

# These blind mice hear like Stevie Wonder

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Want to hear as well as Stevie Wonder or the late Ray Charles? A blindfold not only might help, it could rewire your brain in the process, a new study suggests.

The study, in mice, was the first to show evidence on a [cellular level](#) of a phenomenon that has been relatively well chronicled behaviorally - damage to one sense can be compensated with strength in another. And that compensation can happen later in life, when the [brain](#) is generally less susceptible to rewiring, the study found.

Blinding mice for about a week altered synapses connecting the thalamus to the [auditory cortex](#), according to the study, published online Wednesday in the journal *Neuron*. The changes in hearing acuity were not due to recruitment of vision neurons, which remained unchanged, while those in the auditory cortex exhibited more sensitivity and

discrimination among sounds, the study showed.

"We always thought that the adult brain just couldn't change, and there was some evidence supporting this," said study author Hey-Kyoung Lee, a neuroscientist at Johns Hopkins University's Mind/Brain Institute. "The plasticity is really reduced. The surprise here was that we were able to regain that by depriving vision. And it's not the visual area that changes; it's actually the auditory area that changes. So we were doubly surprised by the findings that we had."

The improvements also were dependent on experience - deafened mice that had been subjected to the weeklong blinding did not experience the changes in auditory synapse activity, according to the study, which also involved the University of Maryland.

Researchers believe they have described a kind of crossed synergy in the brain - one sensory area induces another to be more amenable to change, even though its own architecture remains relatively inflexible.

In the brain, then, it takes a village to create a Stevie Wonder.

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