The Virtual Assessment in Lewy Body Dementia: Pandemic and Beyond
Impact of COVID-19 in those with Lewy Body Dementia

An LBDA Research Centers of Excellence Webinar
May 27, 2021
Housekeeping Notes

• The activity is being recorded.
• All attendee mics are automatically muted.
• If you have questions during the presentations, please submit them via the Q&A function.
Welcome

Today’s event was organized by the Clinical Care and Professional Education Working Group for LBDA’s Research Centers of Excellence (RCOE) Program

Co-Chairs/Course Directors

• Katherine Amodeo, MD, Westchester Medical Center, Poughkeepsie, NY
• Jennifer Goldman, MD, MS, Shirley Ryan AbilityLab and Northwestern University Feinberg School of Medicine, Chicago, IL
Support Acknowledgement

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Accreditation Statement

In support of improving patient care, this activity has been planned and implemented by the Postgraduate Institute for Medicine and Lewy Body Dementia Association. Postgraduate Institute for Medicine is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.
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Allied healthcare professionals
Participants will receive a Certificate of Attendance stating this program is designated for 1.0 AMA PRA Category 1 Credit™. This credit is accepted by the AANP and the AAPA.
ABPN Approval for Neurologists and Psychiatrists The American Board of Psychiatry and Neurology has reviewed the webinar "Understanding Current Research on Virtual Assessment" and has approved this program as part of a comprehensive CME program, which is mandated by the ABMS as a necessary component of Maintenance of Certification.
Presenter/Panelist Disclosures

Katherine Amodeo, MD  *Contracted research*: Genentech Roche Ltd., EIP Pharma Inc, Michael J. Fox Foundation, NINDS, Acadia Pharmaceuticals Inc, and Biogene through July 2020.

John-Paul Taylor, PhD  *Contracted research*: Sosei Heptares  

Jennifer Goldman, MD, MS  *Contracted research*: Acadia Pharmaceuticals Inc., Michael J. Fox Foundation, Parkinson’s Foundation.  *Honoraria*: International Parkinson and Movement Disorders Society, Medscape, Parkinson’s Foundation
Agenda

• Presentation by John-Paul Taylor, MBBS(hons) PhD MRC Psych
• Followed by Panel Discussion with Questions and Answers
Educational Objectives

At the conclusion of the activity, learners should be able to:

• Analyze data on recent survey regarding the impact of COVID on LBD population.

• Review LBD and its clinical features, “what you should know” and what to be aware of.

• Discuss why this population is particularly at risk for complications of COVID-19.
Impact of COVID-19 in those with Lewy body dementia

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LBDA
LEWY BODY DEMENTIA ASSOCIATION

Newcastle University
Outline

• DLB: A reminder of the diagnostic and clinical features
• COVID-19 and dementia
• COVID-19 and Parkinson’s disease
• COVID-19 and DLB
Disclaimer on this presentation:

• UK perspective
• Information remains marginal on LBD and COVID-19 – therefore maybe adding 2 and 2 and coming up with 5
Diagnosis and management of dementia with Lewy bodies
Fourth consensus report of the DLB Consortium

ABSTRACT
The Dementia with Lewy Bodies (DLB) Consortium has refined its recommendations about the clinical and pathologic diagnosis of DLB, updating the previous report, which has been in widespread use for the last decade. The revised DLB consensus criteria now distinguish clearly between clinical features and diagnostic biomarkers, and give guidance about optimal methods to establish and interpret these. Substantial new information has been incorporated about previously reported aspects of DLB, with increased diagnostic weighting given to REM sleep behavior disorder and 123Iodo-metaiodobenzylguanidine (MIBG) myocardial scintigraphy. The diagnostic role of other neuroimaging, electrophysiologic, and laboratory investigations is also described. Minor modifications to pathologic methods and criteria are recommended to take account of Alzheimer disease neuropathologic change, to add previously omitted Lewy-related pathology categories, and to include assessments for substantia nigra neuronal loss. Recommendations about clinical management are largely based upon expert opinion since randomized controlled trials in DLB are few. Substantial progress has been made since the previous report in the detection and recognition of DLB as a common and important clinical disorder. During that period it has been incorporated into DSM-5, as major neurocognitive disorder with Lewy bodies. There remains a pressing need to understand the underlying neurobiology and pathophysiology of DLB, to develop and deliver clinical trials with both symptomatic and disease-modifying agents, and to help patients and carers worldwide to inform themselves about the disease, its prognosis, best available treatments, ongoing research, and how to get adequate support. Neurology® 2017;89:1-13
A brief word on diagnostic nomenclature

