

Parkinson's Patients Support Groups, Inc.

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

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Nutrition and Parkinson's Disease

Melanie M. Brandabur, MD

Clinic Director, The Parkinson's Institute

Why is Nutrition Important in PD?

One of the most frequent questions that patients ask at their clinic visits is "What can you tell me about Nutrition?" Unfortunately, there have not been a large number of good studies done on this topic.

However, there are some answers that we can extrapolate from what is known about the brain and research that has been done in other conditions.

Nutrition is particularly important in PD for many reasons; the disorder itself often slows transition through the gut and affecting absorption of medications and nutrients. Patients with PD may have other medical conditions that further put them at risk of malnutrition.

Poor nutrition can worsen other conditions such as diabetes and hypertension, which in turn can worsen function in PD. In addition, good nutrition promotes overall brain health and may have some protective benefit with regard to conditions such as strokes and Alzheimer's disease.

Can any foods decrease or increase the risk of PD?

There have been a few studies that suggest that caffeine consumption may decrease the risk of PD, though this is far from proven. There have also been some studies that suggest that excessive carbohydrates, lipids or dairy products could increase risk but, again, this is very preliminary data and is not a good basis on which to make changes in one's diet.

Do any plants or foods actually contain levodopa?

Fava beans contain levodopa. However, the quantity is probably not consistent enough to be used as a therapeutic option.

Mucuna Pruriens is a seed that was used thousands of years ago in Ayurvedic medicine in India. The seeds have been shown to contain levodopa but again, the quantity that might have therapeutic benefit is not known.

So what is the Mediterranean Diet?

People who live in the Mediterranean region tend to eat a diet rich in fruits and vegetables, eat fish, often drink red wine and cook with olive oil and a variety of herbs and spices. Several studies have shown this to be a healthier way of eating than a typical "American" diet, reducing blood pressure and inflammation and decreasing risk of conditions such as cancer and stroke.

Red wine, consumed in moderation with the approval of your treating physician, may reduce risk of vascular disorders. Red wine contains polyphenols such as resveratrol, which may prevent blood clots and decrease the type of inflammation implicated in Alzheimer's disease and other chronic diseases.

What are antioxidants and what foods contain them?

Antioxidants are substances that prevent oxidative damage. Oxidative, or free-radical damage is thought to be part of the mechanism of cell death in some neurodegenerative disorders. Research studies have suggested that a diet rich in antioxidants may help prevent some of this damage. Antioxidants include Vitamins such as A, C and E and substances such as selenium, lycopene and polyphenols. Vitamin A is found in foods like carrots, squash, sweet potatoes, tomatoes, kale and collard greens.

Vitamin C is found in foods such as citrus fruits, strawberries, cabbage, green peppers, avocado and green leafy vegetables. Look for Vitamin E in nuts, seeds, whole grains, wheat germ, vegetable and fish oils and green leafy vegetables. Selenium can be

obtained by eating garlic, eggs, chicken, grains, red meat, fish and shellfish while lycopene is in tomatoes, rose hips, guava, pink grapefruit and tomatoes. In addition to red wine, polyphenols are found in tea (not just green tea!), berries, grapes, turmeric and sesame seeds.

Bottom line: eat your fruits and vegetables! Nine servings per day! Remember to include lots of variety in color and type.

Why is fish a good choice?

Many fish are good sources of omega-3 fatty acids, which lower BP, and decrease the risk of strokes and inflammation. There is also some evidence that it may improve mood!

Try to eat 3-4 ounces 3-4 times per week of salmon, tuna, or other cold-water fish. Keep in mind that too much of certain types of fish may contain mercury, so don't overdo it.....moderation is the key here.

What about olive oil?

Olive oil contains phenols which are powerful antioxidants. Extra-virgin is less processed so retains more nutrients. Try to get 2-3 tablespoons per day. Oils may help absorption of nutrients from vegetables, so put some on the salad!

Which spices are good?

We are just starting to learn about the medicinal properties of spices. Turmeric contains antioxidants and may lower cholesterol. Cinnamon may be good for cholesterol and memory. Rosemary actually has properties similar to drugs used to treat memory loss.

What other vitamins are good for the brain?

