

December 16, 2022

Dear Friends and Supporters of the UAB Department of Neurology:

Our department has so many reasons for thankfulness and gratitude in 2022. It has been our privilege to serve as leaders in the care for patients in our community experiencing serious neurological diseases. It is through your support that our clinicians and researchers are able to provide compassionate and expert treatment, develop new therapies, and educate the neurologists and scientists of the future.

We thank you for your generosity and continued support of our programs and empowering us in achieving success throughout the past twelve months. Included is an update on our accomplishments, none of which would be possible without your philanthropic partnership.

We are thrilled to share our progress with those who have helped us reach these milestones and we truly appreciate the role you have played in our mission to serve.

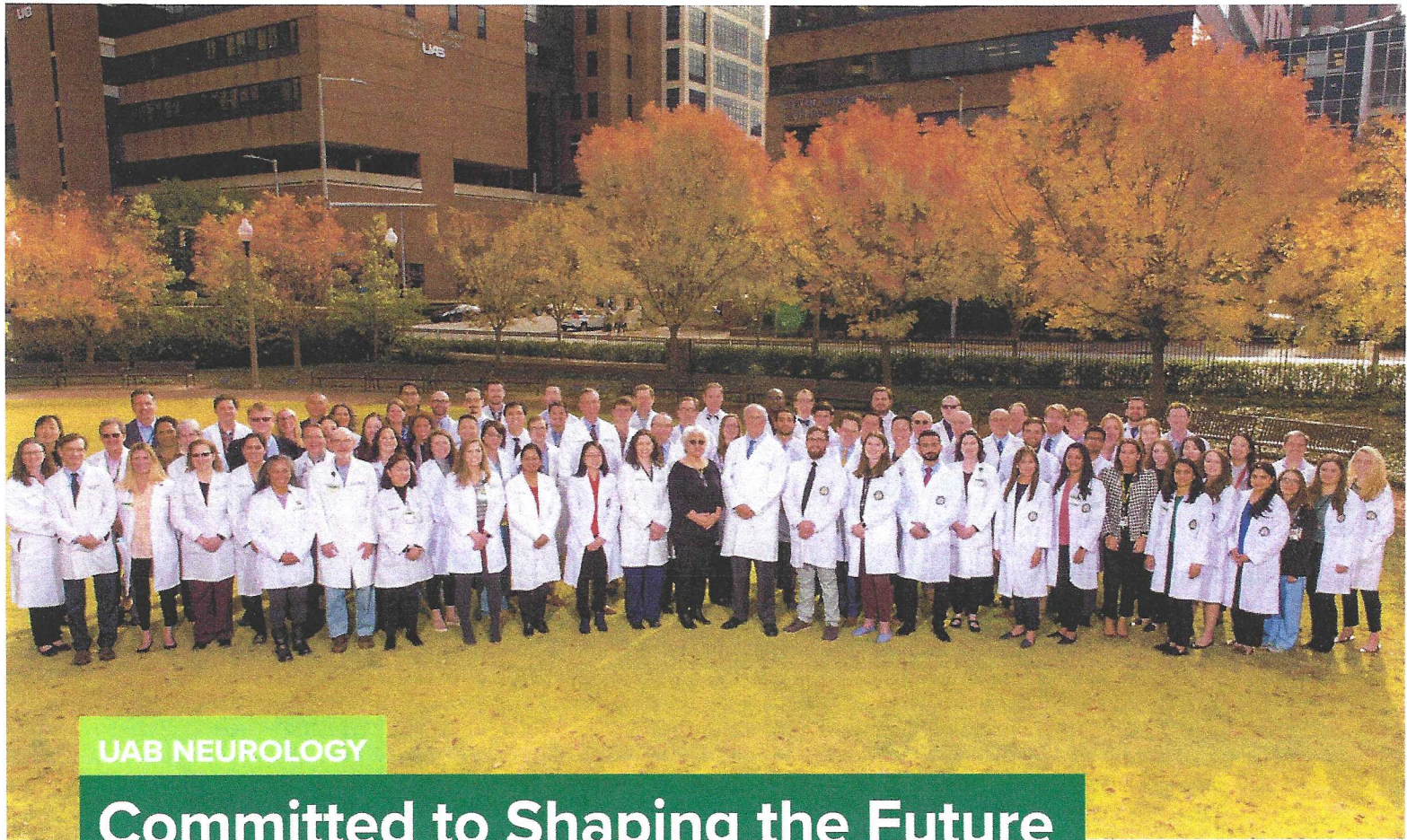
We wish you and your family a happy, safe, and healthy holiday season.