Lewy body dementia includes both:

Parkinson’s disease dementia (PDD) dementia starting 1 year or more after well established Parkinson’s disease

Dementia with Lewy bodies (DLB) dementia that occurs before or concurrently with parkinsonism or within 1 year of onset of motor symptoms
Clinical Diagnostic Criteria

- Motor parkinsonism
- Visual Hallucinations
- REM sleep behaviour disorder
- Cognitive Fluctuation

• Probable DLB $\rightarrow$ 2 or more core clinical features
• Possible DLB $\rightarrow$ 1 core clinical feature

McKeith et al, 2017
Clinical Diagnostic Criteria

- **Supportive Clinical Features**
  - Severe antipsychotic sensitivity
  - Postural instability, repeated falls
  - Syncope or other transient episodes of unresponsiveness
  - Severe autonomic dysfunction
  - Hypersomnia
  - Hyposmia
  - Hallucinations in other modalities
  - Systematized delusions
  - Depression, Anxiety, Apathy

McKeith et al, *Neurology* 2017
Indicative biomarkers

McKeith et al, Neurology 2017
Supportive biomarkers

McKeith et al, Neurology 2017
DLB symptom management

Complex multisystem disease

- Treatment of one symptom leading to worsening of another
- Heterogeneity in range of symptoms expressed between patients
- Range in severity of symptoms between patients
- Symptom severity fluctuation within individual patients and variations in manifestation of symptoms
Pubmed publications COVID-19 (20th May 2021)

- COVID-19: 135,878
- COVID-19 & Dementia: 619
- COVID-19 & Lewy: 19
- COVID-19 & LBD as a focus: 2
Subjective experience of time in dementia with Lewy bodies during COVID-19 lockdown

Dylan Torboli ¹, Giovanna Mioni ¹, Cinzia Bussé ², Annachiara Cagnin ³, Antonino Vallesi ⁴ ³

The challenges of COVID-19 for people with dementia with Lewy bodies and family caregivers

Alison Killen ¹, Kirsty Olsen ¹, Ian G McKeith ¹, Alan J Thomas ¹, John T O’Brien ², Paul Donaghy ¹, John-Paul Taylor ¹
COVID-19 and dementia
COVID-19 and dementia: Analyses of risk, disparity, and outcomes from electronic health records in the US

QuanQiu Wang | Pamela B. Davis | Mark E. Gurney | Rong Xu

Retrospective case-control analysis of EHRs

61.9 million adult and senior patients (age ≥ 18 years) in the United States up to August 21, 2020

Blacks with dementia had higher risk of COVID-19 than Whites (AOR: 2.86 [95% CI, 2.67–3.06], P < .001)

Dementia and COVID-19 6-month risk:
  • Mortality 21%
  • Hospitalization 59%
Retrospective case-control analysis of EHRs

61.9 million adult and senior patients (age ≥ 18 years) in the United States up to August 21, 2020

- Controlled for nursing home stay
- Other latent factors?
- Cognitive impairment – limiting compliance with social distancing, mask wearing, or hand washing
- Dementia as state with increased susceptibility to SARS-CoV2 infection

Unable to examine DLB due to their insufficient sample sizes
Dementia x1.7 risk of death even after adjusting for age

Residents with dementia accounted for 52% of COVID-19 cases

Constituted 72% of all COVID-19 deaths in the nursing home
COVID-19 and Parkinson’s disease
COVID-19 and Parkinson’s disease

- Risk of COVID-19 associated with:
  - Increasing age & frailty
  - Comorbidities including obesity, cardiovascular disease and diabetes
  - Pre-existing pulmonary disease
  - Male
  - Nursing home resident
  - Notably Vitamin D supplementation was associated with lower cases of COVID-19 in PD (data amalgamated, however, from non-randomised studies)