Vitamin B12 is very important for the health of brain, spinal cord and nerves. We tend to absorb less of it as we age because of decreased stomach acid and other factors. It is found primarily in meat, fish and milk so people eating a strict vegan diet will usually require supplements or fortified cereals.

Folic acid is also very important for the brain and is found in asparagus and green leafy vegetables as well as meat, beans, seeds, fortified grain products and some fruits.

What are some other nutritional concerns in PD?

Patients who are just beginning to take levodopa are often asked to take it with food to decrease the nausea that sometimes results.

Later on in the disease, many patients note that their levodopa does not work as well when taken at or near mealtimes. This can be because protein and levodopa compete to get into the brain. The patient may have to take the medication ½ to one hour before eating or an hour after eating to avoid this.

Since some PD patients are at risk for falls, it is often advisable to get checked for osteoporosis and to follow the treatment suggested by the primary care provider. Vitamin D is important for bone health and low levels of this vitamin has recently been implicated as a possible factor in PD. Calcium is important as well. Weight-bearing exercise may also help bone strength.

How can I manage the constipation that is so common in PD?

Drink lots of water, consume fiber, fruits and vegetables and get plenty of exercise! Senna tea may be helpful. If this is not sufficient, consult with your doctor about the appropriate laxative therapy.

In summary, there is not a lot of definitive research about nutrition and PD. I have attempted to provide some information that may be helpful to some, but much of this comes down to common sense and wisdom of the ages: there is just no getting away from the need to eat your vegetables!

Resources:

Eat well, Stay well with Parkinson's Disease by Kathrynne Holden, MS, RD

Cook well, Stay well with Parkinson's Disease by Kathrynne Holden, MS, RD

Parkinson's Disease: Nutrition Matters by National Parkinson Foundation (www.parkinson.org)

Brain Food: Eating Mediterranean style may protect brain cells, slow degeneration and add a few years to your life. By Amy Paturel Neurology Now, March-April 2008.

Gait and Balance Classes at the PI

The Gait and Balance Classes at the Parkinson's Institute are great and fun. Come check them out!

The Classes are held on **Wednesdays**. The **beginning classes** run from **10:30 -12 noon** and the **intermediate classes** run from **12:30 -2:30 pm**. A donation of **\$10.00 per session** is suggested. The classes are held at The Parkinson's Institute, at 675 Almanor Avenue, Sunnyvale, CA 94085. Please call **408.734.2800** if you have any questions.

This newsletter is assembled by The Morgan Center. Thank you!

Surviving PD as a Couple

Brandon H. Nguyen, LCSW

For many PD patients, living with PD involves overcoming psychological and spiritual challenges similar to surviving a trauma. In the field of trauma-healing, psychotherapists often talk about the healing process in three stages: *victim*, *survivor*, and *thriver*. This three-stage process may provide a useful perspective toward understanding the struggle and growth of PD patients in achieving an emotionally fulfilling life.

As with any degenerative illness, PD never affects one person alone, but the entire support system. In the center of this fight are the patient and his or her intimate partner. Let's take a look at what these stages look like for a couple dealing with PD.

The Victim Stage: Facing a perpetual loss.

During the early stages of PD, especially when the diagnosis is confirmed, couples usually face intense grief and strong emotions such as anger, denial and depression. Every couple has hopes and dreams together, yet now the illness threatens to take them all away. Initially, the couple may feel a strong surge of unity, but depression soon sets in. The PD suffers may feel "at fault" for "cheating" the partner out of his or her intended future. Fear of abandonment lurks in the back of the mind. In the meanwhile, the partner feels inept and helpless to rescue the affected loved ones and meet their mutual needs.

During this stage, the couple tries to continue their life as normally as possible, but with a tremendous emotional burden inside. Tension builds and culminates in verbal and non-verbal skirmishes. Intimacy is strained or difficult to maintain. Daily tasks are hard to manage. Defensiveness, avoidance and blaming (either toward oneself or toward each other) are pervasive in daily interactions.

The Survivor Stage: Trump over basic needs.

