

Regular naps are 'key to learning'

By James Gallagher Health editor, BBC News website



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The key to learning and memory in early life is a lengthy nap, say scientists.

Trials with 216 babies up to 12 months old indicated they were unable to remember new tasks if they did not have a lengthy sleep soon afterwards.

The University of Sheffield team suggested the best time to learn may be just before sleep and emphasised the importance of reading at bedtime.

Experts said sleep may be much more important in early years than at other ages.

People spend more of their time asleep as babies than at any other point in their lives.

Yet the researchers, in Sheffield and Ruhr University Bochum, in Germany, say "strikingly little is known" about the role of sleep in the first year of life.

Learn, sleep, repeat

They taught six- to 12-month-olds three new tasks involving playing with hand puppets.



Dr Jane Herbert performing the study

Half the babies slept within four hours of learning, while the rest either had no sleep or napped for fewer than 30 minutes.

The next day, the babies were encouraged to repeat what they had been taught.

The results, [published in Proceedings of the National Academy of Sciences](#), showed "sleeping like a baby" was vital for learning.

On average one-and-a-half tasks could be repeated after having a substantial nap.

Yet zero tasks could be repeated if there was little sleep time.

Dr Jane Herbert, from the department of psychology at the University of Sheffield, told the BBC News website: "Those who sleep after learning learn well, those not sleeping don't learn at all."

She said it had been assumed that "wide-awake was best" for learning, but instead it "may be the events just before sleep that are most important".

And that the findings showed "just how valuable" reading books with children before sleep could be.

Dr Herbert added: "Parents get loads of advice, some saying fixed sleep, some flexible, these findings suggest some flexibility would be useful, but they don't say what parents should do."

Sweet dreams

A study last year [uncovered the mechanisms of memory in sleep](#). It showed how new connections between brain cells formed during sleep.

Prof Derk-Jan Dijk, a sleep scientist at the University of Surrey, said: "It may be that sleep is much more important at some ages than others, but that remains to be firmly established."

He said babies "should definitely get enough sleep" to encourage learning, but concentrating learning just before bedtime may not be best.

"What the data show is sleeping after training is positive, it does not show that being sleepy during training is positive."



There is also growing interest in sleep and memory at the other end of life.

The two go hand in hand in your twilight years, particularly with underlying neurodegenerative disorders such as dementia.

It is hoped that boosting sleep would ["slow the rot"](#) of memory function.