

Parkinson's Patients Support Groups, Inc.

P. O. Box 60188, Sunnyvale, CA 94088 408.542.5610 www.ppsg.org

Educating and Informing the Public about Parkinson's Disease

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Scientists at New York Stem Cell Foundation, Columbia U. Make Advance in Development of Patient-Specific Stem Cells

As reported on October 5th in *Nature*, for the first time scientists have derived embryonic stem cells from individual patients by adding the nuclei of adult skin cells from patients with type 1 diabetes to unfertilized donor oocytes.

A team of scientists led by Dieter Egli and Scott Noggle at The New York Stem Cell Foundation (NYSCF) Laboratory in New York City have made an important advance in the development of patient-specific stem cells that could impact the study and treatment of diseases such as diabetes, Parkinson's, and Alzheimer's.

The achievement is significant because such patient-specific cells potentially can be transplanted to replace damaged or diseased cells in persons with diabetes and other diseases without rejection by the patient's immune system. The scientists report further work is necessary before such cells can be used in cell-replacement medicine.

The research was conducted in The NYSCF Laboratory in Manhattan in collaboration with clinicians and researchers at Columbia University Medical Center. DNA analysis was provided by scientists at the University of California, San Diego.

"The specialized cells of the adult human body have an insufficient ability to regenerate missing or damaged cells caused by many diseases and injuries," said Dr. Egli, NYSCF senior scientist in the study. "But if we can reprogram cells to a pluripotent state, they can give rise to the very cell

types affected by disease, providing great potential to effectively treat and even cure these diseases. In this three-year study, we successfully reprogrammed skin cells to the pluri-potent state. Our hope is that we can eventually overcome the remaining hurdles and use patient-specific stem cells to treat and cure people who have diabetes and other diseases."

"The ultimate goal of this study is to save and enhance lives by finding better treatments and eventually cures for diabetes, Alzheimer's, Parkinson's and other debilitating diseases and injuries affecting millions of people across the US and the globe," said NYSCF CEO Susan L. Solomon. "This research brings us an important step closer to creating new healthy cells for patients to replace their cells that are damaged or lost through injury."

This article was forwarded by Steven Russell.

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Feeding Hormone Ghrelin Modulates Ability of Rewarding Food to Evoke Dopamine Release

ScienceDaily (July 12, 2011) — New research to be presented at the upcoming annual meeting of the Society for the Study of Ingestive Behavior (SSIB), the foremost society for research into all aspects of eating and drinking behavior, finds that ghrelin, a natural gut hormone that stimulates feeding, also modulates the ability of tasty food and food-related cues to alter dopamine levels within the striatum, a critical component of the brain's reward system.

Scientists measured dopamine in 'real-time' while rats ate sugar, a highly rewarding food.

Administering ghrelin to rats while they ate sugar increased peak dopamine "spikes" within the striatum, whereas administering a drug that blocks ghrelin's actions significantly reduced dopamine levels during sugar intake.

Study author Dr. Mitch Roitman (University of Illinois at Chicago) says, "The modulation of brain dopamine reward signals by a gut hormone that regulates appetite strongly supports this interaction as a way to direct the organism's behavior towards further intake, perhaps by making food more rewarding. The results shed light on how peripheral body signals in general can shape brain-directed behavior."

Ghrelin

From Wikipedia, the free encyclopedia

Ghrelin is a 28 amino acid peptide and hormone that is produced mainly by P/D1 cells lining the fundus of the human stomach and epsilon cells of the pancreas that stimulates hunger. Ghrelin levels increase before meals and decrease after meals. Ghrelin is a potent stimulator of growth hormone from the anterior pituitary gland. The ghrelin receptor is a G protein-coupled receptor, known as the growth hormone secretagogue receptor. Ghrelin binds to the GHSR1a splice-variant of this receptor which is present in high density in the hypothalamus, pituitary as well as vagal afferent cell bodies and vagal afferent endings throughout the gastrointestinal tract

Ghrelin plays a significant role in neurotropy, particularly in the hippocampus, and is essential for cognitive adaptation to changing environments and the process of learning.

Abnormal Parkinson's Disease Protein Induces Degeneration in Healthy Nerve Cells, Penn Study Finds

PHILADELPHIA - Research from the Perelman School of Medicine at the University of Pennsylvania has found that small amounts of misshapened brain proteins can be taken up by healthy neurons and replicated within them to cause neurodegeneration. The research, published in *Neuron*, shows a way that Parkinson's disease (PD) can spread in the brain and provides a model for discovering therapeutics targeting PD neurodegeneration.

