PARKINSON EDUCATION PROGRAM

P E P NEWS

O C T O B E R 2 0 2 3 **Barbara Marquardt, Editor, M.Ed., MCHES, WCP, RYT**

OCTOBER MEETING—Wednesday, October 4, 2023 – 2:15 p.m.

We welcome Lynell Lemon, **Director Medical Science Liaison for the Institute for Neurodegenerative Disorders.** Her presentation is titled "Parkinson's Progression Markers Initiative - The Study That Could Change Everything" PPMI is a landmark study collaborating with partners around the world to create a robust open-access data set and biosample library to speed scientific breakthroughs and new treatments. PPMI aims to identify biological markers of Parkinson's risk, onset and progression — critical tools for the development of new and better treatments — and to provide the broad research community a comprehensive, standardized, longitudinal data set and biosample library to speed breakthroughs and enable validation toward clinical application of new findings.

Cleveland Heights Senior Activity Center/One Monticello Blvd., Cleveland Heights, OH 44118

From David Brandt

I recently read an interesting article by Michio Kaku, a renowned American theoretical physicist. The article was about him declaring that quantum computing is the next revolution. He describes the evolutionary journey of computing, from analog to digital to the quantum era. Nobody has yet to create a fully functional quantum computer although major tech companies are trying to create one.

Why am I bringing this up? Because Kaku explains the immense promise of quantum computers and the part that caught my attention was his describing how life is based on molecules, molecules that can also create diseases such as Parkinson's. These diseases are beyond the reach of our digital computers, but theoretically with quantum computers we will be able to model diseases at the molecular level. That would lead to cure the incurable.

All of this is many, many years away but it can get the mind thinking of possibilities in the future.

Upcoming Events

Saturday, October 7 Care Partner U presented by Cleveland Clinic 10 a.m.—2 p.m. / At the Embassy Suites, 5800 Rockside Woods Rd in Independence. This educational event will allow care partners to learn about resources available to them in the community and learn valuable steps they can take to care for themselves and where they can voice their concerns and have questions answered. There is limited space available for individuals with PD to attend with their Care Partner for a fun day of activities in a separate room from the Care Partner Program. Register by calling 216-444-0998 or on line at https://forms.office.com/pages/responsepage.aspx?id=WvZ_z9bODECYVvysWP856IgwvpTSE1VCvOLav2S8fUBUNEJJU1A0VVhTMlNPTzdOUUJRWE9TR1c4NC4u&utm_campaign=carepartneru2023-url&utm_medium=offline&utm_source=redirect&utm_content=carepartneru2023-url

November Meeting

Wednesday, November 1, 2023 / 2:15 p.m.

We welcome **Daniel P Seink, Attorney and Kathy Cline, Certified Elder Care Coordinator** from **Daniel P Seinck Co**., advocates in aging as they talk on Estate Planning and Getting Good Care. It will cover all of the basics for necessary documents as well as community resources and ways to pay for good care.

TRIBUTES

Tim Beegle

Parkinson's Disease Question Corner

Email: barbaramarquardt@outlook.com

Question: What exercises are good for brain health and PD?

Answer: Significant research studies and anecdotal evidence highlight the critical importance of exercise for people with PD. Regular physical exercise can improve mobility and coordination, boost your mood, reduce stiffness, and minimize soreness and fatigue. And each year, more studies prove that exercise may slow the progression of PD. Multiple studies explore the possibility that exercise helps protect nerve cells at risk of damage, degeneration, or cell death. In other words, the most vulnerable cells are strengthened before they experience damage – thanks to exercise.

Every person is different when it comes to exercise. All forms of exercise are good, and choosing an exercise that you enjoy and that is safe for your stage of PD is best. With that said, squats, lunges, and walking could all help keep your mind young. Scientists have discovered a link between the strength of a person's legs, and the ability of their brain to resist the effects of ageing. This research study and further details were published in the journal, *Gerontology.*

If you are specifically looking to improve balance through exercise, tai-chi and yoga could be excellent choices. If you are unsure about what exercise is best overall for you, it would be great to speak with a physical therapist and ask for an evaluation.

