BDR NEWS

Brains for Dementia Research

Brains for Dementia Research Newsletter Summer 2022

Physical assessments – why do we do them?

Now that the threat of COVID is subsiding, we are delighted to be able to meet again in person. This allows us to really engage with you our participants and study partners, and to continue with some of the reviews which simply cannot be done remotely, such as assessments of walking (known as gait analysis) and measurements of grip strength. These physical assessments were introduced in 2018 as a new measure of frailty, but why is this important for dementia research?

Although Alzheimer's Disease is the most common form of dementia, it is not the only type as other common causes include Dementia with Lewy bodies and Vascular Dementia. To improve and manage dementia treatments, we need robust measures to help distinguish between the dementia subtypes. This can be difficult as their primary symptoms often overlap but research has indicated that the way in which an individual walks can tell us something about their brain function. For instance, it has been shown that a **slowing of gait may occur up to 12 years prior to the onset of mild cognitive impairment and gait irregularities have been linked to a significant increase in an individual's likelihood of developing dementia 6-10 years later.** Specifically, a slower pace has been observed in individuals with vascular dementia whereas by contrast, individuals with Alzheimer's disease show a higher stride variability and shorter step length.

As well as changes in gait, research has shown that a reduction in hand grip strength in middle age is linked to dementia risk, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7890203/ This is important as midlife offers a window for change and studies suggest that even small improvements in muscle strength might reduce a person's risk of vascular dementia. By carrying out this assessment as part of the BDR review, we have the unique opportunity of comparing the findings from grip strength readings, with the clinical assessments of cognition, and eventually, with the neuropathologically diagnosed human brain tissue. This linkage is critically important if we are to improve the accuracy of dementia diagnoses and the information can also help us to identify those individuals early on, who are most at risk of developing the disease and thus, most likely to benefit from being offered new treatments as they become available.

Diamond-lewy assessment Toolkit

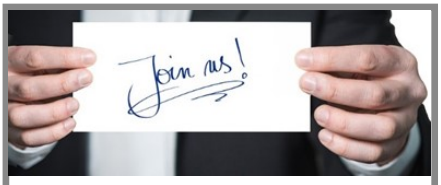
DIAMOND
L E W Y

In the autumn, we plan to introduce **a new assessment**, a toolkit aimed at identifying features of Dementia with Lewy Bodies (DLB).

The Toolkit was a result of the Diamond-Lewy Study which showed that DLB is often under-diagnosed. This leads to a lack of treatment or, to the use of inappropriate treatments. To improve diagnostic accuracy, the assessment toolkit which involves answering a few questions and undergoing a brief physical review was developed. We will be asking some of our BDR participants to undergo this new assessment, but like all assessments, participants are free to take part or decline whichever they prefer.

What's happening in your local BDR?

Brains for Dementia Research



We hope that you enjoyed the online engagement event hosted by the BDR team from King's College, London.

Our next event will come from the BDR team in **Newcastle** on **Wednesday 5th October.**

Details of the event and how to join will be emailed to participants and study partners nearer the time.

If you have not attended any of the previous events but would like to do so, you can register your interest by going to the BDR website

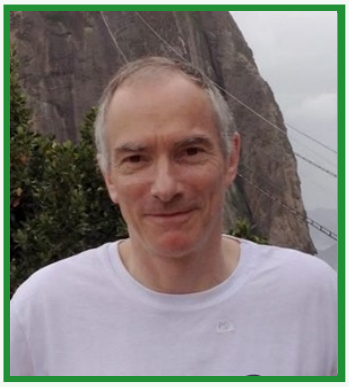
Online Engagement Events - Brains for Dementia Research (alzheimersresearchuk.org)

Many thanks for your responses to our request for feedback. In general, your comments were very positive and we are delighted that our newsletters are welcomed.

Some participants experienced difficulties in accessing the video detailing the donation process. The link is provided again below. Hopefully it will work without a hiccup!

The Newcastle Brain Tissue Resource on Vimeo

A special **Thank You** to Professor Seth Love



September 2021 saw the retirement of Professor Seth Love (pictured right). Professor Love was the neuropathologist and co-director at South West Dementia Brain Bank (SWDBB) in Bristol. Whilst he remains at the University of Bristol overseeing his research grants, this marks the end of three decades of invaluable support and expertise, without which the very foundation of this valuable resource would not exist.

Professor Love's involvement in brain banking and dementia research dates back to 1986, when he worked in San Diego at the Alzheimer's Disease Research Center. In the mid-1990's, he joined the SWDBB and over subsequent years participated in a number of review panels and scientific advisory committees on Brain Banking. This includes the Medical Research Council (MRC), Alzheimer's Society and Alzheimer's Research Trust (now Alzheimer's Research UK), Parkinson's Disease Society and Multiple Sclerosis Society. He served on the Steering Committee of the UKCRC Tissue Directory, the Assessment Panel of the Multiple Sclerosis and Parkinson's UK Tissue Banks, the Management Board of Queen Square Brain Bank, and the Australian Dementia Research Reference Panel reviewing brain banking arrangements for Australian dementia research. From 2013-2020 he was Director of MRC Brain Banks UK. Unfortunately, a successor has not yet been found, but in the spirit of BDR, Newcastle's neuropathologist, Professor Johannes Attems is currently assisting the SWDBB by assessing donated brains and reporting the neuropathological findings.

In the wake of Professor Love's departure, we are delighted to announce that Dr Liz Coulthard has agreed to become our new SWDBB brain co-director. She joins our current co-director, Professor Patrick Kehoe and Brain Bank Manager Dr Laura Palmer as a welcome addition to the senior SWDBB team.

Blood sampling to re-start

Now that we are able to meet in person, we plan to re-start our blood sampling program.

Although we are not able to take blood from everyone, we are hoping to take samples from some participants who have not been able to donate before and if our previous donors are keen to continue, then we are keen to see you!