



Hiroshima University Graduate School of
Biomedical and Health Sciences
(Dentistry) and Hiroshima University
Hospital (Dental Departments)

Research Achievements
2022

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Hiroshima University School of Dentistry, Hiroshima University Hospital, Graduate School of Biomedical and Health Sciences

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Department of Calcified Tissue Biology

(1) Staff and Students

Professor: Yuji Yoshiko

Assistant Professor: Tomoko Minamizaki (-Oct), Shohei Kohno, Davood Kharaghani, Tomonori Hoshino

Graduate Student: Shintaro Ogashira (Orthodontic Dentistry), Risako Oshiro (Orthodontic Dentistry),
Rena Hatano (Orthodontic Dentistry, Jun-)

Researcher: Tomoko Minamizaki (Dec-)

(2) Main Research Activities

- 1: Mineralization (including ectopic mineralization)
- 2: Osteonetwork
- 3: MicroRNAs
- 4: Bone metastasis

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Occlusal Trauma and Bisphosphonate-Related Osteonecrosis of the Jaw in Mice. Mine Y, Okuda K, Yoshioka R, Sasaki Y, Peng TY, Kaku M, Yoshiko Y, Nikawa H, Murayama T. *Calcif Tissue Int.* 110(3):380-392, 2022.
- 2: 2, 3-Diphospho-D-glyceric acid inhibits calciprotein particle growth and calcification in MOVAS cells but not in MC3T3-E1 cells. Kharaghani D, Kohno S, Minamizaki T, Hoshino T, Yoshiko Y. *Colloids Interface Sci. Commun.* 50: 100668, 2022.
- 3: "Clay-corn-caprolactone" a novel bioactive clay polymer nanofibrous scaffold for bone tissue engineering. Ullah A, Haider MK, Wang FF, Morita S, Kharaghani D, Ge Y, Yoshiko Y, Lee JS, Kim IS. *Appl Clay Sci.* 220: 106455, 2022.
- 4: Development of PVA–Psyllium Husk Meshes via Emulsion Electrospinning: Preparation, Characterization, and Antibacterial Activity. Fatma Nur Parin, Azeem Ullah, Ayşenur Yeşilyurt, Uğur Parin, Md Kaiser Haider, Davood Kharaghani, , *Polymers*, 14:1490, 2022.
- 5: In vitro biocompatibility, antibacterial activity, and release behavior of halloysite nanotubes loaded with diclofenac sodium salt incorporated in electrospun soy protein isolate/hydroxyethyl cellulose nanofibers. Ullah A, Sarwar MN, Wang FF, Kharaghani D, Sun L, Zhu C, Yoshiko Y, Mayakrishnan G, Lee JS, Kim IS. *CRBIOT*, 4:445-458, 2022.

B) Review

C) Publications

- 1: miRNA and Bone Metabolism (in Japanese); MicroRNA as disease biomarkers and its applications for medical diagnosis (Supervisors: Takahiro Ochiya, Juntaro Matsuzaki): Khono S, Minamizaki T, Yoshiko Y: CMC books (Tokyo), 181-191, 2022.
- 2: Cell Death Mechanism of Neurodegenerative Diseases (in Japanese); Journal of Clinical and Experimental Medicine (IGAKU NO AYUMI): All About Cell Death-The mechanism of cell death and its relation to biological phenomena and diseases: Hoshino T, Takahashi R, Matsuzawa S: Ishiyaku Pub (Tokyo), 283(5), 2022.

D) Other Publications

E) Presentations at Scientific Meetings

- 1: MAPE-derived ASARM peptide inhibits vascular calcification: Kohno S, Kharaghani D, Minamizaki T, Hoshino T, Yoshiko Y: The 40th Annual Meeting of the Japanese Society for Bone and Mineral Research (Gifu), 2022.
- 2: MEPE-derived pASARM peptide selectively inhibits vascular calcification: Kohno S, Minamizaki T, Kharaghani D, Hoshino T, Yoshiko Y: ASBMR 2022 Annual Meeting (Online, Austin), 2022.
- 3: Extracellular Histones Promote Vascular Calcification in Mouse Vascular Smooth Muscle Cells: Hoshino T, Kohno S, Minamizaki T, Kharaghani D, Yoshiko Y: ASBMR 2022 Annual Meeting (Online, Austin), 2022.
- 4: Involvement of damage-related molecular patterns in calcification: Effects of extracellular histones on murine vascular smooth muscle cells: Hoshino T, Kohno S, Minamisaki T, Kharagani D, Yoshiko Y: The 40th Annual Meeting of the Japanese Society for Bone and Mineral Research (Gifu), 2022.
- 5: Histological analysis of brain tissues using a mouse model of chronic kidney disease with vascular calcification: Hoshino T, Yoshiko Y: The 2022 Young Scientists Assistive Technology (Nagoya), 2022.

F) Special lectures in academic meetings

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: AMED preF (New), Yoshiko Y (Principal investigator), Development of anti-vascular calcification. 10,000,000yen.
- 2: Grants-in-Aid for Scientific Research (C) (Continuance): Minamizaki T (Principal investigator), Study of treatment with matrix vesicles transfected with miR-125b for cancer bone metastasis. 20K09879. 900,000 yen.
- 3: Grants-in-Aid for Scientific Research (C) (Continuance): Yoshiko Y (Co-investigator), Study of treatment with matrix vesicles transfected with miR-125b for cancer bone metastasis. 20K09879. 200,000 yen.
- 4: Grants-in-Aid for Scientific Research (C) (Continuance): Kohno S (Principal investigator), Identification of tissue-specific mechanisms of calcification using a combined analysis of transcriptome and chromatin accessibility. 21K09816. 600,000 yen.
- 5: Grants-in-Aid for Scientific Research (C) (Continuance): Yoshiko Y (Co-investigator), Identification of tissue-specific mechanisms of calcification using a combined analysis of transcriptome and chromatin accessibility. 21K09816. 200,000 yen.
- 6: Grants-in-Aid for Scientific Research (C) (Continuance): Minamizaki T (Co-investigator), Identification of tissue-specific mechanisms of calcification using a combined analysis of transcriptome and chromatin accessibility. 21K09816. 200,000 yen.
- 7: Grants-in-Aid for Young Scientists (B) (Continuance): Hoshino T (Principal investigator), The effects of vascular calcification on the central nervous system. 21K15628. 1,950,000 yen,
- 8: Grants-in-Aid for Scientific Research (C) (Continuance): Yoshiko Y (Co-investigator), The mechanism of differentiation diversity of osteoblast lineage based on one-cell gene expression profiles. 21K09331. 300,000 yen.
- 9: Grants-in-Aid for Scientific Research (C) (Continuance): Yoshiko Y (Co-investigator), Functional analysis of exosomes derived from deciduous dental pulp stem cells and their application to induction of cleft jaw bone regeneration. 21K10186. 150,000 yen.
- 10: Novelpharma Co., Ltd (Continuance): Yoshiko Y (Principal investigator), 3,022,000 yen
- 11: Raffinee International Corporation (Continuance): Yoshiko Y (Principal investigator), 2,700,000 yen.
- 12: Tsuchiya Foundation Research Grant (New): Kohno S (Principal investigator), Investigating the pathophysiological role of calciprotein particles in the pathogenesis of sarcopenia in dialysis patients using a multi-omics approach. 1,521,000 yen (from December).
- 13: Grants for Cardiovascular Diseases (New): Hoshino T (Principal investigator), The Relationship between NETosis of Neutrophils and Vascular Calcification. 2,000,000 yen (-Jan, 2024).

