

What's Hot in Parkinson's Disease?

Should I Get a DaTscan or PET scan to confirm my diagnosis of Parkinson's?

The FDA recently approved **DaTscan**, a new imaging test that will help doctors confirm a diagnosis of Parkinson's disease (PD). DaTscan is expected to be widely available later this year.

Imaging techniques such as PET scans and DaTscans examine the function of the brain rather than its anatomy. Using these tests, doctors are able to see small details inside the brain. By revealing changes in brain chemistry, such as a decrease in dopamine, these tests help doctors identify PD and other similar diseases. PET scans show glucose (sugar) metabolism, and DaTscans focus on the dopamine system.

In PD cells are lost in the basal ganglia, which is the area of the brain associated with movement. Since it is normal to lose some of these cells as we age, neuroimaging tests are useful for determining whether brain changes are due to normal aging or to a degenerative disease.

Here is how DaTscan works: a chemical solution that gives off "light" is injected into a person's veins. This solution "tags" neurons where dopamine normally attaches. A special camera called a SPECT scanner then visualizes the distribution of these so-called dopamine transporters (DaT) within the brain. The pictures enable doctors to evaluate the density of healthy dopamine neurons: the areas that "light" up indicate surviving brain cells. If regions remain dark, early brain degeneration may be diagnosed.

DaTscan is the only test that will be widely available. If you have been diagnosed with Parkinson's and are responding well to dopaminergic therapy, a DaTscan would most likely not be helpful. DaTscan is approved to help doctors tell essential tremor from PD—confusion that might occur early in the disease. It is important to keep in mind that these tests should be performed by an experienced team who have performed a large volume of PD scans, because experience is vital for accurately reading these imaging results.

Recently, in some studies attempting to diagnose Parkinson's earlier in its course, researchers found that a subset of people believed to have PD turned up with a negative scan. Some did not develop the progressive symptoms of PD. These findings underscore the importance of following patients over long periods to ensure both accurate diagnosis and appropriate treatment.

PET scans are FDA-approved for the diagnosis of dementia, but not for the diagnosis of PD. However, if you or your relative has cognitive impairment, the scan can be ordered to test for the presence of Alzheimer's changes. People with PD may also have Alzheimer's disease. The cost can range from \$2,500 to \$5,000. Many academic medical centers perform PET scans for free under research protocols.

In summary, in cases where the diagnosis is uncertain, a DaTscan or PET scan can be very useful. But if you have already been diagnosed with Parkinson's, and your medications are controlling your symptoms, a PET or DaTscan would add little new information.

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Read Dr. Okun's monthly column, "What's Hot in PD?" online at www.parkinson.org/whatshot.