

ANNUAL PUBLICATIONS

Department of Geriatric Dentistry

1993.1.-2000.3.

I. Staffs and Students (April, 1999)

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Takashi Yoshida
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Miyako Yokochi
Hirotomo Urano
Eiji Osada
Tomohiro Sato
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Yoshihisa Asano
Yukio Kameda
Yoshiko Kumakura
Kayo Tokumoto
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II. Educational Outline of Graduate Course

It is the nutrition that is the fundamental of the elderly's health. It is the aim of the gerodontology education that we teach the basic way of thinking, they take the nutrition from the mouth to sustain and improve their health.

Up to now, we have believed that the problem has been solved by the dental treatment for recovering their chewing function. And we have believed that we have not had the effective treatment for the case of dysphagia from sequel of cerebral apoplexy, nerve and muscular diseases. But now, we recognize the possibility of functional recover by dysphasia rehabilitation. So, we teach the basics and clinical research about dysphasia.

And most of aged patients have many other diseases, so we teach how to do the medical management, when we give dental treatment.

III. Research Subjects

1) Monitoring during dental treatment in elderly

The elderly have many disorders in their daily lives, because they are physically weak of their function by aging and diseases. About physical conditions of patients who come to gerodontics clinics, we have extracted problems by asking them their symptoms and medications. And about elderly patients with circulatory diseases, we make many reports on the cases, these reports have been doing a great deal for the progresses of safe dental treatments.

2) Masticatory Function Rehabilitation

Masticatory function rehabilitation is one of the goals in prosthetic treatments. However, none of the agreeable method has been established for the objective evaluation of mastication. We study the method for evaluation of masticatory performance. We have developed a new method using a color scale. This method was examined to be useful in quantitatively evaluating masticatory performance of denture wearers as well as dentate patients.

3) Dysphagia and dental problem

We find eating disorders in the elderly as well as cases of sequel (cerebral apoplexy, nerve and muscular diseases). Because the older they grow, the more factors they have which are laryngeal decencies, depression of tongue movement function and reflex, and so on. Our study throws light on these difficult factors from basic sides. We need screening tests that we can give functional evaluation at anytime and by anyone. So we have accumulated basic data to lay the evaluation system.

4) Development of Denture Materials

The overlying mucosa decreases in thickness according to the resorption of residual ridge. To avoid irritation and soreness of mucosa in the case of an extremely resorbed residual ridge, it is necessary to compensate fore the lost thickness and viscoelasticity of the mucosa. We study soft lining materials to line the inner surface of the denture base. A light curing soft lining material has been developed recently in addition to a previously developed heat curing material.

IV. Publications (January, 1993-March, 2000)

A. Original Articles

- 1) Hayakawa I., Hirano S.: A method to remold worn acrylic resin posterior denture teeth and restore lost vertical dimension of occlusion. *Journal of Prosthetic Dentistry*. 69(2): 234- 236, 1993.
- 2) Hirano S., Hayakawa I.: Clinical application of soft lining materials for denture base. *J Dent. Eng.*, 105: 2-7, 1993 (in Japanese).
- 3) Kubota K. , Yonemitsu M. , Watanabe H. , Minakuchi S. , Ohnishi M. , Ono Y. , Ohsawa K. , Hollist N.O.,Olusile A.O. , Ajayi-Obe S.O.and Grillo T.A.I.: A Time-Background of the Dental Diseases Viewed from the Longitudinal Dental Survey in Nigeria. *Dental Outlook* , 81(3,4,5):597-609,849-863,1087-1097, 1993(in Japanese).
- 4) Shimoyama K., Uchida T., Nagao M., Odagiri K., Shirasaki Y. and Tateishi T.: Mechanical properties of artificial teeth. *Bull. Tokyo Med. Dent. Univ.* 40(1): 13-16, 1993 .
- 5) Kubota K., Hollist N.O., Olusile A.O., Yonemitsu M., Minakuchi S., Watanabe H., Ohnishi M., Ohsawa K., Ono Y., Ajayi-Obe

