

# Grandma was right: Infants do wake up taller

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Science is finally confirming what grandma knew all along: infants wake up taller right after they sleep.

Findings from the first study of its kind measuring the link between daily growth and sleep show the two are inextricably linked. Specifically, growth spurts are tied to an increase in total daily hours of sleep as well as an increase in the number of daily sleep bouts, the time from the onset of sleep until awakening.

"Little is known about the biology of growth spurts," says Michelle Lampl, MD, PhD, Samuel C. Dobbs professor of anthropology, Emory University, associate director, Emory/Georgia Tech Predictive Health Institute and lead author of the study. "Our data open the window to further scientific study of the mechanisms and pathways that underlie saltatory growth."

Practically speaking, however, the study helps parents understand that irregular sleep behavior is a normal part of growth and development.

"Sleep irregularities can be distressing to parents," says Lampl. "However, these findings give babies a voice that helps parents understand them and show that seemingly erratic sleep behavior is a normal part of development. Babies really aren't trying to be difficult."

Lampl's study appears in the May 1 issue of *Sleep* and is co-authored by Michael Johnson, PhD, professor of pharmacology, University of

Virginia Health System.

The researchers also found that longer sleep bouts in both girls and boys predicted an increase in weight and body-fat composition tied to an increase in length. In other words, not only does sleep predict a growth spurt in length, but it also predicts an increase in weight and abdominal fat, implying an anabolic process—growth.

What's more, the study showed differences in sleep patterns related to growth depending on the sex of the baby. "Growth spurts were associated with increased sleep bout duration in boys compared with girls and increased number of sleep bouts in girls compared with boys," says Lampl.

In general, boys in the study exhibited more sleep bouts and shorter sleep bouts than girls. But neither the sex of the infant nor breastfeeding had significant effects on total daily sleep time. However, breastfeeding as opposed to formula feeding was associated with more and shorter sleep bouts.

Unlike previous studies, this study did not rely on parental recall of infant sleep patterns and growth. Instead, data on 23 [infants](#) were recorded in real time over a four- to 17-month span. Mothers kept daily diaries detailing [sleep](#) onset and awakening and noted whether babies were breastfeeding, formula feeding, or both and whether their infant showed signs of illness, such as vomiting, diarrhea, fever or rash.

Provided by Emory University

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