Division of Oral Rehabilitation
Department 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.
Hideki Aita D.D.S., Ph.D.
Assistant professor/full-time lecturer; Yoshifumi Toyoshita D.D.S., Ph.D.
Katsuya Kawanishi D.D.S., Ph.D.
Assistant professor/research associate; Mizuho Sasaki D.D.S., Ph.D.
Yuuki Kan D.D.S., Ph.D.
Clinical instructor; Kenjiro Nakamura D.D.S.
Masao Yamazaki D.D.S.
Masahisa Nakamoto D.D.S.
Kenya Asahiro D.D.S.

Main research in progress

1) Relationship masticatory function and whole body
   i) Multi-centered epidemiological study on the outcome of the prosthodontic treatment
   ii) Mastication accelerates rehabilitation of brain function after cerebral infarction
   iii) Control or prevention of diabetes by mastication

**Relationship occlusal support & masticatory function and brain function**

- Multi-centered epidemiological study
  - Masticatory disturbance
  - Tooth loss
  - Poor denture wearers
- Dementia (including Mild Cognitive Impairment)
- Food intake questionnaire survey
- Test for chewing ability
- MMSE (Mini-Mental State Exam)
- Oral diadochokinesis etc.

- Animal models
  - Brain ischemia model
  - Diabetes model
  - Dysphagia model (PEG)

- Cognitive behavioral
- Biochemical characterization (glycometabolism, antioxidant capacity etc.)

Prosthodontic treatment contributes to the oral health care and rehabilitation for disorder such as Dementia, Diabetes and Cerebrovascular Disorder in elderly.
2) Physicochemical biofunctionalization of titanium

3) Effect of dental pulp stem cell therapy for cerebral ischemia

4) Effect of ultraviolet light pre-treatment of titanium dioxide photocatalyst on bleaching

**Current publications**