- S.O. and Grillo T.A.I. : JOINT EPIDEMIOLOGICAL LONGITUDINAL DENTAL SURVEY IN NIGERIA , ESPECIALLY IN COMPARISON WITH THAT OF JAPANESE. The Bulletin of Tokyo Medical and Dental University.40:59-78 , 1993.
- 6) Shimoyama K., Ooashi O., Umino M., Uchida T., Nagao M., Odagiri K. and Yamazaki K.: Relationship between chief complaints and depressive symptoms among elderly dental patients. J. J. Gerodont. 7: 132-140, 1993 (in Japanese).
- 7) Ogawa N., Teraoka K., Okada S., Shimoyama K. and Nagao M.: A survey of oral area training in nursing education institutions. J. J. Gerodont. 8: 29-36, 1993 (in Japanese).
- 8) Shimoyama K., Nagao M., Odagiri K., Ogawa N. and Miura M.: Status of oral hygiene in nursing homes for the aged -Part I: Oral prophylaxis awareness of nursing staff-. J. J. Gerodont. 8: 37-46, 1993 (in Japanese).
- 9) Umino M., Owatari T., Masuda T. and Kubota Y. : Effects of extensive oral surgery and hemorrhage on coagulation and fibrinolysis. J. Oral. Maxillofac. Surg.51:499-505 , 1993.
- 10) Umino M., Owatari T., Shimoyama K. and Nagao M.: Long-term observation of the relation between pain intensity and serum carbamazepine concentration in elderly patients with trigeminal neuralgia. J. Oral Maxillofac. Surg. 51: 1338-1344, 1993.
- 11) Katakura N., Umino M. and Kubota Y. : Morphologic airway changes after mandibular set back osteotomy for prognathism with and without cleft palate . Anesth & Pain Cont in Dentistry.2(1):22-26 , 1993.
- 12) Oda N., Umino M. and Yasuhara Y.: Electric characteristics in the tissue -The frequency dependence of dielectric constants of blood-. J Rad Res. 34(4) 408, 1993.
- 13) Katakura N. and Umino M : Electric characteristics in the tissue -The frequency dependence of dielectric constants of blood-. J. Rad. Res.48:635 , 1993.
- 14) Umino M. and Nagao M. : Systemic diseases in elderly dental patients. Int. Dent. J.43(3):213-218 , 1993.
- 15) Sato I., Morita I., Kaji K., Ikeda M., Nagao M. and Murota S.: Reduction of nitric oxide producing activity associated with in vitro aging in cultured human umbilical vein endothelial cell . Biochem. Biophys. Res. Commun. 195: 1070-1076, 1993.
- 16) Sato I., Kaji K., Morita I., Nagao M. and Murota S.: Augmentation of endothelin-1, prostacyclin and thromboxane A2 secretion associated with in vitro ageing in cultured human umbilical vein endothelial cells. Mech. Age. Dev. 71: 73-84, 1993.
- 17) Hirano S.: The Influence of Oral Health Status and Oral diseases on Quality of Life and Depression of the Elderly. Annual Report of Sasakawa Health Science Foundation 9(1): 152-157, 1993 (in Japanese).
- 18) Kumagai H.: Clinical study of movements in complete denture wearers-Paths of masticatory movements and occlusal contacts-. J.Stomatol.Soc.Jpn. 60(1): 15-34, 1993(in Japanese).
- 19) Nagao M.: Light curing system prosthetic treatment-Application of light curing materials to removable dentures-. J. J. D. S. 12: 97-101, 1993(in Japanese).
- 20) Kubota K. , Hollist N.O.,Olusile A.O. , Yonemitsu M. , Minakuchi,S. , Watanabe H. , Ohnishi M. , Ohsawa K. , Ono Y. , Ajayi-Obe S.O.and Grillo T.A.I.: The time-related social and economic factors of dental health from a longitudinal dental survey in Nigeria. J. Masticat. & Health Soc.3(1):27-35, 1993(in Japanese).
- 21) Hayakawa I. and Hirano S.: A method to remodel worn acrylic resin posterior denture teeth and restore lost vertical dimension of occlusion. J Prosthet. Dent. 69(2): 234-236, 1994.
- 22) Umino M., and Oda N. : Electric characteristics of blood Analysis of -dispersion in dielectric constants of bloods . J. Rad. Res.35(4):346,1994.
- 23) Watanabe T., Kumagai H., Suzuki T., Kobayashi K. and Nagao M.: Thermal Changes on the Polished Surfaces od Complete Dentures during Function. The Journal of the Japan Prosthodontic Society. 38(2):260-266, 1994.4.1(in Japanese).
- 24) Suzuki T., Kumagai H., Uchida T., Yoshitomi N., Watanbe T. and Nagao M.: Distribution of Occlusal Support in the Elderly. J. Jpn. Prosthodont Soc. 38(2): 476-484, 1994 (in Japanese).
- 25) Minakuchi S., Kondo S., Sekita T., Hirano Y., Suzuki T., Kobayashi K. and Nagao M.: Movements of Lips in Dentulous and Edentulous Patients-Three Dimensional Relation between Lip Surface and upper Anterior Teeth- The Journal of the Japan Prosthodontic Society. 38(2):485-494, 1994.4(in Japanese).
- 26) Sekita T., Minakuchi S. and Hirano Y.: 3-D Auto Tracking System. The Journal of the Japan Prosthodontic Society. 38(3): 515- 522, 1994(in Japanese).
- 27) Suzuki T.,Watanabe T., Yoshitomi N., Ishinabe S., Kumagai H., Uchida T., Minakuchi S., Sekita T.,Kobayashi K. and Nagao M.: Evaluation of a New Measuring System for Occlusal Force with Pressure Sensitive Sheet. The Journal of the Japan Prosthodontic Society. 38(5):966-973, 1994.8 (in Japanese).
- 28) Yonemitsu M. , Watanabe H. , Minakuchi,S. , Ono Y. , Ohnishi M. , Kubota K. and Sasaki,Y.: Epidemiological Study on Distribution of Plaque, Calculus and Gingivitis Among Nigerian People. J. Stomatol. Soc. Jpn. 60:565-570,1994.(in Japanese)
- 29) Kobayashi S.: Short-latency responses of jaw-movements to loading and unloading in complete denture wearers. J.Stomatol.Soc.Jpn. 61(1): 56-70, 1994 (in Japanese).

