

Investment in research saves lives and money

facts about:

} Parkinson's Disease

} Parkinson's disease results from the death of brain cells that produce a substance called dopamine, which the body needs for normal movement. By the time symptoms of Parkinson's disease become apparent, up to 80 percent of dopamine-producing cells have been damaged.

"If you think research is expensive, try disease."

— Mary Lasker 1901–1994

Today:

- It is estimated that more than 1 million Americans have Parkinson's disease.
- Many Americans with Parkinson's disease go undiagnosed because their symptoms are attributed to aging or other health problems. No test to clearly detect Parkinson's disease exists and the diagnosis can only be confirmed by autopsy.
- No nationwide system to track the number of people with Parkinson's disease currently exists. Without better detection and surveillance, there is no way to know who is affected and if the prevalence of Parkinson's is changing.
- The majority of Parkinson's disease patients are elderly, but 10 percent are 40 or younger.
- Depression is often under recognized in Parkinson's disease patients since the two diseases share similar symptoms. Most depressed Parkinson's disease patients are untreated and those who are, frequently are inadequately treated.*

SOURCE: NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE, NATIONAL INSTITUTES OF HEALTH (WWW.NINDS.NIH.GOV)

*WEINTRAUB, D. ET AL. JOURNAL OF GERIATRIC PSYCHIATRY AND NEUROLOGY 2003, 16: 178-83.

The Cost:

- Parkinson's disease costs the U.S. \$26 billion a year in medical care, lost earnings by patients and caregivers, and compensation for lost earnings.*
- People with Parkinson's disease experience more injuries and are more likely to suffer from other conditions, such as dementia and diabetes, increasing their health care expenditures.**

SOURCE: *AGENCY FOR HEALTHCARE RESEARCH AND QUALITY. DIAGNOSIS AND TREATMENT OF PARKINSON'S DISEASE: A SYSTEMATIC REVIEW OF THE LITERATURE 2003.

**PRESSLEY, J.C. ET AL. NEUROLOGY 2003, 60(1):87-93.

survivor



NAME: JOEL HAVEMANN

AGE: 61

DISEASE: PARKINSON'S DISEASE

Joel Havemann has been living with Parkinson's disease for 15 years. Diagnosed at 46, Joel has continued to work as an editor at the *Los Angeles Times* Washington bureau and raise his children with his wife, Judy.

Until recently, Joel relied on levodopa and other medications to relieve his symptoms. "It's hard to imagine this disease without levodopa. I'd be in a nursing home right now." By 2004, Joel's symptoms began to interfere with his ability to work and raise his family, so he decided to have an operation called deep-brain stimulation. Surgeons implanted electrodes in his brain that help control his tremors. Since having deep-brain stimulation, Joel is virtually tremor free and takes levodopa primarily to improve his balance and gait.

Joel deeply appreciates the complexity of the brain, Parkinson's disease and the research required to understand and treat the disease. He thinks one of the most promising areas of research is therapeutic cloning, which uses embryonic stem cells to create dopamine-producing cells that can be transplanted into the brain. However, he laments the slow pace of research with respect to the progression of his disease. "When you feel worse this week than you did last week, it's hard to say that research is moving fast enough."

Joel tells his full story in his book *A Life Shaken: My Encounter with Parkinson's Disease*.

SAVING LIVES
SAVING MONEY

HOW RESEARCH SAVES LIVES:

- The discovery of levodopa, which can be converted to dopamine in the brain, was a breakthrough in treating Parkinson's disease. It is still the most effective drug for managing symptoms. Newer drugs alleviate side effects, prolong effectiveness and allow for lower doses of levodopa. Medications provide dramatic relief from the symptoms of Parkinson's disease and extend the period of time that patients can lead relatively normal, productive lives.

SOURCE: NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE, NATIONAL INSTITUTES OF HEALTH

HOW RESEARCH SAVES MONEY:

- A procedure called deep-brain stimulation improves many symptoms of Parkinson's disease and significantly reduces required dosages of levodopa and other medications. As a result, medication costs decrease from pre-operative levels by 32 percent one year after surgery and by 39 percent after two years.*
- Treatments that slow the progression of Parkinson's disease by 10 percent could save the U.S. \$327 million a year.**

SOURCE: *CHARLES, P.D. ET AL. PARKINSONISM AND RELATED DISORDERS 2004, 10(8):475-9.

