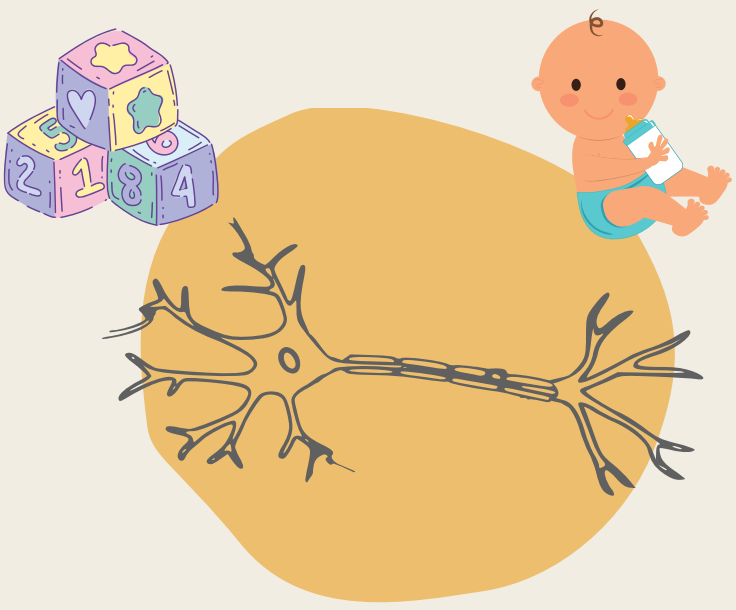
Neurogenesis

by Keith Shao

What is Neurogenesis?

Neurogenesis is a process in which the brain produces new neurons. This process takes place mostly in the hippocampus region of the brain, which is important in memory and spacial navigation.



Neurogenesis in Infants

Neurogenesis is most prominent in the embryo stage of human development. During this stage neural stem cells go through a process called differentiation, which means that these cells become "specialized" to one purpose in one area of the brain. This process is crucial for human development by allowing for the brain to become capable of different functions.

Neurogenesis in Adults

Up until the discovery of stem cells in the adult human brain in the 1990s, neuroscientists believed that the nervous system was incapable of neurogenesis and regeneration after embryonic development.

Why is Neurogenesis important?

Neurogenesis is not as prominent in adults as it is in embryos and infants, but it does take place. The advantage of neurogenesis is more neurons, which are important for improving memory, mood, and emotion especially with increasing age and stress. In some cases it can be seen that neurogenesis has an effect against depression.

Did You Know?

Due to neurogenesis, the amount of neurons produced per day can be estimated to about 700. It may not seem like a lot, but by the time that the average human turns 50, a whole new set of neurons (billions) will be exchanged.

INFORMATION SOURCE

WHAT IS NEUROGENESIS?
HTTPS://QBI.UQ.EDU.AU/BRAIN-BASICS/BRAIN-PHYSIOLOGY/WHAT-NEUROGENESIS

ADULT NEUROGENESIS
HTTPS://QBI.UQ.EDU.AU/BRAIN-BASICS/BRAIN-PHYSIOLOGY/ADULT-NEUROGENESIS

Impacting Neurogenesis

Neurogenesis can be impacted by different activities that are performed each day. So, in a way this physiological process can be controlled.

Increasing Neurogenesis

Neurogenesis can be increased though many benefiting activities like learning, exercising, and even sex! A healthy diet can also increase neurogenesis. Intermittent fasting has proven effective at increasing neurogenesis. As well as intake of flavonoids in dark chocolate or blueberries, and Omega-3 found in salmon.

Decreasing Neurogensis

Neurogenesis can also be decreased through stress and sleep deprivation. Like, with increasing neurogenesis, diet can also lead to a decrease. Intake of certain alcohols can cause a decrease, except with resveratrol found in red wine, which actually promotes the survival of neurons.

New works with neurogenesis

The studies with neurogenesis has lead to new work with illnesses and diseases by finding ways to access the brain's neural stem cells. Treatments for Alzheimer's, dementia, and other mental illnesses are starting to be worked on.

Did You Know?

Diet was said to have an impact on neurogenesis, but the way that the food is consumed also has an effect. It was found that diets that don't require a lot of chewing leads to a greater increase of neurons compared to diets that require more mastication.

INFORMATION SOURCE

YOU CAN GROW NEW BRAIN CELLS. HERE'S HOW
HTTPS://WWW.TED.COM/TALKS/SANDRINE_THURET_YOU_CAN_GROW_NEW_BRAIN_CELLS_HERE_S_HOW?LANGUAGE=EN#T-227235