- 30) Sato I.: Alteration in production vasomediators associated with in vitro aging in cultured human umbilical vein endothelial cells. *J.Stomatol.Soc. Jpn.* 61(3): 427-436, 1994(in Japanese).
- 31) Suzuki T., Kumagai H., Yoshitomi N., Minakuchi S., Watanabe T., Uchida T., Ishinabe S., Sekita T., Kobayashi K., Kobayashi K. and Nagao M.: Clinical Evaluation of Measuring System of Occlusal Force The Journal of the Stomatological Society. Japan. 61(3):437-445, 1994(in Japanese).
- 32) Moriyama N.: Psychophysical scaling of translucent sensory measurement of tooth crons. *J.Stomatol.Soc.Jpn.* 61(4): 564-579, 1994(in Japanese).
- 33) Shimoyama K., Ooashi O., Hirano S., Uchida T., Kawabe S., Umino M., Hayakawa I., Nagao M., Odagiri K., Ando S. and Yamazaki K.: Neurotic tendency evaluated by Cornell Medical Index and oral status among elderly dental patients. *J. Jpn. Prosthodont. Soc.* 38: 655-661, 1994 (in Japanese).
- 34) Oizumi M.: Aging and denture wearing effects on the oral microflora. *J. Jpn. Pr-othodont.Soc.* 38: 1195-1204, 1994(in Japanese).
- 35) Manabe A., Watanabe T., Kobayashi K. and Nagao M.: Prolongation of Working-time for 4META/MMA-TBB Resin -Part 1. Effectiveness of " Super Bond Station " in Practical Use- Adhesive Dentistry 12(1):49-54, 1994.
- 36) Shimoyama K., Nagao M., Odagiri K., Ogawa N. and Miura M.: Status of oral hygiene in nursing homes for the aged -Part II: Methods of oral prophylaxis used by nursing staff-. *J. J. Gerodont.* 8: 113-120, 1994 (in Japanese).
- 37) Shimoyama K., Ooashi O., Umino M., Hirano S., Uchida T., Kawabe S., Ohwatari T., Hayakawa I., Nagao M., Odagiri K. and Yamazaki K.: Status of elderly dental patients investigated by the Cornell Index-Health questionnaire. *J. J. Gerodont.* 9: 34-41, 1994 (in Japanese).
- 38) Umino M., Owatari T., Shimoyama K. and Nagao M.: Unexpected atrial fibrillation during tooth extraction in a sedated elderly patient. *Anesth. Prog.* 41: 77-80, 1994.
- 39) Kawabe S.: Effects of local anesthesia on signal-averaged electrocardiograms in elderly dental patients. *J.J.D.S.A.* 22(2): 335-349, 1994(in Japanese).
- 40) Hayakawa I., Hirano S., Kobayashi S., Nagao M. and Masuhara E.: The Creep Behavior of Denture-Supporting Tissues and Soft Lining Materials. *Int.J Prosthodont.* 7(4): 339-347,1994.
- 41) Hirano Y.,Minakuchi S.,Sekita T.,Kobayashi K.and Nagao M.: Lip Movement during Mastication in 3-D Auto Tracking System. *Journal of Dental Research.* 73(4):898,1994.
