Study reveals how enamel protects children's teeth

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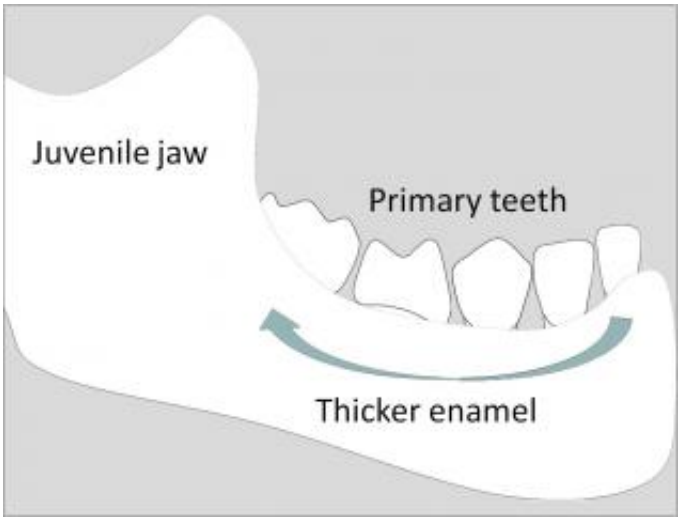

A new study has revealed that children's teeth are protected from damage during chewing by variation in enamel thickness along the tooth row.

In a paper published by the *American Journal of Physical Anthropology*, Dr Patrick Mahoney, Lecturer in Biological Anthropology at the University of Kent, explains that enamel is thinner on teeth at the front of a child's mouth where the forces generated during chewing are low. Enamel is thicker on teeth at the back of a child's mouth, which strengthens them against higher bite forces.

The research will also provide health practitioners with new information about the quantity of dental tissues along the primary tooth row, which can be assessed against the progression of dental decay within each tooth class.

The study is the first to assess enamel thickness in the complete primary human dentition, providing evidence that primary teeth have thin or thick enamel depending on how they function during chewing. Results also help clarify the relationship between enamel thickness along the tooth row and the biomechanics of chewing for children -something that has been debated for adult teeth for two decades.

Dr. Patrick Mahoney said: 'A child's front tooth has a thin layer of enamel covering a large proportion of dentin. While this produces a large tooth, it is also a relatively weak one.

'By contrast, the molar at the back of the jaw has a thick enamel layer covering a smaller proportion of dentin. This also produces a large tooth, but one that is incredibly strong, and much less likely to fracture as a child exerts high bite forces during chewing. It may even provide greater resistance to wear as food is ground down.'

More information: onlinelibrary.wiley.com/doi/10 … /ajpa.22289/abstract

Provided by University of Kent