First Park Dinner garners solid support for neuroscience research

The newest Medical College of Wisconsin (MCW) advisory board launched a special event on June 23 to generate support for Parkinson’s disease and neuroscience research. The inaugural Park Dinner was held at Joey Gerard’s, a Bartolotta Supper Club, in Greendale, Wis., and raised $35,000. Organized by volunteers from the MCW Neuroscience Center Board, the evening included trolley rides and a silent auction.

Hosts for the event were Bobbi and Roy Reiman, Bonnie and Ned Timarac, Rachel and Ben Wagner, and Jan Lennon.

The MCW Neuroscience Center was founded in 2010 with the goal of enhancing neuroscience research at the College. Encompassing clinicians and basic scientists, leading specialists at MCW are studying the prevention and treatment of more than thirty neurological conditions including Alzheimer’s and other forms of dementia, Parkinson’s, Huntington’s and other movement disorders, Amyotrophic Lateral Sclerosis (Lou Gehrig’s disease), traumatic brain injury, spinal cord injury, multiple sclerosis and addiction. MCW is also recognized as one of the world’s preeminent centers for brain imaging research.

The next dinner will be held June 22, 2014, at Lake Park Bistro.
A Medical College of Wisconsin (MCW) researcher who practices pediatrics at Children’s Hospital of Wisconsin is using a grant from The Gerber Foundation to study intravenous nutrition in an effort to make it safer for babies who need the sustenance.

Intravenous (IV) nutrition is one of the most common therapies provided to premature and critically ill newborn infants in the neonatal intensive care unit. Although it is essential for survival and growth in these children, liver damage is a known complication of prolonged use. This affects as many as 85 percent of children requiring long-term IV nutrition, and the consequences can be severe, irreversible and even fatal.

Researchers believe intravenous lipid, a component of the IV nutrition that provides essential calories and fatty acids, conversely contributes to the development of liver disease. All IV lipids in the United States are based from soybean oil and are rich with plant sterols, which are naturally occurring molecules that are similar to cholesterol in humans. An over-accumulation of plant sterols, however, can be toxic.

The $130,000 contribution from The Gerber Foundation will secure resources to advance the research of T. Hang Nghiem-Rao, MD, Assistant Professor of Pediatrics (Neonatology), which seeks to determine if high concentrations of plant sterols lead to an increased risk for liver disease and growth failure in infants receiving IV nutrition.

“Dr. Nghiem-Rao’s training and background are ideally suited to this project, and she has assembled a strong mentorship team that reflects her multidisciplinary approach to sterol metabolism in intravenous nutrition,” said Joseph E. Kerschner, MD, Dean of the Medical School and Executive Vice President of MCW. “We appreciate The Gerber Foundation’s recognition of the promise this research holds for pediatric health.”

Dr. Nghiem-Rao’s study will factor in age, length of therapy and body composition. Her research team will also examine the genes associated with the ability to process and eliminate excess plant sterols. The research will incorporate tissue bank samples or animal models along with data from participating patients. Overall, the project will improve doctors’ understanding of the mechanisms that underlie sterol metabolism.

“From this, we may discover new ways to assess liver injury, growth, nutrient utilization and predisposition for future cardiovascular disease that could be used to guide nutritional therapy,” Dr. Nghiem-Rao said. “Most importantly, this research may offer opportunities to improve the composition and safety of IV nutrition, ultimately improving the health of infants who depend on it for survival.”

Based in Michigan, The Gerber Foundation aims to enhance the quality of life of infants and young children in nutrition, care and development. It was established in 1952.

“Often, we institute practices for the benefit of the infant that may also create a risk,” said Catherine A. Obits, Program Manager for The Gerber Foundation. “This study—looking at the effects of a fat emulsion used to promote growth that may also lead to liver damage in the infant—fits well with the Foundation’s desire to look at environmental hazards, even well-intentioned practices, to evaluate the level of risk that it creates for the infant.”

Safety of IV nutrition focus of Gerber Foundation grant to MCW pediatrician

Shaw Fund continued from front cover

pioneering data about the developing eye of a premature child and suggesting an indicator for the most successful time in an infant’s development to treat ROP,” Dr. Costakos said.

Central to the team’s approach is a collaboration with Bioptigen, Inc., a manufacturer of optical coherence tomography (OCT) systems. With MCW, the company received a small business grant from the National Institutes of Health (NIH) to develop a hand-held probe specifically suited to taking high-quality images of the eyes of infants in neonatal intensive care.

“Bioptigen is dedicated to serving the pediatric clinical and research ophthalmologist,” said Eric Buckland, President and CEO of Bioptigen. “Dr. Costakos and Carroll are leaders in understanding retinal development and risks to the neonatal eye. We are proud that MCW has chosen us to be partners and collaborators on this project.”

The images, which can be acquired in seconds as part of a routine patient exam, may enable detection of the earliest signs of change in the infant’s eye, long before a doctor could see it with standard clinical tools, and data from the team’s pilot studies supports this suggestion. The technology will also help the investigators establish the first ever database of infant retinal anatomy to more accurately determine the early signs of ROP.

To make the screening available to more patients, the team will access MCW’s mobile translational research unit through the Clinical and Translational Science Institute (CTSI) of Southeast Wisconsin. This will allow Dr. Costakos to screen children at multiple area neonatal intensive care units.

“The Eye Institute is poised to make a significant advancement in this field because we are one of only a few hospitals in the world with imaging technology sophisticated enough to examine the eyes of these premature children,” Dr. Carroll said. “We envision this as a vital first step to creating a regional screening program for ROP. With the mobile resources of the CTSI, we can pilot a program where the portable OCT technology is delivered to where it is needed most – area neonatal intensive care units.”

The Russell J. and Betty Jane Shaw Fund was specifically created to support medical research for childhood diseases, making this project an intuitive fit. Russell J. Shaw was a Milwaukee-area businessman, and Betty was a volunteer to many local charitable organizations.

“This project provides Wisconsin with access to cutting-edge diagnostic technology that will improve the future quality of life for children in this state and beyond,” said Jeannie Fenceroey, senior program officer and administrator of the Shaw Fund.

Because this study is novel in its approach and with emerging technology, it will likely generate the evidence requisite for applying to the NIH for a grant to expand the line of research.

“Private philanthropy provides the capital needed for the preliminary studies that can lead to large grants from government or national foundations,” said Joseph E. Kerschner, MD, Dean of the Medical School and Executive Vice President.

“The generosity of Greater Milwaukee Foundation’s Russell J. and Betty Jane Shaw Fund will be felt by many local families with premature children, and the positive repercussions of this research may one day be felt nationwide.”