- 42) Umino M., Owatari T. and Nagao M.: A new method of recording somatosensory evoked potentials by randomized electrical tooth stimulation with 6 levels of intensity. *Pain* 64: 269-276, 1995
- 43) Owatari T., Umino M., Ishikawa N. and Nagao M.: Clinical experience of eldery dental patients with hereditary angioneurotic edema(HANE). *J Jap Dent Soc Anesthesiol* 23(2): 412-420, 1995(in Japanese).
- 44) Shimoyama K., Umino M., Owatari T., Uchida T., Hayakawa I., Nagao M., Odagiri K., Ando S. and Katayama T.: Oral discomfort among elderly dental patients -Subjective feelings of dry mouth, sticky mouth and taste impairment-. *J. J. Gerodont.* 9: 149-158, 1995 (in Japanese).
- 45) Shinada K., Ozaki F., Cordeiro J.G.O., Okada S., Shimoyama K., Nagao M., Ichinose S. and Yamashita Y.: A morphological study of interactions of *Candida albicans* and *Streptococcus mutans*. *J. Stomatol. Soc. Jpn.* 62: 281-286, 1995. (in Japanese)
- 46) Yoshida A.: Basic studies on aging of mandible-Age-related changes of osteoblastic cells from mouse mandible-. *J.Stomatol.Soc. Jpn* 62(1): 127-148, 1995 (in Japanese).
- 47) Hirano Y., Minakuchi S., Sekita T., Suzuki T., Kobayashi K. and Nagao M.: Three Dimensional Analysis of the Mouth Corner Movements during mastication. *J Jpn Prosthodont Soc.*39(94 Special Issue).94,1995(in Japanese).
- 48) Shimoyama K., Uchida T., Inoue A., Umino M., Hayakawa I., Nagao M., Odagiri, K. and Katayama, T.: Selection of posterior denture teeth for complete dentures: Criteria and status. *J. Jpn. Prosthodont. Soc.*39: 643-648, 1995 (in Japanese).
- 49) Kumagai H., Hirano Y., Minakuchi S., Sekita T., Suzuki T. Kobayashi K. and Nagao M.:The movement of the Chin during Mastication. *J. Jpn. Prosthodont Soc.*39.(6):1132-1141,1995(in Japanese).
- 50) Hirano Y.: Lip movements during mastication in dentulous persons. *J. Jpn. Prothldont. Soc.*39: 1142-1153, 1995(in Japanese).
- 51) Watanabe T., Soeda W., Kobayashi K. and Nagao M.: Change in pH Oozes Fluid in Periodontal Pocket with Repeated Measurements. *J. Jpn .Periodont. Soc.* 36(4):895-901, 1995(in Japanese).
- 52) Minakuchi S., Hirano Y., Sekita T., Suzuki T., Kobayashi K. and Nagao M.: Three Dimensional Analysis of Lip Movement by Video Trackers. *Journal of Dental Research.* Vol.74. Special Issue:518,1995.
- 53) Minakuchi S., Hirano Y., Sekita T., Suzuki T., Kobayashi K. and Nagao M.: Three Dimensional Analysis of Lip Movement by 3-D Auto Tracking System. *International Archives of Photogrammetry and Remote Sensing.* Vol 30(5): 385-389, 1995.

