Eye Tracking Research Offers Hope for Accurate Diagnosis

George Gitchel, PhD, Research Health Science Specialist, Richmond PADRECC

The largest research project currently underway at the Richmond PADRECC is the study of eye movements. Coordinated, purposeful eye movements require precise control from all areas of the brain, working in concert with microsecond precision. Dysfunction of any one brain location will affect the way that our eyes move in a quantifiable, recordable manner.

Almost 3,000 subjects have been enrolled to date, and the results are exciting. Data suggest the ability to differentially diagnose any neurological movement disorder, with very high sensitivity and specificity, both approaching 98+%. According to the literature, 60% of patients with movement disorders with have their diagnosis changed at least once, due to the fact that there is no test for these disorders and clinical exams are subjective. We believe that this test may offer a unique way to meaningfully quantify these diseases, and provide a likely diagnosis at a patient’s first consult.

Studies are also underway in patients with REM sleep behavior disorder who are asymptomatic for movement disorders, and 55% show eye movements consistent with Parkinson’s disease (PD). Functional imaging (DaTscan) in these patients agrees with eye movement data, showing normal scans in predicted normals, and unilateral reduction of dopamine uptake in those we predict will develop PD. These data suggest the ability to reliably detect people with preclinical PD, potentially a decade before outward symptoms are visible.

In short, we believe that this research may be a useful universal diagnostic test, as well as an accurate, specific preclinical biomarker for Parkinson’s disease. This easy, inexpensive, rapid, painless, and non-invasive test has the potential to redefine how we diagnose movement disorders, and provide better quality of care to our Veterans, and beyond - to the entire population.
**PADRECC Clinicians**

- **Mark Baron, MD**  
  PADRECC Deputy Director  
  Neurologist  
  Movement Disorder Specialist

- **Debbie Dellinger, MSN, ACNP-BC**  
  PADRECC Telehealth Nurse Practitioner

- **Kathryn Holloway MD, Chief, Neurosurgery, McGuire VAMC**  
  PADRECC Director of Neurosurgical Services  
  Neurosurgeon

- **Jessica Lehosit, DO**  
  PADRECC Interim Director  
  Neurologist  
  Movement Disorder Specialist

- **Will Maragos, MD, PhD**  
  Chief, Neurology, McGuire VAMC  
  Neurologist  
  Movement Disorder Specialist

- **Abu Qutubuddin, MD, MBBS**  
  PADRECC Associate Director of Rehabilitation  
  Psychiatrist  
  Movement Disorder Specialist

---

**Multidisciplinary Team**

- **William Carne, PhD**  
  Psychologist

- **George Gitchel, PhD**  
  Health Science Research Specialist

- **Miriam Hirsch, MS, RN, CCRC**  
  Neurosurgical/DBS Nurse Coordinator

- **Jackie Johnson, BSN, RN**  
  Telehealth DBS Coordinator

- **Lynn Klanchar, RN, MS**  
  Associate Director of Education

- **Mark Lawson, RN**  
  Telehealth Coordinator

- **Cathy McGrady**  
  Administrative Officer

- **Peggy Roberge, RN**  
  Clinic Nurse Coordinator

- **Vanessa Rowlett**  
  Program Support Assistant

---

**Contact Us**

Appointments/Main Office: (804) 675-5931  Fax: (804) 675-5939

Administration: (804) 675-5690

Consults:  
“MOVEMENT DISORDER/PARKINSONS/PADRECC OUTPT”  
Request a traditional appointment, a CVT (telehealth) appointment, or an E-consult using this inter-facility consult (IFC).

Deep Brain Stimulation (DBS): (804) 675-6284

Education: (804) 675-6952

Research: (804) 675-6300

Telehealth: (804) 675-5000 x3314

Telehealth/DBS: (804) 675-5000 x3749

---

Please report address changes, additions or deletions to the mailing list to the editor, Lynn Klanchar, RN, MS, Associate Director of Education, Southeast PADRECC. Phone (804) 675-6952, email: lynn.klanchar@va.gov
**Staff News**

Congratulations to **Jessica B. Lehosit, DO** who was recently promoted to Southeast/Richmond PADRECC Interim Director. In 2015 she received an A.B. Baker Teacher Recognition Award from the American Academy of Neurology (AAN), A.B. Baker Section of Neurologic Educators. This award recognizes excellent teachers and their contributions to improving neurology now and in the future, along with the ideal that teaching binds students, residents, faculty, other clinicians, researchers, and patients together in a meaningful way.

