

Department of Oral Rehabilitation and Regenerative Medicine

Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences



Prosthodontics is now facing an important phase as to become a science. In other words, the basic science with new methodology is an essential factor for tissue regeneration and functional recovery in this field. On the other hand, clinical epidemiology is directly connected with the people's health. Therefore, approaching with solid evidences is necessary for clinical epidemiology. Now, as our responsibility, we have to keep delivering these science oriented prosthodontics.



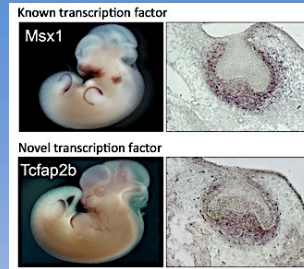
Chair: Prof. Takuo Kuboki

Basic science and translational research

As we prosthodontists, regenerating and recovering lost tissue using biological approach is quite reasonable way. At the same time, our research targets are not only regenerating tissue but also understanding of biological etiology of various disease such as peri-implantitis, bruxism, and chronic orofacial pain. Followings are our ongoing research projects.

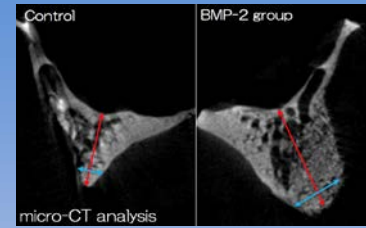
- ▶ Mesenchymal stem cell based tissue engineering
- ▶ Mesenchymal stem cell immunology
- ▶ Bone regeneration using E-coli derived BMP-2
- ▶ Regulation of Bone and Cartilage development
- ▶ Regeneration of Cartilage
- ▶ Development of functional bioengineered tooth
- ▶ Basic science for improvement of osseointegration
- ▶ Biological analysis of peri-implantitis
- ▶ Regeneration of keratinized gingiva
- ▶ Biological analysis of bruxism
- ▶ Disease susceptibility of chronic muscle pain

Comprehensive analysis of tooth development related factor



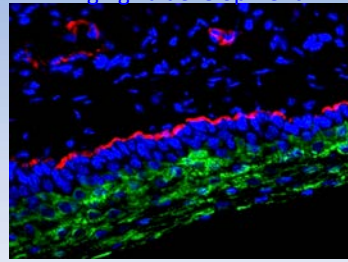
Uchibe et al. 2012

Bone regeneration using E-coli derived BMP-2 for clinical studies (large animal model)



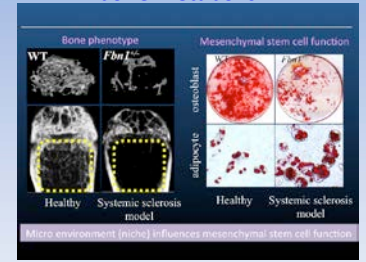
Nosho and Mikai et al. unpublished data

The role of basement membrane during tooth and keratinized gingiva development



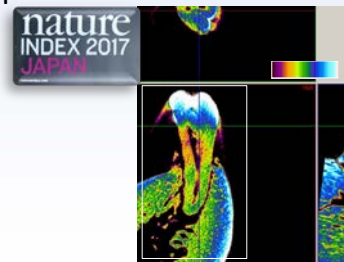
Komori and Tosa et al. unpublished data

Immunodiseases and bone metabolism



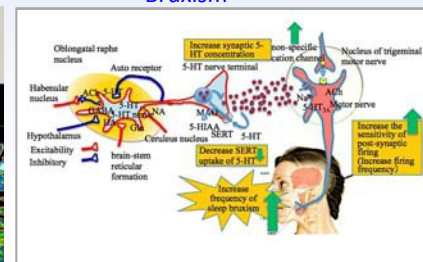
Chen and Akiyama. 2015

Tooth regeneration in large animal model



Kuboki et al. 2017

Biological mechanism of Bruxism

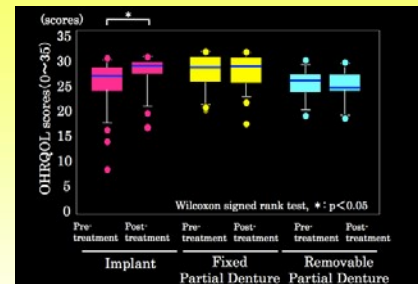


Minakuchi et al. 2012 IADR

Clinical research studies

- ▶ Development of innovative sleep bruxism detection/analyzing device
- ▶ Verification of portable sleep bruxism detection device
- ▶ Polysomnography based sleep medicine
- ▶ Clinical evaluation of obstructive sleep apnea syndrome (OSAS)
- ▶ Effect of prosthodontic treatment on patients' quality of life
- ▶ Risk factor verification for inpatients elderly population
- ▶ Association between oral health status and general condition on elderly needed special nursing care
- ▶ Development of new educational system on digital dentistry

Improvement of OHQOL in few teeth deficient patient by dental implant



Kimura et al. 2012



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