



NEWSLETTER

Summer/Fall Edition

2023

The Center for Visual And Neurocognitive Rehabilitation - Atlanta VA



EYES FRONT!

How to Prevent Vision Loss Caused by Diabetes

Vision is critical to humans and as a result, blindness or visual impairments are among the most feared disabilities. More than 7.7 million people in the United States suffer from diabetic retinopathy (DR), a common eye disease for patients with excess sugar in their blood. DR is also the leading cause of poor vision or blindness in working-class adults from 24-74 years of age and in everyone living with Type 1 or Type 2 diabetes. While early DR may not have noticeable symptoms, patients

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What are risks for DR?

- ◆ Uncontrolled blood sugar
- ◆ Hypertension
- ◆ Elevated cholesterol

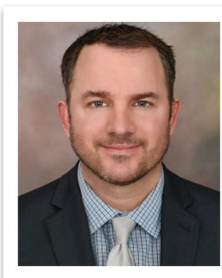
How is DR treated?

- ◆ Dietary and lifestyle modification
- ◆ Medications
- ◆ Laser treatment
- ◆ Local Injections (e.g., ant-VEGF)
- ◆ Surgery



U.S. Department of Veterans Affairs
Atlanta VA Health Care System

A Word From Dr. Joe Nocera, Interim Executive Director



The CVNR is growing and becoming better than ever. We have new staff including Associate Interim Director Walter Royal, MD, millions in new funding, and exciting collaborations with academic partners.

Last year the Rehabilitation Research and Development (RR&D) Service of the Department of Veterans Affairs (VA), in an extremely competitive process, awarded CVNR \$6.2 million which allows us to continue our research programs for the next five years. Of note, CVNR is one of 12 RR&D Centers across 171 VA Medical Centers nationwide and is a national mark of distinction for the Joseph Maxwell Cleland Atlanta VA Medical Center (Atlanta VA).

Our researchers are committed to forwarding our mission to develop novel, relevant rehabilitative approaches based on scientific discoveries that improve the health and quality of life of Veterans with visual or neurocognitive deficits. The combination of brain research, with our long-standing leadership in vision research, offers Atlanta VA an invaluable resource for developing evidence-based, patient-centered therapies to improve brain and visual dysfunction resulting from injury and/or disease. We are committed to moving research along the translational pipeline helping

interventions to reach Veterans sooner.

An area that I'm particularly pleased about is the remarkable achievement in our Career Development Program. These awards allow investigators beginning their research careers to receive mentoring from our senior scientists and reflect the CVNR's commitment to training the next generation of VA rehabilitation scientists. The CVNR currently has six RR&D awardees - an outstanding accomplishment and a shining example of our entire team's commitment to growth.

On behalf of the CVNR, I would like to personally thank the Veterans and all our research participants who help make our scientific discoveries possible. Please pause to remember Dr. Charles Singleton (more on page 6), a dedicated CVNR supporter who has since transitioned.

The CVNR team is excited for the future and looks forward to continuing to serve Veterans. Have a great Fall!

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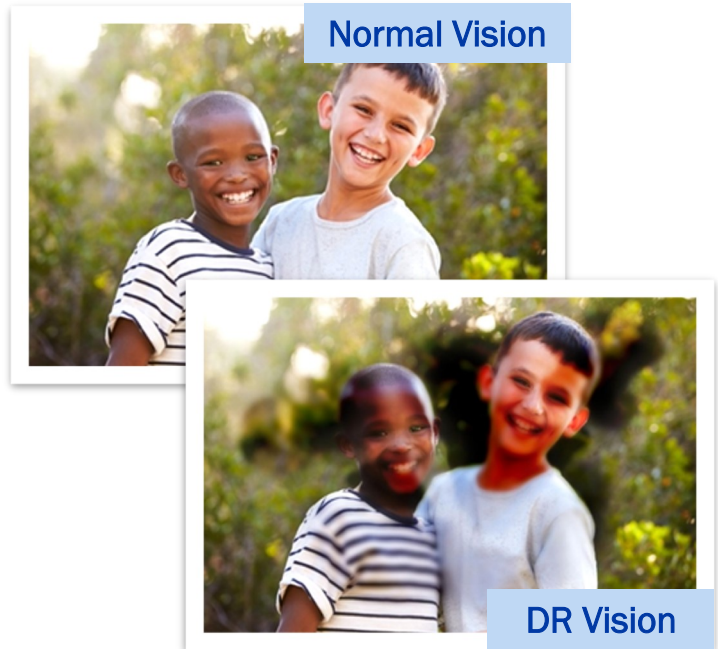
EYES FRONT!

