Quitting affects smoking-related cortical thinning

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Smokers who quit may reduce, or halt, the accelerated thinning of the brain’s cortex associated with smoking according to a study published online this week in *Molecular Psychiatry*.

The cortex of the brain is known to thin slowly with age and can be used as a biomarker for cognitive decline in adults. Previous studies suggest that smoking can accelerate the rate of thinning in a few isolated regions of the cortex such as the orbitofrontal cortex (an area involved in decision making). However, it is unknown if some of the possible effects of smoking on the brain are reversible and if this thinning is widespread.

Sherif Karama and colleagues investigated the association between smoking and brain cortical thickness for 504 participants in their seventies, including 36 current smokers and 223 ex-smokers. The authors found that current smokers had a thinner cortex than those who had never smoked. Those participants who had given up smoking for the longest had a thicker cortex compared to those who had given up more recently even after accounting for the total amount smoked in their lifetime. The authors suggest that the cortex may regain some thickness once smokers quit, or that the rate of thinning is reduced. The authors observed that while the possible recovery in the cortex was widespread, this was not seen in all regions. Further studies are required to confirm these results with larger numbers of current smokers, over longer periods of time, and to identify the mechanisms underlying any potential recovery.

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