Sincerely,



David G. Standaert, M.D., Ph.D.
John N. Whitaker Professor and Chair
UAB Department of Neurology

HEERSINK
SCHOOL OF MEDICINE
Department of Neurology
David G. Standaert, MD, PhD, Chair



UAB NEUROLOGY

Committed to Shaping the Future

Thank you for your partnership in our vision for the UAB Department of Neurology. 2022 was a busy year, and we have continued our commitment to providing care to the people of Alabama and discovering the treatments and cures of the future.

Despite the ongoing COVID-19 pandemic, UAB Neurology has maintained our “always open” status. We saw more than 55,000 patients at the Kirklin Clinic, both in-person and through the recently adopted use telemedicine. Our hospital remains the only facility in the state with inpatient beds where neurologists supervise care directly and that has hands-on neurological consultation available 24/7/365. Using new technology, our stroke experts are providing care to patients at 20 other hospitals around the state, and we will continue to expand this in the coming years.

Research remains a top priority, and we have had great success in our efforts. Our team now includes 20 National Institutes of Health-funded investigators who have received more than \$16 million in research funding over the last year. We ranked 20th among all neurology departments in the United States and were in the top 10 among public universities. Our clinical research is also very strong, as we have more than 170 research studies active or pending.

We are also teaching the next generation of neurologists. This year, 18 students from the UAB Heersink School of Medicine class of 2022 chose a career as a neurologist. This is an extraordinary number—more than 10% of the graduating class! In most medical schools, only one to two percent of students choose neurology. Our students are excited about what they see happening in UAB Neurology and their opportunity to be future leaders of the field.

Your support is helping the Department of Neurology reach its best and highest purpose of offering first-rate care to thousands of patients and providing hope to countless more with each new discovery. We are grateful for all you do to support the department. Our clinical and research efforts are greatly enhanced by your generosity. Here are a few of the achievements your support made possible in 2022:



The University of Alabama at Birmingham

MEMORY

The UAB Exploratory Alzheimer's Disease Research Center, led by Dr. Erik Roberson, continued into its second year of National Institutes of Health (NIH) funding. Focused on understanding the disparities that lead to increased risk for Alzheimer's disease in the Deep South, the center has emphasized enrollment of the Black/African American population, which bears a disproportionate burden of Alzheimer's disease. At the 2022 NIH Alzheimer's Disease Centers meeting, Drs. Giovanna Pilonieta and Chad Murchison, along with Alzheimer's Disease Center collaborators, reported original research findings regarding differences in how dementia symptoms are perceived by members of different ethnic groups.

We are continuing to expand on this work with another study that evaluates the effects of dementia on a family's quality of life. The study aims to better understand pharmacologic and nonpharmacologic treatments for people with Alzheimer's disease. Because treatments may have different effects on people with a more mild or advanced diagnosis of the disease, Dr. Geldmacher—in collaboration with the National Minority Quality Forum—successfully presented arguments to the Centers for Disease Control to incorporate dementia severity and behavioral symptoms into the coding system that Medicare and Medicaid use to track the burden of Alzheimer's disease in the United States.

The fight against Alzheimer's disease and related disorders is an international effort. The UAB Alzheimer's disease program continues its contribution to the major collaborative research efforts throughout the United States and the world, including the Alzheimer's Clinical Trials Consortium, the Alzheimer's Disease Centers Program, the Alzheimer's Disease Neuroimaging Initiative, and the Dominantly Inherited Alzheimer's Network. Division investigators continue to test a variety of new pharmacologic treatments for Alzheimer's disease, including clinical trials aimed at preventing the emergence of memory loss in at-risk persons. Additionally, we are expanding our work related to understanding and treating other causes of memory loss and dementia including Frontotemporal Dementia and Parkinson's-related cognitive decline.