**Mark S. Baron, MD** was named Interim Director at Virginia Commonwealth University Parkinson’s Disease and Movement Disorders Center in 2015. He currently serves PADRECC as the Deputy Director, continues a clinic schedule of patient appointments, runs a research laboratory and continues clinical research on eye tracking.

Nurse Practitioner **Debra Dellinger, MSN, ACNP-BC**, joined the PADRECC team in May 2015. She is an Acute Care Nurse Practitioner, and a graduate of the Virginia Commonwealth University School of Nursing, with extensive experience in intensive care and Neurology. Debbie is active in the Greater Richmond Area Chapter of the Virginia Council of Nurse Practitioners (VCNP), as a board member, President Elect and a Stroke Certified Registered Nurse (SCRN).

**William Maragos, MD, PhD**, Chief of Neurology at McGuire VAMC is also a movement disorder specialist and staffs the PADRECC Clinic on Thursdays.

For the past 14 years, the Southeast PADRECC Deep Brain Stimulation (DBS) program, directed by Neurosurgeon, **Kathryn Holloway, MD** has provided improved functioning and a restored sense of hope to hundreds of veterans with medically refractory movement disorders such as Parkinson’s disease (PD) and essential tremor (ET). Dr. Holloway has been an implanting surgeon since 1997 and has performed over 500 DBS surgeries. In addition, she and her interdisciplinary clinical and research team are involved in numerous research projects aimed at improving the DBS technique and our understanding of the procedure.

Kudos to staff members who advanced their careers with additional degrees in 2015 from Virginia Commonwealth University. Research scientist **George Gitchel** earned a PhD in Biomedical Engineering with his dissertation title “Development of an Accurate Differential Diagnostic Tool for Neurological Movement Disorders Utilizing Eye Movements”.

Neurosurgical nurse coordinator **Miriam Hirsch, RN** completed a baccalaureate program and earned a Bachelor of Science in Nursing (BSN).
Dental Health Challenges with Neurological Disorders  
Fred P. Woodlief, III, DDS, Retired Family and Cosmetic Dentist, Person With Parkinson’s

Dentistry as a profession of healthcare providers has struggled with the issues of the delivery of care to the disabled, and especially the home bound patient for decades. Even in the age of advanced technology, miniaturization and improved therapeutic agents, many barriers exist which make the delivery of dental services outside of the modern dental office an unattractive or impossible option for today’s dentist or dental hygienist. And it leaves the patient and their care giver with little or no options.

As it was when I graduated from dental school over 40 years ago, the days of examining a patient as they lay in their bed at home or in a hospital or nursing home using a flashlight, a mirror and wet fingers are long gone. Dentistry is an exact and highly technical practice of delivering care beginning with a thorough examination, x-rays of the hard and soft tissues, and the development of a list of the patient’s needs to obtain optimum dental health which we call a treatment plan.

These steps taken as a precursor to active treatment are essential for assuring that the patient gets both needed and comprehensive care and meets the dentist’s legal obligation to provide quality care.

There are things that a care partner/care giver can do to improve the dental health of the patient

Today, dentistry is delivered using instruments that rely on compressed air, sterilized water, high velocity suction, digital radiographs, high intensity lights and good visibility. All of these are available in a miniaturized and portable form. Dentistry must also abide by high standards of infection control for the protection of the patient and the care giver.

The problem in using this technology in a mobile or home setting is threefold:

1. Dentists see these items as costly and not cost effective based on a perception that they would see limited use in their practice.

2. Home care dentistry has inherent risks & liabilities.

3. It will take them away from a practice setting that they find highly profitable.

There needs to be a serious effort on the part of the dental profession to change these perceptions and to see to it that all patients, no matter what their disability and limitations, have access to quality dental care.

Finding a dental practice that offers in-home dental care is impossible in almost all locations in the United States. A quick internet search reveals that these services are only found in large metropolitan areas such as New York City or Southern California. Family or care givers can try contacting local dental or dental hygiene schools to see if they have outreach programs where their students provide supervised care for the disabled or home bound. Other sources may include state and local dental and dental hygiene societies, local assisted living facilities or nursing homes, and local or national foundations that support patients suffering from specific debilitating diseases such as PD, Alzheimer’s, and ALS.

