

## SS1-1 Physiological Significance of Taste on Ingestion and Swallowing

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Ingestion is one of the essential oral functions for nutrition. When the function is affected after aging or stroke, the patient may be deprived of eating pleasure. Tube feeding might be a choice to bypass the pharynx, however, patient desire to take food through the mouth. At first, humans recognize the food with sight and smell. Once the food is evaluated to be safe or prefer for him/her, it is carried into the mouth. Then mechanical and chemical characteristics of the food are evaluated by masticatory process so that the safety and preference are reconfirmed. For solid food, the front teeth cut off a certain volume of food, and then it is ground by the back teeth and formed as a food bolus for swallowing. In the above process, salivary is essential for forming the food bolus and thus it is important for smooth swallowing as well as taste expression. In order to elicit swallows smoothly, not only the motor control system but also sensation may be essential. Dysphasia patient can swallow a favorite food with a less risk of the aspiration. Since taste is important information to evaluate safety and preference of food for the brain, it is easy to understand the role of sweet and Umami tastes on swallowing initiation. Recently, our laboratory has developed a method to elicit swallows in humans with electrical stimulation to pharyngeal wall. The method itself may provide a safe training program for patients; however, application of Glutamate to pharynx as a chemical stimulant may increase the effect of electrical stimulation, since pharyngeal wall is expected to have the receptor. It is expected the active discussion in the symposium on the role of taste for ingestive behavior.