Vision gene therapy helps blind mice see again

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When the owl swooped, the “blind” mice ran away. This was thanks to a new type of gene therapy to reprogramme cells deep in the eye to sense light.

After treatment, the mice ran for cover when played a video of an approaching owl, just like mice with normal vision. “You could say they were trying to escape, but we don’t know for sure,” says Rob Lucas of the University of Manchester, UK, co-leader of the team that developed and tested the treatment. “What we can say is that they react to the owl in the same way as sighted mice, whereas the untreated mice didn’t do anything.”

This is the team’s best evidence yet that injecting the gene for a pigment that detects light into the eyes of blind mice can help them see real objects again.

This approach aims to treat all types of blindness caused by damaged or missing rods and cones, the eye’s light receptor cells. Most gene therapies for blindness so far have concentrated on replacing faulty genes in rarer, specific forms of inherited blindness, such as Leber congenital amaurosis.

In earlier attempts, mice could only tell objects apart under extremely bright light, so the new finding is crucial. “Our mice could respond in ordinary light, the equivalent of looking at a computer monitor under ordinary office lighting,” says Lucas.

Read full, original post: Gene therapy cures blindness by replacing vision cells in eyes