Albany Medical Center’s work in movement disorders was featured on WRGB CBS 6 October 21, 2012, which focused on Deep Brain Stimulation (DBS) surgery for Parkinson’s disease (PD). The story featured a member of the local band Urban Gumbo, Bob Girouard, who had suffered with Parkinson’s disease for the past decade. After medications failed, Bob underwent DBS surgery with Dr. Pilitsis and is on the road to a recovery. Bob has since been able to resume drumming and Urban Gumbo has played several events. DBS has been used to treat nearly 100,000 people worldwide suffering from Parkinson’s disease, Essential Tremor, Dystonia, and Obsessive Compulsive Disorder and has virtually replaced pallidotomy and thalamotomy in the United States. Randomized controlled studies in the New England Journal of Medicine and JAMA show that DBS is more efficacious than continued medical treatment of Parkinson’s disease and dystonia in appropriately selected patients, i.e., those whose symptoms continue despite medications. DBS is also helpful in Essential Tremor (ET). ET is about ten times more common than other movement disorders, but is often controlled by beta-blockers or with alcohol to reduce the tremor. Because there are only a couple of medications for ET, DBS may be useful in some cases where patients are unable to eat or write. DBS is also currently in clinical trials for treatment of major depressive disorder and is in pilot study for Alzheimer’s disease.

Results depend on patient management prior to, during, and following the operation. Therefore, it is important to have DBS performed at a center that is well-versed in the team approach to the patient. Because of the complex nature of the procedure and followup, it is important for candidates to have a strong support group, including family, friends, other patients who have gone through the process, and dedicated health care providers. Patient evaluation and selection involves extensive testing that includes motor assessment both on and off medication, neuropsychiatric assessment for cognitive function, and counseling to ensure the patient fully understands the risks and potential benefits of surgery. Team meetings are held to review and select appropriate candidates and management strategies. The DBS team at Albany Med also includes: Dr. Eric Molho, Dr. Adolfo Ramirez-Zamora, Dr. Era Hanspal, Dr. Jennifer Durphy, Dr. Dzintra Celmins, Dr. Anne Barba, and Meghan Wilock, PA-C.

DBS involves placement of electrodes- wire size devices with titanium contacts- into deep areas of the brain that control movement. We use MRIs to find those areas and a metal frame to place the locations in a coordinate system- a 3D map. We then fine tune the place we put the electrodes by listening to sounds of brain neurons in the operating room. It is a surgery performed through a nickel size hole in the skull. During a separate procedure, the electrodes are then connected to wires that snake from the skull, behind the ear and down to a battery-powered impulse generator that is placed beneath the skin, under the collarbone. Patients are typically discharged the next day for both surgeries. We activate the device in a clinic setting three weeks after surgery. Finding the right combination of medications and stimulation can take as long as four to six weeks. Our PD patients have dramatic decreases in medications post-operatively. Initial evaluations can be scheduled within two weeks at 518.262.5088.
Pain in Parkinson’s Disease

By Lucy Gee, BS

Parkinson’s disease, while most commonly known for its cardinal symptoms (tremor, rigidity, akinesia and posturing), also involves non-motor symptoms, such as autonomic dysfunction, sleep disorders, depression, and pain. Today, pain is one of the most common complaints for patients suffering from Parkinson’s disease (PD). Studies have shown that between 60 and 85% of patients with PD experience pain, which often remains untreated because patients do not know it may be a symptom of PD.

Treatments for these types of pain can involve medication, non-pharmacological therapy or both. Medications that treat PD such as levodopa are often helpful in PD patients because pain is associated with a depleted dopaminergic state. Patients may find that their pain fluctuates throughout the day mirroring “on” and “off” medication states. Adjustments in PD medications may alleviate pain during fluctuations. Additionally patients may find muscle relaxants, NSAIDs or other medications to be helpful.

Non-pharmacological treatments such as exercise, nutritional management, acupuncture, core strengthening and stretching such as yoga or Pilates, massages and physical therapy are all encouraged for patients in pain. Physical therapists are often able to design muscle strengthening or exercise plans for patients to minimize pain. At home, simple changes in mattresses or pillows may also provide comfort.

If you or someone you know is experiencing pain, let your doctors know as soon as possible so that pain management can be initiated.

Pain can interfere with all aspects of a patient’s life and directly affects many daily activities. Researchers have been focusing on different types of pain apparent in PD. Several different types of pain have been documented thus far as either directly or indirectly related to PD:

1. Musculoskeletal pain is the most common type of pain occurring in PD patients and is characterized by cramping or muscle stiffness causing aching muscles, joints or bones.