- 14: Program for Developing and Supporting the Next-Generation of Innovative Researchers at Hiroshima University (Continuance): Oshiro R, 300,000 yen.
- 15: Program for Developing and Supporting the Next-Generation of Innovative Researchers at Hiroshima University (Continuance): Ogashira S, 300,000 yen.
- 16: Advanced Animal Model Support Platform, Support for creation of model animals (Support for creation of viral vectors): Hoshino T, FY2022 2nd JP 16H06277 (AdAMS).
- 17: Platform for Advanced Genome Science (ver.2) (PAGS): Hoshino T, FY2022 22H04925.
- 18: Advanced Bioimaging Support Platform (ABiS) (Optical Microscopy Support): Hoshino T, FY2022 JP 22H04926.
- 19: Advanced Animal Model Support Platform, Physiological and Functional Analysis Support (AdAMS): Hoshino T, FY2021 3rd JP 16H06277.

(5) Academic Awards, etc.

- 1: Kohno S: ASBMR 2022 Travel Award (The Japanese Society for Bone and Mineral Research).

(6) Patents

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Department of Maxillofacial Anatomy and Neuroscience

(1) Staff and Students

Professor : Ryuji Terayama
Associate Professor: Kenta Uchibe

(2) Main Research Activities

- 1: Studies on nociceptive transmission of orofacial region
- 2: Roles of glial cells in the development of neuropathic pain
- 3: Effects of administration of drugs on neuropathic pain
- 4: Roles of retinoic acid signaling in skeletal development
- 5: Studies on heterotopic ossification and related diseases

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Nakatani A, Kunimatsu R, Tsuka Y, Sakata S, Horie K, Gunji H, Ito S, Kado I, Putranti NAR, Terayama R, Tanimoto K, Effects of high-frequency near infrared laser irradiation on experimental tooth movement-induced pain in rats. *Lasers Med Sci.* 2022 Aug;37(6):2697-2706. doi: 10.1007/s10103-022-03543-x.
- 2: Terayama R, Tsuji K, Furugen H, Duong M, Nakatani A, Uchibe K, Effects of peripheral nerve injury on the induction of c-Fos and phosphorylated ERK in the brainstem trigeminal sensory nuclear complex. *Ann Neurosci.* 2022 in press.

B) Review

- 1: Terayama R, Uchibe K, Reorganization of synaptic inputs to spinal dorsal horn neurons in neuropathic pain. *Int J Neurosci.* 2022 Dec;132(12):1210-1216. doi: 10.1080/00207454.2021.1873980.

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

- 1: Terayama R, Uchibe K, Effect of peripheral nerve injury on the induction of c-Fos and phosphorylated ERK in the trigeminal sensory nuclear complex, The 64th Annual Meeting of Japanese Association for Oral Biology (Tokushima), 2022.
- 2: Uchibe K, Terayama R, Retinoid-loaded nanoparticles enable targeted bone growth by modulating function of the growth plate, The 64th Annual Meeting of Japanese Association for Oral Biology (Tokushima), 2022.
- 3: Dilimulati Y, Miyaki S, Uchibe K, Nakasa T, Ishikawa M, Adachi N, Therapeutic effect of retinoic acid receptors agonist on ectopic ossification during tendon healing in a mouse model, The 37th Annual Research Meeting of the Japanese Orthopaedic Association (Miyazaki), 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grant-in Aid-for Scientific Research (C):Kenta Uchibe, 22K10017, ¥4,160,000

(5) Academic Awards, etc.

(6) Patents

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Department of Physiology and Oral Physiology

(1) Staffs and Students

Professor : SUGITA, Makoto

Assistant Professor : SAKAYORI, Nobuyuki

Assistant Professor : MIYABE, Risako

Research Assistant : YOKOYAMA, Emi (from July)

Graduate Students : YAMAMOTO, Kuniyo

(2) Main Research Activities

- 1: The neuronal bases of taste perception and the taste-evoked behavioral and emotional responses
- 2: The roles of essential fatty acids in brain development and behaviors
- 3: The mechanisms of loss/recovery of consciousness induced by general anesthetics
- 4: The molecular mechanisms of ion and fluid transport in salivary glands
- 5: Studies on the function and dysfunction of ion channels and transporters

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Post-cardiac arrest Sedation Promotes Electroencephalographic Slow-wave Activity and Improves Survival in a Mouse Model of Cardiac Arrest: Ikeda T, Amorim E, Miyazaki Y, Kato R, Marutani E, Silverman MG, Malhotra R, Solt K, Ichinose F: *Anesthesiology*, 137(6), 716-732, 2022.
- 2: Characterization of the fatty acid profile in the ventral midbrain of mice exposed to dietary imbalance between omega-6 and omega-3 fatty acids during specific life stages: Sakayori N, Katakura M, Setogawa S, Sugita M, Kobayashi K: *BMC Res Notes*, 15(285), 1-6, 2022.

B) Review

- 1: The roles of polyunsaturated fatty acids in brain development: Sakayori N: *J Lipid Nutr*, 31(1), 3-10, 2022.

