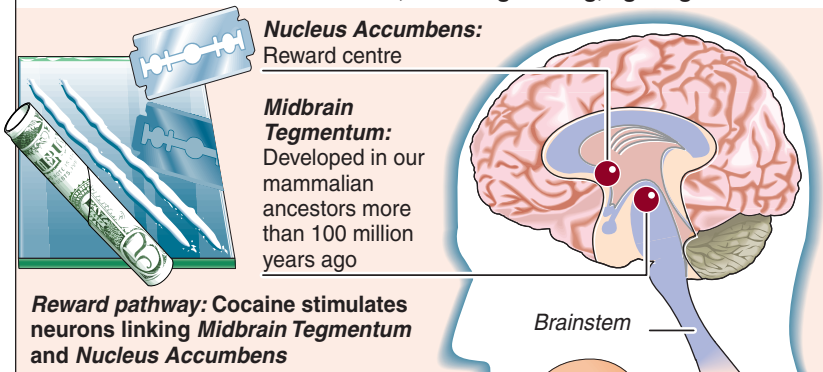


Anatomy of cocaine addiction

A single recreational dose of cocaine can overexcite a key brain circuit for up to 10 days and may prime the brain for addiction. The drug hijacks a neural “reward pathway” in a part of the brain responsible for our most basic emotions and behaviours, including feeding, fighting and sex



Neuron: Transmitter nerve cell

Nerve signal

Synapse

Neuron:
Receiver nerve cell

Receptors

Dopamine:
Neurotransmitter

Dopamine from transmitter cell binds to receptors on receiver cell. Transmitter recharges by taking up dopamine from receptors

Chemical stimulus from dopamine fires nerve signal in receiver cell

Cocaine blocks uptake of dopamine

Build-up of dopamine in synapse causes excessive stimulation

Sources: Nature, Scientific American

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