(Continued from page 1)

with more advanced DR may have blurry vision, floating spots of impaired vision, and blindness. Early detection and treatment can help prevent severe vision loss.

To detect DR, eye doctors perform a comprehensive dilated eye examination. Typically, pictures of the back surface or fundus of the eye are taken to look for signs of retinal damage and changes to blood vessels to identify development of DR. To assess how well your diabetes is being controlled, the doctor may order an A1C test.

In addition to DR, diabetes may also increase the risk of cataracts, some types of glaucoma, macular edema, and retinal detachment. Diabetes affects nearly 25 percent of the VA's patient population and 11.3 percent of the US population. If you have diabetes, it is important to get an eye examination at least once per year to allow for earlier detection for signs of DR. Some patients may need to be monitored every two to four months. To reduce the risk of any eye disease related to diabetes, it is important to take prescribed medications, maintain a healthy weight and diet, exercise, and control blood sugar levels.



An ophthalmologist or optometrist examines the back of eye to look for signs of retinal damage and changes to blood vessels to identify development of DR.



**Contributors (top to bottom):
Dr. Katharina Echt, Dr. Andrew Feola and
Dr. Michael Dattilo.**

Introducing Dr. Walter Royal

The CVNR's new interim associate executive director is Walter Royal, MD, department chair of Neurobiology, professor, and director of the Neuroscience Institute at Morehouse School of Medicine (MSM). Dr. Royal brings extensive clinical and biomedical research expertise and perspectives to assist in the translation of projects from lab bench to patient bedside. The CVNR's history of cognitive and rehabilitation research (both important for maintaining patient function and treatment response), coupled with its dedication to training the next generation of neuroscientists attracted Dr. Royal to the position.

Dr. Royal, the principal investigator of a VA Merit Award and an NIH R01 grantee, is also excited about the opportunity to collaborate with CVNR's mission-focused scientists. His research program focuses on mechanisms of neurodegeneration in neuroinflammatory and neuro-infectious disorders, with an emphasis on neurological complications of Human Immunodeficiency Virus (HIV) and Multiple Sclerosis (MS) - conditions that affect neurocognitive function. His research spans basic science, pre-clinical, and clinical research.

At the CVNR, Dr. Royal plans to research vision – a scientific area he considers poorly explored and “a fascinating challenge.” In the future, his research will include biomarker discovery and leveraging opportunities



Dr. Royal brings extensive expertise in clinical and biomedical research. At the CVNR, Dr. Royal plans to research vision, a scientific area he considers a “fascinating challenge.”

to apply state-of-the-art imaging and bioinformatic approaches to his work.

Prior to coming to the CVNR, Dr. Royal's passion included supporting and fostering science and research careers for underrepresented individuals. He can link research and training opportunities that are underway at those institutions with many of the opportunities available at the CVNR and the VA.

Dr. Royal begins his tenure as Interim Associate Executive Director this Summer.



The Sunflower Project

A CVNR and Wellstar Paulding Hospital Partnership to Improve Knowledge of Aphasia for Healthcare Providers



Wellstar representatives US Air Force Veteran Jaclyn Dorsey (left) and Rhonda Baker (right) displaying the supported communication carts used at Wellstar Paulding Hospital



Tips for Aphasia-friendly Communication

- ◆ Use short, simple sentences
- ◆ Show what you mean with gestures and body language
- ◆ Confirm understanding
- ◆ Be patient

Imagine waking up in a hospital, unable to communicate. The right words won't come out or other people are speaking gibberish. This is the reality for a person experiencing aphasia, a communication disorder commonly caused by a stroke. Aphasia is devastating to the person experiencing it and can often result in miscommunication with those providing care.

