Measuring baby's oral motor patterns and trends with baby food snacks

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Healthy feeding development in infants includes the progression from an entirely milk based diet to one based on a variety of solids foods with varying flavor and texture. The first solid foods usually take the form of a thin, smooth, homogenous, semi-liquid food, with a gradual progression to lumpy textured foods which require early chewing motions, and finally including family foods throughout the second year of life.

The ability to eat food with textures more complex than pureed foods is dependent on both the experience of chewing and the development of coordinated oral motor skills. Research has shown the importance of introducing intermediate textures to help bridge skills to table foods. Highly dissolvable finger foods that can be self-fed by older babies often fill this gap. A method was previously developed to quantify oral motor patterns through video observation by counting the number of chews and time food remained in the mouth for each spoonful of baby food.

The objective of this research was to investigate the reapplication of this method to quantify the same variables with children eating finger foods. 151 children between the ages of 8 and 24 months old were videotaped self-feeding baby food snacks with a range of formulations and textures. Each video was coded for number of chews and residence time mouth per snack piece.

Observations showed that residence time in mouth data had significantly higher variability when compared with number of chews measure. As expected, children of younger age showed significantly higher variability for both oral motor measures compared to older children. As expected residence time in mouth and number of chews were highly correlated. Yet time in mouth decreased with each subsequent pieces of snack eaten. Lastly product formulation changes were shown to produce significant alterations in both oral motor measures.