There are things that a care partner/care giver can do to improve the dental health of the patient short of finding in-home professional care. There are many dental practices in all parts of our country that are comfortable supplying in office care to patients with disabilities and special needs.
All dental offices in our country are required by the Americans with Disabilities Act to be accessible by wheelchair. If a patient is considered “home bound”, then transportation to a dental visit should be considered in the same manner that one would use for a needed medical, hospital or ER visit. There may be added cost but the trade off for quality care and dental comfort is well worth the cost. If the patient can tolerate longer visits, the dentist should be able to minimize the number of visits needed and keep costs down.

The needs and demands for dental care vary individually with all patients. Some patients have dental needs that are so extensive or complex that the option of in-home care, even if it is available in your locale, is totally out of the question. For these patients often the only option is treatment in a surgical office or hospital. Treatment can involve the prophylactic removal of teeth to prevent further destruction of bone and tissue. That is why there must be a comprehensive exam on the first visit, and the dentist can address and treat any urgent issues at this time.

Nothing replaces a thorough cleaning by a dentist or dental hygienist, involving a scaling and polishing to remove hard deposits on the teeth and under the gums. Soft dental plaque forms into hard calculus (tartar) on the teeth over time. This is the basic culprit in causing tooth decay and gum infections.

If the patient cannot receive regular professional cleaning to compliment their home care, then the next best thing is diligent removal of soft dental plaque by tooth brushing and the proper use of dental floss for inter-dental areas. Sonic toothbrushes are excellent aids in achieving this.

TIPS for better dental health for patients with neurological disorders & the home bound:

1. Visit the dentist for more frequent professional cleanings (3-4 times a year) to prevent plaque and calculus buildup.
2. Take care of dental needs early. Waiting leads to extensive procedures, higher costs and discomfort.
3. Use an electric toothbrush following the directions (2-3 times a day). Sonic toothbrushes are best.
4. Floss daily – reusable dental flossing aids with pre-loaded floss are readily available.
5. Use mouthwashes containing fluoride or baking soda designed to control plaque at least daily.
6. Consider using prescription mouthwash with chlorhexidine or a fluoride brushing gel to fight tooth decay and gum disease.
7. Brush your tongue daily.
8. Clean your partial or full dentures daily and avoid sleeping with them in if possible.
9. Practice mouth opening exercises regularly to prevent muscular constriction.

More about Dental Health on page 8
Research at Southeast/Richmond PADRECC

DBS and Neurosurgery
Dr. Holloway served as primary investigator and implanting surgeon at the Southeast PADRECC and Virginia Commonwealth University Medical Center, two of twelve centers that participated in the CSP #468 Study: A comparison of Best Medical Therapy to Deep Brain Stimulation of Subthalamic Nucleus and Globus Pallidus for the Treatment of Parkinson’s Disease and its 5-year follow-up. This 13 year study was the largest multicenter trial examining the different brain targets for DBS in Parkinson’s disease. The data that has been generated has contributed to a better understanding of DBS and the long-term effects of this treatment modality.

Other research interests of Holloway and her team include the development of improved frameless methods for DBS placement, the use of brain scanning technologies during DBS surgery, the creation of a mapping system or “GPS” to help improve surgical accuracy and outcome and the exploration of sub-regions of efficacy within DBS brain targets or the brain’s “sweet spots.” Dr. Holloway is also interested in the potential for DBS for the treatment of other brain disorders such as dementia and severe depression.

Eye Movement
This study is enrolling movement disorder patients with special interest in patients with REM sleep behavior disorder, atypical disorders (e.g.. MSA, CBGD, PSP), and those using the drug Apokyn (apomorphine). Open to veterans and non-veterans.

Ideas in the pipeline...

Muscle Rigidity
Over the past 6 years, through a collaborative effort with the Virginia Commonwealth University Department of Biomedical Engineering, we have developed a device to investigate muscle rigidity in patients with movement disorders. The computerized and automated device utilizes a high torque motor and very sensitive load cell, to recreate a clinical exam of rigidity, but do so computationally.

Gait and Posture
Gait disturbances and postural instability are some of the most disabling symptoms to patients, significantly limiting mobility, quality of life, and independence. We aim to study the unique differences in gait and posture between Parkinson’s disease and its mimics.