The CVNR was invited to join Wellstar Paulding Hospital to increase aphasia awareness by providing continuing education and training for Wellstar staff through an initiative called The Sunflower Project. As part of the project, the CVNR's American Speech-Language-Hearing Association Certified speech-language pathologists (CCC-SLP) Drs. Amy Rodriguez and Maryanne Weatherill presented an educational seminar on aphasia to 44 nurses from five Wellstar hospitals. The staff learned supported communication approaches that encourage use of many communication forms, such as speaking, writing, and drawing. The CVNR helped produce a computer-based learning module on aphasia and supported communication available for staff in the Wellstar Health System.

The collaboration on the Sunflower Project was initiated by Jaclyn Dorsey CCC-SLP at Wellstar Paulding Hospital, United States Air Force Veteran and member of the CVNR Community Advisory Panel. Through this initiative, Ms. Dorsey identified a need that will help Veterans across the community.



In Memory of Dr. Charles Singleton

Dr Charles L. Singleton, a CVNR Community Advisory Panel member and the recipient of the Atlanta VAHCS's 2019 Outstanding Research Volunteer of the Year Award, passed away in October 2022. One of America's heroes, Dr. Singleton was an Army Veteran who served his country in the Vietnam War. He was deeply connected to his community and spent much of his time helping others.

In My Own Words - Hayden Haupt

"Before coming to the VA, I graduated from the University of Georgia in May 2022 with a Bachelor of Science in Biology. I worked the summer at the United States Department of Agriculture in research with fungi and the next thing I knew I was here at the VA. I was interested in the CVNR because I wanted a position where my research could benefit the patient's quality of life in the future. I work directly under Dr. Katie Bales and my main roles are to gather and organize data using different techniques, help write papers, and help design/perform experiments. I get excited when I first see the data that took weeks of work to acquire. Especially when that data supports the experiment's hypothesis. I definitely love the environment the most about the CVNR. Everybody is so supportive."



Participant Registry: 500 and Counting

Research Assistant Sara Kim enrolled participant number 500 into the CVNR Participant Registry. The Participant Registry was launched in 2009 as a way to identify and recruit those interested in becoming research participants. It's open to Veterans and non-Veterans between the ages of 18 and 89. For more information about the registry please contact us at (404)728-5064 or email CVNR.Registry@va.gov.

Research Biologist Dr. Ashley Prichard Tackles Alzheimer's Disease



Women are twice as likely as men of having Alzheimer's Disease.

The CVNR's newest investigator, Dr. Ashley Prichard did not plan to become a research biologist. She was captivated by research when, during an experiment in graduate school, she used rodent models to look at memory performance and deficits.

Dr. Prichard pursued her love of research as a postdoctoral fellow in the Wallace H. Coulter Department of Biomedical Engineering at the Georgia Institute of Technology. She worked in the lab of Dr. Annabelle Singer and investigated noninvasive audiovisual neurostimulation as a potential treatment for neuropathology in mouse models of Alzheimer's disease.

About seven million Americans have Alzheimer's of which up to 31 percent are Veterans. "We used audio-visual stimulation as a promising way to target and induce changes in the brain noninvasively," said Dr. Prichard.

Did you know?

Male and female rodents respond differently to stressors and exhibit different anxiety-related behaviors.

She explained how light and sound flickering at different frequencies induces change in how the brain's neurons fire and also immune cell response in rodents. However, she noticed a gap in the flicker research, which studied male rodents though women are twice as likely as men to get Alzheimer's disease. Veterans have a higher incidence of Alzheimer's disease, mild cognitive impairment, and dementia than the average citizen. "You have a double whammy if you are a female Veteran," said Prichard.