- 54) Shimoyama K., Okada Y., Uchida T., Ishikawa N., Kobayashi S. and Nagao M.: Study on oral health care for the homebound elderly (I) -Oral health awareness of public health nurses-. J. J. Gerodont. 10: 218-227, 1996 (in Japanese).
- 55) Shimoyama K., Okada Y., Uchida T., Ishikawa N., Kobayashi S., Yokochi M. and Nagao M.: Study on oral health care for the homebound elderly (II) -Oral status of the homebound elderly and important factors in oral health care as judged by public health nurses. J. J. Gerodont. 11: 25-33, 1996 (in Japanese).
- 56) Shimoyama K., Okada Y., Uchida T., Ishikawa N., Kobayashi S., Nagao M. and Mori C.: Study on oral health care for the homebound elderly () -Knowledge and ability of public health nurses to instruct in oral health care-. J. J. Gerodont. 11: 100-110, 1996 (in Japanese).
- 57) Miyashita K., Sekita T., Minakuchi S., Hirano Y., Kobayashi K. and Nagao M.: Denture mobility measuring system of complete dentures using four infrared video cameras. International Archives of Photogrammetry and Remote Sensing, Volume 31, Part B5:368-373, 1996.
- 58) Watanabe T., Kobayashi K., Soeda W. and Nagao M.: The pH value changes in the periodontal pockets. Bull.Tokyo Med. Dent. Univ. 43:67-73, 1996.
- 59) Uchida T., Shimoyama K., Nagao M. and Mori C.: Anterior Denture Teeth Selected for Complete Dentures. The Journal of The Stomatological Society 63(4): 55-60, 1996 (in Japanese).
- 60) Kumagai H., Suzuki T. and Hamada T.: Study of Evaluation of Complete Denture Occlusal Contacts using Pressure-Sensitive Filmes. The Journal of Hiroshima Dental Association 24(1): 5-9, 1996 (in Japanese).
- 61) Hirano Y., Kumagai H., Minakuchi S., Sekita T., Suzuki T., Kobayashi K. and Nagao M.: Movements of the Point on the Chin during Mastication. Part 2 Traces of the Chin Point. J Jpn Prosthodont Soc. 40(95Special Issue):165,1996 (in Japanese).
- 62) Hayakawa I., Takahashi Y., Morizawa M., Kobayashi S. and Nagao M.: The effect of a fluorinated copolymer coating agent on tissue conditioners. The International Journal of Prosthodontics. 10(1): 44-48, 1997.
- 63) Shinada K., Teraoka K., Asaka T., Cordeiro J.G.O., Ozaki F., Shimoyama K. and Nagao M.: Distribution of Candida species and Mutans Streptococci related to oral conditions in elderly persons. J. Stomatol. Soc. Jpn. 64: 512-517, 1997 (in Japanese).
- 64) Suzuki T., Kumagai H., Watanabe T., Uchida T. and Nagao M.: Evaluation of Complete Denture Occlusal Contacts using Pressure-Sensitive Sheets. The International Journal of Prosthodontics. 10(4): 386-391,1997.
- 65) Miyashita K.: Denture mobility of complete dentures during function. J. Stomatol Soc. Jpn. 64(2): 223-242, 1997 (in Japanese).
- 66) Yoshitomi N.: Anterior occlusal contact of complete denture during mastication. J. Stomatol. Soc. Jpn. 64(3): 436-543, 1997 (in Japanese).
- 67) Takahashi Y.: The effects if denture liners applied to complete dentures on masticatory functions. J. Stomatol. Soc. Jpn. 64(4): 518-533. 1997(in Japanese).
- 68) Hirose Y. Sasaki Y. Kinoshita A. and Minakuchi S.: Establishment of the Formulation for the Problem-Goal-Solution Process. Japan Journal of Medical Informatics.17(3):185-192, 1997 (in Japanese).
- 69) Momose T.,Nishikawa J.,Watanabe T.,Sasaki Y.,Senda M.,Kubota K.,Sato Y.,Funakoshi M. and Minakuchi S.: Effect of Mastication on Regional Cerebral Blood Flow(rCBF) Examined by Positron-emission Tomography(PET) with 15O-labelled Water and Magbetic Resonance Imaging(MRI). Archives of Oral Bilogy Vol.42. No.1:57-61, 1997.
- 70) Watanabe T., Kobayashi Ken., Suzuki T., Ichikawa K., Kobayashi K., Sato I. and Nagao M.: Recording system for saliva pH by telemetry. Archives of Oral Biology. 42(3):251-253, 1997.
- 71) Hirano Y., Mimakuchi S., Fujimoto M., Miyashita K. and Kobayashi K.: Kinematic Analysis of Lips during Mastication bu Two Infrared CCD Cameras International Archives of Photogrammetry and Remote Sensing 32/5W4:417-420, 1998.6.
- 72) Takaoka T., Kobayashi K., Katoh T., Minakuchi S., Sekita T., Nagao M. and Sasaki T.: Distribution of Bone Mineral Density (BMD) in Edentulous Mandible A Measuring System of BMD Using Computed Radiography -, International Archives of Photogrammetry and Remote Sensing 32/5W4: 471-476, 1998.6.
- 73) Kobayashi K., Kobayashi K., Soeda W. and Watanabe T.: Gingival Crevicular pH in Experimental Gingivitis and Occlusal Trauma in Man, Journal of Periodontology, 69:9, 1036-1043, 1998.9.
- 74) Shimoyama K., Uchida T., Nagao M. and Shirasaki Y.: Dynamic viscoelastic properties of models composed of posterior denture teeth and denture base resin. J. Med. Dent. Sci. 45(2): 117-121, 1998.
- 75) Miyashita K., Sekita T., Minakuchi S., Hirano Y., Kobayashi K. and Nagao M.: Denture Mobility with Six Degrees of Freedom during Function. J Oral Rehabil. 25:545-552, 1998.
- 76) Hirano S., May K., Wagner W. and Hacker C.: In vitro wear of resin denture teeth. J Prosthet Dent. 79:152-5, 1998.
- 77) Oizumi M., Suzuki T., Uchida M., Furuya J. and Okamoto Y.: In vitro testing of a denture cleaning method using ozone. Journal of Medical and Dental Sciences. 45(2): 135-140, 1998.