Next time you visit the PADRECC, please inquire about any new studies open for enrollment. Contact: George Gitchel, PhD, Research Health Science Specialist (804) 675-6300.
Resources for Research

ClinicalTrials.gov
www.clinicaltrials.gov
A service of the U.S. National Institutes of Health
This website is a registry and results database of publicly and privately supported clinical studies of human participants conducted around the world.

NIH Clinical Research Trials and You
www.nih.gov/health/clinicaltrials
National Institutes of Health
An online resource to help people learn more about clinical trials, why they matter and how to participate.

Fox Trial Finder
www.foxtrialfinder.org
Michael J. Fox Foundation for Parkinson’s Research
Fox Trial Finder was created to help increase the flow of willing participants (both people with Parkinson’s and control participants who do not have Parkinson’s) into the trials that need them, accelerating the Parkinson’s drug development process. Fox Trial Finder will match registrants to the trials that are best suited to their specific traits.

Parkinson's Advocates in Research (PAIR) www.pdf.org/pair
Parkinson's Disease Foundation
PAIR is dedicated to bringing together the people who live with Parkinson's and the people who are developing new treatments. Through in-person trainings and an online course, PAIR provides people touched by Parkinson's with the knowledge and skills needed to pair up with scientists and health professionals.

Educational Opportunities

⇒ September 10, 2015 (Thursday, 4 pm) Deep Brain Stimulation—Treatment for those with Parkinson’s, essential tremor & dystonia. Community Out-Reach Education (CORE) at VCU Community Memorial Hospital, South Hill, VA. Call (434) 774-2550 or register online at www.VCU-CMH.org

⇒ September 12, 2015 (Saturday) Parkinson Association of the Carolinas (PAC) Parkinson’s Symposium at Calvary Church, Charlotte, NC. Contact PAC at (866) 903-PARK (7275) or website: www.parkinsonassociation.org

⇒ September 13, 2015 (Sunday, 8:30 am) Walk Off Parkinson’s at Nationals Park, Washington, D.C. Contact Parkinson Foundation of the National Capital Area at http://parkinsonfoundation.org

⇒ September 22, 2015 (Tuesday 1:30-5 pm) FDA Public Meeting—Patient-Focused Drug Development—Parkinson’s Disease at FDA White Oak Campus, Silver Spring, MD. Contact (301) 796-5003 or https://pfddhuntingtonparkinson.eventbrite.com to register by Sept 14.

⇒ October 3, 2015 (Saturday 9:30 am-4 pm) Huntington Disease Community Education Day at Larrick Student Center, Richmond, VA hosted by the HDSA Center of Excellence at VCU Parkinson’s and Movement Disorder Center. Register online at https://www.support.vcu.edu/event/HDDay

⇒ October 10, 2015 (Saturday, 8:30 am-3:30 pm) RVA Parkinson’s Disease Community Education Day at the Cultural Arts Center at Glen Allen, VA. Hosted by PADRECC, VCU PDMC, APDA Richmond Metro Chapter & APDA I&R Center at UVa. Cost is $25 per person. Register on-line at Richmond Metro Chapter APDA www.parkinsonrichmond.com or contact President, Kathy Morton at: (804) 261-5201.

⇒ November 7, 2015 (Saturday 8am - 4pm) Living with Parkinson’s Disease Symposium at Charleston Marriott Hotel, Charleston, SC. Hosted by MUSC Health. Cost is $35 per person. Registration at (843) 792-7262 or www.muschealth.org/movementdisorders
Resources for Dental Health and Parkinson’s

- “Swallowing and Dental Challenges” - expert briefing (January 2014) by Parkinson’s Disease Foundation [http://www.pdf.org/parkinson_briefing_swallowing_dental]


Dental Health Challenges

Motor symptoms including tremors experienced by patients with movement disorders can impact good dental hygiene, making the care of the teeth and gums a challenge. Some medications used to treat neurological disorders can cause dry mouth as a side effect. The disorder may also cause repeated frequent swallowing. The decrease in saliva due to dry mouth can lead to other problems such as:
- sore or dry throat
- tooth decay (cavities)
- gum disease
- poor denture fit
- loss of taste

TIPS for improving dry mouth

1. Regularly use products specifically designed for dry mouth such as mouthwashes, toothpastes, chewing gums, and sprays.

