

Will giving coffee to babies keep them awake as adults?

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An F1000 evaluation looks at a Canadian study on how giving caffeine to newborn rats has a long-lasting and detrimental effect on sleep and breathing in adulthood.

Breathing problems are the leading causes of hospitalisation and death in premature babies. These babies are therefore often given [caffeine](#) because of its qualities as a respiratory stimulant. Until recently, the long-term effects of this treatment in humans have not been examined.

However, Gaspard Montandon and colleagues showed in the *Journal of Physiology* that the use of caffeine in neonates can cause serious alterations in the sleeping patterns of adult rats as a result of its effect on the developing [respiratory system](#). [Sleep](#) abnormality is a significant indicator for ill health and reduced life span.

When the caffeine-treated rats reached adulthood, their sleeping time was reduced, the length of time they took to reach the first stage of sleep was increased, and their non-REM sleep was fragmented. [Breathing](#) at rest was higher than in rats not treated with caffeine.

In his review of the study, F1000 Faculty Member James Duffin of the University of Toronto says the results "raise concerns about the long-term consequences of neonatal caffeine administration on brain development and behaviour."

[More information:](#) An abstract of the original paper by Montandon et al.

(Caffeine in the neonatal period induces long-lasting changes in sleep and breathing in adult [rats](#)) is at jp.physoc.org/content/early/2009.171918

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