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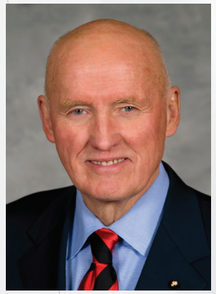
NEWSWORTHY

Institute Co-Founder John Tew assumes new executive positions


John Tew Jr., MD

John Tew Jr., MD, Co-Founder of the UC Neuroscience Institute, has been appointed to new executive positions that will direct the community outreach and philanthropic efforts of the integrative medicine program at UC Health and the UC College of Medicine. Dr. Tew will serve as the program's vice president of community affairs at UC Health and as executive director of community affairs at the College of Medicine. Dr. Tew also will continue to serve as a tenured professor of neurosurgery within the College of Medicine and will provide consultative services to patients and neurosurgeons. Dr. Tew previously served as chairman of the UC Department of Neurosurgery for 20 years before co-founding and taking the helm of the institute in 1998.

Career milestones


Melissa DelBellow, MD, MS

Melissa DelBello, MD, MS, Co-Director of the UC Mood Disorders Center, has been selected to serve as the Dr. Stanley and Mickey Kaplan Professor and Chair of the Department of Psychiatry and Behavioral Neuroscience at the UC College of Medicine.


David Ficker, MD

David Ficker, MD, Associate Director of the UC Epilepsy Center, will direct a new epilepsy fellowship awarded by the Accreditation Council for Graduate Medical Education.


Hani Kushlaf, MD

Hani Kushlaf, MD, a neurologist with the UC Neuromuscular Disorders Program, will direct a new neuromuscular fellowship awarded by the Accreditation Council for Graduate Medical Education.

The UC Medical Center honored **Charles Kuntz, IV, MD**, a spine specialist with the UC Neurotrauma Center, with its Clinical MVP Award during its observance of National Doctors' Day.

University of Cincinnati
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B E N C H M A R K FALL 2014

Botulinum toxin: the name belies its beauty

At the University of Cincinnati Neuroscience Institute, the beauty of widely used wrinkle-vanishing injections is more than skin deep. Specialists are injecting drugs best known for their cosmetic uses to help patients live better and more comfortably with conditions as wide-ranging as stroke, cervical dystonia, multiple sclerosis (MS), cerebral palsy and chronic migraine. In the hands of neuroscience specialists, these drugs can ease disruptive and even painful spasticity in the legs, arms, hands, feet and neck.

The family of drugs comes from a protein derived from the neurotoxin-producing bacterium Clostridium botulinum (pronounced botch-oo-LINE-um), an organism that can cause life-threatening botulism. The four available brands are Botox (marketed by Allergan), Dysport (Ipsen Biopharm), Xeomin (Merz Pharma) and Myobloc (USWorldMeds).

"Lots of people have heard about botulism and that it can be very bad for you as a disease process, because it can paralyze your whole body and cause you to eventually stop breathing," says Jessica Colyer, MD, a rehabilitation specialist and member of the UC Comprehensive Stroke Center. "Pharmaceutical companies have taken a portion of the protein found in that toxin and use only a fragment for clinical purposes."

Spasticity is a spinal reflex that fires when it shouldn't, Dr. Colyer explains. "In a healthy, working brain, the brain sends a signal back down to the muscles to say, 'This reflex is not needed now; you do not need to be flexing now.' After a stroke, however, that signal can be cut off.

(continued on page 2)

CENTERS & PROGRAMS

- Brain Tumor Center
- Comprehensive Stroke Center
- Epilepsy Center
- Gardner Family Center for Parkinson's Disease and Movement Disorders
- Memory Disorders Center
- Mood Disorders Center
- Neurobiology Research Center
- Neuromuscular Center
- Neurosensory Disorders Center
- Neurotrauma Center
- Waddell Center for Multiple Sclerosis
- Headache and Facial Pain Program
- Neurocritical Care Program
- Neurorestorative Program
- Neuroscience Research

Understanding migraines


Vincent Martin, MD

Bit by bit, researchers at the UC Health Headache & Facial Pain Center are unraveling the biology of why, when and how headaches happen. Lightning strikes? Check. Allergies and sinuses? Check. Peri-menopause? Double-check. With research sparked by the observations of their patients, Vincent Martin, MD, and his team are laying the groundwork for improved therapies for people who suffer from migraines and other types of complex headache pain. And as their discoveries mount, they are earning international recognition and a referral base that is increasingly national in scope.