- 78) Hayakawa I., Watanabe I., Hirano S., Nagao M. and Sekita T.: A Simple Method for Evaluating Masticatory Performance Using a Color-Changeable Chewing Gum. *Int J Prosthodont.* 11:173-176, 1998.
- 79) Minakuchi S., Hirano Y., Fujimoto M., Miyashita K and Sekita T.: Dynamic Measurement of Face Deformation by Real-time Fringe Pattern Analysis System. *Journal of Dental Research.* Vol.77. Special Issue B: 824,1998.
- 80) Minakuchi S., Hirano Y., Fujimoto M., Miyashita K., Sekita T and Nakamura T: Measuring System for the Facial Movements using Real-Time Fringe Pattern Analysis. *International Archives of Photogrammetry and Remote Sensing* Vol 32(5): 463-466, 1998.
- 81) Sano M., Fujita H., Morita I., Uematsu H. and Morita S.: VitaminK2(Menatetrenone)Induced iNOS in Bovine Vwsclar Smooth Muscle Cell:No Relationship between Nitric Oxide Production and r-Carboxylation. *J nutr Sci Vitaminol.*45(6):711-723,1999
- 82) Kumagai H., Watanabe T., Kobayashi K., Suzuki T., Nagao M., Nikawa H. and Hamada T.: Incidence of occlusal contacts with coplete dentures during mastication using a 6-channel telemetry system : preliminary measurements. *J. Oral Rehabil.*26(11):918-922,1999.
- 83) Kumagai H., Suzuki T., Hamada T., Sondang P., Fujitani M. and Nikawa H.: Occlusal force distribution on the dental arch during various levels of clenching. *J. Oral Rehabil.* 26(12): 932-935,1999.
- 84) Takaoka S., Kobayashi K., Katoh T., Minakuchi S., Sekita T., and Sasaki T.: 3-D visualization of bone mineral density in mandible. *International Archives of Photogrammetry and Remote Sensing* 32/5-3W12:129-132,1999.
- 85) Watanabe T., Kobayashi K. and Nagao M.: The penetration characteristic of radio wave frequencies from oral cavities. *Med.Biol.Engng* 9(1):1-7,1999.
- 86) Suzuki T., Oizumi M., Furuya J., Okamoto Y. and Rosenstiel S.: Influence of Ozone on Oxidation of Dental Alloys. *The International Journal of Prosthodontics.* 12(2):179-189,1999.
- 87) Watanabe T., Kobayashi K., Suzuki T., Oizumi M. and Clark,G.T.: A preliminary report on continuous recording of salivary pH using telemetry in an edentulous. *Int J Prosodontics.* 12(4):313-317,1999.
- 88) Suzuki T., Kumagai H., Yoshitomi N., McGlumphy EA.: Occlusal Contacts of Edentulous Patients with Mandibular Hybrid Dentures opposing Maxillary Complete Dentures. *Int. J Oral Maxillofac Implants.* 14(4): 504-509, 1999.
- 89) Morizawa M., Hirano S., Kobayashi S., Takahashi Y., Watanabe I., Sasaki A. and Hayakwa I.: Investigation of Oral Conditions at Welfare Facilities for Senior Citizens in Tokyo - Relation between Oral Conditions and Satisfaction of Mastication- . *Japanese J. Gerodontology.* 13(3): 200-204, 1999 (in Japanese).
- 90) Owatari T.,Ichikawa K.,Isobe T. and Uematsu H.:Accidents during dental treatment of the elderly(2) -A case report of accidental swallowing or aspiration-. *Japanese J. Gerodontology.* 14(2): 173-174.1999 (in Japanese).
- 91) Ohno T., Owatari T., Isobe T. and Uematsu H.: Accidents during dental treatment of the elderly(3) -A case report of paroxysmal atrial fibrillation probably due to lidocaine with 1:80,000 epinephrine-. *Japanese J. Gerodontology.* 14(2): 174-175.1999(in Japanese).
- 92) Kawashima N., Hirano S., Mirigami M., Yamaguchi Y., Murakami M., Uematsu H., Suda H. and Tagami J.: Dental Treatment and Oral Health Care on Tokashiki Island, Okinawa. *J. Stomatol. Soc.*, 66(4): 21-27, 1999(In Japanese).
- 93) Furuya J:Effects of Wearing Complete Dentures on Swallowing in the Elderly. *J. Stomatol. Soc.*, 66(4) : 361-369, 1999(in Japanese).
- 94) Tohara H., Shimoyama K., Miyashita K. and Uematsu H.: The effect of a simulated aged patients program on dental students. *J. J. Gerodont.* 14: 270-274, 2000 (in Japanese).
- 95) Owatari T., Ichikawa K. and Uematsu H.: A foreign body aspiration without specific findings in an oldest patient during dental care. *J. J. Gerodont.* 14: 307-310, 2000 (in Japanese).
- 96) Minakuchi S., Hirano Y., Takaoka S., Furuya J., Miyashita K. and Uematsu H.: Kinematic analysis of lips movement of swallowing on denture wearers by two infrared CCD cameras. *International Archives of Photogrammetry and Remote Sensing* Vol. 33(B5):961-964,2000
- 97) Isobe T., Shimoyama K., Uematsu H. and Teraoka K.: Study on health awareness of home helper for dependent elderly. *J. Stomatol. Soc. Jpn.* 67: 38-45, 2000 (in Japanese).
- 98) Owatari T., Uematsu H. and Umino M.: Medical History and Blood Pressure in Geriatric Dental Outpatients. *J Jap Dent Soc Anesthesiol* 28: 195-203,2000 (in Japanese).

