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What Is Lewy Body Dementia?

Lewy body dementia (LBD) is a disease associated with abnormal deposits of a protein called alpha-synuclein in the brain. These deposits, called Lewy bodies, affect chemicals in the brain whose changes, in turn, can lead to problems with thinking, movement, behavior, and mood. LBD is one of the most common causes of [dementia](#), after [Alzheimer's disease](#) and [vascular disease](#).

[Diagnosing LBD](#) can be challenging for a number of reasons. Early LBD symptoms are often confused with similar symptoms found in other brain diseases like Alzheimer's. Also, LBD can occur alone or along with Alzheimer's or [Parkinson's disease](#).

There are [two types of LBD](#)—*dementia with Lewy bodies* and *Parkinson's disease dementia*. The earliest signs of these two diseases differ but reflect the same biological changes in the brain. Over time, people with dementia with Lewy bodies or Parkinson's disease dementia may develop similar symptoms.



Who Is Affected by LBD?

LBD affects more than 1 million individuals in the United States. LBD typically begins at age 50 or older, although sometimes younger people have it. LBD appears to affect slightly more men than women.

LBD is a progressive disease, meaning [symptoms](#) start slowly and worsen over time. The disease lasts an average of 5 to 7 years from the time of diagnosis to death, but the time span can range from 2 to 20 years. How quickly symptoms develop and change varies greatly from person to person, depending on overall health, age, and severity of symptoms.

In the early stages of LBD, usually before a diagnosis is made, symptoms can be mild, and people can function fairly normally. As the disease advances, people with LBD require more and more help due to a decline in thinking and movement abilities. In the later stages of the disease, they may depend entirely on others for assistance and care.

Some LBD symptoms may respond to treatment for a period of time. Currently, there is no cure for the disease. [Research](#) is improving our

understanding of this challenging condition, and advances in science may one day lead to better diagnosis, improved care, and new treatments.

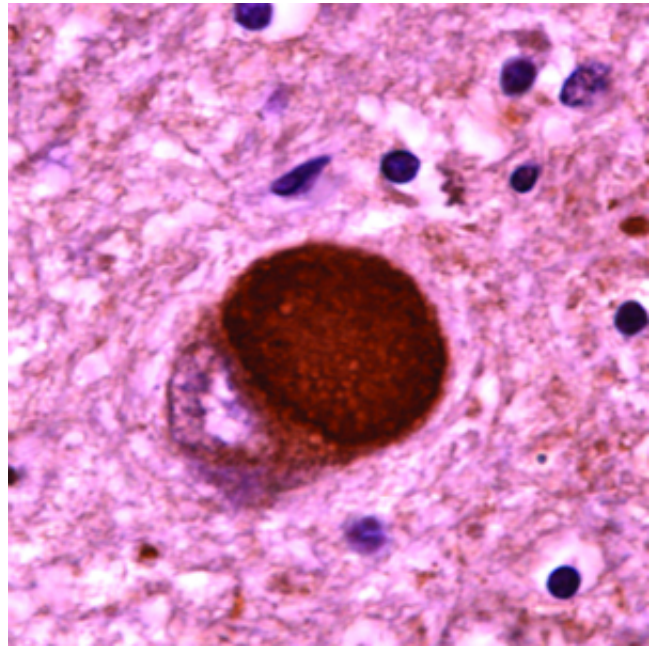
What Are Lewy Bodies?

Lewy bodies are named for Dr. Friederich Lewy, a German neurologist. In 1912, he discovered abnormal protein deposits that disrupt the brain's normal functioning in people with [Parkinson's disease](#). These abnormal deposits are now called "Lewy bodies."

Lewy bodies are made of a protein called alpha-synuclein. In the healthy brain, alpha-synuclein plays a number of important roles in neurons (nerve cells) in the brain, especially at synapses, where brain cells communicate with each other. In LBD, alpha-synuclein forms into clumps inside neurons, starting in particular regions of the brain. This process causes neurons to work less effectively and, eventually, to die. The activities of brain chemicals important to brain function are also affected. The result is widespread damage to certain parts of the brain and a decline in abilities affected by those brain regions.

Lewy bodies affect several different brain regions in LBD:

- The cerebral cortex, which controls many functions, including information processing, perception, thought, and language
- The limbic cortex, which plays a major role in emotions and behavior
- The hippocampus, which is essential to forming new memories
- The midbrain, including the substantia nigra, which is involved in movement
- The brain stem, which is important in regulating sleep and maintaining alertness
- Brain regions important in recognizing smells (olfactory pathways)



Microscopic image of a Lewy body.
Courtesy of Carol F. Lippa, MD, Drexel
University College of Medicine.

For More Information About LBD

NIA Alzheimer's and related Dementias Education and Referral (ADEAR) Center

1-800-438-4380 (toll-free)

adear@nia.nih.gov

www.nia.nih.gov/alzheimers

The National Institute on Aging's ADEAR Center offers information and free print publications about Alzheimer's disease and related dementias for families, caregivers, and health professionals. ADEAR Center staff answer telephone, email, and written requests and make referrals to local and national resources.

Lewy Body Dementia Association

1-404-935-6444

1-800-539-9767 (toll-free LBD Caregiver Link)

www.lbda.org

Mayo Clinic

www.mayoclinic.org/patient-care-and-health-information

Alzheimer's Association

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1-800-272-3900 (toll-free, 24/7)

1-866-403-3073 (TTY/toll-free)

info@alz.org

www.alz.org

MedlinePlus

National Library of Medicine

www.medlineplus.gov

Michael J. Fox Foundation for Parkinson's Research

1-800-708-7644 (toll-free)

www.michaeljfox.org

Parkinson's Disease Foundation

1-800-457-6676 (toll-free)

info@pdf.org

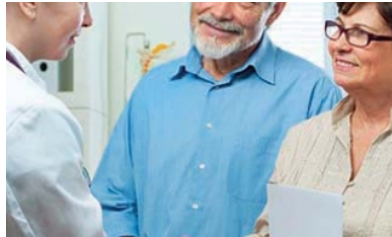
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