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# Parkinson's Disease

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## What is Parkinson's disease?

Parkinson's disease (PD) is a progressive disease that affects an individual's movement and motor skills. It is progressive in that symptoms of the disease tend to worsen over time. The cause of the disease is unknown; however, treatment options such as medications and surgery are available to alleviate symptoms. The diagnosis of PD is defined by the death or malfunction of nerve cells in the brain. These nerve cells produce a chemical called dopamine, which sends messages to the part of the brain that controls movement and coordination. As the disease progresses, the amount of dopamine produced decreases, which hinders a person's ability to control movement. A diagnosis of PD depends on identifying specific features of the disease (i.e., tremors, slowness and stiffness) described by Dr. James Parkinson. Parkinson's is not diagnosed via a test, rather by a physical examination as well as a review of the patient's medical history.

### Diagnostic Symptoms

- **Resting Tremor** is a slight tremor in the hand/foot; usually on one side of the body, jaw or face. Tremors consist of shaking and oscillating movements when muscles are relaxed.
- **Bradykinesia** is slow movement. An individual may experience abnormal stillness and a decrease in facial expressions.
- **Rigidity** stiffness and inflexibility of limbs, neck and trunk. Muscles typically stretch when in motion and then relax when at rest. An individual with PD always experiences stiffness and is not able to relax.
- **Postural Instability** unstable when standing upright. A person with instability may topple over if shaken even a little.

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#### For more information:

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## Nutrition and Parkinson's disease

Nutrition plays a major role in alleviating symptoms of PD. One common symptom is weight loss. Weight loss can occur for many reasons such as lack of appetite, nausea, skipping meals, depression or slowed movement, which leads to the inability to cook for oneself. An individual who is experiencing unintentional weight loss may benefit from incorporating frequent energy-dense meals into their diet. This may help strengthen their immune system, prevent muscle wasting and prevent the loss of any vital nutrients. Due to the lack of nutritional intake, many secondary complications may arise; however specific nutrition strategies outlined below may help in dealing with these side effects.

### Nutritional Concerns

#### Bone Loss

People with PD are at an increased risk of bone thinning and eventually osteoporosis. Risk factors of osteoporosis include older age, low body weight, and inadequate amounts of bone strengthening nutrients such as calcium and Vitamin D. People with PD are encouraged to consume foods high in calcium, vitamin D, Vitamin K and magnesium. It is possible to obtain these nutrients in the diet by eating dairy products such as yogurt and milk for calcium, fatty fish like salmon for Vitamin D, green leafy vegetables such as spinach or kale for Vitamin K, and whole grain products for magnesium. An overall well-rounded and varied diet is essential for healthy bone maintenance.

#### Dehydration

According to the National Institutes of Health (NIH), a U.S. medical research agency, up to 60% of our body is water. Therefore, hydration at any stage of life is important. Unfortunately, in individuals with PD, the risk of dehydration is higher due to the body's interactions with medications. Dehydration can lead to weakness, respiratory failure, confusion, balance problems and eventually kidney problems. It is recommended to take plenty of fluids throughout the day (about 8 cups per day) in order to avoid symptoms of dehydration.

#### Constipation

Constipation is common in individuals with PD due to slowed movement of the colon. It is important to treat constipation, as severe constipation may lead to bowel obstruction. Bowel obstruction can possibly lead to hospitalization and even surgery and can

#### Daily Recommendations



Calcium-  
1000 mg



Vit. D -  
600 IU



Vit. K -  
120 µg



Magnesium-  
310 mg – female  
400 mg- male

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potentially be life threatening. Consuming foods that are high in fiber can help maintain bowel regularity. Foods such as whole wheat/whole grain bread, brown rice, bran cereals, beans, fruits and vegetables are high in fiber and may alleviate symptoms of constipation. It is also important to drink plenty of fluids and to exercise.

## **Food and medication interactions**

Certain PD medications may cause nutrition-related side effects. These side effects may include nausea and poor appetite. Taking medications with a small snack (for example, a banana or crackers) may help control these side effects.

One of the common and most important medications used for the treatment of PD is levodopa. Amino acids from protein in the foods we eat can interfere with the uptake of levodopa in the brain. There are several ways to minimize the interaction between levodopa and dietary protein. First, when taking this medication at meal time, it is recommended to limit the amount of meat protein to about the size of a deck of cards (3 ounces). The second option is to take this medication with meal that contains no animal protein. And the final option is to take levodopa 20-30 minutes before a meal or 1 hour after to improve its efficacy.

## **Cooking with Parkinson's**

Due to impaired motor skills, cooking and preparing meals may be difficult tasks. Practical kitchen safety tips can ensure a healthy and safe kitchen experience. Use cabinets with long handles versus knobs in order to open and close cupboard doors easily. It is also recommended to place food items that are commonly used, such as spices and seasonings, next to the stove to avoid reaching over the stove-top, thus reducing the possibility of burns. Installing a fixture on the wall to keep pots and pans in reach can also ease the preparation process. Using a long-handed reacher may also be beneficial for grasping hard-to-reach light-weight items. Finally, for ultimate safety, install a smoke detector in the kitchen to alert you of any danger.

## **Tips for a healthy you!**



### **Supplement the diet with a multivitamin**

If food intake is low, a multivitamin will supply the essential nutrients that are needed for everyday health.

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### **Calcium and vitamin D**

Consuming adequate amounts of dairy helps to reduce the risk of osteoporosis. Vitamin D helps in the absorption of calcium. Your doctor may recommend a blood test to assess your Vitamin D levels. If levels are low, consuming foods that are fortified with Vitamin D as well as taking a Vitamin D supplement may be most beneficial.



### **Choose fiber-rich foods**

Constipation and bowel impaction are side effects of PD that can be alleviated through proper diet. Consistent intake of fiber-rich foods, including fruits, vegetables and whole grains, will slowly help with bowel regularity.



### **Eat soft or pureed foods**

If you experience any difficulty chewing or swallowing due to a decrease in motor skills, consuming soft or pureed foods is the best option. Incorporate foods such as mashed potatoes, apple sauce, boiled eggs and soft pasta.



### **Have snacks handy**

Having easy-to-open snacks available, such as raisins or crackers, can help increase total energy intake. Unintentional weight loss is a major problem in individuals with PD.



### **Increase your energy**

If unintentional weight loss is an issue, having 4-5 small high-calorie meals can improve weight status. Adding nutritional supplements to the diet, such as Ensure or Boost, can help meet calorie needs.

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## Healthy high fiber recipe

### Plum and Peach Parfait (makes 2 servings)

#### Ingredients

1 cup drained canned sliced peaches  
1/2 cup (about 3 ounces) coarsely chopped dried plums (prunes)  
1 container (8 ounces) low-fat vanilla yogurt  
1 cup low-fat granola

#### Directions

Into each of two wide stemmed glasses, layer 1/4 cup peaches, 2 tablespoons dried plums, 1/4 cup yogurt and 1/4 cup granola; repeat layers.

#### Nutrition Profile

Calories: 410  
Total Fat: 3grams  
Protein: 12grams  
Carbohydrates: 89grams  
Fiber 7grams



*\*Recipe courtesy of California Dried Plums. Visit [www.californiadriedplums.org](http://www.californiadriedplums.org)*

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