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### Intraoral Pressure Measurement during Mastication of Kelp

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Masticatory pressure caused by chewing with molars was measured using a multiple-point sheet sensor. The sensor system is useful to directly indicate masticatory force and contact area with various subjects. Mastication of kelp snack, which is difficult to cut in several chewing strokes and thus seems to be a good food for masticatory training, was analyzed. Peak force, contact area at peak, peak pressure, duration, cycle time and impulse were highly varied among subjects, but were not influenced by the breaking force of the kelp. The experimental results show that humans did not change their masticatory pattern at least during the first several chews of the kelp samples which are difficult to cut with teeth. In the first chew, masticatory pressure is lower and duration and cycle time are longer than the following several chews. This suggests that subjects are afraid of an unknown sample texture. Individual peak force in mastication was independent of the contact area, but highly correlated with the peak pressure. Subjects with a high impulse value, corresponding to a large amount of work in mastication, had a high masticatory force, but did not show long duration.

**Keywords:** [mastication](#), [kelp](#), [bite force](#), [texture](#), [multiple-point sheet sensor](#)



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