

## Exercise, stress speeds brain's ability to repair itself

Running helps mice to recover from a type of blindness caused by sensory deprivation early in life, researchers report. The study, published on 26 June in eLife, also illuminates processes underlying the brain's ability to rewire itself in response to experience — a phenomenon known as plasticity, which neuroscientists believe is the basis of learning.

It is generally assumed that activity stimulates plasticity, so Micheal Stryker and his colleague Megumi Kaneko, also a neuroscientist at UCSF, wondered whether running might influence the plasticity of the visual cortex. They induced amblyopia in mice by suturing one eye shut for several months, during and after the critical period of visual development. They then re-opened the mice's eyes and divided them into two groups. Mice in one group were shown a 'noisy' visual pattern while running on a treadmill for four hours a day for three weeks. The pattern was chosen to activate nearly all the cells in the mice's primary visual cortex. The researchers recorded the mice's brain activity using intrinsic signal imaging, a method similar to functional magnetic resonance.

Further experiments revealed that neither running nor visual stimulation alone had this effect. Recovery was also specific to the stimulus. Mice viewing the noise pattern did not show improved responses to a pattern of drifting bars, and vice versa, suggesting that only the visual circuits activated during running recover.

**Read the full, original story: [Running cures blind mice](#)**