

**November 2018**

## Cause

1. Research, led by the University College London, suggests a simple neck scan could predict cognitive decline up to ten years before symptoms appear. Researchers describe the “pulse” that travels around the body, generated by the heart, and the strength of this pulse is cushioned by healthy, elastic blood vessels. With age and / or high blood pressure, the blood vessels can become hard and their protective qualities diminished. The smaller, more fragile vessels which supply the brain can become damaged due to this stronger, uncushioned pulse. The result can be minor bleeds, known as mini-strokes, which may be contributors to the development of dementia. During the study, over 3,000 participants were given an ultrasound, which measured the intensity of the pulse travelling towards the brain. Over the next 15 years, the research team monitored memory and problem-solving ability. Participants with the highest intensity pulse at the start of the study were approx. 50% more likely to exhibit accelerated cognitive decline over the next decade compared to the rest of the study group.

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2. A study, conducted by The Washington University School of Medicine, links heart disease with dementia. Risk factors, such as high BMI, type 2 diabetes, elevated triglyceride and cholesterol levels, were considered in the study, which looked at the DNA of over 1,000,000 people. The researchers found that genes that influenced lipid metabolism were the ones most related to the risk of Alzheimer's disease, suggesting that people who reduce their cholesterol and triglyceride levels could lower their chances of developing the disease.

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3. Denmark: A nationwide study of women with at least one live birth or stillbirth between 1978-2015 has found there is an increased risk of dementia, particularly vascular dementia, in those participants who suffered from pre-eclampsia during pregnancy. Women with a history of pre-eclampsia were three times more likely to develop vascular dementia in later life.

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4. Researchers in New Delhi say they may have discovered the reason behind errors in DNA which may lead to the development of dementia and other diseases such as Parkinson's. The researchers hypothesise these conditions may begin early in the womb during development of the embryo, with clusters of brain cells containing spontaneous genetic

errors that could lead to the production of misfolded proteins, the catalyst for neurodegenerative diseases.

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## Cure

1. Research is proving that education for seniors improves their cognitive functioning and overall wellbeing, even when dementia is present. For four years, Ryerson University, in partnership with Baycrest Health Services, has been offering a range of courses to seniors, some with dementia and some without, but sharing the same classroom. The researchers found that increasing engagement in seniors unlocks memory and improves cognition, whilst reducing social isolation and depression. The students are engaged and “present” during classes, able to maintain rational arguments and contribute, in most cases, to class discussion.

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2. A group of scientists from the Krembil Research Institute in Toronto has found that a daily cup of coffee may help protect you against both Alzheimer's and Parkinson's disease. By studying the compounds in light, dark and decaffeinated dark roast, the researchers discovered that the protective qualities of coffee lie in its phenylindanes, a by-product of the roasting process, rather than in caffeine, as once thought. The phenylindanes were found to inhibit the clumping together of toxic proteins in the brain.

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3. Many neurodegenerative conditions have similar symptoms. Scientists at University College London have developed a computer algorithm that can learn to not only recognise different types of dementia from MRI brain scans, but predict how the brain will be affected as the disease progresses. To test out SuStaln, a database of brain scans from 365 volunteers was analysed, with changes to the brain associated with Alzheimer's and dementia correctly identified. It could establish what stages the conditions were at and how they differ from each other.

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## Care

1. A new study from the University of Exeter has revealed that almost three-quarters of people living with dementia, also have at least one other health condition. These results reinforce the need for health services to adapt in order to address the increasing strain on resources and staff. The conditions, ranging from hypertension to diabetes, depression and arthritis, contribute to an increased reduction in wellbeing. They can also be

misdiagnosed, or overlooked completely, with dementia as a complicating factor. The study highlights the need for integrated planning and management of health conditions to give people with dementia an overall better quality of life and to reduce poor outcomes during hospital stays.

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2. Researchers from Griffith University are working on a national trial, looking at how intergenerational care can be made available more widely, for people living with dementia. Strictly-regulated aged and child care sectors pose a challenge for would-be providers, resulting in intergenerational care remaining a niche program. Researchers on the study hope to prove the social and cognitive benefits were worthy of government attention and support. Staff at Imlay House, in NSW, report their "kindy club" has given a new lease of life to their residents, with increases in their cognitive and social skills. Non-verbal residents will often speak, residents who are normally tearful or depressed will join in with games and activities. The staff believe the senior's interaction with children brings back a sense of purpose and engagement, providing a link to memories of caring for their own children, and helps with self-esteem and a feeling of acceptance.

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