Lastly, other specific forms of exercise that have been found beneficial for PD include dancing, ping-pong, cycling, swimming, boxing, and weight lifting.

References.: https://karger.com/ger/article/62/2/138/149063/Kicking-Back-Cognitive-Ageing-Leg-Power-Predicts?searchresult=1

https://davisphinneyfoundation.org/resources/exercise-and-parkinsons/

We need your donations to continue bringing you the *PEP* News and for other expenses. A special thanks to those who contribute at the monthly meetings. To send a donation, please make your checks payable to Parkinson Education Program and mail to 2785 Edgehill Rd., Cleveland Heights, OH 44106

Previously Unknown Gene Function Could Be Linked to PD, Researchers Say

(Excerpt from MSN.com)

New research indicates that the earliest signs of PD are different than what was previously believed.

According to a study from researchers at Northwestern University, published in the medical journal Neuron, Parkinson's first sign could be a dysfunction in neural synapses and cell function that was not previously understood.

"Degeneration of dopaminergic neurons is widely accepted as the first event that leaders to PD. But the new study suggests that a dysfunction in the neuron's synapses -- the tiny gap across which a neuron can send an impulse to another neuron -- leads to deficits in dopamine and precedes the neurodegeneration," researchers said in a press release Friday.

PD is thought to affect between 1% and 2% of the population, according to the researchers, who hope targeting the synapses is a potential route to treatment.

"Based on these findings, we hypothesize that targeting dysfunctional synapses before the neurons are degenerated may represent a better therapeutic strategy," said study author Dimitri Krainc. The researchers say they hope to build understanding of how genetics lead to degeneration in neurons. According to the researchers, the process of mitophagy, the ability of cells to recycle mitochondria, is dysfunctional in people who develop PD. The genes Parkin and PINK1 are usually involved in the recycling process.

PINK1 is supposed to activate Parkin to recycle mitochondria, but in PD sufferers, mutations in the key genes can disrupt the mitophagy process. Researchers say that information about two sisters who developed PD decades apart helped unlock new information about the function of Parkin.

Both sisters were born without the PINK1 gene, but the sister who was also partially missing Parkin developed PD at 16, while the other sister did not develop PD until age 48. The difference in the two cases led researchers to discover that Parkin also

(cont'd on pg. 3)

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(Excerpt from MSN.com) / (Cont'd. from pg. 2)

plays a role in dopamine release, a function that was previously unknown. The previously unknown function being disrupted could play a major role in the acceleration of the disease.

Krainc said his team has "discovered a new mechanism to activate Parkin in patient neurons."

"Now we need to develop drugs that stimulate this a pathway, correct synaptic dysfunction and hopefully prevent neuronal degeneration in PD," Krainc continued. The research was supported by grants from the National Institutes of Health.

When the Brain and the Body Can't Connect

(Excerpt from www.getnexstride.com)

NexStride helps to re-establish the connection between your brain and body, using adjustable light and sound sensory signals as effective cues to get you moving confidently again.

Your body's ability to move is initiated by your brain. The brain formulates the signal to begin walking, or move your arm, and then sends it down a neural pathway through your nervous system to the part of your body that your brain is telling to move. Normally, the body receives that signal and responds with the movement you want. The brain chooses the neural pathway it needs to send the message further down the body, and it just happens. You don't have to consciously tell your body to start walking, it's automatic.

If your brain experiences some damage in critical areas, those automatic signals can have difficulty getting through. Conditions such as Parkinson's, Multiple Sclerosis, and Huntington's can result in a slow degeneration of the neural pathways that the brainwaves rely on to communicate with the body.