PARKINSON DISEASE AND MOVEMENT DISORDERS

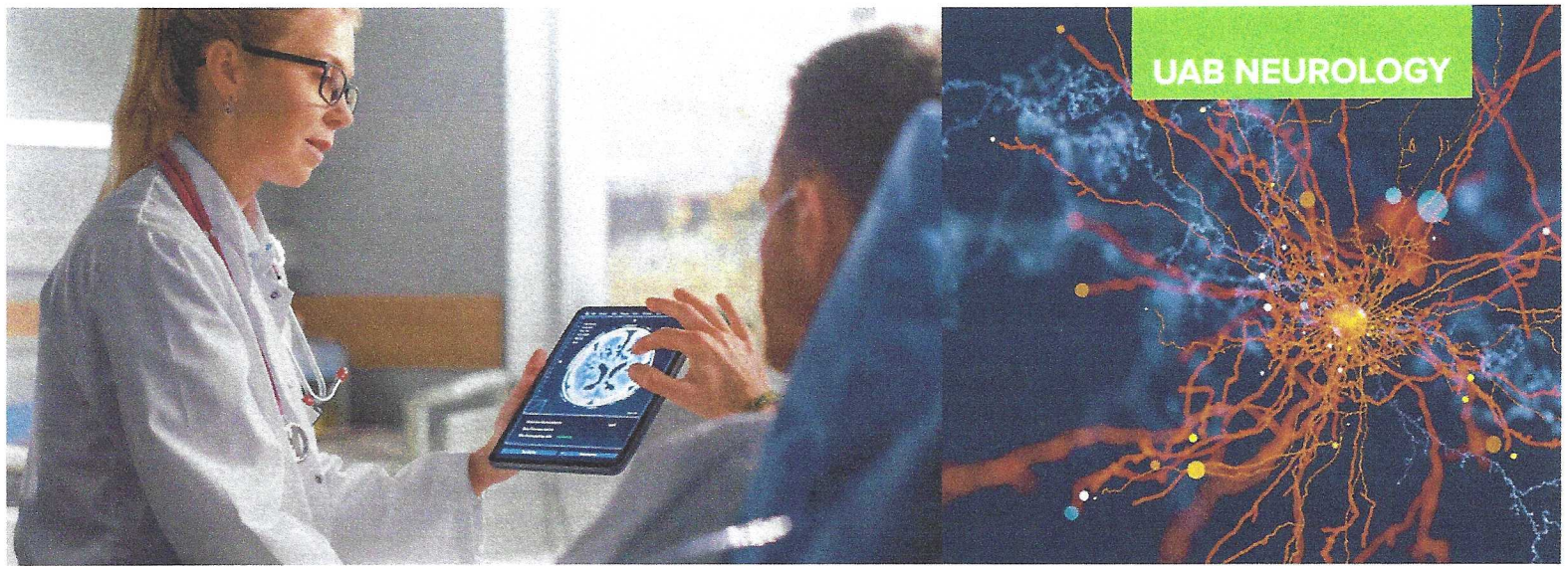
An important focus of Parkinson's disease research is our National Institutes of Health-funded Morris K. Udall Center of Excellence in Parkinson's Disease Research. One of five such centers in the United States, the Alabama Udall Center, is examining the immune system's involvement in Parkinson's disease and how treatments targeting this system might slow or prevent the disease. Over the last year, the center has completed enrollment of 120 patients and controls into the study and reported the initial results that show clear evidence of brain inflammation at a very early stage of the disease. These findings are important, as treatment of this inflammation might slow the progression of disease. We continue to follow the patients in the Udall study, and we are already partnering with pharma companies interested in developing therapies based on this approach.

We have also published important findings on the microbiome – the community of micro-organisms that live in the intestinal system. New work from Dr. Haydeh Payami, published in Nature Communications, shows that there are many organisms present in the Parkinson's disease microbiome that are not found in healthy controls. Ongoing studies are investigating the role of these organisms in the onset and progression of Parkinson's disease.

Clinical studies are also yielding important results. UAB was one of the main sites for a trial of a new subcutaneous infusion drug and technology for levodopa delivery. The trial showed that this drug, currently called "ABBV-951," was very effective at reducing the weaning off of medications in Parkinson's disease. These data were recently published in Lancet Neurology and have been submitted to the Food and Drug Administration as part of an application for approval of ABBV-951.

