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Here's Why The Lights Don't Dim When You Blink

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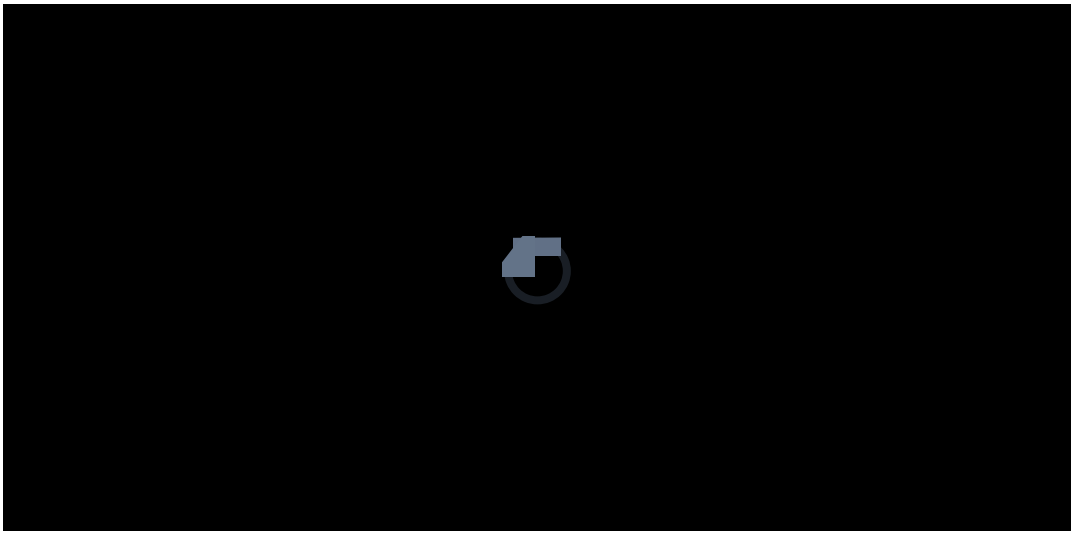
Blinking Darkness Visual perception Brain



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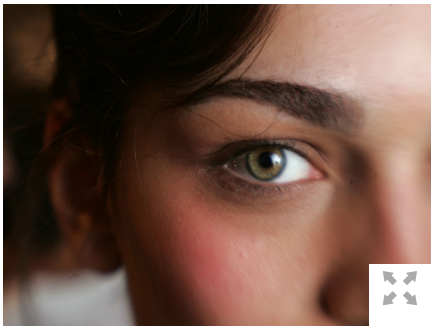

According to a new research, the brain has a big role in ensuring continuous vision during blinking, without causing intervals of darkness and light. (Mark Mainz | Getty Images)

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It has been a puzzle why blinking does not change the consistency in vision. People blink every few seconds yet there are no intervals of darkness and light.

A new research has explained the matter saying the brain must be thanked for the seamless vision despite blinking shuttering the eyes.

In the mechanics of blinking, an automatic shuttering of eyelids happens with the rolling of eyeballs in the sockets. But often the eyeballs do not return to the former position when the eyes are opened.

A research on the topic says the brain plays a big role in stabilizing vision despite the eyes closing momentarily.

The study was led by a team of scientists from UC Berkeley, Singapore's Nanyang Technological University, Dartmouth College and Université Paris Descartes who showed that blinking does more than mere lubricating of dry eyes and shielding the eyes from irritants.

Misalignment Managed

The study published in *Current Biology* explains the process behind blinking and notes a repositioning exercise of eyeballs under the aegis of brain happens, keeping the focus steady on what was being viewed.

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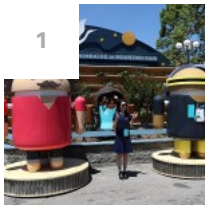

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A misalignment follows with eyeballs rolling in the sockets during a blink but when the eyes are reopened, their positions may be changed.

The brain intervenes to correct this distortion and directs the eye muscles to readjust the vision, according to lead author Gerrit Maus who works at the Nanyang Technological University in Singapore as an assistant professor.

"Our eye muscles are quite sluggish and imprecise, so the brain needs to constantly adapt its motor signals to make sure our eyes are pointing where they're supposed to," said Maus.

The findings point to the brain as the perceiver of difference in what was being viewed before and after a blink and guiding the eye muscles to make the corrections accordingly.

This explains the paradox as to why there is more coherence of vision after blinking and no interruption or darkness.

Dark Room Experiment

The experiments involved a dozen young adults who were made to watch a dot etched on a screen for long hours in a dark room. The participants' eye movements including their eye blinks were tracked in real time with the help of an infrared camera.

For every blink, there was a 1-centimeter shift of the dot to the right.

However, without the participants knowing it, the minor shift was being registered by the oculomotor system of the brain and the vision was being adjusted properly with respect to the dot.

Many blinks and movements later, the eyes of the participants kept adjusting and automatically shifted to the spot where the dot was stationed previously.

It was a real-time demonstration of the brain's ability to handle changes by prodding the muscles to repeal the errors, noted the author.

Dry Eye Treatment

Meanwhile, researchers at the University of Virginia Health System has come up with a treatment for dry eye. The human testing of the therapeutic drug will start in March. It marks a change in approach in terms of the treatments existing so far with the cause of dry eye being targeted than treating the outward symptoms.

To be marketed under a trademark "Lacripep," the drug is a topical eye drop. Instead of suppressing inflammation, Lacripep aims to remove inflammation with a natural basal tearing mechanism and will add more health to cells that come in contact with tears.

TAG Blink , Vision , brain , Oculomotor System

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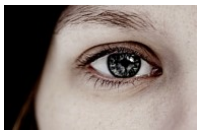

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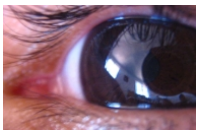

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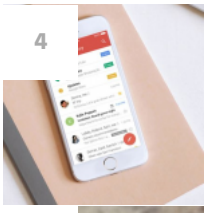

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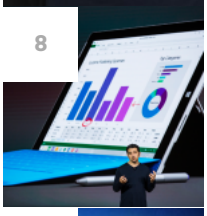

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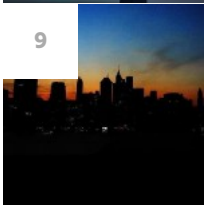

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