Chambergo-Michilot et al. *Eur J Neurol* 2021
COVID-19 and Parkinson’s disease

• Outcomes from COVID-19
  • Median infection prevalence ranged from 0.6% to 8.5% with median age of 74
  • 28.6% required hospital admission
  • 37.1% required L-dopa dose increase
  • 18.9% died

Artusi et al. J Parkinsons Dis 2021
COVID-19 and Parkinson’s disease

• Outcomes from COVID-19 pneumonia
  • Parkinson's Disease is associated with poor in-hospital outcomes [OR 2.64 (95% CI 1.75-3.99)]
    • Severe COVID-19 [OR 2.61 (95% CI 1.98-3.43)]
    • Mortality from COVID-19 [RR 2.63 (95% CI 1.50-4.60)]
  • Outcomes influenced by age but not gender or dementia

Putri et al. Parkinsonism Relat Disord 2021
COVID-19 and Parkinson’s disease

• Worsening of motor symptoms in 30-41% of PD patients
• Worsening of non-motor symptoms
  • Anxiety (25-31%)
  • Sleep (22-41%)
  • Emotional status (25-30%)
• Explanations include social isolation, lack of exercise, reduced face to face contact with clinical team

Chambergo-Michilot et al. Eur J Neurol 2021
COVID-19 and Parkinson’s disease

• From a vaccination perspective:
  • Incidence of side effects in Parkinson’s disease seem to be no different than general population
  • Doesn’t appear to affect therapies in Parkinson’s disease
  • Data from frail elderly persons living in long-term care facilities suggests that extra caution is needed for this specific subgroup
  • Therefore prudent to be careful with administering the vaccine to very frail and terminally ill elderly persons with PD (and DLB?)

Torjesen et al. *BMJ* 2021
Bloem et al. *Journal of Parkinson’s disease* 2021
COVID-19 and DLB
People with DLB will be biased against in treatment decision algorithms that consider multimorbidity for critical care.
DLB and COVID-19

- Over-representation of people with DLB in nursing homes
  - Swedish study\(^1\) (n=650) found that 16% of residents have 2 or more core symptoms of DLB
  - Rising to 20% if parkinsonism included
- Nursing home residents
  - Population highly vulnerable to the spread of COVID-19
  - Represent 30-60\(^%\)\(^2\) of COVID-19 deaths
- Intimation is that people with DLB are likely to be at high risk of getting COVID-19 with likely significant morbidity / mortality

2. ECDC Public Health Emergency Team Euro Surveill. 2020
DLB and COVID-19

- Physical challenges – some examples:
  - People with DLB are at increased risk of bronchopneumonia\(^1\)
  - Failure to notice/report symptoms due to cognitive impairment
  - Failure to adhere to social distancing, mask-wearing rules due to cognitive impairment
  - Lack of face-to-face contact (professionals/family) due to isolation might lead to progression of symptoms
  - Increased risk of developing delirium compared to other dementias\(^2\)

2. McKeith et al. *Neurology* 2020
DLB and COVID-19

- Physical challenges – some examples:
  - Social isolation with cognitive impairment leading to
    - Variability in adherence to medications
    - Poor hydration
  - Lack of exercise – increasing the risks of sarcopenia and falls
DLB and COVID-19

• Cognitive and Neuropsychiatric challenges – some examples:
  • Lack of meaningful social contact
    • Exacerbation of hallucinations and worsening of cognitive fluctuations and apathy
    • Isolation exacerbating delusional ideas
    • Incomplete understanding of the situation leading to depression, anxiety and agitation
  • Virtual communication issues due to executive impairment and visuo-perceptual dysfunction and sometimes incorporation of what is on the “screen” into delusions/hallucinations
    • With healthcare teams
    • With family and friends
DLB and COVID-19

- Family and care-giver challenges – some examples:
  - Higher baseline care-giver burden and depression with DLB compared to AD\(^1\)
  - Likely to be exacerbated during COVID era
    - Closure of day care centres
    - Lack of overnight respite
    - Loss of formal/professional care-givers e.g. for personal care
    - COVID-19 risk issues for care-givers themselves esp. with comorbidities