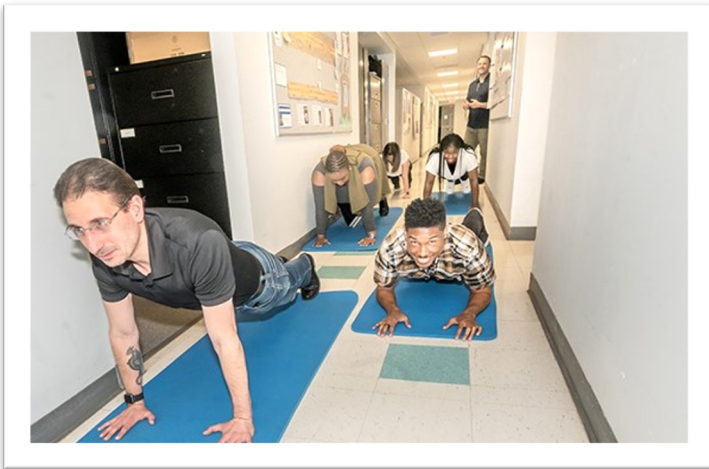
This knowledge gap led her to pursue use of female mouse models in Alzheimer's research. Her mentors Drs. Mabelle Pardue and Singer helped Dr. Prichard explore research opportunities at the CVNR. She submitted the "Noninvasive Neurostimulation to Reduce Pathology in a Female Mouse Model of Alzheimer's Disease" study and was later awarded a Career Development Award-2 (CDA2) from the CVNR. "This will all be new research for the VA and investigating new directions for me. I want to find ways to translate this research from nonhumans to

humans by tailoring neurostimulation to individual needs. I can do this by studying the optimal frequencies of neurostimulation, first in male and female

nonhumans, and identifying appropriate outcome measures to evaluate whether it works," said Prichard.

Read more about Dr. Prichard at <https://varrd.emory.edu/people/ashley-prichard/>

Planking for Veteran Suicide Awareness



Kevin Mammino, Chanse Denmon and colleagues planking at the CVNR

According to VA report, in 2020 there were 6,146 Veteran suicide deaths. In February, 2023, the CVNR launched a 90-day planking challenge to raise Veteran suicide awareness. Planking is an intense core exercise that offers a parallel to the physical and mental strains of everyday stressful circumstances by targeting multiple muscle groups throughout the body simultaneously.

The CVNR staff participants aimed to complete 90 minutes of planking within a 90-day span. Participant minutes were tracked on a display board. Participants received weekly check-in emails that included suicide awareness facts.

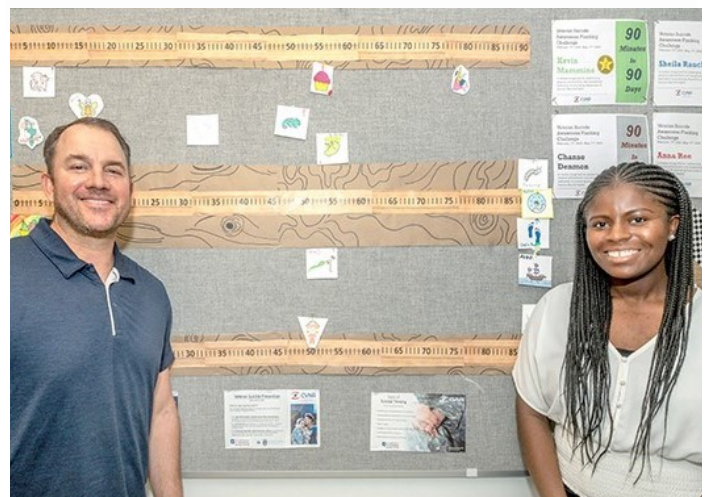
The challenge ended with a presentation by CVNR Investigator Dr. Sheila Rauch titled “Suicide in Treatment Seeking Veterans: Risk Factors and Effective Interventions.” Dr. Rauch has more than 20 years of experience in post-traumatic stress disorder and anxiety disorder treatment. Learn more about Dr. Rauch at www.varrd.emory.edu/people/sheila-rauch/.