Couples in this stage have found a way to manage their daily responsibility with minimal conflict. They may have settled long-term life issues such as finances, care arrangement and achieved stability in their daily routine. Mentally, the couple has achieved a great deal of acceptance toward the demands and limitations of PD. However, a sense of emptiness may exist in the emotional life of the couple.

Uncomfortable thoughts such as "*Does my partner really love me or just need or pity me?*" or "*Does my partner really know or care about my emotional*

needs?" loom in the back of their minds. These couples have managed their basic need well, but won't share with one another their more sensitive thoughts and desires. As a result, they feel empty and isolated. Occasional blowups may occur over small issues, fueled by unmet emotional needs. Some may even seek to meet some of their own physical, mental or spiritual needs outside of the relationship.

The Thriver Stage: Life is a Gem

This stage is the silver lining of having PD. Here, couples can learn to focus on their strengths, rather than deficits. They are aware of what they can do and enjoy together and make each day meaningful. Both persons see themselves as each other's caregiver and their relationship is a safe space. They can share their most important feelings and needs with each other. For them, understanding each other is more important than doing things with each other, even though accomplishing tasks is important too. Sharing their sense of love and appreciation for each other and enjoying the small things in life are their most important survival strategy. These couples still have many worries and disappointments in life. However, they don't feel alone in dealing with those problems.

What stage are you in?

No couple stays completely in one stage forever. I believe that most couples are in between stages, either the *victim-survivor* stages or *survivor-thriver* stages. Where each couple stands depends on a life-time of choices that they make together. Most couples make these choices unconsciously; but nearly all can make them consciously. A relationship is a resource but can turn out to be a nasty problem; whereas PD is a nasty problem that can turn out to be a resource. The choice is for the couple to make together, and this is one choice that may be too important to leave to the unconscious!

Brandon H. Nguyen, LCSW, is the medical social worker at the Parkinson's Institute in Sunnyvale. He can be reached at 408.734.2800 or bnguyen@theipi.org

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).

Converting Cells Shows Promise For Parkinson's

By Nicholas Wade

The New York Times, March 6, 2009

In a striking instance of biologists' new prowess at manipulating human cells, researchers at the Whitehead Institute in Cambridge, Mass., have converted skin cells from people with Parkinson's disease into the general type of neuron that the disease destroys.

The new approach, though it requires further work, would in principle allow the brain cells that are lost in Parkinson's to be replaced with cells that carried no risk of immune rejection, since they would be the patients' own.

The Whitehead scientists, reporting in the journal *Cell*, said that the method worked in five patients whose skin cells were transformed in the test tube into neurons that produce dopamine, a chemical that transmits messages between neurons in certain regions of the brain. It is the loss of dopamine-producing nerve cells that leads to Parkinson's symptoms, which can include muscle rigidity, tremors and slowed movement.

The immediate goal of the research, led by Frank Soldner and Rudolf Jaenisch, is to grow the dopamine-producing cells in the laboratory to seek the cause of the degenerative disease. The cells could be exposed to the various environmental toxins that have come under suspicion as possible contributory causes.

A longer-term goal is to prepare cells suitable for transplantation. The cells of a Parkinson's patient presumably have some innate predisposition to the disease. But since the disease generally does not show up for 50 years or more, an infusion of a new batch of cells may give the patient more useful years.

The Whitehead team exploited a discovery made in 2007 by the Japanese scientist Shinya Yamanaka, who found that mature cells could be reprogrammed back to the embryonic state with surprising ease. The trick is to insert a handful of genes that are active in the embryonic cell, usually on the back of a virus because viruses are adept at delivering active genes into cells.

With the patients' skin cells converted back to the embryonic state, the scientists used an established recipe for driving the embryonic cells down a different path. By exposing them to a sequence of factors, they converted the embryonic cells into dopamine-making neurons.

Another scientific team achieved this goal last year, but left the virus inside the cells. Virus-laden cells are unsuitable for transplant. The Whitehead team also found that the virus caused subtle differences in the cells' activity. So they developed a way of snipping the virus out of cells once it had completed its mission. Their dopamine-producing neurons are free of the virus and the three extra genes required for reprogramming the skin cells.

