# **PEPNEWS**

MARCH 2020

Barbara Marquardt, Editor, M.Ed., MCHES, WCP, RYT

# MARCH MEETING Wednesday, March 4, 2020 – 2 p.m. till 4 p.m.

e welcome back Dr. David Riley, a renowned neurologist, one of the founders of InMotion, and an annual favorite *PEP* speaker. Dr. Riley will give us his update on Parkinson's Disease and the progress made in research during the last year.

Cleveland Heights Recreation Center / One Monticello Boulevard, Cleveland Heights, OH 44118 (Last names A through M please bring light refreshments)

# From David Brandt

The Parkinson's Foundation Great Lakes recently had their Hero Award ceremony, and I was very humbled to be honored along with four other very deserving people which included Devin Jarvis, Rob Felder, Ben Rossi (who just spoke to our group last month), and Ellen Walter (who has spoken several times to our group). Congratulations to the others who have touched the lives of many with PD, and I am very thankful that our *PEP* group and our newsletter has been impactful to hundreds of people over the years.

#### Upcoming Events in the Area

# April 4, 2020 – 22nd Annual Parkinson Symposium from Ohio Parkinson Foundation Northeast Region

10 a.m.-2:30 p.m. Location: Hilton Garden Inn Twinsburg, 8971 Wilcox Dr., Twinsburg, OH 44087. Check in begins at 9 a.m. Highlights include Attorney John Baumann who was diagnosed with PD at age 41 and is now an internationally recognized speaker. Also "Be Alive" with Drums Alive!. Experience this evidence based participatory journey to brain and body health, fitness and wellbeing with music, movement and rhythm that is designed to renew the spirit and ignite your passion. Door Prizes & Free Lunch Provided. Donations Welcome. Please Register by March 25, 2020 by calling 1-800-630-3193 – your phone registration will be your confirmation – online registration can be done at <u>http://ohparkinson.com/events/</u>.

#### May 5,2020 - Get Moving at Topgolf

Learn about the role of exercise in Managing Parkinson's disease and safe ways to incorporate more movement into your daily lives. This program is open to those with PD and their care partners. No previous golf experience required. There is no charge to attend, but registration is required. Register at this link <u>https://</u> <u>www.parkinson.org/events/2020/Topgolf-Cleveland</u> or by calling 614-890-1901. This event will be held at Topgolf Cleveland at 5820 Rockside Woods Blvd. N, Independence, OH 44131

# Specific Gut Bacteria May Reduce Severity of Parkinson's Disease

(Excerpt from newatlas.com)

n early studies with worms a common probiotic was found to prevent the accumulation of toxic proteins associated with Parkinson's disease <u>lightsource/Despositphotos</u>

Compelling new research is again pointing to the role of the microbiome and gut bacteria in the progression of Parkinson's disease. A study published in the journal *Cell Reports* describes how a particular probiotic bacterium may have the ability to prevent the abnormal accumulation of a protein commonly associated with the neurological damage seen in the disease. *(Cont'd on page 2)* 

# Specific Gut Bacteria May Reduce Severity of Parkinson's Disease

(Cont'd from page 1)

Parkinson's disease is characterized by the progressive cell death of the brain's dopaminesecreting neurons. It's believed to be caused by the aggregation of spherical misfolded clumps of the protein alpha-synuclein. These toxic protein aggregates are often referred to as Lewy bodies.

Over the last couple of decades some researchers have begun to find evidence suggesting <u>Parkinson's</u> <u>may originate in the gut</u>. The idea is known as the Braak hypothesis, and it posits that the damaging Lewy bodies could initially form in the gut, before spreading to the brain and generating the physiological symptoms we commonly see in Parkinson's disease.

Inspired by this hypothesis, a team of researchers from the universities of Edinburgh and Dundee set out to investigate whether any particular gut bacteria species could inhibit, or even reverse, the accumulation of these damaging alpha-synuclein clumps.

The researchers examined the effect of a number of commonly available probiotics on alpha-synuclein aggregation in a species of roundworm previously found to be an effective animal model for Parkinson's. One particular probiotic bacterium, called *Bacillus subtilis*, was found to be significantly effective in not only inhibiting alpha-synuclein aggregation but also reversing pre-formed accumulations.

Homing in on exactly how *Bacillus subtilis* was generating these effects revealed several novel mechanisms, including the release of certain bacterial metabolites and the formation of a biofilm in the worm's gut.

The researchers do stress these results do not suggest Parkinson's patients immediately go out and hunt down this particular probiotic. Further work is necessary to first verify these results in other animal models, before human studies can establish whether

this mechanism produces clinically meaningful effects in human patients.

"The results provide an opportunity to investigate how changing the bacteria that make up our gut microbiome affects Parkinson's," explains Maria Doitsidou, lead researcher on the study. "The next steps are to confirm these results in mice, followed by fast-tracked clinical trials since the probiotic we tested is already commercially available."

A probiotic, or diet-based, intervention to treat Parkinson's disease is certainly a potential outcome from this novel research. However, an equally promising direction for future study is in exploring how these bacterial metabolites are able to prevent, or remove, Lewy bodies and whether drug therapies can be developed to amplify this process in humans. The new study was published in the journal <u>Cell</u> *Reports*.

