

June 2021

1. A new report published by Hesta this month details the experiences of aged care workers in Australia, highlighting the need for capacity building, pay increases, professional development and training to improve job satisfaction and retention rates.
<https://www.hesta.com.au/agedcarereport21>
2. New research into statins has shown people with mild cognitive impairment who use *lipophilic statins have a more than doubled risk of developing dementia. Over the course of an eight-year study, researchers from the University of California found a link between lipophilic statins, which are better at crossing the blood-brain barrier, and increased metabolic decline in the posterior cingulate cortex.
** Statins differ in their properties based on lipophilicity. Hydrophilic statins are liver specific, whereas lipophilic statins are widely distributed in different tissues.*
<https://www.diagnosticimaging.com/view/novel-pet-tracer-capable-of-predicting-abdominal-aortic-aneurysm-rupture>
3. Pharmaceutical company Biogen has been successful in fast-tracking approval from the FDA for its new Alzheimer's drug aducanumab (marketed as Aduhelm). Despite uncertainties around its efficacy, the FDA approved the drug based on results that seemed "reasonably likely" to benefit people with Alzheimer's disease. Aduhelm assists with clearing beta-amyloid (plaques which form in the brain of people with Alzheimer's) but does not manage symptoms of the disease.
<https://www.abc.net.au/news/2021-06-08/us-approves-first-alzheimers-drug-in-20-years/100197170>
4. Researchers in the U.S. have identified mechanisms by which cognitive impairment, similar to Alzheimer's dementia, can develop in people who have contracted COVID-19. While the researchers found little evidence that COVID directly targets the brain, they noted close network relationships between the virus and genes/proteins associated with several neurological diseases, including Alzheimer's. Similarly, people with the APOE E4 gene (the greatest risk factor for Alzheimer's) had a decreased expression of antiviral defence genes, possibly increasing their chances of contracting COVID.
<https://www.news-medical.net/news/20210611/Study-identifies-mechanisms-by-which-COVID-19-can-lead-to-Alzheimers-disease-like-dementia.aspx>

5. Research using elderly squirrel monkeys has shown a new therapy, targeting misshapen proteins, amyloid beta plaques and tau tangles, may be an effective treatment for Alzheimer's disease. The study showed that the monkeys had up to 59% reduction in plaques in their brains after being treated with CpG ODN (CpG oligodeoxynucleotides) and also a drop in levels of toxic tau. Cognition was also shown to improve; the monkeys performed better in puzzle-solving tests and appear to learn new puzzle-solving skills much faster than their untreated peers. Further study is required to ascertain whether the treatment would work in the early stages of the disease, and whether eventually it could be trialled in humans.

<https://www.technologynetworks.com/neuroscience/news/elderly-monkeys-gained-cognitive-benefits-from-experimental-alzheimers-therapy-349858>

6. Copper and iron, two metals that are essential for human growth and metabolism, are usually found in microscopic amounts throughout our bodies. Researchers have recently found deposits of these metals, in their elemental form, lodged within amyloid plaques in the brain cells of people diagnosed with Alzheimer's disease. Both metals are typically shielded in a protective protein (such as haemoglobin in the case of iron) but, in their labile form, can generate reactive oxygen species that destroy cells and damage biochemistry. This research offers new insights into possible diagnostic tools and how we might detect Alzheimer's even in its early stages.

<https://www.sciencealert.com/scientists-identify-deposits-of-copper-and-magnetic-iron-in-alzheimer-s-brains>