C) Publications

D) Other publication

E) Presentation at Scientific Meeting

- 1: Distinct neural firing patterns are observed in unit recordings from the rat prefrontal cortex during anesthetic-induced unconsciousness: Kato R, Flores F, Menendez JC, Brown EN, Solt K: *International Anesthesia Research Society 2022 Annual Meeting (online)*, 2022.
- 2: Comprehensive behavioral analyses of male and female mice derived from mothers fed a diet high in omega-6 and low in omega-3 fatty acids: Sakayori N, Fujii K, Katakura M, Takao K, Sugita M: *22nd IUNS International Congress of Nutrition (Tokyo)*, 2022.
- 3: Subcellular localization of FoxA2 in liver cells and VTA neurons: Chau Van Ngoc Tuan, Sugita M: *The 1st Ho Chi Minh City International Dental Exhibition & Congress (HIDEC 2022) (Ho Chi Minh)*, 2022.
- 4: The roles of polyunsaturated fatty acids in brain development: Sakayori N: *The 4th Annual Meeting for the Lipid-Based Academia-Industry Creation Forum, The Japan Society for Biotechnology, (Hakata)*, 2022.
- 5: Comprehensive behavioral analyses of mice derived from mothers fed a diet high in omega-6 and low

- in omega-3 polyunsaturated fatty acids: Sakayori N: The 9th Meeting of the Japan Society for DOHaD (Sendai), 2022.
- 6: The roles of polyunsaturated fatty acids in brain development: Sakayori N: The 31st Annual Meeting of the Japan Society for Lipid Nutrition (Hirosaki), 2022.
 - 7: Maternal dietary imbalance in polyunsaturated fatty acids induces anxiety-related behaviors in the stress-exposed offspring: Kikuchi T, Omokawa D, Katakura M, Sugita M, Sakayori N: The 31st Annual Meeting of the Japan Society for Lipid Nutrition (Hirosaki), 2022.
 - 8: Dietary imbalance in polyunsaturated fatty acids during pregnancy affects dopaminergic neurogenesis in their embryos and is associated with offspring's various behavioral abnormalities: Sakayori N, Fujii K, Katakura M, Kobayashi K, Takao K, Sugita M: NEURO2022 (online), 2022.
 - 9: Maternal dietary imbalance in polyunsaturated fatty acids induces hedonic feeding in the offspring: Sakayori N: The Annual Meeting of AdAMS 2023 (online), 2022.
 - 10: Plastic changes in activities of bitter taste-relaying neurons in the medial amygdala during conditioned taste aversion learning: Sugita M, Chang C-M: The 99th Annual Meeting of the Physiological Society of Japan (Sendai), 2022.
 - 11: Genetic tracing reveals bitter taste-relaying neurons in the medial amygdala change their responses to sweet stimuli after conditioned taste aversion learning : Sugita M : The 64th Annual Meeting of Japanese Association for Oral Biology (Tokushima), 2022.
 - 12: *Wasabi sulfinyl* derivative hexaraphane promotes mineralization efficiency of human odontoblasts : Furusawa Y, Kimura M, Ouchi T, Nakajima K, Sugita M, Okunishi I, Shibukawa Y, Furusawa M : The 64th Annual Meeting of Japanese Association for Oral Biology (Tokushima), 2022.
 - 13: Promotion of mineralization by *Wasabi sulfinyl* derivative hexaraphane in human odontoblasts : Furusawa Y, Kimura M, Ouchi T, Nakajima K, Kurashima T, Okunishi I, Kato T, Sugita M, Shibukawa Y, Furusawa M : The 157th Meeting of the Japanese Society of Conservative Dentistry (Okayama), 2022.
 - 14: The cellular and molecular mechanisms underlying irinotecan-induced changes in behavioral taste responses : Sugita M, Sakayori N, Kawaguchi H, Obayashi N : The 74th Annual Meeting of the PSJ Chugoku-Shikoku Division (Kochi), 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grant-in-Aid for Research Activity Start-up: Miyabe R., Understanding of brain network involved in consciousness using by general anesthetics. 22K21063. \1,100,000.
- 2: Grant-in-Aid for Scientific Research (B): Sakayori N., The roles of dietary essential fatty acids in feeding behaviors. 21H03357. \3,300,000.
- 3: Grant-in-Aid for Scientific Research (C): Sugita M., Genetic tracing to reveal the whole brain mapping of taste information processing. 21K09828. \1,100,000.
- 4: Lotte Research Promotion Grant: Sakayori N., The roles of dietary essential fatty acids in the brain reward system. \1,000,000.

(5) Academic Awards, etc.

- 1: Sakayori N, Fujii K, Katakura M, Takao K, Sugita M: Young Investigator Excellent Abstract Award, IUNS 22nd International Congress of Nutrition, 2022
- 2: Sakayori N: Excellent Presentation Award, The 9th Annual Meeting of the Japan Society for DOHaD, 2022
- 3: Sakayori N: Lands Incentive Award, Japan Society for Lipid Nutrition, 2022
- 4: Sakayori N: Support for Behavioral Analysis, Support for Physiological Analysis, Platforms for Advanced Technologies and Research Resources, Grant-in-Aid for Scientific Research on Transformative Research Area

(6) Patents

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Department of Oral and Maxillofacial Pathobiology Collaborative Research Laboratory Oral Inflammation Regulation

(1) Staffs and Students

Professor : Mutsumi Miyauchi
Assistant Professor : Hisako Furusho
: Renn Ting-Yi (~October)
: Fumie Shiba (Collaborative Research Laboratory) (April~)
Research Assistant : Ngyuyen Thi Phoung Thao (~August)
: Masae Kitagawa
Research Student : Fumie Shiba (~March)
Graduate Student : Eri Ishida (D4) (Department of Advanced Prosthodontics) (~March)
Kanae Oda (D3) (Department of Orthodontics)
Kennto Okamoto (D3) (Department of Molecular Oral Medicine and
Maxillofacial Surgery)

(2) Main Research Activities

- 1: Study on correlation between periodontitis and preterm birth/ low birth weight
- 2: Study on development of prognostic/diagnostic examination system of preterm birth targeting serum Galectin-3
- 3: Study on correlation between odontogenic infection and NASH
- 4: Study on correlation between odontogenic infection and brain disease
- 5: Study on correlation between odontogenic infection and atrial fibrillation
- 6: Study on regulation of bone destructive disease using lactoferrin peptides
- 7: Study on development of diagnosis/inspection system using expiratory air
- 8: Study on epidemiological study on the relationship between periodontal disease and systemic diseases using large-scale data of Hiroshima Branch of National Health Insurance Society
- 9: Study on regulation of oral inflammation (Collaborative Research Laboratory)

A) Original Papers (including Case Reports)

- 1 : Association between left atrial appendage fibrosis and thrombus formation: A histological approach: Miyauchi S, Tokuyama T, Uotani Y, Miyamoto S, Ikeuchi Y, Okamura S, Okubo Y, Katayama K, Takasaki T, Nakatani N, Matsudaira Y, Furusho H, Miyauchi M, Takahashi S, Nakano Y: J Cardiovasc Electrophysiol. 2022 Jan 23. doi: 10.1111/jce.15384.
- 2 : Oral administration of bovine lactoferrin suppresses the progression of rheumatoid arthritis in an SKG mouse model: Yanagisawa S, Nagasaki K, Chea C, Ando T, Ayuningtyas NF, Inubushi T, Ishikado A, Imanaka H, Sugiyama H, Takahashi I, Miyauchi M, Takata T: PLoS One. 2022 Feb 11;17(2):e0263254. doi: 10.1371/journal.pone.0263254. eCollection 2022.
- 3 : Non-sebaceous lymphadenoma-like mucoepidermoid carcinoma: a case report: Sakamoto S, Miyauchi M, Ando T, Fujihara M, Nakaguro M, Nagao T, Ogawa I: Pathol Int. 2022 Jul;72(7):371-375. doi: 10.1111/pin.13236. Epub 2022 May 21.

