

# Lewy Body Dementia: Mysteries Unveiled

Presented by  
Your Name

# Educational Partner: Lewy Body Dementia Association

The Lewy Body Dementia Association (LBDA) is a 501(c)(3) national nonprofit health organization and dedicated to raising awareness of Lewy body dementia (LBD), promoting scientific advances, and supporting people with LBD, their families and caregivers. LBDA supports all those affected by Lewy body dementia through outreach, education and research.

To learn more about LBD and LBDA, please visit [www.lbda.org](http://www.lbda.org).

# Purpose

By attending this educational activity the learner will be able to describe the differences between Lewy body dementia (LBD) and Alzheimer's disease (AD), and its relationship with Parkinson's disease (PD). Lewy body dementia has been identified as the second most common type of dementia, yet is still often misdiagnosed and underdiagnosed. The learner will be able to determine various symptoms, treatment options and caregiving implications associated with LBD to assist in increased quality care for those with LBD.

# Objectives

- Describe the difference between Lewy body dementia and Alzheimer's disease
- Identify 2 diagnostic symptoms of Lewy body dementia
- Identify 1 treatment option for symptoms of Lewy body dementia
- Describe caregiving implications of Lewy body dementia

# The Basics

- Dementia
  - A general term meaning cognitive-decline severe enough to interfere with daily life
  - Affects memory, language, executive function, judgment, attention, visuospatial skills
  - May include behavioral symptoms
  - Common assumption: Dementia = Alzheimer's disease

# Causes of dementia

- Reversible and treatable causes of dementia
  - Medical conditions like thyroid disease
  - Drug reactions
  - Brain tumor
  - Subdural hematoma
  - Hydrocephalus
- Common causes of irreversible dementia
  - Alzheimer's disease
  - Lewy body dementias
  - Vascular dementias
  - Frontotemporal dementia

# Lewy Body Dementia Statistics

- 2<sup>nd</sup> most common form of dementia after Alzheimer's
- Affects approximately 1.4 million in U.S.
- Affects men more frequently than women
- Age of onset has a wide range 50-85

