

Research Spotlight

Em Harrington, MD, PhD

At the Ohio State Multiple Sclerosis Center, we have many ongoing research initiatives with the overall goals of increasing our understanding of disease mechanisms in multiple sclerosis, learning how aging impacts multiple sclerosis and developing strategies to promote repair and prevent neurodegeneration and disability in MS.

Clinical studies

BKT inhibitor

The Ohio State MS Center is a clinical trial site for three phase III clinical trials investigating a new class of disease-modifying therapies for relapsing, primary and secondary progressive MS called Bruton's tyrosine kinase (BTK) inhibitors. BTK inhibitors have unique effects of influencing both immune cells and potentially impacting microglia to promote clearance of myelin debris and repair. The trials are expected to last around two to four years, and patients must meet age, relapse, disability score and other criteria for enrollment.

Neuroscience Research Institute Brain Bank & Biorepository (NRI-BBB)

The Ohio State Neuroscience Research Institute has developed the Brain Bank & Biorepository with the goal of collecting and storing biospecimens (blood, spinal fluid and tissue) from people with neurological disorders.

The Ohio State MS Center is actively recruiting patients with MS to donate biospecimens to the repository to assist with translational research projects with the goal of identifying biomarkers and understanding disease mechanisms in MS. If you're interested in donating blood or spinal fluid during a lumbar puncture, let your MS provider know.

Biological aging in MS

Researcher Yinan Zhang, MD, investigates biological aging in MS and how this may influence MS outcomes by looking at biomarkers of aging in blood samples from people with MS. Participation in the study involves a one-time blood sample collection. In addition, participants will be followed for a year, during which time they'll see their MS provider at least every six months and receive annual MRI scans of the brain and annual two-hour cognitive evaluations as part of the standard of care.

Neuromuscular function in older adults with MS

Dr. Zhang is also studying neuromuscular function in MS to determine how aging versus MS contributes to strength decline in older adults with MS. The study is open to people with MS over age 60 who are ambulatory (with or without assistance) and is conducted at Ohio University in Athens, Ohio. The three-hour one-time study visit consists of an MRI of the leg obtained in an open MRI and assessments of voluntary and involuntary force output of the leg through electrical stimulation of the leg muscles. Participants are compensated for their time and travel.

For more information and to participate in any of these research projects, contact us at **614-293-6123** or **MSResearch@osumc.edu**.

Basic Science Research

Pro-regenerative neutrophils

The laboratory of Benjamin Segal, MD, has identified a subset of white blood cells, proregenerative neutrophils, that promote repair in an optic nerve crush injury model in mice. These neutrophils can be isolated from human samples and may have potential to promote repair and inhibit neurodegeneration in MS.

Promoting remyelination

The research of Em Harrington, MD, PhD, investigates how oligodendrocytes, the myelin-making cells of the central nervous system, function in the setting of inflammation and aging. Impaired remyelination, re-wrapping of myelin sheaths around neurons, likely contributes to neurodegeneration and disability in MS. Dr. Harrington is using mouse models to investigate pathways that may promote oligodendrocyte remyelination with the goal of developing therapies for repair.

Mindfulness in Motion

The Ohio State Center for Integrative Health is offering small-group sessions to teach patients who have multiple sclerosis techniques in mindfulness to help them navigate through life in a resilient manner.

Mindfulness in Motion is a feasible, cost-effective way to deal with the symptoms of chronic illness. It effectively combines community, mindfulness, yoga and relaxing music, and is delivered virtually.

Virtual on Mondays:

Jan. 9-Feb. 27

5:30-6:30 p.m.

Zoom

\$75 for 8 weeks of programming



Scan the QR code to learn more!

Multiple Sclerosis Patient Newsletter

Department of Neurology | Winter 2023



Optic coherence tomography: A new monitoring tool for MS

The back of the eye (retina and optic nerve) is the front of brain. Nearly 80% of multiple sclerosis (MS) eyes showed retinal nerve fiber loss (retinal atrophy), which is correlated with brain volume loss (brain atrophy). While MRI has provided revolutionary value in diagnosis and monitoring

of disease activity for MS, it lacks sensitivity to capture and quantify subclinical changes of the brain, especially retina and optic nerve damage, in MS.

Optic coherence tomography (OCT) is an imaging test that uses a special lighting to capture images of the back of the eyes including the optic nerve and retina. Recently, OCT has emerged as a new tool and a potential biomarker to not only help the early diagnosis of MS, but to monitor disease activity to predict long-term disability in patients with MS.

