

Neurogenesis

'Growing New Brain Cells'

Watch the video on TED Talks: www.ted.com/talks and enter *Sandrine* in the Search Box
Click the video: "You can grow new brain cells. Here's how"

Key Points

Hippocampus Region of the Brain:

- Important for learning, memory, mood & emotion
- New neurons can be generated at 700 per day
- Estimated that by age 50 all neurons at birth will have been replaced with adult-born neurons
- New neurons are important for learning and memory capacity

Depression:

- Associated with a lower rate of neurogenesis
- Anti-depressants increase rate of neurogenesis
- However, if neurogenesis is blocked (e.g. chemotherapy), the efficacy of the anti-depressant is blocked
- Post-chemotherapy cancer patients can remain depressed until the rate of new neuron generation returns to normal

Neurogenesis in the Hippocampus:

- A target of choice to improve memory formation and mood and even prevent the memory decline associated with aging and stress
- Stimulants to neurogenesis and improved mental health with:
 - Learning
 - Aerobic Exercise
 - Sleep (7 hrs per night)
 - Meditation
 - Sex
 - Diet:
 - Calorie restriction of 20-30%
 - Intermittent fasting & increasing time interval between meals
 - Omega-3 fatty acids
 - Mediterranean style
 - Flavonoids (dark chocolate, blueberries)
 - Chewing (crunchy foods)
- These have a depressant effect on neurogenesis:
 - Stress
 - Aging
 - Diet:
 - High saturated fat and a soft diet
 - Alcohol (except red wine with resveratrol)
 - Excessive calorie intake
 - Diet modulates memory and mood in the same direction as it modulates neurogenesis