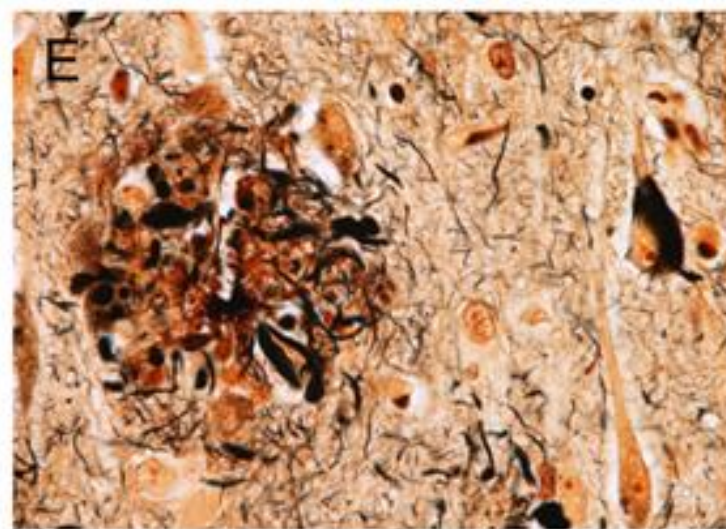
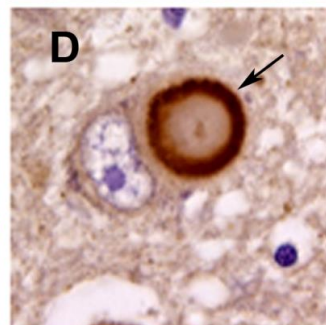
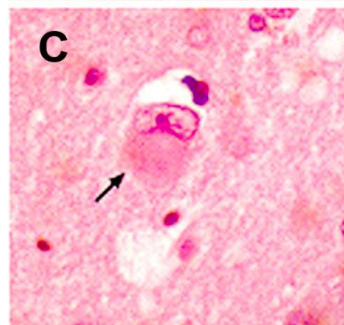
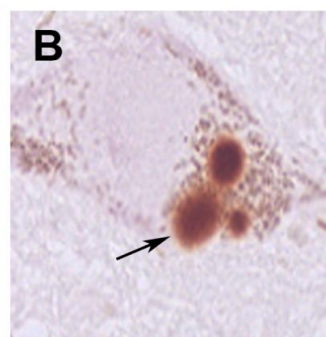
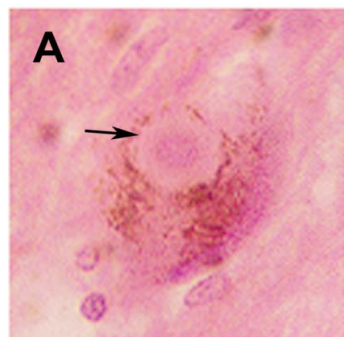
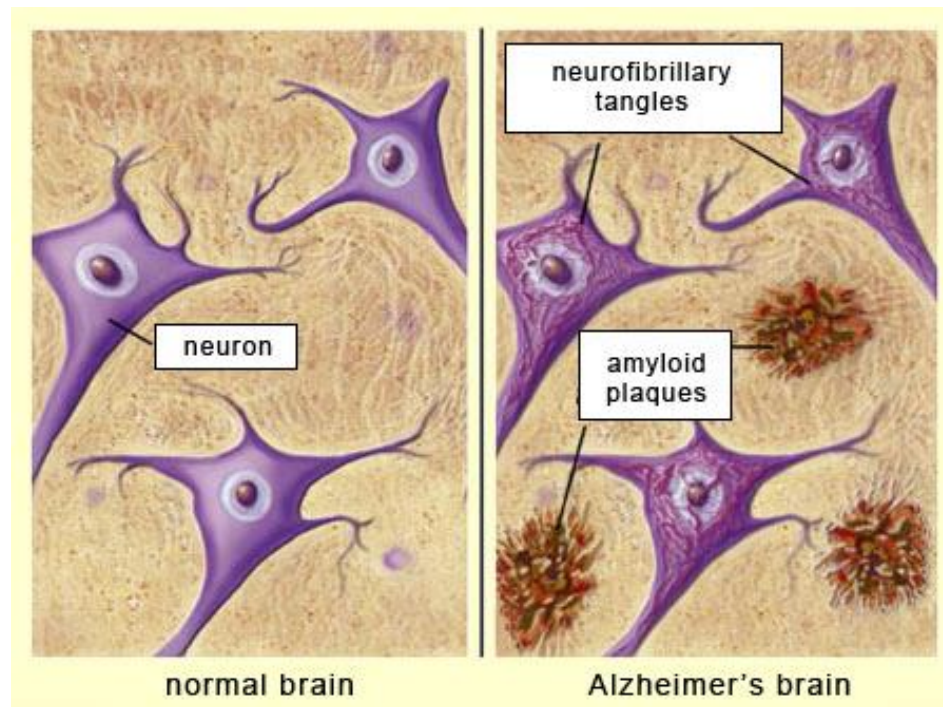
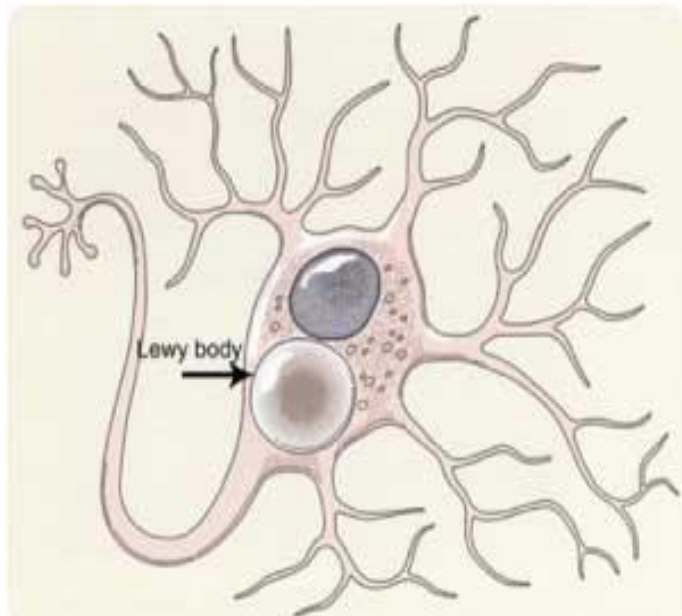


# How is Lewy Body Dementia (LBD) Different From Alzheimer's disease (AD)?

- Different proteins involved
  - Lewy bodies are abnormal aggregations (or clumps) of the protein alpha-synuclein
    - The actual role of the Lewy bodies is not clear at this time, continued research is being conducted
  - LBD commonly also has AD pathology (plaques and tangles) – 80% cases
- Different clinical symptoms
  - LBD affects thinking, movement, behavior, sleep and autonomic function.