2. Dystonic pain is caused by sustained involuntary muscle contractions leading to twisting or posturing. Dystonia can be diffuse or limited, involving the whole body or just one part.

3. Radicular pain originates from a nerve in the spinal cord and presents as tingling or numbness in their fingers or toes. Occasionally if the nerve is pinched these patients may experience a shooting pain that moves down their arms or legs.

4. Central pain includes a mixture of painful sensations including constant burning, pins and needles, aching, sharp pain etc.

The Team

Anne L. Barba, PhD
Dr. Barba is a neuropsychologist who joined the Department of Neurology at Albany Med in 2000. She has particular interests in patients with Parkinson’s disease and other neurodegenerative diseases. Dr. Barba plays a key role in the pre and postoperative neuropsychological evaluation of candidates for DBS surgery to treat Parkinson’s disease.

Dzintra Celmins, MD
Dr. Celmins is an Assistant Professor of Neurology. She received her medical degree from the Riga Medical Institute. She completed her neurology residency followed by a fellowship in movement disorders/behavioral neurology at Albany Med. She is Board Certified in Neurology. Her special interests include movement disorders and Alzheimer’s disease.

Jennifer Durphy, MD
Dr. Durphy is an Assistant Professor of Neurology. She received her medical degree from Indiana University, followed by her neurology residency at Georgetown University. She completed her movement disorders fellowship at Albany Med. Dr. Durphy is Board Certified in Neurology.
Helpful Tips for Parkinson’s Patients

BY JESSICA HALLER AND PRISCILLA DE LA CRUZ, BS

Better Sleep
While tremors in various parts of the body are the most common symptoms of PD, many other problems arise with the disorder. For example, many PD patients develop sleeping disorders that can come from medication side effects or simply progression of the disease. A few common sleep disorders include: insomnia, sleep apnea, restless legs syndrome, and even nightmares. The National Sleep Foundation provides some useful tips for those dealing with sleep disorders. They advise patients to avoid exercise, alcohol, nicotine, and caffeine within four hours of bedtime, avoid checking the clock in the middle of the night, avoid using the television at bedtime, and limiting naps to 40 minutes per day. You can find more tips and information on sleep disorders at www.sleepfoundation.org.

Speak Up!
An astounding 75% of PD patients report having problems in speech. These issues include: mumbling or speaking too quickly, reduced facial expression, trouble with swallowing, a softer voice, and trembling while producing speech. While this percentage seems high, there are ways to help prevent or treat speech problems. The National Parkinson Foundation advises that patients stay hydrated by drinking plenty of non-caffeinated fluids, avoid coughing to clear your throat (you can try a soft sound or hum instead), eliminate heart burn, use a humidifier if the air is dry, and avoid shouting or speaking over loud noises. In order to improve communication, try using shorter sentences to allow more time to pause and take a breath as well as looking at one another while talking, which allows for lip reading. This can greatly improve understanding. Patients who wish to exercise and practice for better speech are advised to sing in a comfortable pitch range, which exercises many of the muscles involved in speech, read out loud daily using tone or pitch, and take a deep breath while and name the days of the week, months of the year, or alphabet as loudly as possibly. In addition to these tips, many patients find working with a speech pathologist very helpful. For more information, please visit www.parkinson.org.

Nutritious Facts for PD Patients
Many PD patients experience constipation, weight loss, delayed stomach emptying, and drug-food interactions. In order to avoid or help these GI problems, there is helpful nutritional information that can be useful to ease these issues.

Jessica Haller is an undergraduate student in her sophomore year at SUNY Albany. She is majoring in biology and psychology and minoring in neuroscience. She is also a licensed emergency medical technician for Five Quad Volunteer Ambulance Service.

Priscilla De La Cruz is a fast year medical student at Albany Medical College. Her research interests include deep brain stimulation in Parkinson’s disease and peripheral nerve stimulation.