Signs of Suicidal Thinking

- ◆ Hopelessness, feeling like there is no way out
- ◆ Anxiety, agitation, sleeplessness or mood swings
- ◆ Feeling like there is no reason to live
- ◆ Rage or anger
- ◆ Engaging in risky activities without thinking
- ◆ Increasing alcohol or drug use
- ◆ Withdrawing from family and friends

Source: VA.org

If you or someone you know is having thoughts of suicide, contact the Veterans Crisis Line:



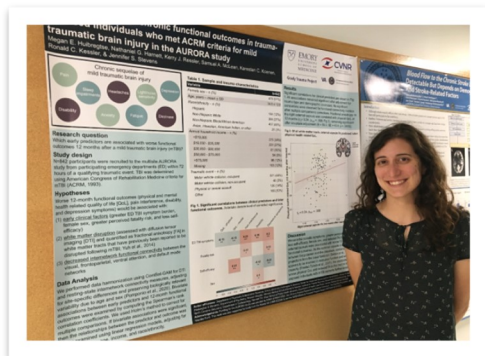
Above: Dr. Joe Nocera and Alexandra Mayes in front of planking display board at the CVNR.

The CVNR Team Receives Top Research Day Awards

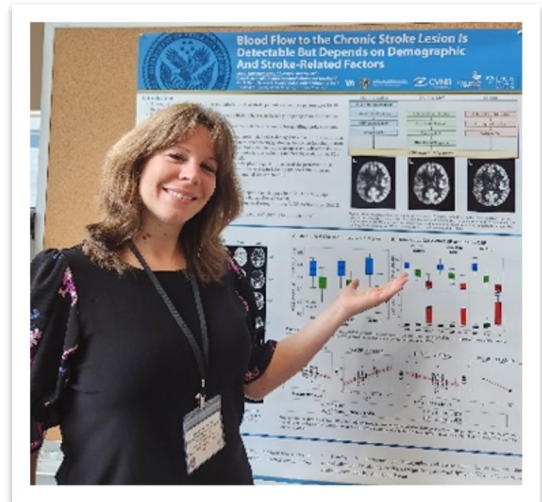
VA's annual Research Day was held on May 18, 2023 at Emory School of Medicine to celebrate discoveries and emerging medical innovations in Veteran care.



Health Science Specialist and Physical Exercise Core Manager **Kevin Mammino** won **Research Lab Manager of the Year** and Program Specialist **Erica Watkins** was awarded **Research Administrator of the Year**.



Research Associate **Megan Huibregtse Ph.D.**, won the **Third Place Poster Award** for "Early Predictors of Chronic Functional Outcomes in Trauma-Exposed Individuals Who Met ACRM Criteria for Mild Traumatic Brain Injury in the AURORA Study."



Research Scientist **Lisa C. Krishnamurthy, Ph.D.**, won **First Place Poster Award** for her presentation "Blood Flow to the Chronic Stroke Lesion is Detectable But Depends on Demographic and Stroke-Related Factors."



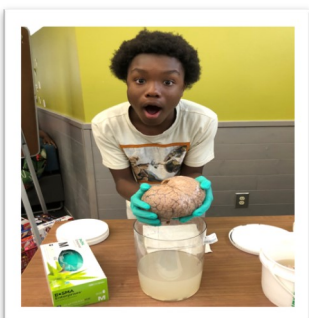
Research Biologist **Andrew Feola Ph.D.**, won **Second Place Poster Award** for his presentation on "Retina-Targeted Estrogen Therapy Preserves Visual Function After Ganglion Cell Injury Following Ovariectomy in Rats."



Brain Health Outreach

The CVNR and Boys and Girls Clubs of Metro Atlanta collaborate to raise awareness of Traumatic Brain Injuries

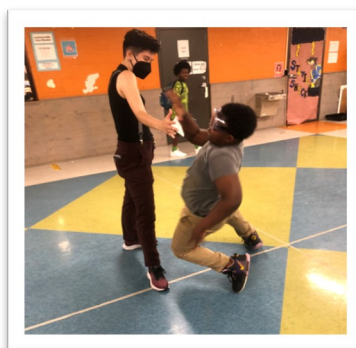
The CVNR partnered with the Lawrenceville Boys and Girls Club of Metro Atlanta to conduct a Brain Carnival and Career Fair for more than 150 Kindergarten through 12th graders. The two-day event served to present science, career information, and conduct learning activities focusing on the brain, brain health, and Traumatic Brain Injury (TBI) prevention.