Alpha-synuclein (a-syn) is a brain protein that forms clumps called **Lewy Bodies**, the hallmark of PD and other neurodegenerative disorders. In earlier studies at other institutions, when fetal nerve cells were transplanted into the brains of PD patients, some of the transplanted cells developed Lewy bodies. This suggests that healthy cells take up abnormal extracellular a-syn, which "recruits" normal a-syn into clumps. However, it is not clear whether the Lewy bodies were formed by the spread of abnormal a-syn fibrils or if the neighboring diseased neurons exerted some other toxic influence that caused young grafted neurons to form Lewy bodies.

"We examined whether exposure of neurons to a-syn fibrils recruited normal a-syn in these neurons to form Lewy bodies," explains senior author Virginia M.-Y Lee, PhD, director of the Center for Neurodegenerative Disease Research and professor of Pathology and Laboratory Medicine. "We performed our experiments using synthetic a-syn fibrils and normal neurons, similar to the physiological conditions seen in the majority of sporadic PD patients."

They found that the a-syn fibrils acted as "seeds" that induced normal a-syn to aggregate into clumps. The fibrils were taken up by nerve cell extensions, spread to the cell body where PD-like Lewy bodies formed that impaired neuronal function and led to the death of this neuron. This suggests that abnormal a-syn can amplify and propagate PD-like Lewy bodies throughout the nervous system.

This article was forwarded by Steven Russell.

Mind-Altering Microbes: Probiotic Bacteria May Lessen Anxiety and Depression

ScienceDaily (Aug. 30, 2011) — Probiotic bacteria have the potential to alter brain neurochemistry and treat anxiety and depression-related disorders according to research published in the *Proceedings of the National Academy of Sciences*.

The research, carried out by Dr Javier Bravo, and Professor John Cryan at the Alimentary Pharmabiotic Centre in University College Cork, along with collaborators from the Brain-Body Institute at McMaster University in Canada, demonstrated that mice fed with *Lactobacillus rhamnosus* JB-1 showed significantly fewer stress, anxiety and depression-related behaviours than those fed with just broth. Moreover, ingestion of the bacteria resulted in significantly lower levels of the stress-induced hormone, corticosterone.

"This study identifies potential brain targets and a pathway through which certain gut organisms can alter mouse brain chemistry and behaviour. These findings highlight the important role that gut bacteria play in the bidirectional communication between the gut and the brain, the gut-brain axis, and opens up the intriguing opportunity of developing unique microbial-based strategies for treatment for stress-related psychiatric disorders such as anxiety and depression," said John F. Cryan, senior author on the publication and Professor of Anatomy and Principal Investigator at the Science Foundation Ireland funded Alimentary Pharmabiotic Centre, at UCC. The APC researchers included Dr H el ene Savignac and Professor Ted Dinan.

The researchers also showed that regular feeding with the *Lactobacillus* strain caused changes in the expression of receptors for the neurotransmitter GABA in the mouse brain, which is the first time that it has been demonstrated that potential probiotics have a direct effect on brain chemistry in normal situations. The authors also established that the vagus nerve is the main relay between the microbiome (bacteria in the gut) and the brain. This three way communication system is known as the microbiome-gut-brain axis and these findings highlight the important role of bacteria in the communication between the gut and the brain, and suggest that certain probiotic organisms may prove to be useful adjunct therapies in stress-related psychiatric disorders.

A List of Ombudsman Organization

Robin Riddle

This information will be of interest to those who have loved ones in care facilities.

In all counties in California, the ombudspeople are volunteers. They investigate and mediate situations between residents and care facilities (nursing homes, assisted living facilities, board and care homes), or clients and adult day care programs. They are also great resources to speak with when you are looking for a care facility for your loved one.

When we were looking for an assisted living facility for my father, I spoke with the local ombudsperson. Someone at a recent support group meeting mentioned doing the same thing after they learned that Family Caregiver Alliance is unable to make recommendations about care facilities. And, when our family had an issue with a skilled nursing facility, we also relied on the ombudsperson to help us mediate the issue. They can be terrific resources!

