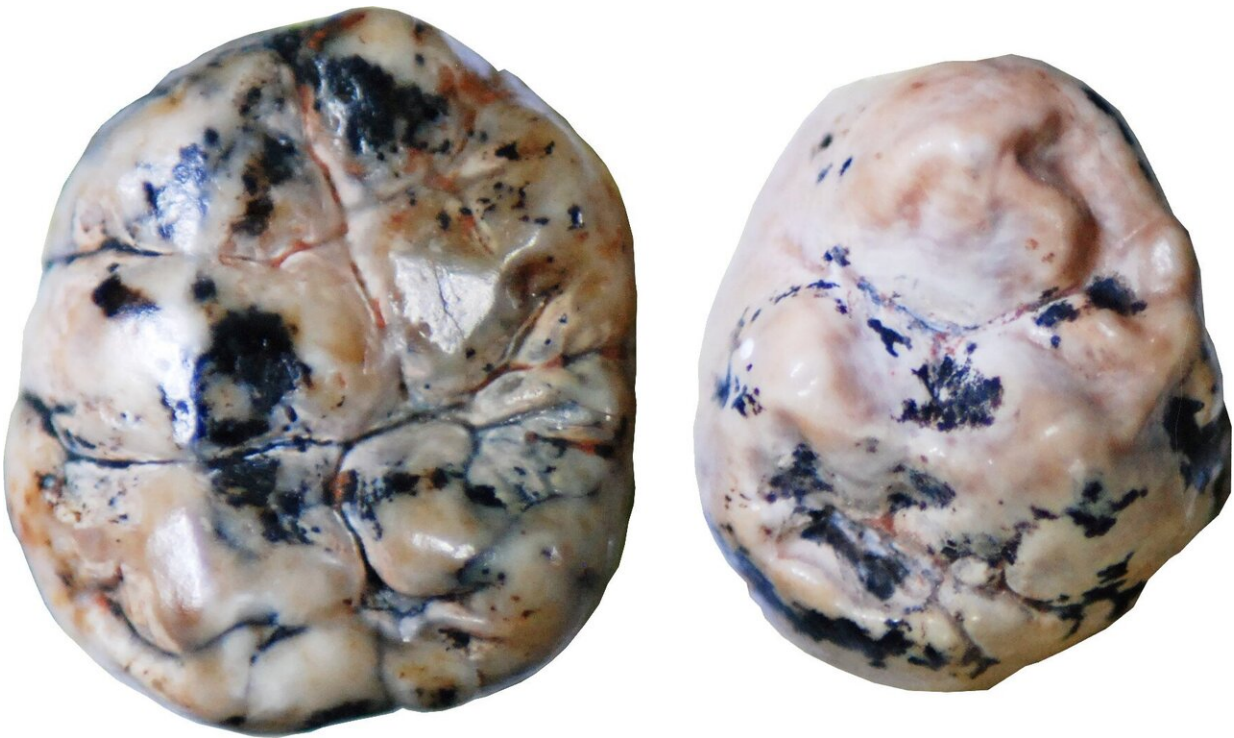


# First human ancestors breastfed for longer than contemporary relatives

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The differences in dental morphology are obvious between *Australopithecus africanus* (TM1518 to the left) and early Homo (SK27 to the right), but these teeth are also different in their calcium stable isotopes compositions, unveiling group specific nursing behaviors. Credit: Vincent Balter

By analysing the fossilised teeth of some of our most ancient ancestors, a team of scientists led by the universities of Bristol (UK) and Lyon

(France) have discovered that the first humans significantly breastfed their infants for longer periods than their contemporary relatives.

The results, published in the journal *Science Advances*, provide a first insight into the practice of weaning that remain otherwise unseen in the fossil record.

The team sampled minute amounts from nearly 40 fossilised [teeth](#) of our South African fossil relatives, early Homo, Paranthropus robustus and Australopithecus africanus.

They measured the proportions of their stable calcium isotopes in the [tooth enamel](#), which are a function of the mother milk intake by infants.

By reconstructing the age at tooth enamel development, they show that early Homo offspring was breastfed in significant proportions until the age of around three to four years, which likely played a role in the apparition of traits that are specific to human lineage, such as the [brain development](#).

In contrast, infants of Paranthropus robustus, that became extinct around one million years ago and were a more robust species in terms of dental anatomy, as well as infants of Australopithecus africanus, stopped drinking sizeable proportions of mother milk in the course of the first months of life.

These differences in nursing behaviours likely come with major changes in the social structures of groups as well as the time between the birth of one child and the birth of the next.

One of the study's lead authors, Dr. Theo Tacail from the University of Bristol's School of Earth Sciences, said: "The practice of weaning—the duration of breastfeeding, age at non-milk food introduction and the age

at cessation of suckling—differs among the modern members of the hominid family which includes humans and modern great apes: orangutan, gorillas, chimpanzees and bonobos.

"The development of such behavioural differences likely played major roles in the evolution of the members of human lineage, being associated for instance with size and structure of social groups, brain development or demography.

"However, getting insights into these behavioural changes from fossils that are millions of years old is a challenge and, so far, little evidence allow discussing nursing practices in these fossil species.

"The findings stress the need for further exploration of calcium stables isotopes compositions in the [fossil record](#) in order to understand the co-evolution of weaning practices with other traits such as brain size or social behaviours."

**More information:** Théo Tacail et al, Calcium isotopic patterns in enamel reflect different nursing behaviors among South African early hominins, *Science Advances* (2019). [DOI: 10.1126/sciadv.aax3250](https://doi.org/10.1126/sciadv.aax3250)

Provided by University of Bristol

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