COVID and LBD survey

• Conducted via the Lewy body Society UK and led by Alison Killen, Newcastle University, UK
• Promoted by them in their newsletter, on social media and contact with Admiral nurse
• Ran for 5 weeks in Jan-Feb 2021
• Respondents 87 in total; carers responding were asked to do so on behalf of the care-recipient if they needed assistance rather than giving their own perspective
• Essentially sample of community dwelling people with DLB and their families/care-givers
What has been the biggest change?
Ability to access social support and leisure activities

Agree

Disagree
## Access to health services

<table>
<thead>
<tr>
<th>Situation</th>
<th>Once</th>
<th>On 2 or more occasions</th>
<th>Not experienced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital appointment cancelled</td>
<td>13.8%</td>
<td>29.9%</td>
<td>56.3%</td>
<td>49</td>
</tr>
<tr>
<td>Hospital appointment by phone</td>
<td>18.4%</td>
<td>44.8%</td>
<td>36.8%</td>
<td>32</td>
</tr>
<tr>
<td>Hospital appointment by video call</td>
<td>18.4%</td>
<td>10.3%</td>
<td>71.3%</td>
<td>62</td>
</tr>
<tr>
<td>Primary care appointment by phone</td>
<td>20.7%</td>
<td>60.9%</td>
<td>18.4%</td>
<td>16</td>
</tr>
<tr>
<td>Primary care appointment by video call</td>
<td>3.5%</td>
<td>10.3%</td>
<td>86.2%</td>
<td>75</td>
</tr>
<tr>
<td>Offered a healthcare appointment by video call but unable to use this method</td>
<td>8.1%</td>
<td>6.9%</td>
<td>85.1%</td>
<td>74</td>
</tr>
<tr>
<td>Support from specialist nurse reduced or cancelled</td>
<td>19.5%</td>
<td>27.6%</td>
<td>52.8%</td>
<td>46</td>
</tr>
<tr>
<td>Support from an allied health professional reduced or cancelled</td>
<td>18.4%</td>
<td>24.1%</td>
<td>57.5%</td>
<td>50</td>
</tr>
</tbody>
</table>

### Take home messages – about 50% experienced disruption
- Many cancelled appointments
- Greater use of telephone and video calls
- Reduced support from clinical teams
My husband's mood has deteriorated to the extent that he had suicidal thoughts and made a feeble attempt by throwing himself down a small flight of stairs.

Feeling depressed at not being able to go out as much as usual. I also find it difficult to wear a mask and keep wanting to take it off. It’s also difficult to understand what others are saying when they are wearing a mask.

Impact of the COVID related restrictions and changes

<table>
<thead>
<tr>
<th>My mood has been low to an extent that is unusual for me</th>
<th>Agree strongly</th>
<th>Agree slightly</th>
<th>Neither agree or disagree</th>
<th>Not applicable</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>54.3%</td>
<td>32.1%</td>
<td>9.9%</td>
<td>3.7%</td>
<td>81</td>
</tr>
</tbody>
</table>
My memory and concentration have become worse

<table>
<thead>
<tr>
<th>Agree strongly</th>
<th>Agree slightly</th>
<th>Neither agree or disagree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>63.5%</td>
<td>32.9%</td>
<td>3.5%</td>
<td>85</td>
</tr>
<tr>
<td>54</td>
<td>28</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Memory problems are worse, mobility is worse, so bored need to get back to normal routine

Being unable to spend quality time with family is so important and has ongoing effects. Seeing them on Zoom is ok but causes more confusion. It’s hard to understand the rules of lockdown, more confusion!
My hallucinations have become more frequent or severe

<table>
<thead>
<tr>
<th>Agree strongly</th>
<th>Agree slightly</th>
<th>Neither agree or disagree</th>
<th>Not applicable</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>52.56%</td>
<td>41</td>
<td>26.92%</td>
<td>21</td>
<td>12.82%</td>
</tr>
</tbody>
</table>

Fear triggered start of hallucinations beginning with hallucination of government COVID meeting taking place in living room and obliged to attend.

Increased hallucinations and loneliness. Worsened my condition and deterioration. Had to go into hospital and no-one could visit me. I had to be reminded every day about COVID. Wearing of masks put a barrier between me and others.
Any positives?