Dr. Jaenisch said the real promise of the new approach was to provide Parkinson's-type neurons that could be grown in the laboratory to study how the disease develops. "Before you get to patients, there are many issues to be resolved," he said. "I would think therapy is pretty far away." But he said generating transplantable cells was "doable" once technical problems were solved.

Dr. Fred Gage, a nerve cell expert at the Salk Institute in San Diego, called the new finding "a good technical advance," but noted that the new dopamine-producing cells still contained a few DNA sequences left over from their construction, even after the virus and the three genes had been snipped out.

Dr. Anders Bjorklund, a pioneer in using cell therapy to treat Parkinson's, called the Whitehead team's work "an important new step" in the development of the cell reprogramming technology. To generate cells suitable for transplanting into patients, several more steps are required, said Dr. Bjorklund, who works at Lund University in Sweden.

One is to develop a more precise recipe for generating the dopamine-producing neurons. There are several types, and the Whitehead team does not yet know how closely its cells resemble those of the substantia nigra, the brain region affected in Parkinson's.

Another hurdle for attaining cells ready for transplant is to prove that all the cells are fully mature, since immature cells can produce tumors. "We are easily talking about a few years" before achieving cells that could be considered for transplant, Dr. Bjorklund said.

Imaging Technique May Trace Development of Parkinson's disease

Mar 24 2009

University of Illinois at Chicago

Newswise — While finding a biomarker for Parkinson's disease that would let physicians screen for or track its progression remains an elusive goal, a team led by a University of Illinois at Chicago neuroscientist has shown that a non-invasive brain scanning technique offers promise. The tool may also help advance the development of new drugs or neuro-protective agents to treat or ward off Parkinson's. The findings will appear in an on-line issue of *Neurology*.

David Vaillancourt, assistant professor of kinesiology at UIC, along with colleagues from UIC and Rush University, used a type of MRI scan called diffusion tensor imaging on 28 subjects, half with early symptoms of Parkinson's and the other half without. They scanned an area of the brain called the substantia nigra, a cluster of neurons that produce the neurotransmitter dopamine. Parkinson's patients have been found to have about half the number of dopaminergic neurons in certain areas of the substantia nigra as those without the disease.

Determining loss of dopaminergic neurons using conventional methods such as metabolic PET scans is expensive, invasive, and requires injection of radioactive tracer chemicals. But the method studied by Vaillancourt and his group is non-invasive, relatively inexpensive, and does not use radioactive tracers.

"We're suggesting it's possible to eventually diagnose Parkinson's disease non-invasively and objectively by examining the part of the brain thought to underlie the causes of the disease," said Vaillancourt. No tool currently available can do that, he said. The researchers say the technique may also help develop neuroprotective agents to treat Parkinson's. Vaillancourt said it's difficult to identify a neuro-protective agent using current measures because the results are skewed by any therapy used to treat symptoms.

"When you have a symptomatic effect of the neuro-protective agent, you need a lot of patients from multiple centers to determine if the neuro-protective agent works," he said. "But if you have a disease marker not affected by a dopaminergic therapy, then

you would be able to test neuro-protective agents among smaller groups." Vaillancourt thinks that would enable faster development of drugs to treat Parkinson's. He noted that while the technique his group studied works well as a trait biomarker, which allows for diagnosis, it has not yet been shown to measure the state of the disease's progression. Further research is planned. Other authors of the paper include Joe Zhou, associate professor in the Center for Magnetic Resonance Research, and Deborah Little, director of MRI research, both at UIC; and Cynthia Commella, professor of neurological sciences at Rush University Medical Center. The work was supported by grants from the National Institutes of Health.

Parkinson's Meds May Trigger Extreme Behavior

About 1 in 5 develops compulsive gambling or hyper-sexuality, study finds

NEW YORK - Apr 13 2009

Reuters

About one in five patients taking a therapeutic dose of a dopamine agonist, a class of drugs used to treat patients with Parkinson's disease, may develop compulsive gambling or hyper-sexuality, according to a study of patients treated at the Mayo Clinic in Rochester, Minnesota.

By contrast, these behaviors were not seen in untreated patients, those taking less than a therapeutic dose of a dopamine agonist, or patients receiving treatment with carbidopa/levodopa alone.

