

## SS01-4 **Role of taste sensation in the regulation of mastication and swallowing**

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Mastication and swallowing are the major processes of digestion, associated with coordinated activities of many orofacial muscles. These movements have their own regulating center in the brainstem (i.e. chewing center and swallowing center), and basic pattern of movements are generated in these centers. Studies have shown that somatic sensory information (e.g. touch and pressure) generated by the movements of orofacial structures play important roles in generating regulating centers and reflexively modulating motor output patterns so that movements can be accomplished smoothly. Taste sensation is also sensory information which occurs during digestion, and important for the evaluation of food (e.g. safe or favorable). Nonetheless, little attention has been paid for the role of taste sensation in the regulation and/or modulation of the masticatory and swallowing movements. Recent increase in the elderly persons causes increase in patients suffering from swallowing disorders due to cerebrovascular disease such as stroke. For this, special diets for such patients have been developed to reduce risk for aspiration by increasing their aggregability when being masticated. However, no attempt has been done to add chemicals to such diets to facilitate swallowing initiation, so there is still room to improve such diets. We have started to study the effects of taste stimulation on swallowing initiation in experimental animals and humans. We will introduce our recent findings obtained from these studies.