DISCLAIMER: The material contained in this newsletter is intended to inform. *PEP* makes no recommendations or endorsements in the care and treatment of Parkinson's disease. Always consult your own physician before making any changes.

### TRIBUTES

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 17930 Birch Hill Drive; Chagrin Falls, OH 44023

#### TO REACH US AT PEP

#### 440-742-0153



dbrandtpep@gmail.com

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Parkinson Education Program of Greater Cleveland

# Parkinson's Disease May Affect Brain Before Birth

#### (Excerpt from ScienceFocus.com)

People who develop Parkinson's disease before the age of 50 may have been born with disordered brain cells, new research suggests. Scientists say the abnormalities may have gone undetected for years. They add that their findings may point to a drug which could potentially help correct the process.

Researchers generated special stem cells, known as pluripotent stem cells (iPSCs), from cells of patients with young-onset Parkinson's. This involved taking adult blood cells back to a primitive embryonic state. The stem cells could then produce any cell type of the human body, all genetically identical to the patient's own.

In the study, published in Nature Medicine, researchers used the iPSCs to produce dopamine neurons from the three patients, and then cultured them in a dish, and analyzed the function of the neurons. The scientists detected two key abnormalities in the dopamine neurons in the dish.

One was the accumulation of a protein called alpha-synuclein, which occurs in most forms of Parkinson's disease. The other was malfunctioning lysosomes – cell structures that act as bins for the cell to break down and dispose of proteins. This malfunction could cause alpha-synuclein to build up.

Researchers also tested a number of drugs, to see whether they could reverse the observed abnormalities. They found that that one drug, PEP005, which is already approved in America for treating pre-cancers of the skin, reduced the elevated levels of alpha-synuclein in both the dopamine neurons in the dish and in laboratory mice.

Next the team plan to investigate how the drug – which is currently available in gel form – might be delivered to the brain to potentially treat Parkinson's.

## Parkinson's Disease Question Corner

#### Email barbaramarquardt@outlook.com with questions!

**Question:** Could Regenerative medicine help Parkinson's?

Answer: Yes, Regenerative medicine is a branch of <u>translational research<sup>[1]</sup></u> in <u>tissue</u> <u>engineering</u> and <u>molecular biology</u> which deals with the "process of replacing, engineering or regenerating human or animal cells, tissues or organs to restore or establish normal function". This field holds the promise of engineering damaged tissues and organs by stimulating the body's own repair mechanisms to functionally heal previously irreparable tissues or organs.

Regenerative medicine focuses on the use of progressive natural, non-invasive treatments to help alleviate or cure a number of ailments, often when traditional medicine falls short. With a focus on a person's own healthy stems cells and other progressive rejuvenative techniques to heal or reverse damage to the body, the **BioReset** approach is the most natural and effective option, often avoiding surgery while restoring patients to a healthy life.

**BioReset Medical** is a medical practice that offers regenerative medicine and works with people who have been diagnosed with Parkinson's. For more information on how they could help you, please contact:

#### **BioReset Medical**

3803 Bascom Avenue, Suite 203 Campbell, CA 95008 Phone: 1-650-888-7950 Email: info@bioresetmedical.com

#### PEP April 1, 2020 Meeting

We are pleased to welcome **Dr. Aasef** Shaikh, a Neurologist at University Hospitals and a Neurologist and Neuroscientist at Department of Neurology, Louis Stokes Cleveland VA Medical Center. Dr. Shaikh was the recipient of the prestigious American Academy of Neurology Alliance Founders Award **PEP NEWS** Parkinson Education Program of Greater Cleveland 17930 Birch Hill Drive Chagrin Falls, OH 44023

#### **Address Service Requested**

We try to keep our roster current. If you no longer wish to receive this bulletin or would like to receive it via email instead, notify Katherine.A.Kaminski@gmail.com or call 216-513-8990.

(Excerpt from Crain's Cleveland Business) team of researchers led by Wenquan Zou, associate professor in the departments of pathology and neurology at Case Western Reserve University, has received a five-year, \$3.6 million National Institutes of Health grant to further study the use of a skin test to diagnose Parkinson's disease.

Working on the project with Zou will be Shu G. Chen of the Case Western Reserve School of Medicine; Steven Gunzler of the University Hospitals Cleveland Medical Center and the School of Medicine; Jiyan Ma of the Van Andel Institute in Michigan; and Thomas Beach of the Banner Sun Health Research Institute in Arizona, according to a <u>post</u> on the university's The Daily site.

The skin test can identify "misfolded" alphasynuclein proteins, which cause nerve cell dysfunction and death in Parkinson's disease, the post said. The skin tests are less invasive and more accurate than the current methods of testing.



"Ascertaining the presence, volume and dispersion of the misfolded  $\alpha$ -Syn proteins in more accessible specimens such as the skin can also be used for monitoring the progression of the disease and evaluating the effectiveness of new treatments," Zou said in the post. He is also associate director of the National Prion Disease Pathology Surveillance Center at the university's School of Medicine.

This work will be carried out at the same time as the research on skin testing for Alzheimer's and Parkinson's diseases Zou <u>received</u> funding for earlier this year.



Michael & Sylvia Brown

Hans & Carol Drescher

Bob Suazo

Sally & Alan Tatar