

BACKGROUND

Parkinson's disease (PD) is a disorder of the central nervous system resulting in rigidity of the muscles, delayed movement, poor balance and tremors. It affects as many as 1.5 million Americans. PD patients have very low levels of the brain chemical dopamine, although it is not known what causes the shortage. Experts suspect a combination of genetic and environmental factors.

WHAT VA IS DOING

VA's six Parkinson's Disease Research, Education and Clinical Centers are based in Houston, Philadelphia, Portland, Richmond (Va.), San Francisco and Los Angeles. Researchers at these sites are studying the biochemical pathways involving dopamine and testing pharmaceutical, surgical and electrical-stimulation treatments.

Highlights of current research include the following:

- **Deep-brain stimulation being tested**—In collaboration with the National Institute of Neurological Disorders and Stroke, VA is conducting a clinical trial to compare drug therapy with deep-brain stimulation for more than 300 patients. In deep-brain stimulation, thin wires are implanted in the brain and electrical pulses are delivered from a small pacemaker-like device to the areas of the brain where tremors originate. The procedure appears to dramatically improve symptoms for some patients.
- **Neurotoxins and dopamine**—VA researchers in Portland are studying how certain neurotoxins—chemicals that damage the brain—affect the neurons that make dopamine.
- **Stem cells may replace depleted brain cells**—A team at the VA medical center in Richmond, Va., is exploring the use of adult stem cells in treating Parkinson's disease. Transplanted into the brain, these cells may transform into dopamine-producing neurons.

For more information on VA research:

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