M1 Cellular Processes Core curriculum. M4 students rotating in genetics attend weekly Genetics Case Conferences, prepare a final oral presentation under the supervision of one of the faculty, and formally present this at the end of their rotation. House officers from pediatrics and other specialties rotate in genetics and participate in local and outreach clinics. Along with the geneticists, the division's nine genetic counselors are guest lecturers for many health care professions students, support groups, and professional societies and they frequently author patient educational materials. Beth Conover, MS, APRN, and Warren Sanger, Ph.D. are on the faculty of the University of Arkansas, teaching genetic counseling students in other states via teleconference distance education. The division and laboratory staff have provided 33,000 student contact hours during 2013.

The division has one of the 50 accredited medical genetics fellowship training programs in the country. Training program personnel include fellowship director Ann Haskins Olney, M.D., associate fellowship director Eric Rush, M.D., and program coordinator Kristi Horeis. We did not accept fellows for the current academic year, but the fellowship program is active and accepting applications during the next Match cycle. We currently have two fellows completing their second year of our Clinical Cytogenetics Fellowship.
Division educational programs open to faculty, fellows, residents, and students include weekly Genetics Case Conference, monthly Genetics Journal Club, periodic Dysmorphology Club discussions, and a monthly "unknowns" teleconference with geneticists at Boston Children's Hospital and other locations.

Research

Our division has research programs in the area of gene discovery, dysmorphology, syndrome delineation, osteogenesis imperfecta treatment and quality of life, cancer genetics, the genetic etiologies of speech and language disorders, teratology, autism, ataxia and our laboratory is the national lymphoma reference lab for the Childrens' Oncology Group.