



Neurology Care Line

PADRECC Pathways

Houston Parkinson's Disease Research, Education and Clinical Center

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Ask Dr. Hou

What are the side effects of levodopa?

Although levodopa is still the most effective treatment for the motor symptoms of Parkinson's Disease (PD), there are side effects. The most common are nausea and vomiting. Low blood pressure upon standing may occur. In those with more advanced disease, the risk of hallucinations increases. Compulsive behavior, including gambling and increased sexual desire and activity, and drowsiness with sudden sleep onset may occur. After prolonged levodopa therapy, complications may include motor fluctuations ("wearing off"), dyskinesias, dystonia, freezing, and falls. It is important for the neurologist to carefully adjust the dosage to minimize these problems.

Motor fluctuations include: a) wearing off, or early loss of benefit from a given dose of levodopa; b) on-off phenomenon, or a sudden, unpredictable switch to off; and c) failure to respond to levodopa (persistent off). During this stage, clinicians must increase the dosage. This eventually leads to another common complication, dyskinesias, unwanted involuntary movements that typically occur during the peak effect of a dose. At this point, levodopa becomes a two-edged sword to patients who need to take levodopa to turn them "on," while at the same time experiencing troublesome dyskinesias.

What is deep brain stimulation and how do I know if it would help me?

Deep brain stimulation (DBS) is a surgical procedure to treat Parkinson's disease (PD). DBS targets deep brain regions of the basal ganglia that are over active and interrupt the basal ganglia circuitry balance. A neurosurgeon inserts DBS electrodes into

those areas and uses the micro-electric stimulations to actually slow down the hyperactivity of the brain cells.

We recommend DBS for patients who have benefited from levodopa treatment, but due to long term use, they suffer from motor fluctuations and uncontrollable dyskinesias and tremors. Surgeons target the subthalamic nucleus which usually improves the motor features of PD, allowing patients to take less levodopa by an average of 30%. Involuntary movement typically improves. Patients must follow-up with their neurologists for adjustments to the deep brain stimulator. Side effects include those related to surgical procedures. Rare neuropsychiatric events have been reported. In a small number of patients, depression may begin or worsen after surgery. Suicide, a well-known risk in the depressed, has been reported in a few patients. Pre-operative neuropsychiatric evaluation and post-operative follow-up is a critical part of patient care.

Gabriel Hou, MD, PhD,

Associate Director of Research, Houston PADRECC

Dr. Hou is a board certified neurologist and a movement disorder specialist. He completed his MD at China Medical College School of Medicine, his residency at Albert Einstein College of Medicine, NY, and his PhD at Mount Sinai School of Medicine, NY. He also completed a fellowship in movement disorders at Baylor College of Medicine.



PADRECC-HAPS Sponsor Education Conference



On June 7, PADRECC and the Houston Area Parkinson Society (HAPS) sponsored a continuing education conference, “Rehabilitation for Patients with Parkinson’s Disease: Where Are We Now?” Seventy-two allied health professionals attended. Pictured top left to right: Dr. Eugene Lai (PADRECC Director) talks with Karen Kennemer (PSP Society of Houston), three participants discuss community and caregiver support, Professor Betty MacNeill (Texas Woman’s University School of Physical Therapy) teaches fall prevention. Bottom row: the PADRECC Education Committee: Ruth Zabransky, OTR, (Rehab Therapies Supervisor at Michael E. DeBakey VAMC), Kathleen Crist, LMSW (HAPS), Dr. Betty Protas (Ad Interim Dean Allied Health Sciences, UTMB, Galveston), Professor Betty MacNeill (TWU, Houston), Dr. Naomi Nelson and Marilyn Trail, MOT, (PADRECC Co-Associate Directors of Education), not pictured, Jean Whitehead, MA, CCC-SLP (MEDVAMC), keynote speaker Dr. Helen Cohen, (Baylor College of Medicine), Claire MacAdam, PT, NCS, (Baylor College of Medicine) and Kathleen Crist, LMSW, HAPS Director of Social Services.

Serious complications of dehydration:

- Increased “OFF” time
- Near-fainting or fainting episodes
- Severe mental confusion and disorientation.
- Hallucinations and delusions
- Severe dyskinesias
- Urinary tract infections
- Kidney stones
- Constipation leading to bowel obstruction & rupture
- “Thickening of blood” causing stroke or heart attack.
- Poor circulation with “blood clots” in legs.

Aliya Sarwar, MD

PADRECC Fall Educational Programs (Programs begin at 10AM and conclude at 11:30AM)

**Fri Sept 12th Patient & Family Forum, 4th Fl Auditorium
“Update on Parkinson’s Disease”**

Eugene C. Lai, MD, PhD, PADRECC Director

Tues. Oct 7th PADRECC Support Group, 2A Dining Rm

Tues. Nov 4th PADRECC Support Group, 2A Dining Rm

Tues. Dec 2nd PADRECC Support Group—2A Dining Rm

For information contact Naomi Nelson, PhD at 713-794-8938

Getting Your Arms and Hands in Shape

For those of you keeping up with my “exercise” series of articles, we are ready to move beyond posture and trunk activities to recommendations for moving your arms more effectively (legs will be highlighted in a future installment). I divided the following exercises into regions of the arm for organizational purposes. I like to recommend that you start at the shoulders and work down toward your hands, but the sequence really doesn't matter as much as just getting in some arm activities/exercises every day!