- 4 : Progesterone suppresses uterine contraction by reducing odontogenic *Porphyromonas gingivalis* induced chronic inflammation in mice: Teraoka Y, Sugimoto J, Konishi H, Miyoshi H, Furusho H, Miyauchi M, Kajioka S, Koh I, Kudo Y: *Biomolecules*. 2022 Jul 26;12(8):1029. doi: 10.3390/biom12081029.
- 5 : A clinical study on oral cancer patients treated with immune checkpoint inhibitors: Yoshioka Y, Toratani S, Ono s, Tani R, Koizumi K, Hamana T, Mizuta K, Hayashi S, Ando T, Sakamoto S, Takechi M, Miyauchi M, Okamoto T: *Jpn. Stomatol. Soc.* 71 (3) : 161~172, September 2022. doi: <https://doi.org/10.11277/stomatology.71.161>
- 6 : Equisetum arvense inhibits alveolar bone destruction in a rat model with lipopolysaccharide (LPS)-induced periodontitis: Shiba S, Furusho H, Takata T, Shimizu R, Miyauchi M: *Int J Dent*. 2022 Dec 30;2022:7398924. doi: 10.1155/2022/7398924. eCollection 2022.
- 7 : Relationship between periodontitis and atrial fibrosis in atrial fibrillation: Histological evaluation of left atrial appendages: Miyauchi S, Nishi H, Ouhara K, Tokuyama T, Okubo Y, Okamura S, Miyamoto S, Oguri N, Uotani Y, Takasaki T, Katayama K, Furusho H, Miyauchi M, Takahashi S, Hiyama T, Nakano Y: *JACC Clin Electrophysiol*. 2023 Jan;9(1):43-53. doi: 10.1016/j.jacep.2022.08.018. Epub 2022 Oct 31.
- 8 : Importance of anti-centromere antibodies in the diagnosis of Sjögren's syndrome: Kitagawa M, Sugimoto T, Ogawa I, Miyauchi M, Hirata S, Sugiyama E: *J Oral Sci*. 2022 Oct 1;64(4):324-326. doi: 10.2334/josnusd.22-0231. Epub 2022 Sep 12.
- 9 : p53 status modifies cytotoxic activity of lactoferrin under hypoxic conditions: Maryami Y. K, Fukazawa T, Miyauchi M, Hirohashi N, Tanimoto K: *Front Pharmacol*. 2022 Sep 19;13:988335. doi: 10.3389/fphar.2022.988335. eCollection 2022.
- 10 : Integrating genetic alterations and the Hippo pathway in head and neck squamous cell carcinoma for future precision medicine: Ando T, Okamoto K, Shintani T, Yanamoto S, Miyauchi M, JS Gutkind, Kajiya M: *J Pers Med*. 2022 Sep 20;12(10):1544. doi: 10.3390/jpm12101544.
- 11 : Imipramine prevents *Porphyromonas gingivalis* lipopolysaccharide-induced microglial neurotoxicity: Yamawaki Y, So S, Oue K, Asano S, Furusho H, Miyauchi M, Tanimoto K, Kanematsu T: *Biochem Biophys Res Commun*. 2022 Dec 17;634:92-99. doi: 10.1016/j.bbrc.2022.09.109.
- 12 : Effects of baicalin on the proliferation and expression of OPG and RANKL in human cementoblast-lineage cells: Kunimatsu R, Kimura A, Sakata S, Tsuka Y, Yoshimi Y, Abe T, Kado I, Yashima Y, Izumino J, Nakatani A, Kitagawa M, Miyauchi M, Takata T, Tanimoto K: *J Dent Sci*. 2022 Jan;17(1):162-169. doi: 10.1016/j.jds.2021.05.009.
- 13 : : Some tips on age estimation using DNA methylation in saliva samples as an index across the Japanese and Indonesian ethnicities: Oka H, Dwi Ariani M, Akazaki T, Miyauchi M, Kitagawa M. *Leg Med (Tokyo)*. 2022 May;56:102042. doi: 10.1016/j.legalmed.2022.102042.

- 14 : Periapical lesion following Cnm-positive *Streptococcus mutans* pulp infection worsens cerebral hemorrhage onset in an SHRSP rat model: Taniguchi Y, Ouhara K, Kitagawa M, Akutagawa K, Kawada-Matsuo M, Tamura T, Zhai R, Hamamoto Y, Kajiya M, Matsuda S, Maruyama H, Komatsuzawa H, Shiba H, Mizuno N. *Clin Exp Immunol.* 2022 Dec 31;210(3):321-330. doi: 10.1093/cei/uxac094.

B) Reviews

C) Publications

- 1 : Medical Technology, Train your eye required for early detection of malignant tumor by cytology 2. Points important for early detection 3) Salivary gland, Cytology: Sakamoto S, Ando T, Yasumura N, Saito A, Kuraoka K, Kawamoto R, Yamamoto T, Nishisaka T, Miyauchi M, Ogawa I: (ISHIYAKU PUBLISHERS, INC.) (Tokyo), 50(6), 568-571, 2022.
- 2 : Diabetes, Endocrinology and Metabolism (Endocrinology, Diabetes and Metabolic Medicine): The relationship between non-alcoholic fatty liver disease and periodontal disease and the effect of periodontal therapy on them - basic and clinical perspectives- : Minabe M, Miyauchi M, Furusho H, Nagasaki A, Kamada Y, Shibata T: (KAGAKU-HYOURONSHA Co.) (Tokyo), Vol. 54, No. 6 726-738, 2022.