(continued on page 4)

Botulinum toxin *(continued from page 1)*

Jessica Colyer, MD

"Stroke survivors start to have an increase in what we call flexor tone," Dr. Colyer continues. "They curl up and flex their biceps, flex their wrist, or curl their fingers into a flexed fist. These are not functional positions. They prevent you from performing activities of daily living, such as dressing, grooming, brushing your teeth or even putting on deodorant."

Botulinum toxins are used to treat patients at these UC Neuroscience Institute centers:

James J. and Joan A. Gardner Family Center for Parkinson's Disease and Movement Disorders

Injections to treat dystonia and spasticity can help even in cases where patients experience extreme neck discomfort and deformity. The Gardner Center also collaborates with otolaryngologists who can provide injections in the vocal cords to improve voice and swallowing problems.

UC Health Headache & Facial Pain Program

Injections reduce the frequency and lessen the severity of chronic migraine in patients who experience 15 or more days of headache and have a diagnosis of migraine headache. "To treat this condition, 155 units of Botox are injected into 31 sites in the head, neck and shoulders," explains Vincent Martin, Co-Director of the Headache & Facial Pain Program. "It must be injected every three months, as the effects wear off after several months. Insurance will not pay for the medication unless you have had a poor response to three or more past medications used to prevent migraines."

Waddell Center for Multiple Sclerosis

Injections can help spasticity in the limbs, increased tone in the thigh or calf muscles, and spasms that cause the feet to curl. Patients who get botulinum toxin injections in their feet flexor muscles are able to walk on a normal, flat foot. Injections in the thigh or ankle muscles can eliminate or reduce the spasm and allow for easier walking.

Living WELL: Exercise and Parkinson's disease

If you have Parkinson's disease, you should think seriously about including exercise in your wellness regimen. "Everyone with Parkinson's disease is encouraged to exercise," says Maureen Gartner, MSN, NP-C, Nurse Practitioner at the James J. and Joan A. Gardner Family Center for Parkinson's Disease and Movement Disorders. "Research conducted during the last 20 years strongly suggests that exercise holds significant quality-of-life benefits."

People with Parkinson's should engage in "targeted" exercise that challenges the brain to develop or strengthen a variety of neural connections. "You can do this by performing different movements rather than a single, repetitive movement," Ms. Gartner says.

Your doctor can recommend a program that is appropriate for you based on your symptoms, fitness level and overall health. You should stop exercising if at any time you begin to feel pain or feel sick. Here are a few tips to help you get started:

- There are many forms of exercise. They include walking, cycling, swimming, yoga, tai chi and dancing.
- Always exercise with a partner or caregiver.
- Avoid slippery floors, rooms with poor lighting and throw rugs.
- If you have balance problems, exercise in an environment where you can grab onto something if you begin to fall.

- Exercise your facial muscles by smiling, yawning, shouting, singing and making faces in the mirror.
- Wear loose, comfortable clothing and comfortable shoes.
- Exercise when your medicines are working well, not when they are wearing off.
- Be realistic. Check with your doctor and then start slowly! Remember that exercise can help you live better with Parkinson's.

Cathy Crain and Barbara Gould

Forget-Me-Not Salon

Healthy aging, compassionate care, the need for new treatments, and the preventive power of diet and exercise were the subjects of an inspiring discussion at the Forget-Me-Not Salon June 19. The event, which drew more than 70 members of the community, benefited the UC Memory Disorders Center. The Salon, whose organizers included Barbara Gould and Cathy Crain, featured presentations by Joseph Broderick, MD, Director of the UC Neuroscience Institute; Carol Silver Elliott, CEO of Cedar Village Retirement Community; Jennifer Rose Molano, MD, a neurologist and sleep specialist at the UC Memory Disorders Center; and John M. Tew, Jr., Vice President of Community Affairs for the integrative medicine program at UC Health.

5th Annual Putting for Parkinson's

Scott Layman, Maureen Gartner, MSN, NP-C, Andrew Duker, MD, George Mandybur, MD

Co-Pastor Lisa Caldwell-Reiss blessing their vows

It was a fundraiser, and it was much, much more. Scott Layman, architect and Parkinson's advocate, thanked some 200 guests at the Highland Country Club in Ft. Thomas, Ky., for supporting research at the James J. and Joan A. Gardner Family Center for Parkinson's Disease & Movement Disorders. He thanked his DBS surgery team – neurosurgeon George Mandybur, MD, neurologist Andrew Duker, MD, and nurse practitioner Maureen Gartner, MSN, NP-C. And he thanked his wife of 10 years, Joy, for supporting him "in sickness and in health." As everyone looked on, misty-eyed, Co-Pastor Lisa Caldwell-Reiss of First Christian Church blessed the couple's vows.

