

## THE MACHOUILLETTE: AN INNOVATIVE METHOD FOR MEASURING INFANTS' CHEWING EFFICIENCY

The masticatory function is set up at around 4/6 months with the introduction of the first solid foods. It then develops over time, allowing the child to eat harder and bigger pieces of food. However, the masticatory efficiency in children under 3 years of age remains little known, due to the lack of a suitable study method.

In order to characterize the development of masticatory efficiency between 6 and 18 months, CSGA researchers have developed an original method based on the evaluation of the ability to degrade an apple gel by handling it in the mouth (Tournier et al, 2015). The gel is offered in a closed net with a handle that we call the 'machouillette'. The child freely manipulates this 'machouillette' in the mouth for a fixed time of 60 seconds. Then the net is opened, the particles formed are collected and their size is analyzed. The more numerous and smaller the particles, the greater the masticatory efficiency of the child.

This method was used with 97 children aged 6 to 18 months. Results showed that children behaved similarly when handling the gel in the mouth and when eating foods with different textures (Demonteil et al., 2019). Thus, a sucking behavior was observed in 100% of children at 6 months but this decreases with age (56% of children at 10 months) while chewing behavior develops: 34% of children show chewing behavior at 6 months compared to 95% at 10 months. In addition, the older the children, the more 'effective' they are at breaking down the gel into fine particles, regardless of their level of dental development (Figure 1). This study shows that the proposed method is relevant for quantifying the development of masticatory function in infants.

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### To know more

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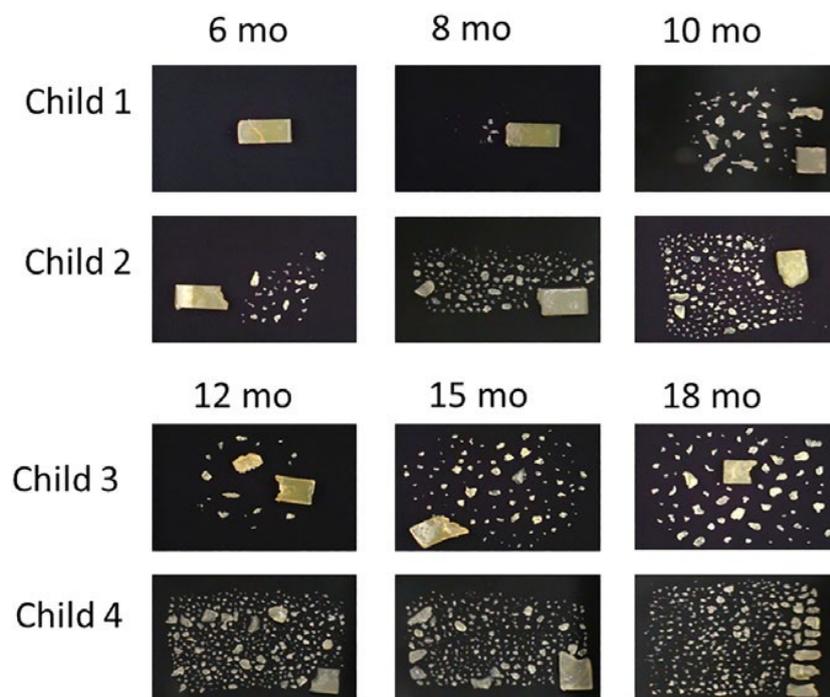
### Key-words

Chewing; children; food bolus; methodology; dentition; masticatory efficiency



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**Figure 1: Degradation of apple gel as a function of age of children**



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