

## **Nutrition and Parkinson's Disease**

### **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 we know 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!

For further information, please call (408) 734-2800.

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](http://www.parkinson.org))**

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