- Doing a lot of daily walks with our puppy
- Using supermarket delivery has been a bonus
- We have discovered how caring our next door neighbors are
- Reduced noise from planes & traffic
- I have had the company of my immediate family as they have been home from work a great deal and are able to work from my house for a couple of hours every now and again so that my wife has a break
- Social occasions with groups of people are no longer enjoyable for me so happy to be in one to one company. Happy to potter around and go for walks. I am in less stressful situations
Estimated 17% of people with LBD in survey had caught COVID-19.
## Duration of COVID symptoms

<table>
<thead>
<tr>
<th>Response</th>
<th>%</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 2 weeks</td>
<td>33.3%</td>
<td>5</td>
</tr>
<tr>
<td>2-4 weeks</td>
<td>40.0%</td>
<td>6</td>
</tr>
<tr>
<td>1-3 months</td>
<td>26.7%</td>
<td>4</td>
</tr>
<tr>
<td>over 3 months</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>15</td>
</tr>
</tbody>
</table>
## Changes in symptoms since having COVID

<table>
<thead>
<tr>
<th>Response</th>
<th>Improved</th>
<th>About the same</th>
<th>Slightly worse</th>
<th>Much worse</th>
<th>Symptom not experienced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical symptoms i.e. movement difficulties</td>
<td>0.00%</td>
<td>31.3%</td>
<td>25.0%</td>
<td>43.8%</td>
<td>0.0%</td>
<td>16</td>
</tr>
<tr>
<td>Thinking and concentration</td>
<td>0.00%</td>
<td>37.5%</td>
<td>12.5%</td>
<td>50.0%</td>
<td>0.0%</td>
<td>16</td>
</tr>
<tr>
<td>Sleep disturbances</td>
<td>6.3%</td>
<td>25.0%</td>
<td>25.0%</td>
<td>37.5%</td>
<td>6.3%</td>
<td>16</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>18.8%</td>
<td>37.5%</td>
<td>12.5%</td>
<td>31.3%</td>
<td>0.0%</td>
<td>16</td>
</tr>
<tr>
<td>Beliefs which others say are false</td>
<td>12.5%</td>
<td>25.0%</td>
<td>18.8%</td>
<td>25.0%</td>
<td>18.8%</td>
<td>16</td>
</tr>
<tr>
<td>Taste and or smell</td>
<td>0.0%</td>
<td>50.0%</td>
<td>0.0%</td>
<td>25.0%</td>
<td>25.0%</td>
<td>16</td>
</tr>
</tbody>
</table>

### Take home messages
- In one third to half of people with DLB there was a worsening across majority of symptom domains (e.g. motor, cognitive, sleep and psychosis) with COVID-19 infection
Limitations

• UK context
• Many of the surveys likely to be completed / supported by care-giver / family member
• Biased to those less severely affected
• Unrepresentative sample
• No definitive diagnosis
• Limit on information that could be collected online
COVID-19 and direct brain effects
Brundin et al. 2020 Trends in Neurosci
Potential routes of entry of SARS-CoV2 and effects on brain function

Effects of SARS-CoV2 infection on brain:
- Headache & dizziness
- Loss of smell & taste
- Impaired consciousness/confusion
- Seizures
- Encephalopathy
- Encephalitis
- Meningitis

Taken from: Dowd and McKernan *Neuronal Signal*, 2021
Neurological and neuropsychiatric complications of COVID-19 in 153 patients: a UK-wide surveillance study

62% cerebrovascular event (ischaemic stroke, intracerebral haemorrhage, vasculitis)

31% altered mental state (encephalopathy and encephalitis, psychosis, dementia-like syndrome, affective)

20-30% of hospitalised COVID-19 patients have neurological/neuropsychiatric complications

Varatharaj et al. *Lancet Psychiatry* 2020

Median age 71

Neuropsychiatric more common in younger

Cerebrovascular more common in older
Long term impact of COVID

• Concerns with regard to long COVID
  • Wide variety of symptoms e.g.
    • shortness of breath, palpitations, joint pain, tinnitus, anosmia
    • sleep disturbances, severe fatigue, depression, anxiety, cognitive dysfunction “brain fog”
  • In more severe disease possible long term neurological and neuropsychiatric sequelae
Theoretical concerns

