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Dementia research news summary - January 2026

Study suggests that 7 in 10 Alzheimer's cases are linked to APOE3 and APOE4 gene variants

A new large-scale study published in *npj Dementia* suggests that the APOE gene may play an even greater role in Alzheimer's risk than previously thought. Researchers at UCL analysed data from over 450,000 people and found that APOE4 and APOE3, the two most common APOE variants, were associated with over 70% of Alzheimer's cases and 45% of all dementia cases. APOE4 is already established as the strongest genetic risk factor for late-onset Alzheimer's, but APOE3 has traditionally been considered a neutral factor. The finding that APOE3 is also associated with Alzheimer's risk represents a shift in how the gene variant is understood.

The researchers emphasise that APOE variants individually do not cause Alzheimer's, and many people with APOE3 or APOE4 never develop dementia. The study also identifies topics for future research, such as how APOE-related risk of dementia is affected by lifestyle factors, and whether targeting APOE-related pathways could provide new opportunities for dementia prevention or treatment.

Progress in study on finger-prick blood tests

Researchers recently announced an international study to the public, investigating if a simple finger-prick blood test could enable an earlier and more accessible diagnosis of Alzheimer's disease. The trial aims to identify Alzheimer's before symptoms appear, and if successful, could reduce the reliance on invasive and expensive diagnoses such as brain scans and lumbar punctures.

So far, the study has enrolled 883 out of a planned 1,000 participants across the UK, USA and Canada, and 360 participants have completed testing. Notably, at least 25% of participants are from under-represented communities. This is a key strength of the study, as Black and Hispanic people are up to twice as likely to develop Alzheimer's than white people yet are historically under-represented in clinical studies.

Researchers are measuring three key protein biomarkers in the blood: phosphorylated tau 217 (**pTau217**), glial fibrillary acidic protein (**GFAP**), and neurofilament light (**NfL**), which are all associated with brain pathology and neurodegeneration. Blood test results will be compared with current gold standard diagnostics (PET scans and MRI scans) as well as digital biomarkers (such as speech and cognitive tests), and the trial is expected to conclude in 2028. A reliable blood-based diagnostic test could enable earlier intervention and widen the access to reliable diagnosis.

Quick fire new research

- Types of carbs may affect dementia risk (Source: *Intl Journal of Epidemiology)*
    - Analysis of data from over 200,000 adults in the UK found that diets centred on low glycemic index (GI) carbohydrates (slow-release carbs) were associated with a lower risk of developing dementia over a 13-year follow-up period
    - Higher GI diets were associated with a 14% increase in dementia risk
- Aerobic exercise can make the brain look younger (Source: Journal of Sport and Health Science)
    - A 12-month moderate-to-vigorous aerobic exercise program was associated with a reduction in estimated “brain age” in adults aged 26-58, based on MRI.
    - Higer fitness levels were also linked to younger-looking brains, suggesting that aerobic exercise has a neuroprotective role against accelerated brain ageing
    - The observed change in brain age between the two groups was around one full year. The findings suggest that sustained exercise may help build resilience to age-related brain changes and could be relevant to long-term dementia risk, although further research is needed to confirm this
- Restoring Brain Blood Flow (Source: Proceedings of the National Academy of Sciences)
    - University of Vermont researchers discovered that replacing a missing phospholipid in the bloodstream could help restore normal brain blood flow and ease dementia-related symptoms
- Reversing Alzheimer's in Mice (Source: Cell Reports Medicine)
    - Scientists demonstrated that restoring the brain's NAD+ energy balance can actually reverse advanced Alzheimer's in mouse models, with treated mice showing full cognitive recovery and restored memory.
- Early Alzheimer's Drug NU-9 (Alzheimer's and Dementia journal)
    - Northwestern University researchers identified a highly toxic sub-species of amyloid beta oligomers and showed that the experimental drug NU-9 decreased this toxic protein and dramatically reduced the damage it causes in mice.
- Enlarged Perivascular Spaces
    - Nanyang Technological University researchers discovered that clogged brain "drains" visible on standard MRI scans can serve as an early warning signal for Alzheimer's, sometimes appearing earlier than other common brain markers.
- Circadian Rhythm Link (Source: Neurology)
    - Research found that people with weaker and more irregular circadian rhythms were nearly 2.5 times more likely to develop dementia, and those whose daily activity peaked later in the day had a 45% higher risk
- Muscle Strength Connection **(**Journal of Psychiatric Research)
    - A study found that middle-aged and older adults with weaker muscles faced roughly 2.8 times higher risk of developing dementia