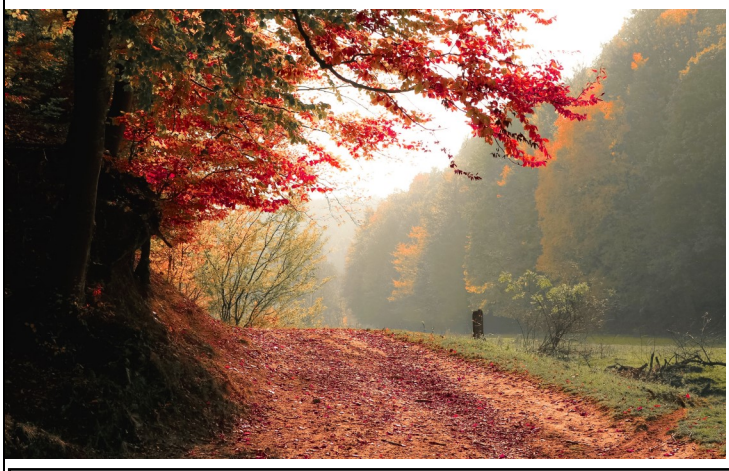
Damage to those pathways can also result from sudden head trauma, damage to the spinal cord, or a stroke.

If your brain's automatic signals cannot reliably and consistently reach your body, the ability to move as you have been used to is interrupted. You might experience changes in gait, such as shorter strides, shuffling, uneven gait, and loss of balance, all the way through to complete freezing, when your body simply won't move. It allows your brain and your body to reconnect — to successfully transmit movement commands to the body, and translate those commands into action. Using specific visual and audio cues, NexStride allows the brain to switch from automatic commands to intention-based, or goal-oriented, commands.

It's long been known that cueing like this lets the brain form intentions, and that these intention commands use alternate, functioning neural pathways to send movement messages down to your body. The instant those messages reach their target, your body's nervous system responds with the expected movement.

NexStride's cues are so effective that they can even help to break complete freezes, where your feet feel like they're stuck in concrete and simply won't move.

These cues can get you moving — and keep you moving — taking longer strides, walking faster and more steadily. Simply put, NexStride gives you back your independence, letting you move confidently again.



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***PEP* NEWS**
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5 Honest Reactions to a Parkinson's Diagnosis

(Excerpt from Parkinson's Foundation)

Nothing can prepare you for when you hear the words "you have Parkinson's." Everyone reacts differently when receiving a diagnosis. From confusion to relief, however you feel after you or a loved one has been diagnosed is completely natural. In this article, we outline five common and honest reactions people have after receiving the life-changing news that they now must adapt to a new life with Parkinson's disease (PD).

Confusion – Wrapping your head around a medical diagnosis, understanding what comes with the diagnosis and making related decisions — such as where to seek care and when to start medications — can leave you feeling confused and anxious. This is especially common if you do not feel that you understand what to expect from your life with PD.

Despair – Feeling devastated by the news of a diagnosis, especially if you don't understand what it means or what to expect, is an understandable reaction. You may feel angry or depressed, perhaps resentful that this happened to you or regretful that you did not appreciate life before PD. This reaction is normal, and these feelings won't last forever. Allowing yourself to feel them and move through them can help you find your new path forward.

Denial – This can look different from person to person, but if your loved one is in denial after diagnosis, they may refuse to talk or learn about PD. They may hold unrealistic expectations about treatment or the progression of the disease, or they may seek out opinions from multiple doctors in a search for any possible explanation for their symptoms other than PD.

Relief – After experiencing worsening symptoms for years, being misdiagnosed, or suspecting you have something worse than Parkinson's, your diagnosis may have come as a relief. You may find unexpected comfort in knowing you have an answer that makes sense and relief to have a neurologist and care team that can help you chart a course for treatment.

Resolve – Living well with PD is possible. A diagnosis and receiving PD-tailored care can help you to feel motivated and ready to embrace this new chapter. Whether you are ready to set an exercise routine, prioritize a healthy diet, or get involved as a volunteer or research participant, we can help you get started.