E) Presentation at Scientific Meeting

1) Special lectures in academic meetings

- 1 : 「Deployment of lactoferrin as a biopharmaceutical」 Inhibitory effects of bovine lactoferrin on growth, invasion and tumor angiogenesis of oral squamous cell carcinoma: Miyauchi M, Takata T : Japanese Association for Lactoferrin 10th Conference (Hachioji), 2022.
- 2 : 「The basic knowledge of oral cytology, and periodontitis, peri-implant cancer and gingival cancer」 Pathobiology of periodontitis and the relationship systemic diseases – focusing on premature birth - : Miyauchi M: The 61st Annual Autumn Meeting of the Japanese Society of Clinical Cytology (Sendai), 2022.
- 3 : Periodontitis exacerbates the pathogenesis of liver disease.: Miyauchi M: Educational lecture: The 27th Annual meeting of Japan Endotoxin and Innate Immunity Society (Hiroshima), 2022.

2) Presentation at International Scientific Meeting

- 1 : Impact of maternal *Porphyromonas gingivalis* infection on brain of offspring : Ishida E, Furusho H, Miyauchi M: 2022 IADR/APR General Session & Exhibition/ the 70th Annual Meeting of IADR (WEB), 2022.
- 2 : COR588 treatment prevents preterm birth induced by *P. gingivalis*-odontogenic infection : Florian E, Furusho H, Miyauchi M: 2022 IADR/APR General Session & Exhibition, (Web), 2022.

3) Presentation at Domestic Scientific Meeting

- 1 : Periodontitis relates to atrial fibrosis of atrial fibrillation patients: Histological evaluation using human atrial appendage: Miyauchi M, Miyauchi S, Nishi H, Ouhara K, Furusho H, Ting YR, Nakano Y, Kawaguti H, Mizuno T: the 65th Autumn Meeting of Japanese Society of Periodontology (Sendai), 2022.
- 2 : Equisetum arvense inhibits alveolar bone destruction in a rat model with lipopolysaccharide (LPS)-induced periodontitis: Shiba F, Furusho H, Takata T, Shimizu R, Miyauchi M: the 65th Autumn Meeting of the Japanese Society of Periodontology (Sendai), 2022.
- 3 : The inhibitory effects of gingipain inhibitor X on preterm birth caused by *Porphyromonas gingivalis* odontogenic infection: Nguyen HH, Renn TY, Nose M, Yamane S, Suenaka S, Nakajima A, Pham TP, Furusho H, Miyauchi M: the 55th Annual Meeting of Hiroshima University Dental Society (Hiroshima), 2022.
- 4 : AXL activates YAP and confers resistance to EGFR inhibitors in oral squamous cell carcinoma: Okamoto K, Ando T, Kajiya M, Yanamoto S, Miyauchi M: the 55th Annual Meeting of Hiroshima University Dental Society (Hiroshima), 2022.
- 5 : Equisetum arvense inhibits alveolar bone destruction in a rat model with lipopolysaccharide (LPS)-induced periodontitis: Shiba F, Furusho H, Takata T, Shimizu R, Miyauchi M: the 27th Annual Meeting of Japan Endotoxin and Innate Immunity Society (Hiroshima), 2022.
- 6 : Impact of maternal *Porphyromonas gingivalis* infection on brain of offspring: Ishida E, Furusho H, Shiba F, Renn TY, Miyauchi M, Tsuga K: the 64th Annual Meeting of Japanese Association for Oral Biology (Tokushima), 2022.
- 7 : Equisetum arvense inhibits osteoclastogenesis in a rat model of LPS-induced periodontitis: Shiba F, Furusho H, Takata T, Shimizu R, Miyauchi M: the 64th Annual Meeting of Japanese Association for Oral Biology (Tokushima), 2022.
- 8 : AXL activates YAP and confers resistance to EGFR inhibitors in oral squamous cell carcinoma: Okamoto K, Ando T, Toratani T, Yanamoto S, Miyauchi M: the 76th Annual Meeting of Japanese Stomatological Society (Fukuoka), 2022.
- 9 : Novel regulatory mechanism of the Hippo pathway by AXL: Ando T, Okamoto K, Yanamoto S, Miyauchi M: the joint meeting of the 32nd Annual Meeting of Japanese Society of Oral Medicine, the 33rd Annual Meeting of Japanese Society of Oral Pathology and the 35th Annual Meeting of Japanese Society of Oral Diagnosis/ Oral Medicine (Sapporo), 2022.
- 10 : AXL activates YAP and confers resistance to EGFR inhibitors in oral squamous cell carcinoma: Okamoto K: Sentan-Shigaku School 2022 (Tokushima), 2022.
- 11 : A case of giant odontoma of mandible with juvenile psammoma type ossifying fibroma of maxilla: Satou A, Matsumura T, Nakano M, Sawaki K, Yoshioka Y, Akashi S, Furusho H, Miyuuchi M, Mizukawa N, Iida S: the 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari, Web), 2022.
- 12 : A case of phantom cellular odontogenic carcinoma of the lower jaw: Mizuta K, Ono S, Sasaki K, Kato H, Sakamoto S, Ando T, Miyauchi M, Aikawa T: the 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari, Web), 2022.
- 13 : A case of phantom cell odontogenic carcinoma derived from peripheral dentin-forming phantom cell

tumor in the mandible: Kato H, Mizuta K, Uetsuki R, Sasaki K, Ono S, Sakamoto S, Ando T, Miyauchi M, Aikawa T: the 40th Annual Meeting of Japanese Society of Oral Oncology (Gunma), 2022.

- 14 : Verification of dental metal materials used in the oral cavity of the elderly -Analysis of 21 cases at the Center for Cause of Death Investigation Research: Oka H, Obayashi N, Katsuya Y, Ishiuchi N, Kakimoto N, Nagai M: the 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.
- 15 : A case of resin allergy with sudden facial edema after dental treatment: Obayashi N, Shintani T, Kitagawa M, Oka H, Ando T, Nakanishi M, Kawaguchi H, Kajiya M: the 15th Annual Meeting of Japanese Society for Evidence and the Dental Professional (Tokyo), 2022.