Each county has a program that is part of the California Dept. of Aging. Each county is responsible for recruiting and training its volunteer ombudspeople. Here are the contact phone numbers for the ombuds organizations in some of the counties represented by the people on the "PD caregivers" email list:

Alameda County - 510-638-6878
Contra Costa County - 925-685-2070
Del Norte County - 707-269-1330
Fresno - 559-224-9177
Marin County - 415-473-7446 (on another list, the phone # shown is: 415-499-7446)
Mendocino and Lake Counties - 707-467-5835
Monterey - 831-655-1334
Napa County - 707-255-4236
Sacramento County - 916-376-8910
San Francisco County - 415-751-9789
San Luis Obispo County - 805-785-0132
San Mateo County - 650-780-5707
Santa Clara County - 408-944-0567
Santa Cruz - 831-429-1913
Sonoma County - 707-526-4108

If your county is not listed above, check out the list here: http://www.aging.ca.gov/programs/ombudsman_contacts.asp

Preventing Caregiver Burnout!

Common warning signs of caregiver burnout:

- You have much less energy than you used to
- It seems like you catch every cold or flu that's going around
- You're constantly exhausted, even after sleeping or taking a break
- You neglect your own needs, either because you're too busy or you don't care anymore
- Your life revolves around caregiving, but it gives you little satisfaction
- You have trouble relaxing, even when help is available
- You're increasingly impatient and irritable with the person you're caring for
- You feel overwhelmed, helpless, and hopeless

Tips for taking care of yourself:

- Incorporate activities that give you pleasure.
- Pamper yourself.
- Eat balanced meals to nurture your body. Find time to exercise everyday. Sleep at least 7 hours a night.
- Laughter really is the best medicine.
- Keep a journal.
- Arrange a telephone contact with a family member, a friend, or a volunteer from a church or senior center so that someone calls each day.
- Try to set a time for afternoons or evenings out.

Edited from

http://www.helpguide.org/elder/caring_for_caregivers.htm

Thank you so much for your donations! Please use return address labels, to help us acknowledge your donation properly. Your generous contributions go to support newsletters, education and community awareness of Parkinson's disease. Please mail your donations to: **PPSG, P O Box 60188, Sunnyvale, CA 94088**

Stress Affects the Balance of Bacteria in the Gut and Immune Response

ScienceDaily (Mar. 22, 2011) — Stress can change the balance of bacteria that naturally live in the gut, according to research published this month in the journal *Brain, Behavior, and Immunity*.

"These bacteria affect immune function, and may help explain why stress dysregulates the immune response," said lead researcher Michael Bailey.

Exposure to stress led to changes in composition, diversity and number of gut microorganisms, according to scientists from The Ohio State University. The bacterial communities in the intestine became less diverse, and had greater numbers of potentially harmful bacteria, such as *Clostridium*.

"These changes can have profound implications for physiological function," explained Dr Bailey.

"When we reduced the number of bacteria in the intestines using antibiotics, we found that some of the effects of stress on the immune system were prevented," he added. "This suggests that not only does stress change the bacteria levels in the gut, but that these alterations can, in turn, impact our immunity."

"This is the first evidence that the gut microorganisms may play a role in innate immunological stress responses," said Monika Fleshner, Professor of Integrative Physiology at the University of Colorado, Boulder. "The study reveals the dynamic interactions between multiple physiological systems including the intestinal microbiota and the immune system."

Because gut bacteria have been linked to diseases like inflammatory bowel disease, and even to asthma, a future goal of the study is to determine whether alterations of gut bacteria is the reason why these diseases tend to be worse during periods of pressure.

The research was conducted with colleagues from the Texas Tech University Health Sciences Center and the Research and Testing Laboratories, and was funded by the National Institute of Health.

This newsletter was assembled by the Morgan Center. Thank you!

Scientists Hope They Have Found Way to Turn off Neurodegenerative

Diseases- Chicago Tribune, October 12, 2011

As the elderly populations rise in many parts of the world, including the U.S., so does the incidence of neurodegenerative disease.

Now a team of scientists led by Northwestern University professor Richard I. Morimoto may have discovered a "master switch" that controls the development of the diseases, which include Alzheimer's and Parkinson's, and how long people live.

Morimoto's laboratory previously discovered that neurodegenerative diseases result from the accumulation of misfolded proteins in the brain. Proteins must be folded into the correct three-dimensional structure in order to function properly.

The cells of the body routinely manage misfolded proteins through quality control machinery called heat shock proteins. These proteins help ensure all other proteins get properly folded when they are made or degraded and recycled if they fold improperly to prevent their accumulation. Virtually all organisms possess heat shock proteins.

Morimoto was puzzled as to why protein misfolding diseases exist, if the heat shock proteins are there to prevent them. The question set him on the hunt for the genetic master switch for misfolded proteins.

"Because we are no longer dying at the age of 30, from infection, cholera, typhoid ... we are now living ... to a point that almost exceeds the capacity of the quality control machinery" of the body, Morimoto said. "So the system is shutting off purposely, shutting off saying: 'You've had a good life, go away now.'"