Types of Foods and Nutrients that are Beneficial:

- To get your recommended amount of carbohydrates, which provide energy, it is advised that you eat whole grains, fruits and vegetables. About 50–60% of your daily calories should come from carbohydrates.
- To get your recommended amount of protein, which prevents muscle wasting, it is advised that you eat lean proteins such as tuna and chicken. You should have about 0.6 g/2 lbs of your body weight per day.
- To get your recommended amount of fat, which provides energy, it is advised that you focus on fewer saturated fats. You should not consume more than 30% of total calories.
- To get your recommended amount of fiber, which prevents constipation, it is advised that you eat foods like oatmeal and whole grains. You should have at least five servings of fruit and vegetables per day.
- To get your recommended amount of fluid, which prevents constipation, it is advised that you drink lots of water. You should drink between six to eight cups of non-caffeinated fluids per day.
- To get your recommended amount of calcium, which prevents bone loss, it is advised that you take calcium citrate supplements (they do not cause constipation). For more information or recipes, please visit www.apdaparkinson.org

Era Hanspal, MD
Dr. Hanspal joined the Movement Disorders division at Albany Med in 2011. Dr. Hanspal is Board Certified in neurology and is an active member of the American Academy of Neurology, Movement Disorders Society, and Parkinson’s Study Group. Her special interests include both adult and pediatric movement disorders.

Adolfo Ramirez Zamora, MD
Dr. Adolfo Ramirez Zamora joined the faculty of Albany Med in 2010. Dr. Ramirez’s unique area of expertise encompasses presurgical evaluations of surgical candidates, intraoperative monitoring and medication adjustments for PD, essential tremor, and dystonia. His additional clinical research interests include experimental therapeutics in movement disorders, impulse control disorders in PD patients and gait disorders.

Meghan Wilock, PA-C
Meghan Wilock joined the neurosurgical team at Albany Med in October of 2012, shortly after earning her Masters degree in the Physician Assistant program at LeMoyne College in Syracuse, New York. Meghan has become an integral part of the functional neurosurgical team and has also aided in Parkinson’s events, attended educational conferences, and assisted with current research.
A fluctuating response to medication is common in PD patients who have experienced clear benefits from levodopa and have had PD for at least five years. The symptoms that occur during times of reduced medication benefit are termed “off period” symptoms and the result is an increase in tremor, slowness, stiffness or walking troubles. Non-motor symptoms can also emerge such as anxiety, depression, sweating, breathlessness, urinary frequency and mental slowing. Simple “wearing off” of benefit between doses is the most common form of fluctuation and there are several simple strategies that can be used to treat this problem. Current options include taking doses of levodopa more frequently, use of controlled release preparations of medications and the addition of levodopa “helpers” such as COMT (entacapone, tolcapone) or MAOB inhibitors (rasagiline, selegiline). With progression of disease, there may be more severe fluctuations which may benefit from DBS surgery, but not all patients are good candidates for DBS. Fortunately, there are other useful treatment strategies currently available and some exciting emerging treatments that will soon be available for PD patients with this problem.

Apoxyn (apomorphine) injections are perhaps the most effective nonsurgical treatment for difficult fluctuations and although this treatment has been available for 10 years in the US, most patients and many doctors are still unaware of its potential benefits. Apoaxyn is an injection that works much more quickly than oral medications. As such, it is ideal for use as a rescue medication whenever and wherever disabling “off period” symptoms occur. Unlike other PD medications, Apoaxyn can be used on a PRN or “as needed” basis. Albany Med has many years of experience with this specialized treatment going back to participation in the pivotal clinical trials that were performed in the late 1990s leading to FDA approval.

Another promising treatment for advanced PD is Duodopa (levodopa intestinal gel) which is in the late stages of development and may be available in the next year or so. This drug will be delivered directly to the small intestine via a surgically implanted tube and a steady infusion will be controlled by a small mechanical pump. This allows for continuous steady delivery of levodopa. A new medication for PD that will probably be available within the next year is a new controlled release formulation of carbidopa/levodopa developed by Impax Pharmaceuticals (brand name will be Rytary). It is designed to provide a more lasting benefit. There are early reports emerging at scientific meetings on an inhaled form of levodopa. This product is in an early stage of development, but may represent a somewhat more convenient alternative to Apoaxyn for fast working rescue therapy for “off periods”. We should be hearing more about this in the near future.

Another important option that all PD patients should consider is participation in a clinical trial. In order for new treatments to be developed, scientifically rigorous and unbiased research is required and this is the purpose of clinical trials. The Fox Foundation is currently involved in an effort to promote participation in clinical research through the “Fox Trial Finder”. The PD center at Albany Med has been an investigative site for over 90 clinical trials over the last 20 years, 50 of which were for PD specifically.

Albany Medical Center’s Movement Disorders Care
To learn more about the Parkinson’s disease and movement disorders at Albany Med, deep brain stimulation, or learn who is a candidate for DBS call us at 518.262.5088 or visit: amc.edu/movement

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Since joining the faculty of the Neurosciences Institute in 1992, Dr. Molho’s practice has been exclusively devoted to treating Parkinson’s disease and movement disorders. He is a professor of neurology and the Riley Family Chair in PD.