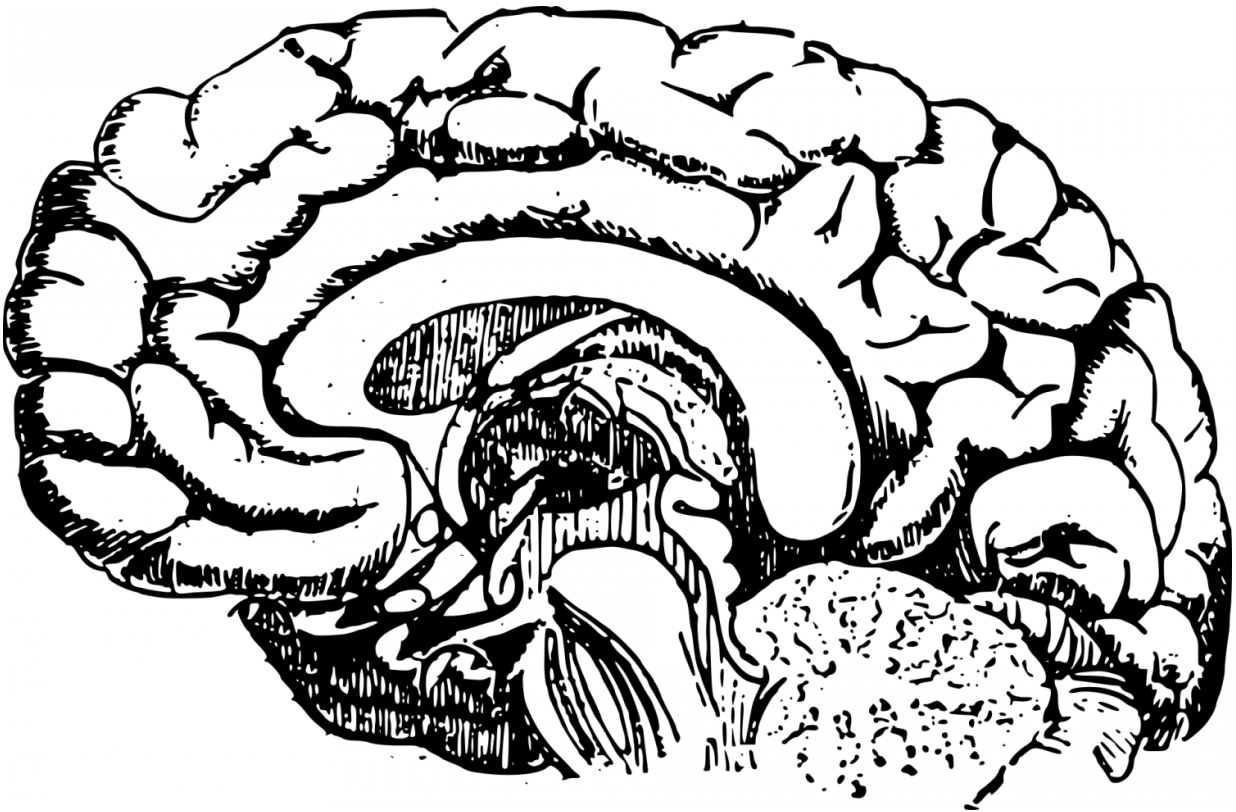


New brain cells in the old? Study stokes debate

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People as old as 79 may still generate new brain cells, US researchers said Thursday, stoking fresh debate among scientists over what happens to our brains when we age.

The report by scientists at Columbia University in New York, published in the journal *Cell Stem Cell*, runs directly counter to a study published in *Nature* last month which found no evidence of new neurons being created past the age of 13.

While neither study is seen as providing the definitive last word, the research is being closely watched as the world's population ages and scientists seek to better understand how the brain ages, for clues to ward off dementia.

The focal point of the research is the hippocampus, the brain's center for learning and memory.

Specifically, researchers are looking for the foundations of new brain cells, including progenitor cells, or stem cells that would eventually become neurons.

Using autopsied brain samples from 28 people who died suddenly between the ages of 14-79, researchers looked at "newly formed neurons and the state of blood vessels within the entire human hippocampus soon after death," said the *Cell Stem Cell* study.

"We found that older people have similar ability to make thousands of hippocampal new neurons from progenitor cells as younger people do," said lead author Maura Boldrini, associate professor of neurobiology at Columbia University.

"We also found equivalent volumes of the hippocampus across ages."

The findings suggest that many seniors may retain more of their cognitive and emotional abilities longer than previously believed.

However, Boldrini cautioned that these new neurons might be less adept

at making new connections in older people, due to aging blood vessels.

Animals like mice and monkeys tend to lose the ability to generate new brain cells in the hippocampus with age.

Just how the human brain reacts to aging has been controversial, though the widely held view is that the human brain does indeed continue to generate neurons into adulthood, and that this "neurogenesis" could one day help scientists tackle age-related brain degeneration.

Study found opposite

A study last month led by Arturo Alvarez-Buylla of the University of California in San Francisco found the opposite, however.

Looking at brain samples from 59 adults and children, "we found no evidence of young neurons or the dividing progenitors of new neurons" in the hippocampi of people older than 18, he told AFP when the study was published.

They did find some in children between birth and one year, "and a few at seven and 13 years of age," he said.

That study was described by experts as "sobering," because it indicated the human hippocampus is largely generated during fetal brain development.

Alvarez-Buylla's lab responded to the latest research in a statement saying that they were unconvinced Columbia University had found conclusive evidence of adult neurogenesis.

"Based on the representative images they present, the cells they call new neurons in the adult hippocampus are very different in shape and

appearance from what would be considered a young neuron in other species, or what we have observed in humans in young children," they said in an email to AFP.

Boldrini, for her part, said her team used flash-frozen brain samples, while the California researchers used samples that were chemically preserved in a process that may have obscured the detection of new neurons.

More information: *Cell Stem Cell*, Boldrini et al.: "Human Hippocampal Neurogenesis Persists Throughout Aging"
[www.cell.com/cell-stem-cell/fulltext/S0092-9157\(18\)30121-8](https://www.cell.com/cell-stem-cell/fulltext/S0092-9157(18)30121-8) , DOI:
[10.1016/j.stem.2018.03.015](https://doi.org/10.1016/j.stem.2018.03.015)

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