B. Books

- 1) Hayakawa I.: Arranging the artificial teeth in the position occupied by the natural teeth.The Quintessence Year Book ' 93 :32-36,1993 (in Japanese).
- 2) Nagao M., Kobayashi K. and Suzuki T.: Impressions of Edentulous Patients Oral Health Association of Japan. Tokyo. 1993 (in

- Japanease).
- 3) Hayakawa I. and Ozaki F.: Oral conditions in the elderly and their meals. Daiichi Publishing Co. Tokyo. 1994 (in Japanese).
 - 4) Umino M.: Xerostomia in elderly patients, Treatment, 76:182-183,1994(in Japanese).
 - 5) Umino M.: Oral disease : in new knowledge of nutritional, Physical science, 187-190. Nippon Hyoron Co. Tokyo. 1995(in Japanese).
 - 6) Umino M.: Dental treatment for compromised elderly patients, Frontier dental technology and new clinic 49-53, Ishiyaku pub Inc. Tokyo. 1995 (in Japanese).
 - 7) Nagao M., Kobayashi K. and Suzuki T.: Impressions of Edentulous Patients Ishiyaku Euro America Inc. St.Louis. 1995.
 - 8) Hayakawa I.: Principles and practices of complete dentures. Quintessence Publishing Co. Tokyo. 1995 (in Japanese).
 - 9) Ando S., Yokochi M. and Hayakawa I.: Denture base materials(Light-polymerized resin). Diagnosis and Treatment for the partially edentulous and edentulous patients. Hiranuma K.et al.ed.,Ishiyaku Publishing Co.Tokyo:149-158, 1995 (in Japanese).
 - 10) Hayakawa I.: Clinical application of soft liners. New Dental Techniques and Clinics. Masuhara E.ed. Ishiyaku Publishing Co. Tokyo: 152-155, 1995 (in Japanese).
 - 11) Nagao M., Suzuki T.: Mastication. In: Dictionary of Food to enjoy longevity. Kimura S. et al eds., Science forum. Tokyo:119-128, 1995 (in Japanese).
 - 12) Umino M.: A measure for medically compromised patients, Nippon dental Review, 71-80, 1996 (in Japanese).
 - 13) Owatari T.: Accidental disorders during dental care of the elderly dental patients. In: Clinical dental procedures of the medically compromised patient and the elderly dental patient 1st Edition. Ueda H. et al. eds. Ishiyaku Pub. Tokyo:222-230, 1996 (in Japanese).
 - 14) Shimoyama K. and Umino M.: Dental caries of the homebound. In: Ecology of Dental Caries. 1st edition. Takaesu Y. et al. eds., Ishiyaku Pub. Inc. Tokyo:117-121, 1996 (in Japanese).
 - 15) Minakuchi S., Hirano Y. and Sekita T.: Three Dimensional Analysis of Lip Movement in mastication by Video Trackers . Image Sensing Digital Image - Technology and Applications - the Association for Real-time Imaging and Dynamic Analysis Japanese Association of Surveyors: 157-161,1997 (in Japanese).
 - 16) Nagao M., Kobayashi K. and Suzuki T.: Impressions of Edentulous Patients Jee Seung Publishing Co. Seoul. 1998. (in Hankul)
 - 17) Hayakawa I.: Application of a new silicone impression material for complete denture construction. The Quintessence Year Book '98 : 112-116,1998 (in Japanese).
 - 18) Shimoyama K. and Uchida T.: Oral health of the elderly. Shakaihoken Pub. Inc. Tokyo. 1998 (in Japanese).
 - 19) Hirano S. and Nagao M.: Biocompatibility of Biomaterials. In: Denture Base resin. Sato A. et al. eds. Nakayama syoten. Tokyo:97-104,1998 (in Japanese).
 - 20) Nagao M., Kobayashi K. and Suzuki T.: Impressions of Edentulous Patients Oral Health Association of Japan. Taipei. 1999 (in Chinese).
 - 21) Hayakawa I.: Principles and practices of complete dentures. Quintessence Publishing Co. Tokyo-Chicago.1999.