Shoulder Region

Reaching to breathe and to sit up tall – sitting near the front edge of a firm chair, begin with your arms stretched forward and hands on opposite knees (right hand to left knee and left hand to right knee). Lift your arms up and out while taking in a deep breath and sitting tall. Your goal is to point each hand straight toward the ceiling with your upper arms positioned next to your ears. Bring your arms down to their starting position while breathing out, and then lift them up again as before. Breathing in with your arms lifting and breathing out with your arms lowering is a great way to take deeper breaths and get your body working almost as hard as your arms. *Do this reaching activity 5 times at least twice a day.*

Reaching out sideways – still sitting up tall with your hips on the edge of a firm chair, lift both your arms up and out to the side until they are level with your shoulders. Start to rotate your arms through your shoulders by bringing each arm up, back, down, and forward in a small circular pattern. You might feel as if you are doing the backstroke as you continue to *circle your arms 8 times* in the backward direction. Emphasize the part of the circle that brings your arms up and back by squeezing your shoulder blades together and really opening up your chest with a deep breath. When finished with the 8 circles, keep arms stretched out sideways and rotate your palms upward. To end, bring both hands in to touch your shoulders by bending at the elbows. Straighten your arms again, so that you can continue to *bend and straighten them 5 times*. Slowly relax your arms back down to your sides and celebrate the minor muscle soreness that you may temporarily feel!

Reaching across the midline – for the adventurous folks out there, you can finish your shoulder exercise routine by alternately reaching across your nose with each arm. For example, starting with your right arm positioned down by your right hip, begin to lift it up and across your face until you are reaching toward the ceiling on the left side of your body. As your right arm is lowering back to the right hip, begin to reach your left arm up and across your face so that it now is moving toward the ceiling on the right side of your body. Continue to reach up and across to the left with your right arm followed by up and across to the right with your left arm until you have done *10 reaches in each direction*. You may find yourself either rocking from side to side or twisting from side to side with this activity, which helps keep your body responsive to your arm movements. (Continued in our next issue of PADRECC Pathways)

(The above information is for educational purposes only and should not be considered as medical treatment or health-care advice. Readers should consult their own physician for individualized medical treatment and a physical therapist for individualized exercise programs.)

Betty MacNeill, PT, MEd, Associate Professor
School of Physical Therapy, Texas Woman's University, Houston

Houston PADRECC Director's Corner

PADRECC researchers want to thank the patients and their families who participate in our various studies. We appreciate those who took the time and effort to complete and return the activity questionnaires. Presently, we are looking at the data and anticipate publishing the results within the near future. We'll alert you to this information in future issues of PADRECC Pathways. I'll be updating you on what's new in Parkinson's disease and answering your questions at the PADRECC Forum on September 12, 10:00 am, 4th floor auditorium at the MEDVAMC. I look forward to seeing all of you there.

Eugene C. Lai, MD, PhD, Director, Houston PADRECC

Activity and Parkinson's Disease

Common sense tells us that activity benefits patients with Parkinson's disease (PD), and recent research studies suggest that exercise and moderate to vigorous physical activity might lower the risk of PD in men. Other studies indicate that regular exercise is associated with a delay in the onset of dementia and Alzheimer's disease, and that older women with higher levels of physical activity are less likely to have cognitive (mental) decline. Leisure activities, particularly those that involve mental skills such as crossword and jigsaw puzzles, reading, board games, and playing musical instruments, have also been associated with maintenance of cognitive skills, whereas watching too much TV might increase the likelihood of developing dementia.

The World Health Organization defines exercise as "all movements in everyday life, including work, activities of daily living, recreation, exercise, and sporting activities" and recommends that every adult accumulate 30 minutes of moderate-intensity physical activity daily. The American Heart Association includes gardening, yard work, dancing, mowing, pruning, raking leaves, walking the dog, and housework as physical activities that encourage a healthy lifestyle.

The presence or absence of activity in our lives affects not just our physical well-being but the emotional and social aspects of our existence as well. The Houston Area Parkinson Society and the Parkinson Foundation of Harris County sponsor exercise classes, support groups, and other activities throughout greater Houston. Check them out.

Marilyn Trail,
PADRECC Co-Associate Director of Education

Symptoms of Dehydration

- Dry mouth
- Dry skin
- Blurred vision
- Decreased appetite
- Darker, foul smelling urine
- Worsening constipation
- Lethargy, fatigue
- Dry eyes
- Dizziness
- Palpitations

How to Avoid Dehydration

- Drink at least 70-80 oz of liquids a day
- Flavor the water to improve taste.
- Thicken the liquids to help swallowing
- Consume water rich foods (vegetables, juicy fruits)
- Avoid exposure to dry, hot weather for prolonged periods
- Avoid medications causing excessive water loss e.g. diuretics
- Work with your doctor to address medical issues causing excessive water loss such as excessive urination and excessive sweating

Aliya Sarwar, MD
Associate Director of Clinical Care
Houston PADRECC

Important Websites

pfhc-sc.org/default.aspx
(Parkinson Foundation of Harris County)
www.hapsonline.org
(Houston Area Parkinson Society)

Parkinson's Disease Research Education and Clinical Center (PADRECC)

Michael E. DeBakey VAMC
2002 Holcombe Blvd., 127 PD
Houston, TX, 77030
Phone 713-794-7841

PADRECC Pathways

Editor: Marilyn Trail
Co-Editor: Naomi Nelson
Associate Directors of Education

New Textbook on Parkinson's Disease

Neurorehabilitation and Parkinson's Disease: An Evidence-Based Treatment Model, edited by Marilyn Trail, Elizabeth Protas, and Eugene C. Lai, is a new textbook for health professionals and students wanting to learn more about treatment of PD.