2. Avoid caffeine intake – it dehydrates your body.

3. Avoid mouthwashes with alcohol.

4. Stimulate saliva flow by sucking on sugarless citrus drops or mints, or by using sugarless chewing gum. Avoid candies and gums with sugar which can increase tooth decay. Note that the sugar alcohols (such as sorbitol, xylitol, mannitol) in sugarless products can increase the risk of GI irritation and diarrhea.

New Consortium Center in Orlando, Florida

Please welcome Consortium Director Ramon L. Rodriguez, MD and the Movement Disorder Center at Orlando VAMC. They joined the National VA Parkinson’s Disease Consortium Center Network in 2015. The Movement Disorders Clinic at Orlando VAMC provides specialty care for those veterans affected by Parkinson’s disease, Dystonia, Tremors, Huntington’s disease, Parkinson Plus syndromes and other movement disorders in Central Florida. Under the supervision of Dr. Rodriguez, a fellowship trained Movement Disorders Specialist, the clinic provides access to the latest medical and surgical procedures for patients with movement disorders. In addition, Drs. Welwin Liu, Fabian Rossi, Aunali Khaku and Michael Hoffmann provide their neurological expertise, creating a comprehensive center that covers all the aspects of neurological care.

For more information or scheduling appointments, please contact (407) 631-1050.
Rehabilitation Medicine
Abu Qutubuddin, MD, MBBS

Physiatry, or rehabilitation medicine, is one of the PADRECC components of a comprehensive approach to Parkinson’s disease (PD) treatment. Attending rehab physician, Abu Qutubuddin, MD, MBBS and the rotating Fellows from the VCU Department of Physical Medicine and Rehabilitation (PM&R) provide a state-of-the-art rehabilitation approach to patients’ needs.

Veterans are evaluated for functional limitations caused by postural instability, slowed motor movements (bradykinesia), pain and/or limited range of motion.

Patients then receive exercise suggestions or complete exercise regimens with individualized exercise protocols monitored for effectiveness.

An integral part of the rehabilitation team involves consultation with specialized services such as physical therapy, occupational therapy, speech and language therapy & kinesiotherapy. These services are especially helpful in instructing, monitoring, and motivating patients in various challenges which face people with Parkinson’s. A recent exciting focus has been on collaborating with the McGuire VAMC PM&R department to secure a designated space and designated therapists to work exclusively with PADRECC.

Another specialized service offered by PADRECC rehabilitation physicians involves neurotoxin injections for the following conditions: torticollis, sialorrhea, blepharospasm, dystonia and skeletal muscle spasticity.

Joint pain is frequently seen in the Parkinson’s population. This condition is often responsive to the use of adaptive equipment (in consultation with the hospital prosthetics service) and/or injection of the joint with agents designed to reduce inflammation and provide easier movement. These injections, often steroids or Synvisc, can provide up to six months of pain relief for individuals with painful knees and shoulders.

“At Home” Telephone Education & Support
Finding it difficult to attend a support group or education event in person? Check out these two VA opportunities using the basic telephone & a toll free number. Then find a quiet place in your home just one hour a month to listen & participate!

For Caregivers of enrolled Veterans:
VA Caregiver Support program offers a monthly telephone education group which focuses on strategies to enhance resilience and restore balance. The sessions are not specific to a disease or condition, but rather are designed with the care partner or caregiver in mind. In an effort to reach caregivers across time zones, and with varied routines, the monthly topic is presented 3 times - on different days and times.
Sign up through your local Caregiver Support Coordinator (CSC).
In Richmond, call (804) 675-5000 x 6631 or x 4822.

For Veterans with Parkinson’s Disease:
The Southwest PADRECC in West Los Angeles sponsors a Telephone Education/Support Conference on the 2nd Tuesday of every month, 1-2 pm Eastern Time (10-11 am Pacific Time). Participate in the convenience of your home. Invite family & friends. Ask questions & share with each other. Simply dial toll-free 1-800-767-1750 and enter code 54321#. For more info, contact West LA/Southwest PADRECC at 1-800-952-4852 or (310) 478-3711 x 48041.
Telehealth Update
by Jackie Johnson, RN, Telehealth Nurse

The Richmond PADRECC Telehealth (TH) program continues to expand, with appointment numbers more than tripling since 2013.

PADRECC’s TH nurses schedule new consults and follow up visits for the Veteran by matching appointment time and TH space at the remote site, with clinic schedule and provider time slots at Richmond, the movement disorder specialist site.