NEURO-ONCOLOGY

The Division of Neuro-oncology is dedicated to the care and management of patients with primary brain cancer, metastatic cancers to the brain, and effects of cancer therapy on the nervous system. The division has four physicians, three nurse practitioners, a research nurse coordinator, and a social worker to address daily care needs. The division is supported by additional staff and researchers seeking to improve outcomes for our patients. A full portfolio of clinical trials from industry sponsors, the NIH, and investigator-initiated efforts are available for patients. Non-therapeutic studies examining cognition and the advanced imaging are also available. The division seeks to improve therapy for patients with brain cancer and preserve neurological function.



NEUROMUSCULAR

Our neuromuscular disease program, directed by Dr. Erobo Ubogu, has been designated as a Guillain-Barré Syndrome-Chronic Inflammatory Demyelinating Polyneuropathy (GBS-CIDP) Foundation International Center of Excellence. The Division of Neuromuscular Disease houses our American Association of Neuromuscular and Electrodiagnostic Medicine-accredited electrodiagnostic laboratory, which has earned the highest possible status of Exemplary status, as well as our comprehensive autonomic function testing laboratory—one of eight in the United States. The division also houses our College of American Pathologists-certified Muscle and Nerve Histopathology laboratory and Muscular Dystrophy Association-funded Care Center that supports our clinical care of inherited and acquired neuromuscular diseases, including Lou Gehrig’s disease, or Amyotrophic Lateral Sclerosis (ALS). Active basic science, translational science, and clinical studies funded by the NIH, Veterans Affairs, and industry are ongoing to discover novel insights focused on new treatments for chronic neuropathic pain, ALS, myasthenia gravis, inherited and acquired peripheral neuropathies such as Charcot Marie Tooth disease, and inflammatory muscle disease such as Inclusion Body Myositis.

STROKE

Alabama has one of the highest rates of stroke in the nation, and our stroke division is critical to the health of our region. Our six board-certified vascular neurologists provide around-the-clock access to urgent treatment with the latest technology, including telemedicine, to reach underserved parts of Alabama and provide long-term support for stroke recovery. UAB is a Joint Commission-certified Comprehensive Stroke Center and is advancing stroke knowledge and treatment as one of 25 regional coordinating centers for the National Institute of Neurological Disorders and Stroke. Dr. Toby Gropen is the recipient of an NIH grant that aims to implement an innovative trauma system-based model of emergency stroke care throughout Alabama to ensure that every patient has access to the right stroke care as quickly as possible.

EPILEPSY

Epilepsy affects over 53,000 Alabamians. The UAB Epilepsy Center is a Level 4 Center—the highest designation available from the National Association of Epilepsy Centers—and plays a key role in providing care to all state residents affected by seizure disorders. Several new important NIH-funded studies were implemented or continued in 2022. These include a clinical trial of exercise as a cognitive intervention for memory improvement in patients with idiopathic generalized epilepsy, clinical trials of an intervention for the management of psychogenic non-epileptic seizures in children and adults, and trials of a novel approach to treating patients with Lennox Gastaut syndrome or idiopathic generalized epilepsy in which UAB is partnering with several other major epilepsy centers. We have also started new studies of emotion, cognition, and neuroimaging in patients with seizure disorders. Finally, UAB faculty were instrumental in testing a cannabis-based treatment for the management of seizures as well as the writing and, now implementing, of the medical cannabis law in Alabama as part of the Alabama Medical Cannabis Commission.

MS AND NEUROIMMUNOLOGY

The UAB Multiple Sclerosis Center delivers exceptional, personalized, multi-disciplinary medical care to patients with Multiple Sclerosis (MS) and other neuro-immunological disorders from across Alabama and beyond. For our

commitment to clinical excellence, we have been recognized as a Comprehensive Center for MS Care as certified by the National MS Society, and we are members of the Consortium of MS Centers. In addition to our focus on clinical care, we are devoted to furthering innovative research on MS and training future generations of MS neurologists. We have a successful track record of recruiting post-graduate clinical neuroimmunology/MS fellows, with two that are currently funded by the National MS Society's Clinical Care Physician Fellowship for the 2022-2023 academic year. Despite the challenges associated with COVID-19 and a changing healthcare environment, we remain committed to continued growth in research supported by grants from federal, nonprofit, industry, and philanthropic sources; to expanding the range of clinical care services provided to patients with MS and neuro-immunological diseases; and to training clinical specialists in MS and neuroimmunology for years to come.

