

May 2019

1. Volunteers in the UK are taking part in a new study to help scientists investigate the possible link between sleep problems and Alzheimer's disease. Sleep disturbances are common in people who have dementia but it is unknown whether the disease causes the problem or if the symptoms are an early sign of the disease developing. A device, worn on the wrist, will record participants' sleep patterns at home, before they take part in lab sessions involving complete sleep deprivation or bouts of disrupted sleep.
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2. Researchers in the UK are in the process of developing a number of devices that will help monitor the health of people living with dementia, helping them to remain independent in their own homes. Devices such as miniature electroencephalograms, worn in the ear, will monitor brain activity, whilst sensors around the home will register changes in walking patterns, blood pressure, sleep habits and body temperature. Recording these changes enables caregivers and health professionals to act quickly to prevent serious illness or falls and reduce the amount of hospital admissions for people with dementia.
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3. Researchers in the U.S. have newly-described a form of dementia that closely resembles Alzheimer's and may affect a quarter of people aged 85 and older. The disease, christened LATE (limbic-predominant age-related TDP-43 encephalopathy), is caused by an accumulation of the TDP-43 protein in the brain, as opposed to the characteristic tau and amyloid proteins in Alzheimer's. Both diseases affect cognition and memory, and shrinkage in the hippocampus, but LATE appears to result in a slower decline. Previously, the disease was under-recognised and misdiagnosed; distinguishing LATE from Alzheimer's will help narrow the target for researchers developing treatments for both diseases.
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4. A new film, scheduled to run on Netflix, looks at dementia research, misconceptions about the disease, and the film maker's personal experience as the grandson of someone living with the disease. John De Boer believes prevention is better than cure, and talks about how we can slow the progression of dementia, focusing on healthy lifestyle and lifelong learning.
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5. Current research shows that identifying and managing pain can improve the quality of life for people living with dementia. The Australian Federal Government is set to provide a \$5 million grant to medical device company, Painchek, to trial its pain recognition and monitoring technology in residential facilities throughout the country. The Painchek app has been developed to help people who cannot verbalise their pain, using facial recognition software to detect the presence of facial micro-expressions which are indicative of the presence of pain. This data is then combined with other indicators of pain such as vocalisations, behaviours and movements captured to calculate a pain severity score.

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6. Researchers have found that people who are easily deceived by phone scams, which can be a sign of diminished social cognition, are more at risk of developing dementia. Participants in a study conducted by Rush University completed a "scam awareness questionnaire and a number of neuropsychological tests over an average of six years. Low scores on the fraud consciousness test correlated with symptoms of Alzheimer's disease (such as beta amyloid plaque) in the brain, discovered during autopsy. Social cognition is a complex behaviour, and integrates several different abilities - cognition, emotion regulation, making inferences and perceptions about others' behavior as well as regulating one's own impulses.

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