Veterans’ care is managed with reinforcement of the treatment recommendations to the referring provider and ongoing education/support.

Now more than ever before, Veterans at CBOCs and VAMCs in the more rural areas in the Southeast, unable to travel easily or long distances to Richmond, have access to neurology movement disorder specialty care through TH technology!

TELEHEALTH, VIRTUAL CARE, and EDUCATION

Telehealth or CVT (Clinical Video Telehealth): a live, secure, two-way interactive video telecommunication link between the movement disorder specialist in Richmond and the veteran at the VAMC or CBOC where he/she is enrolled. Telehealth minimizes the expense and burden of travel time to Richmond.

- **Telehealth general consults for movement disorders**: Diagnosis, evaluation, and treatment recommendations for tremor, gait, or other symptoms of movement disorders and assistance with best medical therapy.
- **Deep Brain Stimulation (DBS) surgery screening**: Initial assessment and education for possible surgery. DBS is used for the treatments of essential tremor, Parkinson’s disease, torticollis, and dystonia. Surgery is considered when significant symptoms persist (i.e. poorly controlled tremor, dyskinesia, motor fluctuations, or poor “off” time) despite best medical therapy.
- **DBS programming follow up**: Remote DBS programming via Telehealth, including staff education regarding the DBS device and programming.
- **Botox/neurotoxin therapy screening**: Evaluation of movement disorder related symptoms such as dystonia, muscle spasms, and sialorrhea for possible treatment with neurotoxins.

SCAN-ECHO (Specialty Care Access Network): *Continuing education for clinicians* via didactic and case studies presentations by our movement specialists. Held the first Friday of every month at noon.

**Veteran Group Education/Support**: Parkinson’s disease presentations are broadcast from Richmond using video teleconferencing (V-Tel) to Community Based Outpatient Clinics. Held 4th Thursday at 1pm.
The six Parkinson’s Disease Research, Education and Clinical Centers (PADRECCs) were established in 2001 as centers of excellence for veterans with PD or other movement disorders. The National VA Parkinson’s Disease Consortium was designed in 2003 to broaden the PADRECC’s reach. Consortium Centers were then established to offer specialized movement disorder care in more areas of the country. Currently there are 53 centers representing every VISN. The centers are run by movement disorder specialists or doctors with an interest in PD. Together, the 6 PADRECCs and over 50 Consortium Centers provide convenience and state-of-the-art care to veterans with movement disorders regardless of where they live. If a veteran is unable to access services at a PADRECC, the nearest Consortium Center may be an option.

For more info, go to: www.parkinsons.va.gov
PADRECC Clinic Services
A Center of Excellence for Movement Disorders
Diagnosis and treatment for all types of movement disorders including Parkinson’s disease (PD), essential tremor (ET), dystonia, and atypical parkinsonian disorders.

Services:
- New, follow up visits and clinical video telehealth (CVT) consults
- Multidisciplinary Approach with Movement Disorder Specialists
- Rehabilitation evaluation, referrals to PT, OT, Speech & Social Work
- Medications and medical management
- Neuropsychological assessment of cognitive and emotional status
- Deep Brain Stimulation (DBS) surgery and programming
- Palliative care and hospice care referrals
- Educational materials, events, caregiver resources, support and exercise groups
- Clinical trials/research studies

How do I get an appointment at PADRECC Clinic?
To receive treatment:
- First, you must be a Veteran and enrolled in VA Health Care.
- Your primary care doctor can consult the PADRECC Clinic by electronic referral in CPRS system to:
  “Movement Disorders/Parkinsons/PADRECC OUTPT”.
- Referrals from outside the Richmond catchment area require an inter-facility consult (IFC).

To apply for enrollment in VA Health care or determine eligibility:
- Call Veterans Health Benefits Service Center 1-877-222-VETS.
- Go to www.va.gov and how to apply for Health Benefits.
- In Richmond, call (804) 675-5611.

Research Opportunities: Some PADRECC research projects and clinical trials recruit non-veterans in addition to PADRECC patients. Contact George Gitchel, PhD for current research opportunities at (804) 675-6300.

Education and Support Group: PADRECC sponsors a monthly Parkinson’s group on the 4th Thursday at McGuire VAMC with broadcast capability to Community Based Outpatient Clinics (CBOC). Contact Lynn Klanchar at (804) 675-6952 for more information.