**PARKINSON'S ACTION NETWORK (WWW.PARKINSONSACTION.ORG)

facts about: } Parkinson's Disease

Hope for the Future:

- Researchers have discovered how to manipulate embryonic stem cells and make them into dopamine-producing brain cells. This new source of cells will aid in understanding the cause of Parkinson's disease and could ultimately be used in cell transplants to replace cells lost in Parkinson's disease.*
- A newly developed vaccine slows the loss of brain cells in a mouse model for Parkinson's disease. Researchers hope these findings will lead to a human vaccine that will slow or prevent the progression of Parkinson's disease.**

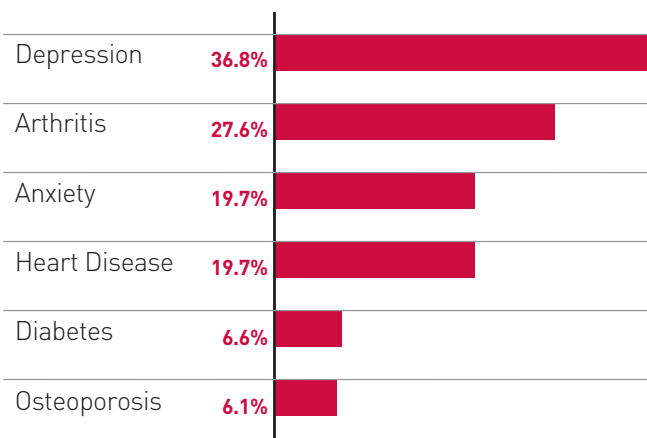
SOURCE: *PERRIER, A.L. ET AL. THE PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES 2004, 101(34):12543-8.

**BENNER, E.J. ET AL. THE PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES 2004, 101(25):9435-40.

The Bottom Line:

The current treatments for Parkinson's disease help alleviate symptoms, but do not slow the progress of brain damage. People with Parkinson's disease face diminishing quality of life along with greater health care costs and lower productivity. Investment in research is needed now to find the cause(s) of Parkinson's disease and to identify better therapies or even a cure for this debilitating condition that is affecting a growing number of American families.

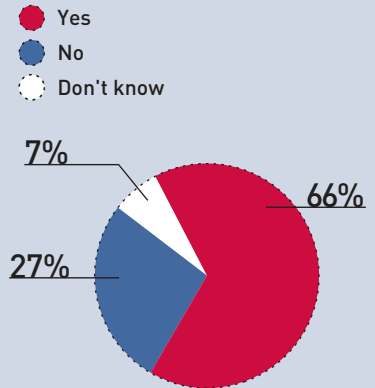
Survey of Parkinson's Disease Patients Reveals Additional Health Problems



SOURCE: HARRIS INTERACTIVE. HEALTH CARE NEWS, OCTOBER 20, 2003.

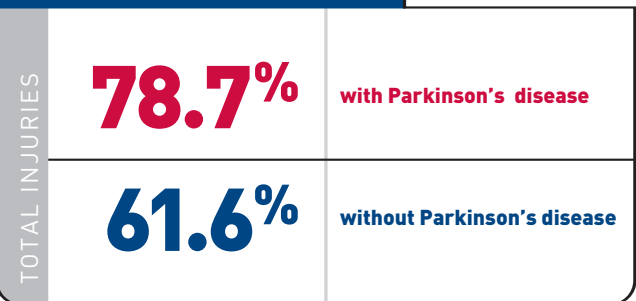
Therapeutic Cloning Should Be Allowed

Therapeutic cloning is the use of cloning technology to help in the search for possible cures and treatments for diseases and disabilities. Do you think that research into therapeutic cloning should be allowed?



SOURCE: NATIONAL SURVEY, 2005
CHARLTON RESEARCH COMPANY FOR RESEARCH!AMERICA

More Injuries Occur with Parkinson's Disease



SOURCE: PRESSLEY, J.C. ET AL. NEUROLOGY 2003, 60(11):87-93.

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