4) Case report

- 1 : Maxillary tumor (Juvenile psammomatoid ossifying fibroma and odontoma associated with Sturge-Weber syndrome): Furusho H, Satou A, Matsumura T, Nakano M, Sawaki K, Yoshioka Y, Akashi S, Mizukawa N, Iida S, Kakimoto N, Miyauchi M: The joint meeting of the 32nd Annual Meeting of Japanese Society of Oral Medicine, the 33rd Annual Meeting of Japanese Society of Oral Pathology and the 35th Annual Meeting of Japanese Society of Oral Diagnosis/ Oral Medicine (Sapporo), 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research

- 1 : AMED “Program for Strategic Promotion of Transnational Research” (seeds A): Mutsumi Miyauchi (Representative, Continuanace), Development of biomarker sets for diagnosis of preterm birth reflecting intrauterine inflammation/infection
- 2 : Grant-in-Aid for Scientific Research (Scientific Research(B)): Mutsumi Miyauchi (Representative, Continuanace), Comprehensive study on the effects of periodontal pathogen on the pathophysiology of atrial fibrillation
- 3 : Grants-in-Aid for Scientific Research (Scientific Research(C)): Mutsumi Miyauchi (Co-Investigator, Continuanace), Establishment of the preventive methods of non-alcoholic steatohepatitis-hepatic carcinoma focusing on periodontal disease and oral microbiota.
- 4 : Grants-in-Aid for Scientific Research (Scientific Research(C)): Mutsumi Miyauchi, Hisako Furusho (Co-Investigator, Continuanace), Study on preterm birth prevention and anti-inflammatory effects of luteal hormones using odontogenic infection induced preterm birth mouse model.
- 5 : Grants-in-Aid for Scientific Research (Scientific Research(C)): Mutsumi Miyauchi (Co-Investigator, Continuanace), Establishment of rapid detection system for systemic disease-related oral bacterial genes - applying detection system of cnm-positive S. mutans to clinical study-.
- 6 : Grant-in-Aid for Scientific Research (Scientific research (B)): Mutsumi Miyauchi (Co-Investigator, Continuanace), Research on AI diagnosis and biological basis of multiple diseases by breath components
- 7 : Grant-in-Aid for Scientific Research (Scientific research (C)): Mutsumi Miyauchi (Co-Investigator, Continuanace), Evaluation of epigenetic aging changes in hard tissues and its application to age estimation

- 8 : Grants-in-Aid for Scientific Research (Scientific Research(C)): Masae Kitagawa ((Representative, Continuanace), Establishment of rapid detection system for systemic disease-related oral bacterial genes - appling detection system of cnm-positive S. mutans to clinical study-.
- 9 : Collaborative research fund from Cortexyme Co. (Continuance): Mutsumi Miyauchi, (Study on correlation between periodontitis and systemic disease)
- 10 : Collaborative research fund from Earth Co. (Continuance): Mutsumi Miyauchi (Study on oral disease)
- 11 : Collaborative research laboratory fund from Earth Co. (New): Mutsumi Miyauchi (Study on oral inflammation regulation)
- 12 : Donated fund for Hiroshima Prefecture tumor registration business (Continuance): Mutsumi Miyauchi (Study on diagnosis for oral diseases)
- 13 : Donated fund from Mitsubishi-Mihara Hospital (Continuance): Mutsumi Miyauchi (Study on diagnosis for oral disease)

(5) Academic Awards

- 1 : Eri Ishida: JADR/GC Young Investigator Award: the 70th Annual Meeting of JADR
- 2 : Nguyen Huu Hanh Tien: Research Incentive Award: the 55th Annual Meeting of Hiroshima University Dental Society
- 3 : Fumie Shiba: Excellence Award : the 27th Annual meeting of Japan Endotoxin and Innate Immunity Society

(6) Patents

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Department of Bacteriology

(1) Staff and Students

Professor: Hitoshi Komatsuzawa
 Associate Professor: Miki Matsuo
 Assistant Professor: Le Nguyen Tra Mi
 Researcher: Keiko Tsuruda, Ikue Hayashi
 Graduate Student: Yoshimasa Yasutomi

(2) Main Research Activities

- 1: Isolation and characterization of drug-resistant bacteria
- 2: Elucidation of virulence and drug resistance factors of pathogenic bacteria
- 3: Search for novel antimicrobial susceptibility factors
- 4: Elucidation of the mechanisms of oral microbiome formation
- 5: Bacteriophage research

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Complete sequences of epidermin and nukacin encoding plasmids from oral-derived *Staphylococcus epidermidis* and their antibacterial activity: Nakazono K, Le MN, Kawada-Matsuo M, Kimheang N, Hisatsune J, Oogai Y, Nakata M, Nakamura N, Sugai M, Komatsuzawa H: PLoS One 2022 Jan 18;17(1):e0258283.
- 2: Comprehensive characterization of sortase A-dependent surface proteins in *Streptococcus mutans*: Katsumata T, Nguyen-Tra Le M, Kawada-Matsuo M, Taniguchi Y, Ouhara K, Oogai Y, Nakata M, Mizuno N, Nishitani Y, Komatsuzawa H: Microbiolology and Immunology 2022 Mar;66(3):145-156.
- 3: Gene Rearrangement and Modification of Immunity Factors Are Correlated with the Insertion of Bacteriocin Cassettes in *Streptococcus mutans*: Le MN, Kawada-Matsuo M, Komatsuzawa H: Microbiology Spectrum 2022 Jun 29;10(3):e0180621.
- 4: Genomic epidemiology and temperature dependency of hypermucoviscous *Klebsiella pneumoniae* in Japan: Le MN, Kayama S, Wyres KL, Yu L, Hisatsune J, Suzuki M, Yahara K, Terachi T, Sawa K, Takahashi S, Okuhara T, Kohama K, Holt KE, Mizutani T, Ohge H, Sugai M: Microbial Genomics 2022 May;8(5):mgen000827.
- 5: Oral and Rectal Colonization by Antimicrobial-Resistant Gram-Negative Bacteria and Their Association with Death among Residents of Long-Term Care Facilities: A Prospective, Multicenter, Observational, Cohort Study: Kajihara T, Yahara K, Yoshikawa M, Haruta A, Kawada-Matsuo M, Le MN, Arai C, Takeuchi M, Kitamura N, Sugawara Y, Hisatsune J, Kayama S, Ohta K, Tsuga K, Komatsuzawa H, Ohge H, Sugai M: Gerontology 2022 Oct 6:1-12.
- 6: Periapical lesion following Cnm-positive *Streptococcus mutans* pulp infection worsens cerebral hemorrhage onset in an SHRSP rat model. Taniguchi Y, Ouhara K, Kitagawa M, Akutagawa K, Kawada-Matsuo M, Tamura T, Zhai R, Hamamoto Y, Kajiya M, Matsuda S, Maruyama H, Komatsuzawa H, Shiba H, Mizuno N. Clin Exp Immunol. 2022 Dec 31;210(3):321-330.

B) Review

- 1: Efficiency of Antimicrobial Peptides Against Multidrug-Resistant *Staphylococcal* Pathogens. Le MN, Kawada-Matsuo M, Komatsuzawa H: Front Microbiol 2022 Jun 9;13:930629.