Reaching out

Sian Cotton, PhD

Sian Cotton, PhD, Executive Director of the Center for Integrative Health and Wellness, spoke at World Voice Day: "A Mind & Body Approach to the Voice," April 19, a free seminar presented by UC Health voice specialists and Cincinnati Opera.

John Breneman, MD

John Breneman, MD, radiation oncologist at the UC Brain Tumor Center, presented a free online webinar, "Radiotherapy for Pediatric Brain Tumors," in collaboration with the American Brain Tumor Association.

Kyla Woods

Kyla Woods of WLWT News 5 served as emcee at the fifth annual Brain Tumor Center Wine Tasting Event May 8. Ms. Woods also will emcee the fifth annual Walk Ahead for a Brain Tumor Cure on Oct. 26.

SAVE THE DATE!

9/26	Forget-Me-Not Gala
10/26	Walk Ahead for a Brain Tumor Cure
11/15	Conquering Depression: Different Approaches for All Ages
11/22	Strategies for Managing Epilepsy

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Sleep well, live well

Often we think of a good night's sleep as a luxury we cannot afford. But a growing body of research suggests that sleeping well is a lifetime investment that all of us should make. It turns out that poor sleep patterns can elevate our risk of stroke, heart disease and cognitive decline.

Jennifer Molano, MD

"What people do in midlife is very important and can dictate potentially what will happen to them later," says Jennifer Rose Molano, MD, a neurologist and sleep specialist at the UC Memory Disorders Center. "Healthy sleep is just as important as avoiding high blood pressure, obesity and diabetes in terms of maintaining your cognitive function."

During sleep, notes Joseph Broderick, MD, Director of the UC Neuroscience Institute, the brain flushes out toxins that build up during the day. "You're cleaning house," he says. "It's like running a hose to clean out a drain. If you don't sleep, toxins build up in the brain. Sleep is fundamental."

Of particular concern is obstructive sleep apnea, a disorder that is associated with partial or complete closure of the airways during sleep. This leads to snoring and/or breathing stoppages, known as apneas. Not merely irritating, obstructive sleep apnea is a risk factor for stroke. Both men and women are more likely to develop strokes and heart disease if obstructive sleep apnea is left untreated, Dr. Molano says. In stroke survivors, untreated obstructive sleep apnea also places a person at higher risk of having another stroke. If you snore or struggle with daytime sleepiness, or if your breathing stops when you are sleeping, you should be evaluated by a sleep medicine specialist, Dr. Molano advises.

Tips for Healthy Sleep

- Go to bed at the same time every night and rise at the same time every morning, even on the weekends
- Eliminate caffeinated beverages in the afternoon
- Eliminate afternoon naps; if you must have a nap, limit it to less than 30 minutes a day
- Switch to relaxing activities one hour before bedtime; these can include taking a warm bath or listening to music
- Create a calm, quiet space for sleep

New UC Health ALS Clinic provides complete care with multiple specialists

A diagnosis of ALS, also known as Lou Gehrig's disease, marks the beginning of one of the most heart-breaking journeys in neurological disease. The path is uniquely difficult for each patient, and the ultimate destination remains, today, immutable. Specialists at the UC Neuromuscular Disorders Program are working to maximize quality of life for this small population of patients and their families – and creating a foundation for future research studies — with a new comprehensive ALS Clinic.

The UC Health ALS Clinic, created with generous support from the Barbara V. Peck and Justin Friedman Fund for research in ALS, and UC's Muscular Dystrophy Association grant, takes place one day each month at the Daniel Drake Center for Post-Acute Care. A patient with ALS typically attends the clinic once every three months for a period of two to three hours. During the visit, the patient and his or her family are situated in a single room, where they are visited by a physician, a social worker and a series of therapists. "The goal is to care for all of the patient's physical, emotional and logistical needs in a single office visit," says Robert Neel, MD, a neuromuscular disorders specialist and the clinic's director.

ALS, or amyotrophic lateral sclerosis, is a progressive neuromuscular disorder involving the loss of nerve cells (neurons) that control the voluntary muscles in the arms, legs and face. These motor neurons are located in the brain, brain stem and spinal cord. As the motor neurons die, muscles waste away. There is no known cure.

