

Department of Oral Rehabilitation
Division of Occlusion and Removable Prosthodontics

Outline

The specialty of occlusion and removable prosthodontics is concerned with the study of the effects of stomatognathic function on the recovery and maintenance of general physical function. We perform translational research based on morphological, immunohistological, physiological and epidemiological approaches in the field of geriatric dentistry and sports dentistry. Our research area also covers diagnostic prosthodontics, esthetic dentistry, biomaterials, bioengineering, and prosthodontic treatment for xerostomia. Our ongoing research projects are shown below.

Faculty members

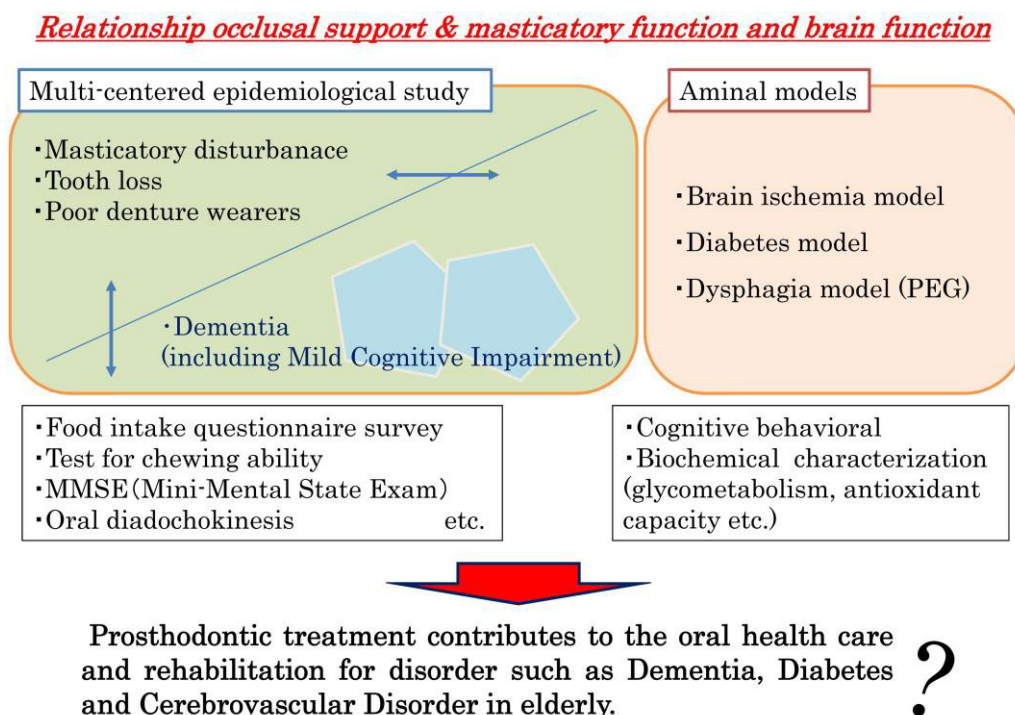
Professor;	Hisashi Koshino D.D.S., Ph.D.
Associate professor;	Yoshifumi Toyoshita D.D.S., Ph.D.
Assistant professor/research associate;	Yuuki Kan D.D.S., Ph.D.
	Sari Takada D.D.S., Ph.D.
	Kenji Yokozeki D.D.S., Ph.D.
Clinical Instructor	Kenshiro Shibano D.D.S.



Hisashi Koshino

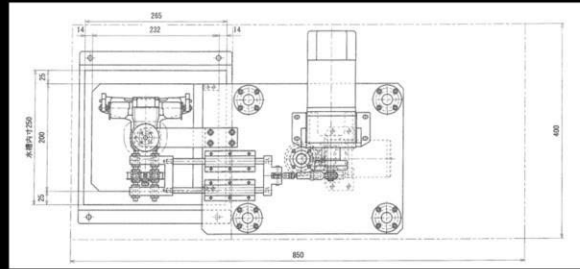
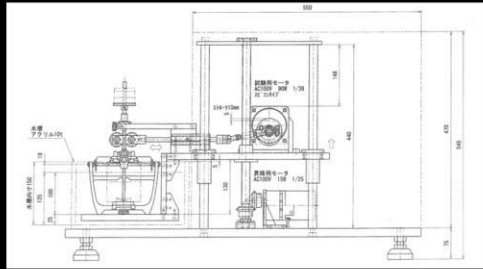
Main research in progress

- 1) Relationship masticatory function and whole body
 - i) Epidemiological study on the relationship between oral and physical function among independent living of elderly people
 - ii) Mastication accelerates rehabilitation of brain function after cerebral infarction
 - iii) Control or prevention of diabetes by mastication



2) Abrasion wear resistance of artificial teeth

Abrasion Wear Resistance of Artificial Teeth



This is a draft of our uniquely crafted machine that wears artificial teeth mechanically. The machine is equipped with a mean value articulator and an electric motor and incisal pin connected with the motor moving from side to side. Consequently the artificial teeth will be worn out by lateral movement like on human jaws. It is for an experiment that anti-monson curve is reproduced on the articulator artificially. The anti-monson curve is a convex curve on artificial teeth that appears due to long term use of a denture. The curve makes the denture unstable during mastication. This machine is useful for development of a new artificial teeth that will resist against the anti-monson curve.

Current publications

- *Toyoshita et al. The Changes of Cognitive Function and Masticatory Function for Four Years between Community-Dwelling Elderly People in Japan: An Observational Study. *Journal of International Oral Health*. 15:265-270, 2023
- *Toyoshita et al. Comparison of Oral Health-Related Quality of Life Between Community-Dwelling Elderly People with Cognitive Decline and Normal Elderly in Japan. *Journal of International Oral Health*. 13:344-349, 2021
- *Toyoshita et al. Intraoral Evaluation of Elderly People Wearing Complete Dentures with a Risk of Cognitive Decline by MMSE — Comparison with Subjects without Dentures and Difference due to Edentulous Area —. *Japanese journal of gerodontology*. 35:95-105, 2020
- * Kawanishi et al. Usefulness of the newly developed artificial denture plaque for practical denture care training. *Clinical and Experimental Dental Research* <https://doi.org/10.1002/cre2.270>, 2020
- * Koshino et al. Observation of the dental support in case of large-scale disaster. *Journal of Japanese Society of the General Dentistry*. 11:8-15, 2019
- *Kawanishi et al. The relationship between formative and overall evaluation in the self-assessments of students through prosthodontics practical training of partial dentures. *Dent J Health Sci Univ Hokkaido* 36:17-26, 2017
- *Kan et al. The effect of mastication by food form on the secretion of GLP-1 in mice. *Journal of Japanese Society for Masticatory Science and Health Promotion* 27:72-79, 2017
- *Toyoshita et al. Relationship between masticatory function and mild cognitive impairment in elderly people wearing removable dentures. *Dental, Oral and Craniofacial Research* 7:1-3, 2017