Human and Animal Brains

The first day of the event began with the Career Fair for teens, which encompassed a presentation on brain health career pathways and brain health trivia. CVNR staff and volunteers spoke about their experiences as professionals and their impact at the Atlanta VA Health Care System.

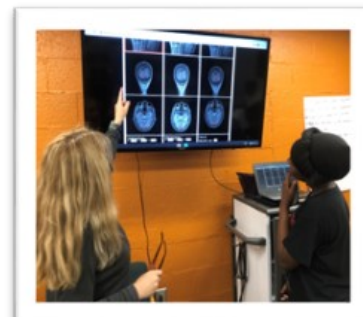
Following the presentation, the Brain Carnival provided interactive activities



Concussion Goggles simulated the possible visual impacts from head trauma.

such as concussion simulation using concussion goggles, “brain hat” craft assembly, and

viewing preserved animal and human brains to encourage further retention of brain health and career information.



Brain MRI Images via “Brain Browser”

The second day of the event was a continuation of the Brain Carnival for the younger kids. Youth and BGCMA staff showed sincere intrigue and enthusiasm at the event as revealed through excited engagement in activities and the surplus of questions asked about the brain and brain science.

A special Thank You to Susan Hegel (CVNR Community Advisory Panel Member) and Aasha Brooks (Georgia State Communication Sciences & Disorders Graduate Student) for volunteering to make this event empowering and memorable for our community youth!

CVNR Staff:

Dr. Amy Rodriguez, Dr. Maryanne Weatherill, Chanse Denmon, Alexandra Mayes, Anna Ree, and Elizabeth Tibus.



CVNR ACTIVE STUDIES

	Study Name	Eligibility	Contact Info
Brain Studies	rTMS in Alleviating Pain and Co-morbid Symptoms in Gulf War Veterans	Inclusion: Age 65 and younger Served in the Gulf War in 1990-1991 Have headaches, muscle and joint pain Moderate to severe depression	Carly Ragin 678-408-1433
	Intention Treatment for Anomia: Investigating Dose Frequency Effects and Predictors of Treatment Response to Improve Efficacy and Clinical Translation	Inclusion: Have aphasia caused by stroke Be 21-89 years old	Anna Ree 404-321-6111 x202561
Vision Studies	Treating Early Stage Diabetic Retinopathy	Inclusion: Age 30-80 Diabetes with no detectable vision loss Diabetes with first stages of diabetic retinopathy (i.e., microaneurysms)	Caleigh Cullinan and Stephen Phillips 404-321-6111 x201863
Exercise Studies	Graded Intensity Aerobic Exercise to Improve Cerebrovascular Function and Performance in Aged Veterans	Inclusion: No regular exercise participation in last 6 months Physician approval to participate in exercise	Medina Bello 404-825-8820
	Enhanced Home-Based Exercise Therapy for Peripheral Arterial Disease through Mobile Health and Remote Monitoring: The Smart MOVE Study	Inclusion: Confirmed peripheral artery disease (PAD) with symptoms (leg pain) Willingness to participate in a structured exercise/walking program Owns a smart phone with a data plan or access to Wi-Fi	Cydney Goodwin-Hamel 404-321-6111 ext. 202770 Risha Patel 404-417-5305
	Partnered Dance Aerobic Exercise as a Neuroprotective, Motor & Cognitive Intervention in Parkinson's Disease	Inclusion: Parkinson's Disease Age 40-89	Cathleen Carroll-Sauer 404-369-3405
Registry	Atlanta VA Rehab R&D Center for Visual & Neurocognitive Rehabilitation Participant Registry	Inclusion: 18 and older	404-728-5064



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Thank you for making every discovery possible.

To learn about participating in research please contact us!
(404) 728-5064
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**CVNR PARTICIPANT REGISTRY ENROLLMENT
FY 2023 TO DATE**