Using a common laboratory organism, the roundworm *C. elegans*, Morimoto and research associate Veena Prahlad found the body is turning off the quality control machinery and allowing the proteins to misfold and accumulate. This species of roundworm is a good model for studying aging because the organism has nearly the same number of genes

as humans, and the genes involved in aging are identical.

"In the *C. elegans* model system, the organism has made the decision that accumulating aggregates as the animal gets older is the price of doing business," said Morimoto, who is the Bill and Gayle Cook Professor of Biology in the department of molecular biosciences. "If the negative signal that prevents the quality control machinery from working, if we could now change the neuronal signal so that the quality control machinery now comes back on — that's what lab has been very excited about."

When Morimoto and Prahlad flipped the master switch back, by reducing the signal from the brain that was shutting off the quality control machinery, the heat shock proteins returned and the number of accumulated proteins decreased.

While excited by these findings, Morimoto said he is pondering the implications of the discovery.

"Can we use the knowledge of biology to help us in cases of aging and disease? What if in biology there's really a designed senescence? As one ages — where one sees a decline in cellular function manifested in cognitive function and physical abilities — is that part of how biology is intended?"

— Kelly April, special to the Chicago Tribune

This article was forwarded by Rose Hong. Rose is a member of the San Jose Caregivers Support Group. Charmaine Eng is the leader.

Attending PPSG Board Meetings

You are welcome to drop by our board meetings and share ideas with us! We meet on the **3rd Monday** of the month between **1:00 and 3:00 PM** at the Parkinson's Institute, at 675 Almanor Avenue, Sunnyvale, CA 94085. To confirm meeting dates and time, please call us at **408.542.5610**. If you are planning to attend, please call Charmaine Eng at 408.723.8116 (dial *82 before the number).

**Parkinson's Patients Support Groups Inc.
(PPSG) cordially extends an
INVITATION
to an on-going
DBS Support Group**

Held on the 3rd Wednesday each month from 1pm-
2:30pm,
at the Parkinson's Institute in Sunnyvale

The focus of these meetings is the various aspects of Deep Brain Stimulation (DBS) surgery as a treatment for Parkinson's Disease. The meetings are open to all interested parties with particular emphasis for DBS alumni, DBS candidates, caregivers and partners of DBS alumni/candidates. The meetings may include informal member discussions and sharing of experiences, formal presentations, question and answer sessions with health professionals involved in DBS treatment or research, a selection of special topics relevant to DBS treatments, or whatever format the group desires.

The Parkinson's Institute and Clinical Center has graciously provided meeting space located at 675 Almanor Ave. in Sunnyvale (off Mathilda Ave. immediately west of Hwy 101).

**Please direct questions and comments to
DBSsupport-group@ppsg.org or 408.542.5610**

**Any information provided will remain confidential
and will never be shared for any reason.*



Visit our PPSG website: www.ppsg.org for:

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A Eureka Trip

By Charmaine Eng, PPSG Chairman

In early October, five members of the PPSG Board of Directors made a trip to visit the Eureka Support Group at the invitation of their leaders, Mary and Bob Kay. It was a two-day trip. We arrived at their meeting location, Adorni Center, overlooking part of the marina of Humboldt Bay. We were greeted by the leaders and 30 members of their support group. During the meeting, each attendee introduced him/herself and shared some comments. We presented the background of PPSG and spoke of the many services and resources available to them and also passed out materials and items relating to Parkinson's. The Support Group is very friendly, interactive, full of interest, and has the potential to grow under the enthusiasm of their leaders and helpers. It was a productive meeting with many topics discussed; in fact, it lasted way- beyond the normal meeting hours. After the meeting, we were invited to join the Support Group for a delicious, fresh seafood dinner at one of the popular restaurants, Cafe Marina. Nearly everyone ordered grilled halibut! It was nice to socialize and talk to the members. Eureka SG is such a lovely group! We appreciate their wonderful hospitality.



Eureka is the most northern support group of PPSG, and is located about 350 miles from the South Bay. The drive is 6-8 hrs and is also very scenic. The view was even better as we approach the Giant Redwoods! The weather was ideal. We had planned on visiting the Eureka SG nearly a year ago and were advised to go in the fall, when the weather is nicer. This has made our trip more enjoyable. There is much history in Eureka and places to see. We look forward to a return visit.

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For current lists on exercise classes, and support group information/activity calendars, please log on to www.ppsg.org. These lists are maintained by **Steven Russell**.