C) Publications ←12 ポイント

- 3: Oral Microbiology and Immunology: Hitoshi Komatsuzawa : Ishiyaku Publishers,Inc. (Tokyo) 212-213, 221-240, 254-258, 287-292, 5th edition, 2021
- 4: Oral Microbiology and Immunology: Miki Matsuo : Ishiyaku Publishers,Inc. (Tokyo) 254-258, 287-

292, 5th edition, 2021

- 5: Text for Dental Hygienist Microbiology: Hitoshi Komatsuzawa : Ishiyaku Publishers, Inc. (Tokyo) 110-121, 144-153, 157-177, 2019 年

D) Other Publications

- 1: 「Cell」 : Potential application of bacteriocin against MRSA infectious disease. Miki Kawada-Matsuo, Hitoshi Komatsuzawa. New Science (Tokyo, Meguro) 2022.

E) Presentations at Scientific Meetings

- 1: Complete sequences of bacteriocin plasmids of *S. epidermidis* and their antibacterial activity: Miki Matsuo, Mi Nguyen-Tra Le, Junzo Hisatsune, Motoyuki Sugai, Hitoshi Komatsuzawa: The 95th Annual Meeting of Japanese Society for Bacteriology (Tokyo), 2022.
- 2: Classification and characterization of bacteriocin immunity factors in *Streptococcus mutans*: Mi Nguyen-Tra Le, Miki Matsuo, Hitoshi Komatsuzawa: The 95th Annual Meeting of Japanese Society for Bacteriology (Tokyo), 2022.
- 3: Genetic analysis of ESBL-producing bacteria in Hiroshima Prefecture in 2020: Tomoko Kawayanagi, Miki Matsuo, Mi Nguyen-Tra Le, Hitoshi Komatsuzawa: The 70th Annual Meeting of the Japanese Society of Chemotherapy (Gifu), 2022.
- 4: Resistance mechanism of cariogenic bacteria *Streptococcus mutans* to nukacin produced by *Staphylococcus epidermidis*: Naoki Sadaoka, Miki Matsuo, Mi Nguyen-Tra Le, Hitoshi Komatsuzawa: The 64th Annual Meeting of Japanese Association for Oral Biology (Tokushima), 2022.
- 5: Susceptibility of disinfectants against cephalosporin-resistant Gram-negative bacteria isolated from oral cavity: Haruta Azusa, Matsuo-Kawada-Miki, Yoshikawa Mineka, Takeuchi Maho, Mi Nguyen-Tra Le, Tsuga Kazuhiro, Komatsuzawa Hitoshi: The 64th Annual Meeting of Japanese Association for Oral Biology (Tokushima), 2022.
- 6: Temperature-dependent hypermucoviscosity and genomic population structure of *Klebsiella pneumoniae*: Mi Nguyen-Tra Le, Shizuo Kayama, Kelly L. Wyres, Liansheng Yu, Junzo Hisatsune, Masato Suzuki, Koji Yahara, Tsuneko Terachi, Kana Sawa, Shin Takahashi, Toshihiko Okuhara, Kunihiko Kohama, Kathryn E. Holt, Tetsu Mizutani, Hiroki Ohge, Motoyuki Sugai: 13th International Meeting on Microbial Epidemiological Markers (IMMEM XIII) (Bath, United Kingdom), 2022.
- 7: Identification of bacteriocin Pep5 from *Staphylococcus epidermidis* and elucidation of resistance mechanism in *Staphylococcus aureus*: Yujin Suzuki, Miki Matsuo, Mi Nguyen-Tra Le, Hitoshi Komatsuzawa: The 75th Meeting of the Japanese Society for Bacteriology - Chugoku-Shikoku Branch (Okayama), 2022.
- 8: Genetic analysis of ESBL-producing bacteria in Hiroshima Prefecture in 2020: Tomoko Kawayanagi, Miki Matsuo, Mi Nguyen-Tra Le, Hitoshi Komatsuzawa: The 75th Meeting of the Japanese Society for Bacteriology - Chugoku-Shikoku Branch (Okayama), 2022.
- 9: Susceptibility of disinfectants against cephalosporin-resistant Gram-negative bacteria isolated from oral cavity of long-term care facility residents: Haruta Azusa, Matsuo-Kawada-Miki, Yoshikawa Mineka, Takeuchi Maho, Mi Nguyen-Tra Le, Tsuga Kazuhiro, Komatsuzawa Hitoshi: The 15th Korea-Japan International Symposium on Microbiology (Korea), 2022.
- 10: Different amino acid sequence for CprABC affects nisin A susceptibility in *Clostridioides difficile* isolates.: Noriaki Ide, Miki Matsuo, Mi Nguyen-Tra Le, Hiromu Nishi, Hiroyuki Kawaguchi, Hitoshi Komatsuzawa: The 15th Korea-Japan International Symposium on Microbiology (Korea), 2022.
- 11: Novel candidates of antimicrobial peptides (AMPs) against MRSA and Resistance mechanisms of MRSA against AMPs.: Miki Matsuo, Mi Nguyen-Tra Le, Hitoshi Komatsuzawa: The 15th Korea-Japan International Symposium on Microbiology (Korea), 2022.

F) Special lectures in academic meetings

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Japan Agency for Medical Research and Development (AMED): H. Komatsuzawa, Research and development on inhibition of the establishment of drug-resistant bacteria in the oral and respiratory tracts., 21fk0108606h0001, 29,300 千円

- 2: Grant-in-Aid for Scientific Research (C) : Miki Kawada-Matsuo: Fundamental research to establish a risk diagnostic method for oral-derived highly multidrug-resistant *Staphylococcus aureus* 21K09858. 1,430 千円
- 3: Le Nguyen Tra Mi, Grant-in-Aid for Early-Career Scientists from the Ministry of Education, Culture, Sports, Sciences, and Technology of Japan. Temperature-driven regulation system of hypermucoviscosity in carbapenem-resistant *Klebsiella pneumoniae*. Grant No. 21K16947. 1,560 千円

(5) Academic Awards, etc.

(6) Patents

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Department of Cellular and Molecular Pharmacology

(1) Staff and Students

Professor: Yukio Ago
 Assistant Professor: Satoshi Asano
 Graduate Student: Eiji Imado (D4, Dental Anesthesiology)
 Kohei Jino (D2)
 Ami Ono (D1, Orthodontics and Craniofacial Developmental Biology)

(2) Main Research Activities

- 1: Studies on the mechanisms of action of the drugs in depression, schizophrenia, anxiety, and neurodegenerative diseases.
- 2: Studies on the roles of gene-environment interactions in brain development.
- 3: Studies on the roles of cell migration, adhesion, and proliferation in biological and pathological processes.

