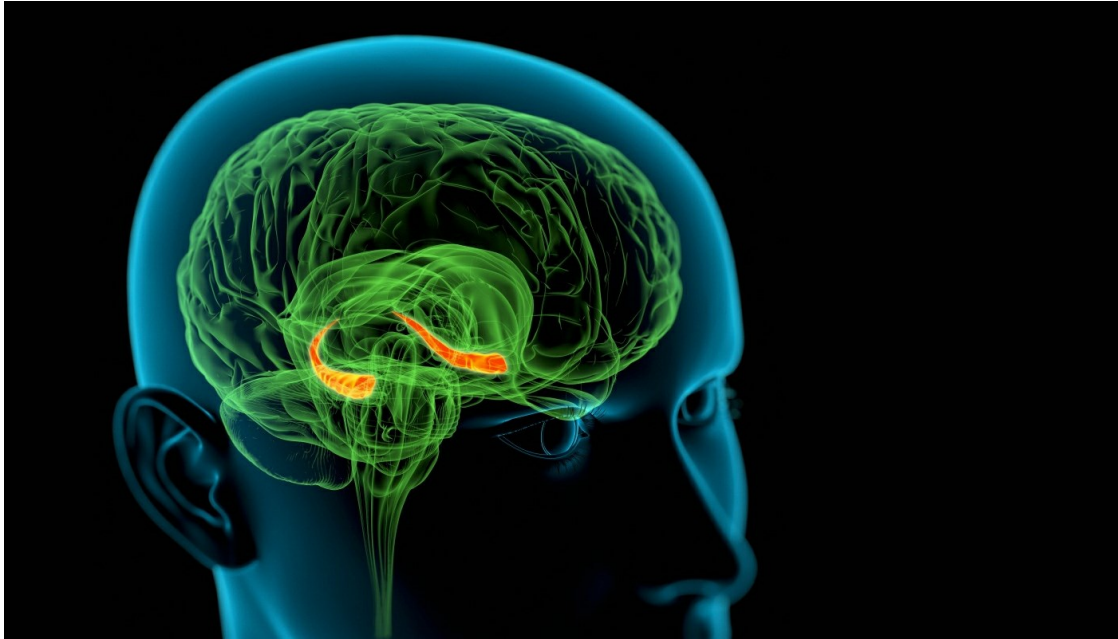


Growing Neurons: How to Boost Neurogenesis

INFOGRAPHICS, NEUROSCIENCE, RESEARCH, SCIENCE IN MOTION



Old View

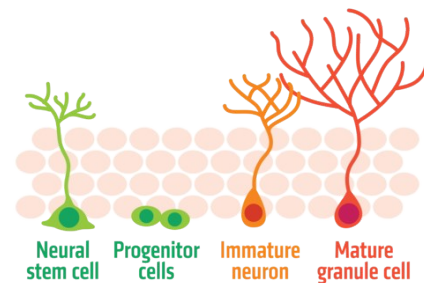
You're born with all the neurons you'll ever have. As you age, they die off.

New View

Adults are constantly growing new neurons in the hippocampus, the part of the brain linked to memory and emotions. That's good news since neurogenesis helps with memory and learning and makes it easier to cope with stress.

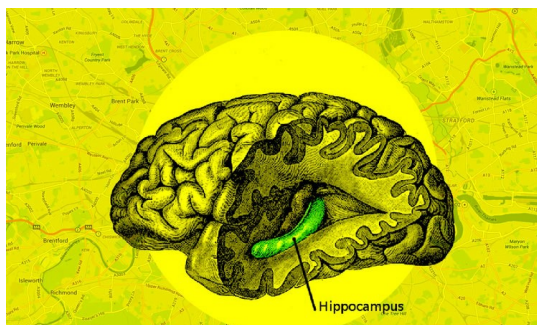
How Neurogenesis Works

In an adult hippocampus, new neurons come from neural stem cells and progenitor cells. These cells divide, mature and send out branch-like dendrites, allowing the new neuron to communicate with other neurons.



What Stimulates Neuron Growth

- New learning
- Novel experiences
- Exercise
- Reducing your stress load



Applications:

To be licensed, London taxi drivers have to memorize 25,000 streets and 20,000 landmarks. After two or more years of study, those who passed the test had bigger hippocampi; those who failed, didn't. Animal studies suggest neurogenesis may contribute to a larger hippocampus. Mice that have been genetically modified not to experience neurogenesis also have trouble learning and respond more quickly to stressors.



Credit: Roger Harris/Science Photo Library; Krishna Vadodaria, Brain Research Institute, Univ of Zurich,

Switzerland

Meet the Scientist

Michael Drew, Professor of Neuroscience



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