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Upcoming Events

November 3, 2011 - Thursday **Newly Diagnosed Patient Seminar** **1:30 pm - 3:30 pm**

The Parkinson's Institute and Clinical Center
675 Almanor Avenue
Sunnyvale, CA 94085

Free seminar for patients and their caregivers.
Receive education and support from the specially
trained staff.

Call Gloria: 408-734-2800 to reserve a space

November 12, 2011 **University of California , San Francisco:** **Conference on Parkinson's Disease** **11:30 am - 4:40 pm**

UCSF Mission Bay Campus
William J. Rutter Center, Robertson Auditorium
1675 Owens Street, 2nd Floor
San Francisco, CA 94158

Conference on Parkinson's disease with following
topics and speakers:

"Diagnostic Markers for Parkinsons Disease" -
Chad Christine, MD

"Coping with the Cognitive and Behavioral
Symptoms of Parkinson's Disease" - Katherine
Possin, PhD

"Risks, Benefits and Long Term Results of DBS for
Parkinson's Disease" - Paul Larson, MD

"Treatment of Parkinson's Disease: Prospects for
the Future" Michael Aminoff, MD, DSc

"LinkedIn, Exercise and Parkinson's Disease" -
Nancy Byl, PT, PhD

Conference registration fee is \$25.00 per person.
Pre-registration is strongly recommended to reserve
a space.

Contact Tim Underwood at 415.502.1672
Timothy.underwood@ucsf.edu

[Click for more info](#)

November 17, 2011, Thursday **"Deep Brain Stimulation for the Parkinson's** **Patient who has Troublesome 'Off' Time -** **WEBINAR** **11:00 a.m.**

Leo Verhagen, MD, PhD, Associate Professor of

Neurology, Medical Director, Movement Disorders
Surgery Program,
Rush University Medical Center

If you have Parkinson's disease, motor fluctuations
and dyskinesia, it may lead to troublesome "off"
time that can make life challenging. In this webcast,
Leo Verhagen, MD, PhD, discusses treatment
options that address "off" time. An overview of
Medtronic DBS Therapy (deep brain stimulation)
will be provided as well as clinical evidence
supporting this therapy.

To register, visit

www.windrosemedia.com/medtronic/parkinsonstherapy

December 6, 2011 Tuesday **Family Treatment of PD; Everyone Is In On the Act** **1:30 - 3:30 PM**

The Parkinson's Institute and Clinical Center
675 Almanor Avenue
Sunnyvale, CA 94085

Free seminar for patients and their caregivers.
Receive education and support from the specially
trained staff.

Call Gloria: 408-734-2800 to reserve a space

Science Seminars open to the public 12:30 pm

The Parkinson Institute and Clinical Center
675 Almanor Avenue
Sunnyvale, CA

Almost every Tuesday from September to July, the
Parkinson's Institute presents scientific seminars
during the lunch hour. Topics are presented by
physicians, scientists, and researchers and
technical in nature. [The Parkinson Institute](#)
e-mail [Ben Priestley](mailto:Ben.Priestley)

If you have an event that you want added to this list
or updated, please send an e-mail to

pmsg_webmaster@pmsg.org

This was last updated October 17, 2011.

York Experts Ponder **Fruit Fly** Insight into Alzheimer's

Scientists studying fruit flies say they are being given clues about how the human brain is affected by age.

Researchers from the University of York, England, said their work had given an insight into Alzheimer's and Parkinson's disease. The team studied **Drosophila** - a type of fruit fly - and the effects of age-related stress on the nervous system. The scientists said similar "signaling pathways" to those of the flies existed in human brains.

Their work suggests that the nerve connections grow because of stress and as they grow their ability to communicate is compromised, potentially contributing to reduced brain function. Similar processes are likely to occur in ageing brains.

Dr Sean Sweeney, of the Department of Biology at the University of York, said: "The findings have strong implications for neuronal function as brains age.

"They will also add significantly to our understanding of neurodegenerative disease such as Alzheimer's and Parkinson's disease."

The team has been working alongside scientists in the Peninsula Medical School in Plymouth.

<http://www.bbc.co.uk/news/uk-england-york-north-yorkshire-15273721>

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Pete von Scheven

Richard Simone

New Board Member:

Congratulations to Richard Simone, who was recently approved by the Board of PPSG as a Board Member! We are delighted to have Rich joined us, and sharing his talents and enthusiasm. Rich's background is in Engineering/Consulting. There will be an article about him in the following issue. Stay tuned!



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