Our Multiple Sclerosis Multidisciplinary Clinic has installed a new generation of OCT (Zeiss Cirrus 5000) at Martha Morehouse Outpatient Care. The scan only takes minutes, so it can be easily integrated into your routine office visit. The result is interpreted onsite by our fellowship-trained neuro-ophthalmologist with instant communication to your MS provider to help decision-making regarding your MS care.



THE OHIO STATE
UNIVERSITY

WEXNER MEDICAL CENTER

MS staff spotlights: Allison Jordan, DO



I'm originally from the Columbus area and grew up in Dublin. I'm so excited to return home to friends and family.

I completed my neurology residency at The Ohio State

University and my fellowship in multiple sclerosis and neuroimmunology at the University of Michigan.

My clinical/research interests include pregnancy and postpartum care in patients with multiple sclerosis and other neuroimmunology disease states affecting the brain and spinal cord.

In my free time, you can find me spending time as a family with my husband and kids. I enjoy running and have run both the Disney full and half marathon.

- Medical school: Shanxi Medical School with bachelor of medicine; Peking Union Medical College (PUMC) with MD and PhD
- Residency: University of Illinois College of Medicine; PUMC
- Fellowships: The Ohio State University, MS and neuroimmunology; Emory University School of Medicine, neuro-ophthalmology

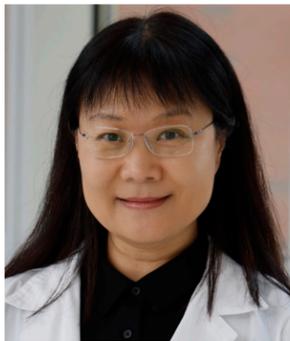
Patient care: As a board-certified neurologist with fellowship training in both multiple sclerosis/neuroimmunology and neuro-ophthalmology, I take care of patients with multiple sclerosis and other neuroimmunological disorders. My main focus is visual problems related to the nervous system, such as optic neuritis, idiopathic intracranial hypertension and eye movement disorders. I perform both neurological and eye exams, interpret both neuroimages and retinal images to localize the problem, then seek the best available tools to maintain and improve quality of life.

Clinical research: I am currently focused on applying retinal image studies such as optic coherence tomography (OCT) to MS and other neuro-immunological conditions. I'm also interested in using OCT as a noninvasive biomarker for early diagnosis and multidisciplinary management of idiopathic intracranial hypertension (IIH).

I've enjoyed traveling and reading my whole life. I eventually developed two more hobbies after we moved to the U.S.: doing puzzles and biking. My husband and I like to drive to different places to explore, meet people and learn the local cultures. During holidays, I like to make dumplings and spring rolls to entertain my American family who always tell me those are the best they have ever had!



Xiaojun Zhang, MD



I was born and grew up in Changzhi, China, a small town with 400,000, about a seven-hour drive from Beijing. I went to school, worked and lived in Beijing for 20 years before I moved to the U.S.

LEARN MORE



Visit wexnermedical.osu.edu/mseducation to view recordings of our virtual MS Education Webinar Series. You'll have access to past events, resources and a Q&A from each session.

MAKE AN APPOINTMENT



Our caring MS team is dedicated to you and your unique MS journey. Visit one of our experts in an MS Specialty Clinic to see how we can work with you to improve your quality of life.

Learn more at wexnermedical.osu.edu/neuroclinics.

Clinic Spotlight

Kristi Epstein, APRN-CNP

Here at The Ohio State University Neuroimmunology and MS Center, we offer several specialty clinics that focus on the specific needs of our patients. The **Quality-of-Life Clinic** focuses on disease education, in-depth symptom review and education regarding lifestyle changes that can impact daily living. Topics include diet, exercise, sleep hygiene, supplements and mindfulness techniques to improve overall

wellness. Many patients will be referred to our **Multidisciplinary Symptom Management Clinic**. In this clinic, referred patients can see multiple specialists within one visit including clinical pharmacy, physical therapy, social work, neuropsychology and sleep medicine. This clinic is on the last Friday of the month at Martha Morehouse Outpatient Care. We work in close proximity with several clinics, including the Wheelchair Clinic, Integrative Health and the Center for Assistive Devices, to address all of our patients' needs. We're happy to announce that we're

developing a specialty clinic to address the needs of geriatric patients who are coping with demyelinating diseases such as MS.

To access our specialty clinics, patients are encouraged to discuss a referral with their MS provider. Patients can also request a QOL visit with our nurse practitioner Kristi Epstein, APRN, CNP, CCRN, via MyChart.

To schedule, call **614-293-4969**.