

New approaches to understanding Alzheimer's and Parkinson's disease

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In a study presented today at the Alzheimer's Association International Conference 2016, researchers at the Douglas Mental Health University Institute have explored how some people may develop the hallmarks of Alzheimer's or Parkinson's but never develop symptoms.

Alzheimer's is typified by the build-up of [amyloid protein](#) in the brain, and Parkinson's disease by the loss of a key chemical messenger in the brain called dopamine.

However, it's becoming clear that individuals can exhibit these changes but show no changes in their memory, thinking or day-to-day function. Using brain imaging data from large-scale studies into both diseases, the team identified regions of the brain associated with resilience to these changes, such as a key region in the memory centre of the brain which was preserved despite the build-up of amyloid.

By mapping these potential protective networks in the brain, the researchers hope to identify potential new approaches to treat the disease as well as ways to indicate those most at risk.

Dr Rosa Sancho, Head of Research at Alzheimer's Research UK, said:

"The observation that some individuals can exhibit Alzheimer's or Parkinson's disease changes in their [brain](#) without showing any symptoms has raised important questions for researchers trying to tackle these diseases. This study suggests that there may be differences in the

brains of individuals who are more resilient to diseases like Alzheimer's, providing clues to what [brain areas](#) may be most important for that protection. Understanding the mechanisms underpinning resilience to [neurodegenerative diseases](#) across the population can help to uncover new targets for treatments or approaches to intervene to delay the onset in those most at risk."

Provided by Alzheimer's Research UK

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