The ALS Clinic, which began in February 2013, is also establishing a framework for clinical trials, which will be supported by the Peck-Friedman Fund. The UC Neuroscience Institute's standing as a NINDS-funded Network for Excellence in Neuroscience Clinical Trials (NEXT) means that the ALS Clinic is poised to participate in future national clinical trials of ALS therapies. Potential studies, now pending, would not be possible without the clinic, Dr. Neel says.

New mental health clinics address youth in transition and challenging cases

The UC Mood Disorders Center has opened new clinics: one for youth in transition to adulthood and one for people with especially challenging cases.

The clinic for youths in transition is open to patients with Medicaid and any form of insurance that is accepted at the UC Medical Center. "Our clinic will provide a new resource for transitional-age youth, the 16- to 25-year-olds who are at high risk for worsening of their mood, non-adherence, and developing substance use disorders," says Melissa Del Bello, MD, Co-Medical Director of the UC Mood Disorders Center.

The clinic for complex cases will bring a collaborative approach to treatment. A faculty review panel will meet regularly to discuss treatment options for patients who may not be responding to treatment. "We plan to bring together the expertise of a multidisciplinary team to provide cutting-edge care to patients with mood disorders," says Cal Adler, MD, Co-Director of the UC Mood Disorders Center.

New patients or their physicians can request appointments by calling **(513) 558-MOOD (6663) – and pressing 1.**

Benchmarks

Epilepsy

The National Association of Epilepsy Centers (NAEC) has named the UC Epilepsy Center a Level 4 Center, the highest level possible, for a 10th consecutive year. The UC Epilepsy Center, which has functioned as a comprehensive epilepsy center for more than 27 years, has held a Level 4 designation from the NAEC since the Level 4 certifications began in 2005. Level 4 epilepsy centers have the professional expertise and facilities to provide the highest-level medical and surgical evaluation and treatment for patients with complex epilepsy.

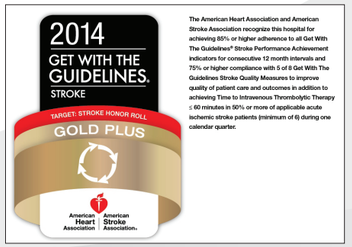
The center includes:

- Greater Cincinnati's only adult inpatient epilepsy monitoring unit (EMU), which offers 24-hour video/EEG monitoring
- A New-Onset Seizure Clinic, which provides rapid consultation to patients who have experienced a recent seizure or seizure-like episode
- A specialized clinic for U.S. veterans with epilepsy
- 5 epileptologists, a neurosurgeon trained in epilepsy surgery, a nurse practitioner and 10 EEG technicians

Stroke

The University of Cincinnati Medical Center has received the **Get With The Guidelines–Stroke Gold-Plus Quality Achievement Award** for implementing specific quality improvement measures outlined by the American Heart Association/American Stroke Association for the treatment of patients who have suffered a stroke. Get With The Guidelines-Stroke helps hospital teams provide the most up-to-date, research-based guidelines, with the goal of speeding recovery and reducing death and disability for stroke patients. Gold is the highest of three levels of achievement awards; Gold-Plus is an optional advanced level of recognition acknowledging hospitals for consistent compliance with quality measures.

The UC Medical Center also received the association's **Target: Stroke Honor Roll** designation for meeting stroke quality measures that reduce the time between hospital arrival and treatment with the clot-buster tPA, the only drug approved by the U.S. Food and Drug Administration to treat ischemic stroke. People who suffer a stroke who receive the drug within 4 ½ hours of the onset of symptoms may recover more quickly and are less likely to suffer severe disability.