C. Review Articles

- 1) Umino M.: Risk in dental treatment for home bound patients, J. Jpn. Dent. Soc. J 71 Anesthesiol. 21:528-541,1993(in Japanese).
- 2) Hayakawa I.: Arranging the artificial teeth for complete dentures.The Journal of the Tokyo Dental Association 41:664-672,1993(in Japanese).
- 3) Uchida T. and Nagao M.: A simple evaluation method of masticatory ability for complete denture wearers. Dental Diamond, 18(13): 22-25,1993 (in Japanese).
- 4) Umino M.: Ischemic heart disease and dental treatment, J. Jpn. Dent. Assoc. 46: 27-32.1993.(in Japanese)
- 5) Owatari T. and Umino M.: Electrocardiogram of the dental outpatient. Journal of Japanese Dental Association 146(9): 23-31, 1993 (in Japanese).
- 6) Shimoyama K. and Umino M.: Prosthodontic treatment in medically compromised elderly patients. J. Dent. Medicine 40(1): 127-132, 1994 (in Japanese).
- 7) Hayakawa I., Osada E., Morizawa M., Nakagawa Y. and Watanabe I.: Prosthodontic treatment for a patient with advanced hydantoin-associated gingival hyperplasia: a case report. Quintessence International. 127(4): 235-241, 1996.
- 8) Shimoyama K.: Selection of posterior denture teeth for complete dentures. QDT. 21(1): 67-78, 1996 (in Japanese).
- 9) Kobayashi K.: Diagnosi for Edentulous Patients Dental Outlook. 90(1) : 89-100, 1997.7 (in Japanese).
- 10) Kobayashi K. and Sekita T. : Impression for Upper Dentures 1 Dental Outlook 90(2) : 343-349, 1997. 8 (in Japanese).
- 11) Kobayashi K. and Sekita T. : Impression for Upper Dentures 2 Dental Outlook. 90(3) : 629-639, 1997.9 (in Japanese).
- 12) Kobayashi K. and Minakuchi S. : Impression for Lower Dentures 1 Dental Outlook. 90(4) : 873-879, 1997.10 (in Japanese).

- 13) Kobayashi K. and Minakuchi S. : Impression for Lower Dentures 2 Dental Outlook. 90(5) : 1135-1144, 1997.11.(in Japanese).
- 14) Kobayashi K. and Kobayashi K. : Maxillomandibular Record for Edentulous Patients 1 Dental Outlook. 90(6) : 1365-1374, 1997.12 (in Japanese).
- 15) Kobayashi K and Kobayashi K. : Maxillomandibular Record for Edentulous Patients 2 Dental Outlook. 91(1) : 137-145, 1998.1 (in Japanese).
- 16) Kobayashi K. and Ishinabe S. : Arrangements of Anterior Artificial Teeth. 91(2) : 349-359, 1998.2.(in Japanese).
- 17) Kobayashi K. and Watanabe T. : Arrangements of Posterior Artificial Teeth and Denture Occlusion Dental Outlook. 91(3) : 623-633, 1998.3 (in Japanese).
- 18) Kobayashi K. and Murao H. : Polished Surface of Dentures. Dental Outlook. 91(4) : 873-879, 1998.4 (in Japanese).
- 19) Kobayashi K., Takahashi N. and Hirano Y. : Denture Insertion and Adjustments - Dental Outlook. 91(5) : 1139-1150, 1998.5 (in Japanese).
- 20) Suzuki T. and Oizumi M.: Removable Prosthodontic Treatment for the Elderly Patient . Ageing and Diseases, 11(12): 1740-1744, 1998 (in Japanese).
- 21) Suzuki T. and Uchida M.: Removable Partial Dentures in the Elderly. The Journal of the Tokyo Dental Association, 47(11): 709-717, 1999 (in Japanese).
- 22) Owatari T.: Dental management of the elderly dental patient. The Journal of Dental Hygienist 22(9): 18-25, 1998 (in Japanese).
- 23) Uematsu H.:Stroke and Circulatory Monitoring. The Journal of the Stomatological Society. Jpn. 66(2): 165-169.1999 (in Japanese).
- 24) Owatari T.: Medical complications of the elderly dental patient - Dementia-. The Journal of Dental Hygienist 23(1): 62-66, 1999 (in Japanese).
- 25) Owatari T.: Medical complications of the elderly dental patient - Rheumatoid arthritis-. The Journal of Dental Hygienist 23(2): 60-64,1999 (in Japanese).
- 26) Owatari T.: Medical complications of the elderly dental patient - Cerebral apoplexy -. The Journal of Dental Hygienist 23(3): 64-70,1999 (in Japanese).
- 27) Owatari T.: Medical complications of the elderly dental patient - Parkinson's disease -. The Journal of Dental Hygienist 23(4):58-63,1999 (in Japanese).
- 28) Owatari T.: Medical complications of the elderly dental patient - Spinocerebellar degeneration -. The Journal of Dental Hygienist 23(5):52-55, 1999 (in Japanese).
- 29) Owatari T.: Medical complications of the elderly dental patient - Amyotrophic lateral sclerosis -. The Journal of Dental Hygienist 23(6):64-67, 1999 (in Japanese).
- 30) Osada E., Hirnao S. and Hayakawa I.: Closed-mouth Impression technique Using a New Silicone Impression Material. The Quintessence.18(3): 59-65, 1999 (in Japanese).
- 31) Morizawa M.: Abstract from " Professional attitudes toward denture adhesives ". The Quintessence. 19(3): 119-122, 1999 (in Japanese).