SCIENCE & HEALTH

Blinking Acts Like 'Steadicam of the Mind'

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On average, people blink tens of thousands of times a day, and while it was thought the involuntary motion served mainly to lubricate the eyeballs, a new study suggests blinking has a more important role.

Writing in the journal *Current Biology,* an international team of researchers led by the University of California at Berkeley say blinking "repositions our eyeballs so we can stay focused on what we're viewing."

According to researchers, when we blink, our eyes roll back in their sockets, but they don't always return to the exact same position after the blink. This causes the brain to spur eye muscles to "realign our vision."

"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 study lead author Gerrit Maus, an assistant professor of psychology at Nanyang Technological University in Singapore. "Our findings suggest that the brain gauges the difference in what we see before and after a blink, and commands the eye muscles to make the needed corrections."

Without these corrections, researchers say "our surroundings would appear shadowy, erratic and jittery," adding that the mechanism acts "like a steadicam of the mind."

To reach their conclusions, researchers say they conducted "the most boring experiment ever," in which participants sat in a dark room while staring at a dot on a screen. Using infrared cameras, the tracked blinks and eye

movements.

After each blink, the dot was moved one centimeter to the right, something that was not noticed by the participants. However, the brain registered the dot's movement and triggered eye muscles to refocus on the dot.

After 30 times participants' eyes adjusted during each blink and shifted automatically to the spot where they predicted the dot to be."

"Even though participants did not consciously register that the dot had moved, their brains did, and adjusted with the corrective eye movement," Maus said. "These findings add to our understanding of how the brain constantly adapts to changes, commanding our muscles to correct for errors in our bodies' own hardware."