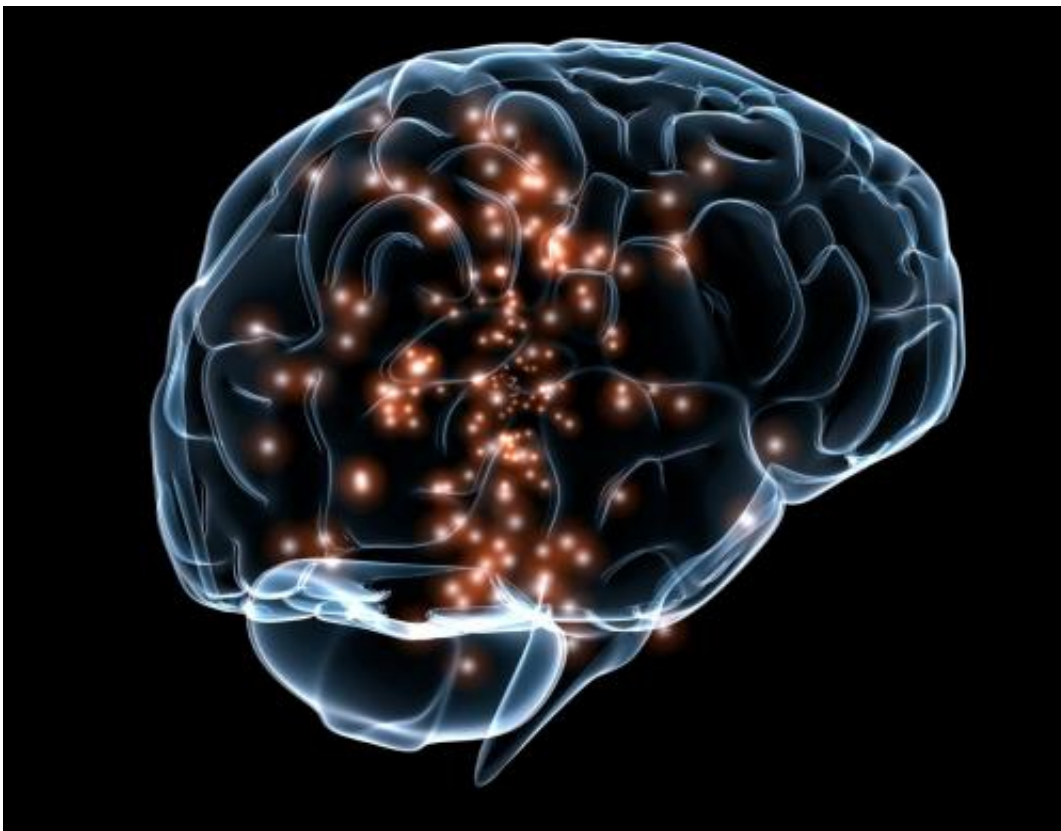


Vision keeps maturing until mid-life: Brain research recasts timeline for visual cortex development

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Credit: Wikimedia Commons

The visual cortex, the human brain's vision-processing centre that was previously thought to mature and stabilize in the first few years of life, actually continues to develop until sometime in the late 30s or early 40s,

a McMaster neuroscientist and her colleagues have found. Kathryn Murphy, a professor in McMaster's department of Psychology, Neuroscience and Behaviour, led the study using post-mortem brain-tissue samples from 30 people ranging in age from 20 days to 80 years.

Her analysis of proteins that drive the actions of neurons in the [visual cortex](#) at the back of the [brain](#) recasts previous understanding of when that part of the brain reaches maturity, extending the timeline until about age 36, plus or minus 4.5 years.

The finding was a surprise to Murphy and her colleagues, who had expected to find that the [cortex](#) reached its mature stage by 5 to 6 years, consistent with previous results from animal samples and with prevailing scientific and medical belief.

"There's a big gap in our understanding of how our brains function," says Murphy. "Our idea of [sensory areas](#) developing in childhood and then being static is part of the challenge. It's not correct."

The research appears May 29 in *The Journal of Neuroscience*.

Murphy says treatment for conditions such as amblyopia or "lazy eye", for example, have been based on the idea that only children could benefit from corrective therapies, since it was thought that treating young adults would be pointless because they had passed the age when their brains could respond.

Though the research is isolated to the visual cortex, it suggests that other areas of the brain may also be much more plastic for much longer than previously thought, Murphy says.

More information: *Journal of Neuroscience* (2017).
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