

論文名 : Difference of tooth brushing motion between dental hygienists and mothers  
-Focusing on self-toothbrushing and caregivers'-toothbrushing-

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(以下要約を記入する)

**Aim.** Because of the developing fine motor function of children, caregivers are encouraged to brush children's teeth for them until they develop the skills to do so themselves. However, appropriate techniques for caregivers'-toothbrushing haven't been clarified. This study evaluated the self-toothbrushing and caregivers'-toothbrushing motions of dental hygienists and mothers.

**Design.** Twenty female dental hygienists and twenty mothers participated in this study. A dental model of deciduous dentition attached to a dental education mannequin was used for caregivers'-toothbrushing with a manual toothbrush. Three-dimensional (3D) motions and forces were recorded using a toothbrush attached with a 3D accelerometer and a strain tension gage. The data were evaluated between the abovementioned two groups.

**Results.** Dental hygienists demonstrated faster motion with lighter force than mothers during tooth brushing. Additionally, in caregivers'-toothbrushing, the displacement of toothbrush of dental hygienists was significantly shorter than that of mothers. Regarding the intra-individual correlations between self-toothbrushing and caregivers'-toothbrushing, significant correlations were found on the displacement of toothbrush for both groups.

**Conclusion.** Dental hygienists might change their instructions on the brushing motion for caregivers'-toothbrushing whereas the caregivers'-toothbrushing by mothers is strongly reflected by the characteristics of self-toothbrushing. These findings might contribute to establishing tooth brushing instructions for mothers.