

Research finds tooth enamel fast-track in humans

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Baby brushing his teeth . Credit: iStock

Research has discovered a link between prenatal enamel growth rates in teeth and weaning in human babies.

The research found that incisor teeth grow quickly in the early stages of the second trimester of a baby's development, while molars grow at a slower rate in the third trimester. This is so incisors are ready to erupt after birth, at approximately six months of age, when a baby makes the transition from breast-feeding to [weaning](#).

Weaning in humans takes place relatively early compared to some primates, such as chimpanzees. As a result, there is less time available for [human](#) incisors to form, so the enamel grows rapidly to compensate.

This research can increase our understanding of weaning in our fossil ancestors and could also help dentists as dental problems do not register in all teeth in the same way. Enamel cells deposit new tissue at different times and different rates, depending on the tooth type.

Exactly when early weaning in humans first began is a hotly debated topic amongst anthropologists. Current dental approaches rely on finding fossil skulls with teeth that are still erupting - which is an extremely rare find. Anthropologists will now be able to explore the start of weaning in an entirely new way because 'milk [teeth](#)' preserve a record of prenatal enamel growth after they have erupted and for millennia after death.

The research, funded by a Royal Society equipment grant, was conducted by Dr Patrick Mahoney from the Human Osteology Research Lab in the University's School of Anthropology and Conservation.

Dental fast track: prenatal enamel growth, incisor eruption, and weaning in human infants is published in the *American Journal of Physical Anthropology* on 12 November 2014.

More information: onlinelibrary.wiley.com/doi/10.1002/ajpa.22666/abstract

Provided by University of Kent

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