"Physicians who care for patients taking these drugs should recognize the potential of the drugs to induce pathologic syndromes that sometimes masquerade as primary psychiatric disease," Dr. J. Michael Bostwick and co-authors caution in the current issue of the Mayo Clinic Proceedings.

Their study was designed to more accurately determine the prevalence of this treatment complication than previous studies have by limiting their study patients in the seven counties surrounding their clinic. Included were 267 patients treated between 2004 and 2006.

Sixty-six were taking a dopamine agonist, but only 38 were using doses in the therapeutic range (pramipexole 2 milligrams per day or more, or

ropinirole 6 milligrams per day or more); 178 were taking carbidopa/levodopa without a dopamine agonist, and 23 were untreated. Six men and one woman, ages 46 to 80, developed a compulsive syndrome, in some cases as early as one month after reaching the maintenance dose of the dopamine agonist. Five started pathologic gambling and five became hypersexual (both disorders developed in three of the patients). Other compulsive behaviors were noted as well.

The behaviors, which often went unabated for years, resolved after dose reduction or treatment discontinuation. Two patients received extended psychiatric care before the link to their Parkinson's disease treatment was noted. The only patients who developed these syndromes were taking therapeutic dopamine agonist doses, for an occurrence rate in this group of 18.4 percent. Bostwick and associates suggest that this is still likely to be an underestimate because these problems may often not be reported or recognized.

"The problems can be life-changing events, with gambling depleting family finances or hyper-sexuality threatening marriage and reputation," the authors emphasize. "Physicians treating Parkinson's disease with dopamine agonists should obviously warn the patients, spouses, and families of such risks because they may not recognize the relationship to the drug until disastrous consequences have occurred."

This article and the one above, Imaging Technique May Trace Development of Parkinson's disease, are researched by Steven Russell. Thanks, Steven!

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PD Dance: Poetry in Motion

Date: Thursdays

Time: 2:00 - 3:30 pm

Location: The Parkinson's Institute

These ongoing classes in movement to music are designed for persons with Parkinson's disease. Emphasis is not on disability but on current ability, enjoyment of music, recreation, exercise, and socializing.

Dance and movement instructor, Damara Ganley, has had PD/Dance training.

Admission free - Caregivers welcome

Students at wheelchair level must bring a care partner
Call **408.734.2800** to register now!

New Caregivers Support Group in Mid-Peninsula:

As a caregiver, do you ever feel alone? Like you wish you could have someone to talk to that understands what YOU are going through? Don't want to burden the person who has the PD? These are all normal feelings. If we, as CAREGIVERS, don't take good care of ourselves, how can we help the one we love who had the PD? Let's network and help each other get through this.

I'm starting up a support group for CAREGIVERS in Los Altos Hills. The location for the first meeting is at my home, we'll see where it goes from there. Please come and share your stories.

FIRST MEETING: Wednesday, **June 24**, from 10:30 AM to noon. For directions and more information, contact Robin at lotofttravel@aol.com, or call 650.949.4207 (e-mail communication is preferred-**Please note corrected email address and date of meeting**).

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Exercise Helps Prevent Age-related Brain Changes in Older Adults

ScienceDaily (Dec. 2, 2008) — Older adults who exercise regularly show increased cerebral blood flow and a greater number of small blood vessels in the brain, according to findings presented today at the annual meeting of the Radiological Society of North America (RSNA).

The study, conducted at the University of North Carolina (UNC) – Chapel Hill, is the first to compare brain scans of older adults who exercise to brain scans of those who do not.

"Our results show that exercise may reduce age-related changes in brain vasculature and blood flow," said presenter Feraz Rahman, M.S., currently a medical student at Jefferson Medical College in Philadelphia. "Other studies have shown that exercise prevents cognitive decline in the elderly. The blood vessel and flow differences may be one reason."

The researchers recruited 12 healthy adults, age 60 to 76. Six of the adults had participated in aerobic exercise for three or more hours per week over the last 10 years, and six exercised less than one hour per week. All of the volunteers underwent MRI to determine cerebral blood flow and MR angiography to depict blood vessels in the brain.

