

Is your blood aging your brain? It might increase your dementia risk

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By 2050, the global population of adults 60 and older will approximately double, leading to upward of 153 million dementia cases. That's why University College Cork neuroscience professor Yvonne Nolan and

Ph.D. student Sebastian Dohm-Hansen Allard are investigating the relationship between dementia risks and what's in your blood.

Human brains do not change at a constant rate. During certain times in our lives—childhood, adolescence and very old age—they change much more quickly. Now, according to Nolan and Allard, your brain might also start changing at a must faster pace because of what is in your blood. But it might be a good thing for science.

It is important for scientists to detect risk factors for [cognitive decline](#) before a patient reaches old age, when it is often too late to intervene. Scanning a patient for early [risk factors](#) when they are in their 40s to 50s can allow [medical practitioners](#) to act within a reasonable window of opportunity.

"So, how do we detect changes without having to give everyone an expensive brain scan? As it turns out, the contents of blood may cause the brain to age," Nolan and Allard reported to the Conversation.

"With time, our cells and organs slowly deteriorate, and the immune system can react to this by starting the process of inflammation," they said. "Inflammatory molecules can then end up in the bloodstream, make their way to the brain, interfere with its normal functioning and possibly impair cognition."

Scientists at Johns Hopkins and the University of Mississippi put this concept to the test in a 2019 study, where researchers analyzed the presence of [inflammatory molecules](#) in the blood of middle-aged adults with enough precision to be able to predict cognitive changes 20 years down the line.

"'Middle aging' may be more consequential for our future brain health than we think," Nolan and Allard said. "The hurried ticking of the clock

could be slowed from outside the brain. For example, [physical exercise](#) confers some of its beneficial effects on the brain through blood-borne messengers. These can work to oppose the effects of time. If they could be harnessed, they might steady the pendulum."

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