• Sleeping sickness / encephalitis lethargica epidemic followed Influenza A H1N1 pandemic

• Fever, catatonia, coma and parkinsonism

• Presence of antibodies against coronavirus in CSF patients with Parkinson’s disease, suggesting a certain relationship between both entities (Fazzini et al. Movement Disorders 1992)
Potential for neurotropic viruses e.g. MERS and SARS coronaviruses to trigger formation of Lewy bodies and cause Parkinsonism

Infiltration of T-cells was found perivascular and in the brain parenchyma – altered blood brain barrier integrity?

Viral access to the brain via neuronal pathways e.g. through infected motor or sensory neurons or pituitary (ACE-2 receptors)

Viral RNA-positive regions in yellow
Activated microglia in blue
Lewy bodies (α-synuclein+) in orange
COVID-19 neuropathology at Columbia University Irving Medical Center/New York Presbyterian Hospital

Thakur et al. *Brain* 2021

- 41 consecutive patients with SARS-CoV-2 infections underwent autopsy
- Mean age 74
- 59% admitted to ICU
- Neuropathological examination of 20-30 areas from each brain
- 44% had evidence of neuropathology
COVID-19 neuropathology at Columbia University Irving Medical Center/New York Presbyterian Hospital
Thakur et al. *Brain* 2021

- Hypoxic/ischemic changes in all brains, both global and focal; large and small infarcts, many of which appeared haemorrhagic

- Microglial activation most prominently in the brainstem

*But:*

- Sparse T lymphocyte accumulation in either perivascular regions or in the brain parenchyma

- Very low viral RNA and protein and no correlation with histopathology

Findings suggest changes not result direct viral infection of brain but rather likely from systemic inflammation with synergistic contribution from hypoxia/ischemia
Drugs used in LBD in relation to acute COVID-19 treatment

• Tocilizumab – might be potentiated by L-dopa
• Dexamethasone might decrease effectiveness of zonisamide, aripiprazole, clozapine, domperidone
• Be aware of potential effects of some other tremor related drugs (e.g. primidone, topiramate) affecting either tremor related drug or COVID-19 treatment although latter are rarely prescribed in DLB
• Cold/flue remedies may interact with MAO-B inhibitors

UPDATE: Treating COVID-19 in PD and other Movement Disorders: A Review of Drug Interactions
Conclusions/Discussion Points

• Likely increased risk to exposure to COVID-19 and increased disease severity in DLB

• Unclear direct effects of COVID-19 on DLB

• Pandemic has had profound indirect impacts on day-to-day function and mood in people living with DLB

• Reduced healthcare contact likely to bring significant risks
Impact of COVID-19 on dementia research

- 95% of researchers have had projects and trials delayed because of COVID-19
- 1 in 5 had research projects cancelled completely
- Only 15% of research group leaders have resumed activity at their labs at more than 50% capacity
- 13% have not yet returned to their workplaces

One in three dementia scientists consider leaving research due to COVID-19
Panel Discussion and Q&A

Moderator:
Katherine Amodeo, MD

Panelists:
John-Paul Taylor, PhD
Jennifer Goldman, MD, MS
Thank you!

• A follow up email will be sent to you at the end of this activity.

• Please complete the evaluation using the instructions in that email.

• After you complete the evaluation, you may download and print the CME credit/Certificate of Participation or save it to your computer in your files.
CME Activities

• Medscape and LBDA collaboration
  • On demand: An Introduction to Lewy body dementia
  • More Medscape partnerships in development

Watch your inbox for more information about these activities!
LBDA’s Research of Excellence Program

A program consisting of 26 of the nation’s leading LBD clinicians to which LBD patients and their families can turn for advanced LBD diagnosis and treatment.

Through our combined efforts we are connecting many experienced physicians and respected institutions that are committed to conducting LBD research, providing advanced LBD care, community outreach, and support.
LBDA's Mission

Through outreach, education and research, we support those affected by Lewy body dementias, their families and caregivers.

We are dedicated to raising awareness and promoting scientific advances.

www.lbda.org