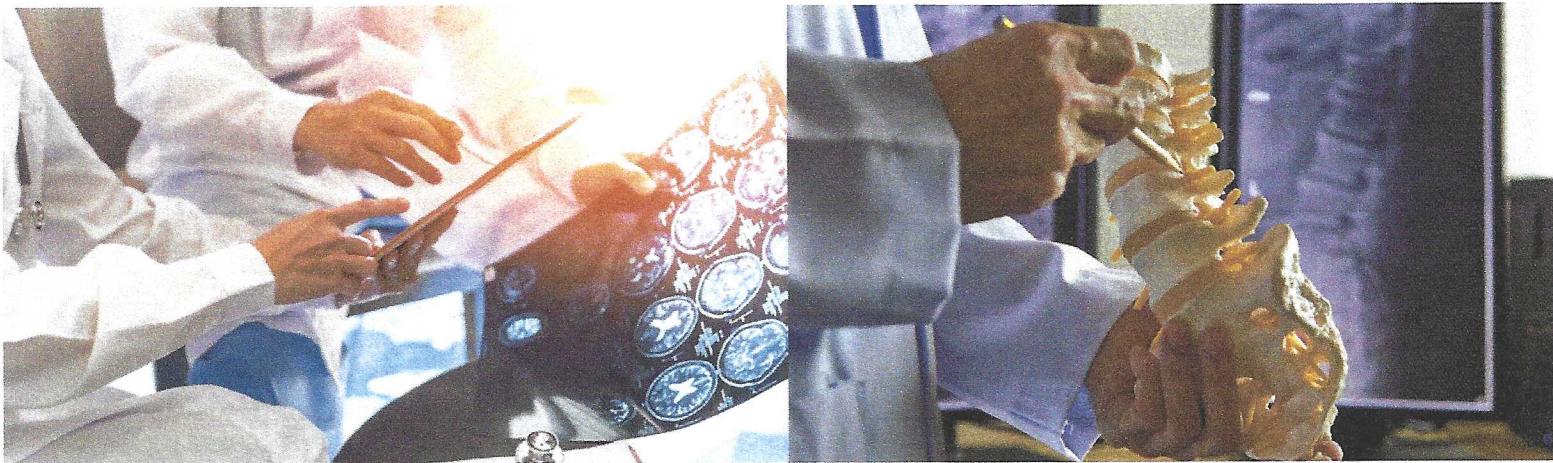
NEUROPSYCHOLOGY

A healthy brain is critical for living a longer and fuller life. As we age, however, there is increasing compromise of neuronal activity that affects functions such as cognition, also making the brain vulnerable to disease. Once pathology-induced decline begins, few therapeutic options are available. Therefore, prevention is paramount, and primary care can play a critical role. Based on the 2021 publication of the American Heart Association Scientific Statement "A Primary Care Agenda for Brain Health," chaired by Dr. Ronald Lazar, director of the UAB McKnight Brain Institute, the Brain Health Advocacy Mission (BHAM) was integrated into three clinics within UAB Family and Community Medicine in 2022. The goal is not medical decision-making but rather to provide culturally tailored information and support to patients, enabling them to make proactive changes in their lifestyles.

There is currently no basis for determining if a physician meets criteria for cognitive decline from aging, illness, or accident. In the first-of-its-kind study funded by the Health Services General Endowment Fund, a set of physician-based standards are being established by administering a comprehensive neuropsychological test battery to randomly selected UAB physicians, whose specialties range from general medical practice to surgery.

COMPREHENSIVE NEUROLOGY

Our comprehensive neurology program was started in 2022 under the leadership of Dr. Shruti Agnihotri and includes five physicians and three advanced practice providers. The program provides state-of-the-art neurologic care to patients with varying neurologic conditions from headaches and back pain to complicated undiagnosed neurologic illnesses. Various specialty clinics include neurologic care for transplant patients, neurologic care for cancer patients, and a mitochondrial disease clinic. The recognition of long COVID syndrome has led to the establishment of the first and only neuro post-COVID clinic in all of Alabama, which has served more than 1,000 patients so far. In collaboration with various researchers across UAB, there are several ongoing key studies to better understand the mechanisms and treatment of long COVID.



FOR MORE INFORMATION

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