Using a novel method of three-dimensional (3-D) computer reconstruction developed in their lab, the researchers were able to make 3-D models of the blood vessels and examine them for shape and size. They then compared the blood vessel characteristics and how they related to blood flow in both the active and inactive groups.

The results showed that the inactive group exhibited fewer small blood vessels in the brain, along with more unpredictable blood flow through the brain.

"The active adults had more small blood vessels and improved cerebral blood flow," said the study's senior author, J. Keith Smith, M.D., Ph.D., associate professor of radiology at UNC School of Medicine. "These findings further point out the importance of regular exercise to healthy aging."

The study was funded by the UNC Biomedical Research Imaging Center and by a grant from the National Institutes of Health.

Co-authors are Elizabeth Bullitt, M.D., Laurence, Katz, M.D., and Bonita Marks, Ph.D.

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

Australian Over-50s Walk Away Memory Problems in World-first Trial

ScienceDaily (Sep. 5, 2008) — An Australian study has found that walking for two and a half hours a week can significantly improve memory problems in the over-50s. The study was led by Professor Nicola T. Lautenschlager, the Chair of Old Age Psychiatry at the University of Melbourne.

The Fitness for the Ageing Brain Study, conducted over 18 months at the University of Western Australia, is believed to be the first in the world to demonstrate that moderate exercise can positively affect cognitive function.

Professor Lautenschlager said the results were very promising. "We found the improvement in memory occurred not only during the six month trial but also 6 and 12 months after completion of the supervised physical activity program" she said.

"We have known for a long time that exercise is a great way to improve cardiovascular health, but it may be that in the future exercise can also be recommended to protect against the ageing brain."

The trial divided 170 people who had reported memory problems but did not meet criteria for dementia into two groups.

One group continued their usual activities, the other took part in an 24-week home-based physical activity program with the aim to walk three 50 minute sessions or other moderate exercise each week.

Participants in the exercise group did an average of 142 more minutes in a week, or 20 minutes in a day, than those in the control group.

Professor Lautenschlager said by the end of the study, participants in the exercise group performed better on cognitive tests and had better delayed recall. They also had lower Clinical Dementia Rating Scores.

"We believe this trial is the first to demonstrate that exercise can improve cognitive function in older adults at risk," Professor Lautenschlager said.

"Unlike medication, which was found to have no significant effect on mild cognitive impairment, physical activity has the advantage of other health benefits such as preventing depression, quality of life, falls, cardiovascular function and disability."

More than 26 million people worldwide have Alzheimer's Disease or dementia. This is expected to grow to 106.2 million worldwide by 2050.

Professor Lautenschlager said if onset of dementia could be delayed by 12 months, there would be 9.2 million fewer cases worldwide.

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6th Annual Parkinson's Walk in Sunnyvale

Location: Washington Park
840 Washington @ McKinley Avenue
Sunnyvale, CA
Contact: Donna Kos at 408.718.3666 or e-mail her at
DonnaKos@hotmail.com

MRI Study of Parkinson's disease and Multiple System Atrophy at SF VA Medical Center

We are looking for:

People with Parkinson's disease or Multiple System Atrophy
40-75 years of age
We also are recruiting individuals who do not have these diseases
or any other neurological condition

What is involved?

Neurological & Neuropsychological Evaluations
MRI scans of your brain
Follow-up Examinations after one year
All procedures are performed at the
San Francisco VA Medical Center on two visits, one year apart.
\$50 Reimbursement for travel for each visit

**Call Dr. Gail Kang (415.221.4810 #3992), if you have
Parkinson's disease or Multiple System Atrophy
Call Jamie Lutat (415.221.4810 #4385), if you do not have the
disease or any other neurological condition**

This year's Sunnyvale Parkinson's Walk will be held
on **May 16, 2009**. Click below for the event flyer for
all the details. Bring your registration form and
donations you have raised to the event or mail them in
per the instructions on the Form.

Go to www.thepi.org, or www.ppsg.org for
registration form and information on event flyer.
Registration starts at 9 AM. Walkers for 4.2-mile
walk start at 9:30 AM. The **Walk** begins at 10 AM for
1.8 miles.

Event sponsors so far: Amici's Pizzeria, Check Point
Software Technologies, and Dishdash Restaurant.



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