# Lewy Bodies and Parkinson's Disease

- Lewy bodies are found in Parkinson's disease and Lewy body dementia
- Some of those diagnosed with Parkinson's disease will later develop symptoms of dementia

# What Comes First?

- 2 diagnoses with similar symptomology
  - Dementia with Lewy bodies (DLB)
    - Onset of dementia occurs with or precedes parkinsonism by 1 year or more
  - Parkinson's disease dementia (PDD)
    - Onset of parkinsonism precedes dementia by 1 year or more
- LBD is the umbrella term for both

# Diagnosing Dementia with Lewy Bodies

- Requires presence of dementia plus
  - 2 Core symptoms or 1 Core +1 Suggestive symptom
- Core
  - Hallucinations
  - Cognitive fluctuations
  - Parkinsonism
- Suggestive
  - REM behavior disorder
  - Severe sensitivity to neuroleptics
  - Low dopamine transporter uptake in the brain's basal ganglia as seen on SPECT and PET imaging scans

# Diagnosing Dementia with Lewy Bodies

- Supporting features
  - Repeated falls and syncope (fainting)
  - Transient, unexplained loss of consciousness
  - Autonomic dysfunction
  - Hallucinations of other modalities
  - Other psychiatric disturbances – delusions, depression
  - Changes on neuroimaging, cardiac scans, or EEG

# How Do We Know When it is LBD?



# LBDA Diagnostic Checklist

- **Cognitive Symptoms**

- Forgetfulness
- Trouble with problem solving or analytical thinking
- Difficulty planning or keeping track of sequences (poor multi-tasking)
- Disorganized speech and conversation
- Difficulty with sense of direction or spatial relationships between objects

# LBDA Diagnostic Checklist

- **Fluctuations**

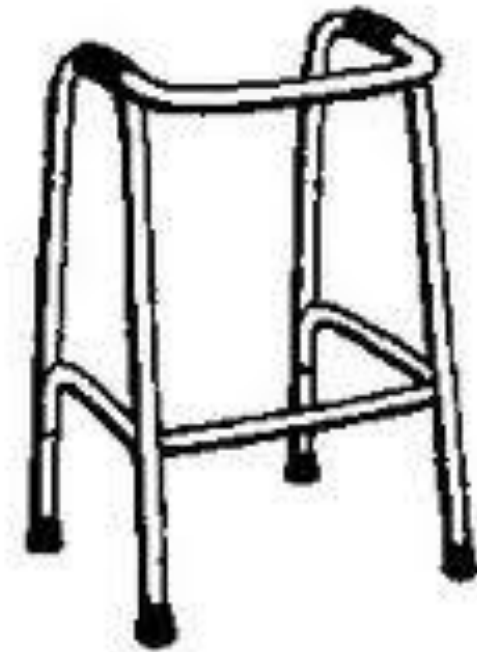
- Fluctuating levels of concentration and attention
- Unexplained episodes of confusion
- Excessive daytime sleepiness



# LBDA Diagnostic Checklist

- **Parkinson's-like Symptoms**

- Rigidity or stiffness
- Shuffling walk
- Balance problems or repeated falls
- Tremor
- Slowness of movement
- Decreases or change in facial expression
- Change in posture



# LBDA Diagnostic Checklist

- **Behavior Changes**

- Hallucinations – Seeing things that are not really present

- **Sleep Concerns (REM Behavior Disorder)**

- Acting out dreams during sleep, sometimes violently, falling out of bed

# LBDA Diagnostic Checklist

- **Reactions to Medications for Hallucinations (antipsychotics)**
  - Increased parkinsonism (stiffness, rigidity, etc.)
  - Increased confusion
  - Increased sleepiness



# Barriers to Diagnosing LBD

- Primary care physicians are often not aware of the differences in the various dementias and looking for markers of Alzheimer's Disease
- Families unknowingly delay reporting non-cognitive symptoms of LBD
- There is no definitive biomarker or conclusive diagnostic tool for LBD at this time

# Treatment

- No medication to treat the underlying disease pathology
- Comprehensive symptom management improves quality of life
  - Cognitive deficits
  - Sleep Disorders
  - Parkinsonism
  - Behavior and mood changes

