



- > **DIAGNOSIS AND PROGNOSIS OF NEW ONSET PARKINSON DISEASE**
- > **INITIATION OF TREATMENT FOR PARKINSON DISEASE (2002)**
- > **NEUROPROTECTIVE AND ALTERNATIVE THERAPIES FOR PARKINSON DISEASE**

If your doctor thinks you may have Parkinson disease, this information sheet will help you talk with him or her about how Parkinson disease is diagnosed and how it will progress.

Neurologists from the American Academy of Neurology (AAN) are doctors who treat diseases of the brain and nervous system. Experts in Parkinson disease looked at all of the studies on accurate diagnosis, disease progression, and therapies for Parkinson disease. Then they made suggestions that will help doctors and people with Parkinson disease make choices in their care. In some cases, there were not enough published data for or against specific therapies.

### What is Parkinson disease?

Parkinson disease is a progressive movement disorder. This means the symptoms will gradually worsen over time. In people with Parkinson disease a vital chemical in the brain, *dopamine*, slowly decreases. Dopamine makes smooth and coordinated muscle movement possible. A loss of dopamine leads to symptoms of Parkinson disease, such as:

- Shaking (tremor)
- Stiffness
- Shuffling walk
- Slowness of movements
- Balance problems
- Small or cramped handwriting
- Loss of facial expression
- Soft, muffled speech

### How is Parkinson disease diagnosed?

Parkinson disease is common, but it can be difficult to diagnose. This is especially true in the early stages or in older people. A doctor will make a diagnosis after a complete medical history, review of the symptoms, and a detailed neurological exam.

Your doctor will try to find out if the symptoms are due to Parkinson disease or another condition that has similar symptoms. According to **good** evidence,\* history of falls, no tremor, rapid progression of the symptoms, and no effect of drugs on Parkinson-like symptoms may be signs of a similar condition, not Parkinson disease.

Certain drugs are probably useful in confirming if a person has Parkinson disease versus another condition. This is called a “challenge test.” If symptoms get better while taking the drugs, the person may have Parkinson disease. The experts found there is **good** evidence\* two drugs are probably useful in diagnosing Parkinson disease:

- *Levodopa* is a naturally occurring amino acid that the brain converts to dopamine.
- *Apomorphine* is a man-made form of morphine. It acts like dopamine and stimulates the dopamine system.

Your doctor may also use other tests. There is **good** evidence\* that for some patients a smell test can help doctors decide if a person has Parkinson disease versus another condition. At this time there is **not enough** evidence\* for or against the use of brain imaging (PET, MRI, CT), blood tests, or other tests to help diagnose Parkinson disease.

### What is the prognosis for Parkinson disease?

Parkinson disease usually progresses slowly. Doctors cannot estimate exactly how quickly or slowly it will progress in a patient. This will vary from person to person. However, **good** evidence\* shows that Parkinson disease may progress more quickly in people who are older when symptoms begin. Parkinson disease may progress more quickly in people who do not have tremor.

There is **weak** evidence\* that the disease will progress faster in men and people with a history of stroke, hearing, or vision problems.

### Which initial therapies are effective for Parkinson disease?

In 2002, a group of neurologists reviewed all of the studies for the most effective drugs used to treat Parkinson disease. To treat the initial symptoms of Parkinson disease doctors may prescribe:

- *Levodopa* or *dopamine agonists*: There is **strong** evidence\* that either levodopa or a dopamine agonist can be used to treat initial symptoms. *Dopamine agonists* are drugs that stimulate the dopamine system and may lessen motor complications. Levodopa is a

naturally occurring amino acid that the brain converts to dopamine. Levodopa provides superior motor benefit but it is associated with a higher risk of dyskinesia.

- **Selegiline:** **Strong** evidence\* shows that selegiline has very mild benefit as an initial treatment. There is **not enough** evidence\* that it is neuroprotective.

### Therapies that slow the progression of Parkinson disease

Therapy to treat the symptoms of Parkinson disease can help patients for many years. Over time, however, Parkinson disease can cause significant disability. Strategies to delay the symptoms or slow the progress of Parkinson disease are important to consider in the overall treatment.

There is good evidence\* that treatment with 2,000 units of Vitamin E should not be considered to slow the progression of Parkinson disease.

There is not enough evidence for or against the following to slow the progression of Parkinson disease:

- **Riluzole:** This is a drug used to slow the progress of amyotrophic lateral sclerosis (ALS or Lou Gehrig's disease).
- **Coenzyme Q10:** This is a vitamin-like substance found in a variety of foods and produced naturally in the body.
- **Pramipexole:** This drug is used to treat the signs and symptoms of Parkinson disease, including tremors (shaking), stiffness, and slowness of movement.
- **Ropinirole:** This is used to treat the symptoms of Parkinson disease, including tremors (shaking), stiffness, and slowness of movement.
- **Rasagiline:** This drug is used to treat Parkinson disease, either by itself or in addition to levodopa therapy.
- **Amantadine:** This is used to treat Parkinson disease and conditions similar to Parkinson disease.
- **Thalamotomy:** This is a surgical procedure that destroys small areas of the thalamus (a structure deep within the brain) to reduce tremors.

### Alternative therapies that improve motor function in Parkinson disease

Many people with Parkinson disease and their caregivers use alternative therapies not prescribed by a doctor. These include treatments such as herbs, vitamins, massage, and acupuncture.

There is good evidence\* that vitamin E should not be considered to treat the symptoms of Parkinson disease.

There is weak evidence\* that exercise therapy may be considered to improve motor function.

There is weak evidence\* that speech therapy may be considered to improve speech volume.

There is not enough evidence for or against the following to improve motor function:

- **M pruriens**, also known as cowhage or velvet bean
- **Acupuncture**, which involves penetrating the skin with thin, solid needles made of metal that are manipulated by the hands or by electrical stimulation
- **Manual therapy**, including chiropractic and osteopathic manipulation
- **Biofeedback**, a way of learning to control body functions such as heartbeat, blood pressure, and muscle tension with the help of a special machine. This method can help control pain.
- **Alexander technique**, a type of manual therapy that requires developing awareness of posture in order to improve posture
- **Vitamins other than vitamin E**

### Talk to your neurologist

People experiencing the signs of Parkinson disease should seek the care of a neurologist. Your doctor will recommend an individualized treatment plan. This may include lifestyle changes. All treatments have some side effects. The choice of which side effects can be tolerated depends on the individual.

This is an evidence-based educational service of the American Academy of Neurology. It is designed to provide members and patients with evidence-based guideline recommendations to assist with decision-making in patient care. It is based on an assessment of current scientific and clinical information, and is not intended to exclude any reasonable alternative methodologies. The AAN recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, based on the circumstances involved.

\*After the experts review all of the published research studies they describe the strength of the evidence supporting each recommendation:  
*Strong evidence* = More than one high-quality scientific study  
*Good evidence* = At least one high-quality scientific study or two or more studies of a lesser quality  
*Weak evidence* = The studies while favorable are weak in design or strength of the evidence  
*Not enough evidence* = Either different studies have come to conflicting results or there are no studies of reasonable quality