Understanding migraines *(continued from page 1)*

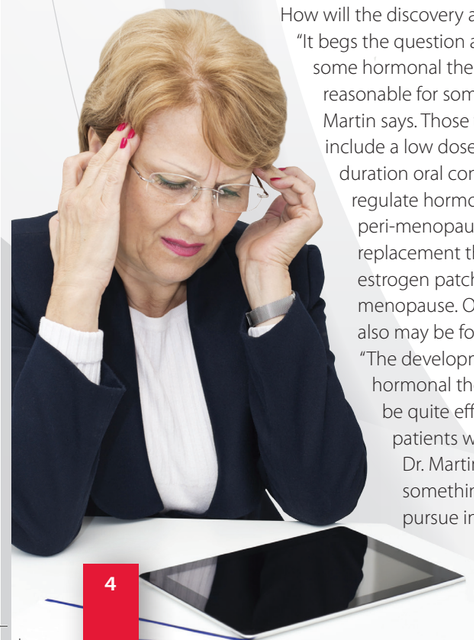
Dr. Martin, Co-Medical Director of the UC Health Headache and Facial Pain Program, recently made international news as the lead author of a study that showed what many women have already suspected: they have an increased number of migraines around menopause. "In the past physicians had not really recognized the effect of hormones on migraines," Dr. Martin told the Los Angeles Times. "Headaches do increase during this time period. It's what women have been telling us for years." Dr. Martin reported the findings at the American Headache Society's annual meeting in Los Angeles.

In the nationwide study of 5,000 women who had migraines, Dr. Martin and his team analyzed the frequency of headaches during the previous three months in women who were premenopausal (having regular menstrual periods), peri-menopausal (having irregular, or skipping, periods) and post-menopausal (no longer having periods).

"We found that if patients were in peri- or early post-menopause, right after they start menopause, their headaches were increased by about 50 to 60 percent," Dr. Martin says. "That is an astounding amount. If you start out at 7 headache days a month and you increase to about 11, that will significantly impact your quality of life."

The researchers also found that when dividing peri-menopause into early and late time periods, it was primarily the late peri-menopause time period – when women are starting to skip menstrual periods – that was most predictive of increased headache frequency.

Dr. Martin theorizes that headaches increase because of the hormonal changes that occur during the transitional phase when women start skipping periods and experience a combination of declining estrogen levels followed by low estrogen levels.

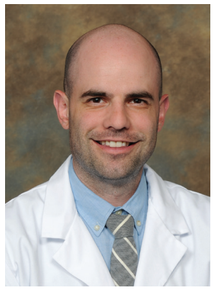


How will the discovery affect treatment? "It begs the question as to whether some hormonal therapies might be reasonable for some women," Dr. Martin says. Those therapies might include a low dose of an extended-duration oral contraceptive to regulate hormones during early peri-menopause, or hormone replacement therapy with an estrogen patch during late menopause. Other therapies also may be forthcoming. "The development of novel hormonal therapies could be quite effective for patients with migraines," Dr. Martin says. "It's something we might pursue in the future."

UC Neurotrauma Center to study new use of drug following TBI

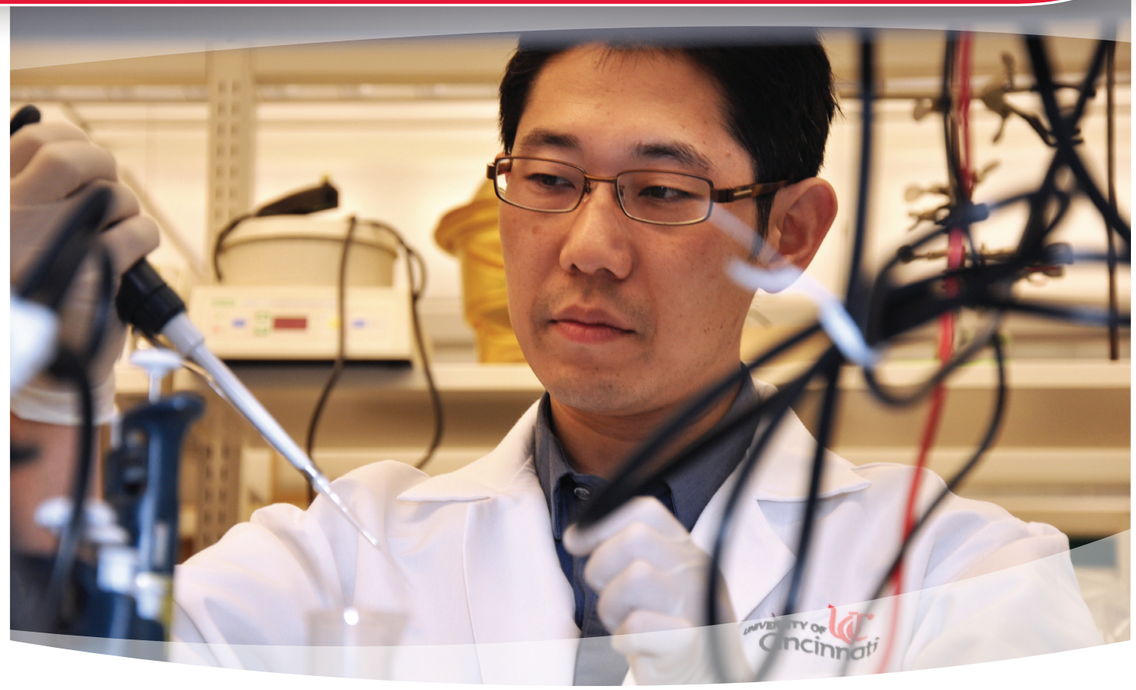
Researchers at the UC Neurotrauma Center will soon participate in a national clinical trial to determine whether a new therapy can improve outcomes for patients who have suffered traumatic brain injury (TBI). The multi-center study will test whether people who have life-threatening or life-altering TBI do better when they receive a medication called tranexamic acid (TXA). This drug is already used to control bleeding for many conditions, including ruptured aneurysms and hemophilia, and during cardiopulmonary bypass and liver transplantation. When given intravenously, TXA prevents the breakdown of blood clots. Recently, it has been studied by the military for use in trauma patients at risk for hemorrhage and in those with TBI.

