

# Babies see it coming

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Do infants only start to crawl once they are physically able to see danger coming? Or is it that because they are more mobile, they develop the ability to sense looming danger? According to Ruud van der Weel and Audrey van der Meer, from the Norwegian University of Science and Technology in Trondheim, infants' ability to see whether an object is approaching on a direct collision course, and when it is likely to collide, develops around the time they become more mobile. Their findings have just been published online in the Springer journal *Naturwissenschaften*.

An approaching object on a collision course projects an expanding image on the [retina](#), providing information that the object is approaching and how imminent the danger is. Looming stimuli create waves of [neural activity](#) in the visual cortex in adults. The authors investigated how, and where, the infant brain extracts and processes information about imminent collision.

They used high-density electroencephalography to measure [brain activity](#) in 18 five- to eleven-month-old infants, when a growing multicolored dot on a screen (the looming stimulus) approached the infants at three different speeds. The researchers also recorded the gaze of both eyes.

They found that infants' looming-related brain activity clearly took place in the [visual cortex](#). The more mature infants (ten to eleven months old) were able to process the information much quicker than the younger infants aged five to seven months. These findings suggest that there are well-established neural networks for registering impending collision in ten- to eleven-month-olds, but not yet in five- to seven-month-olds. For

the eight- to nine-month-old infants, they are somewhere in between.

The authors comment: "This could be interpreted as a sign that appropriate neural networks are in the process of being established and that the age of eight to nine months would be an important age for doing so. Coincidentally, this is also the average age at which infants start crawling. This makes sense from a perspective where brain and behavioral development go hand in hand. Namely, as [infants](#) gain better control of self-produced locomotion, their perceptual abilities for sensing looming danger improve."

More information: van der Weel FR & van der Meer ALH (2009). Seeing it coming: infants' [brain](#) responses to looming danger. *Naturwissenschaften*, [DOI 10.1007/s00114-009-0585-y](https://doi.org/10.1007/s00114-009-0585-y)

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