Removable Partial Denture Prosthodontics

1. Staffs and Students (April, 2009)

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2. Purpose of Education

Removable partial denture prosthodontics is a branch of Oral Health Science that deals with replacement of missing teeth and oral tissues to restore and maintain oral form, function, appearance, and health. Main objective of removable partial denture prosthodontics is to provide student in the graduate course an opportunity to master standard method of diagnosis, technical skill, applied skill in lectures and practical works. Students are also taught on how to adapt removable prosthesis in the mouth with missing teeth from a biological and engineering standpoints.

3. Research Subjects

1) Comparisons between a mixing ability test and masticatory performance tests using a brittle or an elastic test food.
2) Assessment of the Pronunciation in Subjects with sound Dentition.
3) Follow-up study and risk assessments for periodontitis of abutment teeth in patients with removable partial dentures.
4) Assessment of psychological stress during dental treatments.
5) Application of polyester copolymer to denture material.
6) Application of cobalt chrome alloy to telescopic denture material.
7) Three-dimensional analysis of occlusal curvature.
8) Fabrication of precision metal frameworks with cast-on method.

4. Clinical Services

Patients with missing teeth have increased according to the aging of the population, so improving their quality of life has been required. Dental prosthetic clinic mainly provides removable partial dentures to the patients with missing teeth as one of the best treatment techniques. The dentures are individually designed analyzing mobility of dentures, oral sense, pronunciation and aesthetic points of view.

5. Publications

Original Article

1. Nagata K, Takahashi H, Ona M, Hosomi H, Wakabayashi N, Igarashi Y. Reinforcement effects of fiberglass on telescopic dentures using a three-dimensional finite element analysis and fracture test. Dent Mater J. 28(5):649-656, 2009.
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between mixing ability test and masticatory performance test. J Prosthodontic Res. 53: 72-77, 2009.
4. Mine K, Fueki K, Igarashi Y. Microbiological risk for periodontitis of abutment teeth in patients with removable partial dentures. J Oral Rehabil. 36: 696-702, 2009.
5. Kagaya K, Minami I, Nakamura T, Sato M, Ueno T, Igarashi Y. Three-dimensional analysis of occlusal curvature in healthy Japanese young adults. J Oral Rehabil. 36(4): 257-63, 2009.
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7. Baba K, John MT, Inukai M, Aridome K, Igarashi Y. Validating an alternate version of the chewing function questionnaire in partially dentate patients. BMC Oral Health 9: 9, 2009.
8. Otomaru T, Sumita Y, Chang Q, Fueki K, Igarashi Y, Taniguchi H. Investigation of predictors affecting food mixing ability in mandibulectomy and/or glossectomy patients. J Prosthodontic Res. 53: 111-115, 2009.
9. Kondo T, Wakabayashi N. Influence of molar support loss on stress and strain in premolar periodontium: A patient-specific FEM study. J Dent. 37(7):541-548, 2009.
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12. Suzuki T, Hori N, Att W, Kubo K, Iwasa F, Ueno T, Maeda H, Ogawa T. Ultraviolet treatment overcomes time-related degrading bioactivity of titanium. Tissue Engineering Part A. 15(12): 3679-88, 2009.
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14. Att W, Hori N, Iwasa F, Yamada M, Ueno T, Ogawa T. The effect of UV-photofunctionalization on the time-related bioactivity of titanium and chromium-cobalt alloys. Biomaterials. 30(26): 4268-4276, 2009.
15. Kubo K, Tsukimura N, Iwasa F, Ueno T, Saruwatari L, Aita H, Chiou W. A, Ogawa T. Cellular behavior on TiO2 nanonodular structures in a micro-to-nanoscale hierarchy model. Biomaterials. 30(29): 5319-5329, 2009.
16. Hori N, Att Q, Ueno T, Sato N, Yamada M, Saruwatari L, Suzuki T, Ogawa T. Age-dependent degradation of the protein adsorption capacity of Ti. Journal of Dental Research. 88(7): 663-667, 2009.
17. Sato N, Ueno T, Kubo K, Suzuki T, Tsukimura N, Att W, Yamada M, Hori N, Maeda H and Ogawa T. Control of oral mucosal cell growth and function by N-acetyl cysteine. Dental Materials. 25(12): 1532-40, 2009.