UC Brain Tumor Center One of Three Global Sites for Phase I Study of Recurrent Glioma Subtype EGFRvIII



Rich Curry, MD

Early results of a Phase 1 clinical trial – which is available at only three centers in the world, including the UC Brain Tumor Center – were reported at the American Association for Cancer Research's annual meeting in San Diego. The Phase I trial is for patients who have a subtype of malignant glioma that expresses the EGFRvIII mutation and whose cancer has returned. Dr. Mark Rosenthal, Director of Medical Oncology at Royal Melbourne Hospital, presented early data from the study at a conference section that highlighted new drugs in development. Results of the drug, AMG 595, manufactured by Amgen, are sufficiently promising that research will expand in the near future, said Dr. Rich Curry, a neuro-oncologist with the UC Brain Tumor Center. One-third of all patients with malignant glioma express the EGFRvIII mutation. "The trial is moving forward," Dr. Curry said. "The availability of this trial in Cincinnati offers a unique opportunity to patients. Individuals who have undergone a previous treatment that targets EGFR VIII may still be able to enroll in this trial if their tumor returns in the future."



National $50k grant spurs study of energy pathway in brain cancer

The highly malignant glioblastoma brain cancer is an energy guzzler. To sustain the tumor's rapid cell division and proliferation, glioblastoma cells harness a specific molecule that enables them to ramp up energy production. What if that energy spigot could be turned off and glioblastoma cells ran out of fuel? It is an idea so intriguing that the American Brain Tumor Association has awarded a $50,000 grant to Atsuo Sasaki, PhD, to find out.

The ABTA grant presents Dr. Sasaki with an opportunity to explore his theory of energy utilization in cancer cells, which he developed after coming to the UC Brain Tumor Center from Harvard University in 2012. Dr. Sasaki will work with members of his lab at the UC Brain Tumor Center to test whether they can interfere with the disregulated energy molecule, guanosine triphosphate (GTP), and suppress the GTP pathway.

The results of his investigation could clarify the molecular link between glioblastoma and high GTP energy production. "Our research could result in a new and powerful strategy for the treatment of glioblastoma," Dr. Sasaki says.

The approach also could become a therapy for metastatic brain tumors, which, like glioblastoma, are aggressive, energy-guzzling tumors. The ultimate goal of Dr. Sasaki's laboratory research is to acquire new knowledge that the UC Brain Tumor Center's clinical team can translate into Phase I and II clinical trials for patients.

Waddell Center leads study of drug for progressive MS

The Waddell Center for Multiple Sclerosis is one of the leading recruitment sites in the United States for a Phase II clinical trial of Ibudilast for people with progressive MS. The study, which requires lengthy pre-screening and advanced neuroimaging with a 3T scanner, is evaluating the safety, tolerability and activity of the drug in study participants. The Waddell Center is one of 28 sites participating in the study, which is sponsored by the National Institutes of Health and the drug's manufacturer, MediciNova, Inc. Aram Zabeti, MD, the Waddell Center's Interim Medical Director, is principal investigator of the Cincinnati portion of the trial. At present, there are 10 FDA-approved medications for relapsing-remitting MS, but none for progressive MS. The availability of a medication that slows the progression of MS, Dr. Zabeti says, would be of critical importance for patients.

Aram Zabeti, MD