# Treatment Options

- Parkinsonism
  - Levodopa/carbidopa
- Sleep Disorders
  - Melatonin
  - Clonazepam
- Cognitive Deficits
  - Donepezil
  - Rivastigmine
  - Galantamine
  - Memantine
- Behavior and Mood Changes
  - SSRIs, SNRIs
  - Atypical antipsychotics (use with caution)



**There are no FDA approved medications specifically indicated for LBD**

# Treating Psychosis/Hallucinations, Anxiety

- Follow this step-by-step process
  - Rule out any contributing physical ailments
  - Review medications that may be reduced or stopped
  - Identify environmental or social factors
  - Use non-pharmacological approaches to behavioral management first
  - Consider the use of an antidepressant as first line pharmacotherapy
  - Treat conservatively with atypical antipsychotic medications and monitor closely for possible severe reactions

# Treating Psychosis/Hallucinations, Anxiety

## Atypical Antipsychotic Medications

- **quetiapine**
- **clozapine**
- aripiprazole
- fluoxetine & olanzapine
- iloperidone
- paliperidone
- ziprasidone

## Conflicting Research

- olanzapine
- risperidone



# Avoid Traditional Antipsychotics

- chlorpromazine
- droperidol
- fluphenazine
- haloperidol
- loxapine
- molindone
- perphenazine
- pimozide
- thioridazine
- thiothixene
- trifluoperazine

# The “Double Effect”

- Carbidopa-levodopa can be used to treat parkinsonism but has a potential risk for side effect of hallucinations
- Antipsychotics can be used to treat hallucinations and other behavior/psych symptoms but can cause increased confusion and parkinsonism in LBD
- Cholinesterase inhibitors are used to treat cognitive symptoms and may reduce hallucinations, but can cause nausea, vomiting, diarrhea, loss of appetite, dizziness, drowsiness, weakness, trouble sleeping, and/or shakiness (tremor).
- For a complete listing of medications used to treat symptoms of LBD (including effectiveness and side effects) please visit:

<http://lbda.org/sites/default/files/medication-glossary.pdf>

# Other Potentially Helpful Interventions

- PT
- OT
- Speech



# LBD's Course

- Gradual progression
- Prognosis varies widely
  - DLB life expectancy 5-8 years after diagnosis
- May have a more aggressive course than Alzheimer's disease



# Caregiving Implications

- Studies indicate that caregivers of those with LBD face increased stressors than those with AD
- Symptoms affect more than cognitive abilities
  - Motor – impaired gait, mobility, fall risks
  - Autonomic – blood pressure fluctuations, syncope
  - Sleep – night-time problems such as RBD may also affect caregiver's sleep
- Activities of Daily Living (ADLs) – affected sooner in those with LBD and directly by motor and autonomic symptoms

# Caregiving Implications cont'd

- Behavioral symptoms
  - Hallucinations or delusions
  - Prevalent even in the beginning stages of LBD
  
- Under-recognized disorder
  - Primary physicians have limited knowledge of LBD
  
- Resources
  - Spouses seek out different resources

# For the Professionals

- The behavioral and psychiatric symptoms that can develop in early stages produces unique caregiving implications for professionals as well as loved ones
- ADL assistance that is also needed in early stages may involve professional caregivers sooner than AD, thus caring for a younger population with LBD
- Professionals should be aware of the increased stressors of the loved ones – need to care for the loved ones as much as the patient



# Current Research Findings

- Individuals with non-amnestic MCI (either attention or visuospatial difficulty) are 10 times more likely to progress to DLB, while individuals with amnestic MCI are more likely to develop AD<sub>1</sub>
- A history of depression or anxiety, a family history of PD, history of stroke, and the APOE genetic variant are associated with a greater risk for DLB<sub>2</sub>
- Individuals with high levels of certain lipids (ceramides and glucosylceramides) may be more at risk for dementia in Parkinson's disease<sub>3</sub>

# References

- Leggett, A., Zarit, S., Taylor, A., Galvin, J. (2010). Stress and Burden Among Caregivers of Patients with Lewy Body Dementia. *The Gerontologist*. doi.10.1093/geront/gnq055
- The Lewy Body Association. [www.lbda.org](http://www.lbda.org)
- Mayo Clinic. [www.mayoclinic.org](http://www.mayoclinic.org)
- National Institutes of Health. (Sep. 2013). *Lewy Body Dementia: Information for Patients, Families, and Professionals*. (NIH Publication No. 13-7907).