

Harry T. Whelan, MD holds the Bleser Family Endowed Chair in Neurology, and is Professor of Neurology & Pediatrics, and director of the Hyperbaric Medicine Unit at The Medical College of Wisconsin/Children's Hospital of Wisconsin. He has been studying the medical uses of near-infrared (NIR) light for over 20 years. Near-infrared light stimulates improved energy metabolism in the mitochondria, the engine of every cell, leading to treatment for mitochondrial problems in common diseases which affect the brain, eye, heart and muscle. Dr. Whelan found that diabetic skin ulcers and other tissues heal much faster when exposed to NIR in the lab. In a multiyear investigation funded by the National Aeronautics and Space Administration (NASA), Dr. Whelan has been studying the use of LEDs to promote healing and prevent mucositis, a serious complication from chemotherapy and radiation used to treat cancer in children. Dr. Whelan has also been funded by the National Institutes of Health (NIH) in a study of NIR treatment for neurodegenerative disease, including Parkinson's Disease, successfully preventing its progression in laboratory animal models. He also is conducting a pilot study supported in part by the Clinical Translational Science Institute of near-infrared light therapy for patients with diabetic macular edema, a form of diabetic eye disease, which is the leading cause of blindness in the United States. The Defense Advanced Research Projects Agency (DARPA) is funding his research in neurological disorders, including traumatic brain injury (TBI), and stroke. The FDA has recently approved Dr. Whelan's clinical trial using NIR to activate light-sensitive chemotherapy for the treatment of brain tumors. Dr. Whelan presented this translational bench-to-bedside research to the United States House of Representatives "Science & Technology Committee" at the NASA Spin-off Day on Capitol Hill as an example of how space research is helping patients. He was inducted into the NASA Space Technology Hall of Fame for his research into the medical use of near-infrared (NIR) light-emitting diodes (LEDs), developed for the space program.

Dr. Whelan holds the rank of Captain and is a Diving Medical Officer in the U.S. Navy, a consultant to the Navy Experimental Diving Unit, and serves as the Senior Undersea Medical Officer for the "Deep Submergence Unit" (the Navy's deep ocean research and submarine rescue team), with clinical and research experience in Neurology, Hyperbaric Medicine, wound care and combat casualty care. He has over 80 publications, including neurologic and mitochondrial disorders, cancer, laser, LED and diving/hyperbaric studies.