(3) Research Achievements

A) Original Papers

- 1: Hisaoka-Nakashima K, Moriwaki K, Yoshimoto N, Yoshii T, Nakamura Y, Ago Y, Morioka N. Anti-interleukin-6 receptor antibody improves allodynia and cognitive impairment in mice with neuropathic pain following partial sciatic nerve ligation. **International Immunopharmacology** 112: 109219, 2022.
- 2: Asano S, Maetani Y, Ago Y, Kanematsu T. Phospholipase C-related catalytically inactive protein enhances cisplatin-induced apoptotic cell death. **European Journal of Pharmacology** 933: 175273, 2022.
- 3: Yamawaki Y, So H, Oue K, Asano S, Furusho H, Miyachi M, Tanimoto K, Kanematsu T. Imipramine prevents *Porphyromonas gingivalis* lipopolysaccharide-induced microglial neurotoxicity. **Biochemical and Biophysical Research Communications** 634: 92-99, 2022.
- 4: Sakamoto K, Asano S, Ago Y, Hirokawa T. AlphaFold version 2.0 elucidates the binding mechanism between VIPR2 and KS-133, and reveals an S-S bond (Cys²⁵-Cys¹⁹²) formation of functional significance for VIPR2. **Biochemical and Biophysical Research Communications** 636: 10-16, 2022.

B) Review

None

C) Publications

None

D) Other Publications

None

E) Presentations at Scientific Meetings

International conference

- 1: Satoshi Asano, Misa Yamasaka, Kairi Ozasa, Kotaro Sakamoto, Atsuko Hayata-Takano, Takanobu Nakazawa, Hitoshi Hashimoto, James A. Waschek, Yukio Ago. The VIP/VIPR2 pathway regulates breast cancer cell migration. VPAC ISBAP 2022 (Joint symposium of the 1st Meeting of the

- International Society for Bioactive Peptides and the 15th International Symposium on VIP, PACAP and Related Peptides), Osaka, 30 October – 2 November, 2022.
- 2: Ami Ono, Daichi Koan, Satoshi Asano, Tatsunori Miyaoka, Lu Chen, Mei Yamada, Shinsaku Nakagawa, Atsuko Hayata-Takano, Takanobu Nakazawa, Akihiro Harada, Hitoshi Hashimoto, James A. Waschek, Yukio Ago. Neuron-specific overexpression of human VPAC2 receptors in mice causes cognitive dysfunction. VPAC ISBAP 2022 (Joint symposium of the 1st Meeting of the International Society for Bioactive Peptides and the 15th International Symposium on VIP, PACAP and Related Peptides), Osaka, 30 October – 2 November, 2022.
 - 3: Kohei Kitagawa, Masayuki Baba, Tomoya Takemoto, Kazuki Nagayasu, Atsushi Kasai, Kazuhiro Takuma, Ryota Hashimoto, Hitoshi Hashimoto, Yukio Ago, Takanobu Nakazawa. Impaired neurodevelopment in iPS cell-derived neural stem cells from psychiatric patients with 7q36.3 microduplication. VPAC ISBAP 2022 (Joint symposium of the 1st Meeting of the International Society for Bioactive Peptides and the 15th International Symposium on VIP, PACAP and Related Peptides), Osaka, 30 October – 2 November, 2022.
 - 4: Rei Yokoyama, Yukio Ago, Atsushi Kasai, Masato Tanuma, Misuzu Hayashida, Yuto Shimazaki, Momoko Higuchi, Hisato Igarashi, Kaoru Seiriki, Shun Yamaguchi, Takanobu Nakazawa, Kenji Hashimoto, Hitoshi Hashimoto. Agranular insular cortex mediates the antidepressant actions of arketamine. The 51st Annual Meeting of the Society for Neuroscience (Neuroscience 2022), San Diego, USA, 12-16 November, 2022.
 - 5: Kohei Kitagawa, Masayuki Baba, Tomoya Takemoto, Masato Tanuma, Misuzu Hayashida, Shun Yamaguchi, Yukio Ago, Kaoru Seiriki, Atsuko Hayata-Takano, Kazuhiro Takuma, Atsushi Kasai, Hitoshi Hashimoto, Takanobu Nakazawa. Intranasal oxytocin administration suppresses social contact-induced neural activity in a POGZ-Q1038R mutant mouse model of autism spectrum disorder. The 51st Annual Meeting of the Society for Neuroscience (Neuroscience 2022), San Diego, USA, 12-16 November, 2022.
 - 6: Yukio Ago, Rei Yokoyama, Atsushi Kasai, Masato Tanuma, Misuzu Hayashida, Yuto Shimazaki, Momoko Higuchi, Hisato Igarashi, Kaoru Seiriki, Shun Yamaguchi, Takanobu Nakazawa, Kenji Hashimoto, Hitoshi Hashimoto. Activation of the rostral agranular insular cortex is involved in the antidepressant actions of arketamine. The 61st Annual Meeting of the American College of Neuropsychopharmacology (ACNP), 4-7 December, 2022.
 - 7: Hitoshi Hashimoto, Misaki Niu, Masato Tanuma, Kaoru Seiriki, Yukio Ago, Shun Yamaguchi, Atsushi Kasai. Claustrum mediates stress-induced anxiety responses and stress resistance. The 61st Annual Meeting of the American College of Neuropsychopharmacology (ACNP), 4-7 December, 2022.

Domestic conference

- 1: Satoshi Asano, Kairi Ozasa, Takanobu Nakazawa, James Waschek, Yukio Ago. Functional importance of the oligomer formation of the neuropeptide receptor VIPR2. The 95th Annual Meeting of the Japanese Pharmacological Society, Fukuoka, 7-9 March, 2022.
- 2: Kairi Ozasa, Satoshi Asano, Misa Yamasaka, Atsuko Hayata, Takanobu Nakazawa, Hitoshi Hashimoto, James Waschek, Yukio Ago. A neuropeptide VIP induces cell migration by activating the PI3K pathway via VPAC2 receptor. The 95th Annual Meeting of the Japanese Pharmacological Society, Fukuoka, 7-9 March, 2022.
- 3: Eiji Imado, Samnang Sun, Abrar Abawa, Satoshi Asano, Yoki Nakamura, Kazue Nakashima, Norimitsu Morioka, Kazuhiro Tsuga, Masahiro Irifune, Kazuhiro Takuma, Norikazu Kiguchi, Yukio Ago. Involvement of microglia in mechanical allodynia in a mouse model of neurodevelopmental disorder. The 95th Annual Meeting of the Japanese Pharmacological Society, Fukuoka, 7-9 March, 2022.
- 4: Natsuki Yoshimoto, Kazue Nakashima, Kazuto Ohata, Yukio Nakamura, Dengli Wang, Keyue Liu, Hidenori Wake, Yukio Ago, Masahiro Nishibori, Norimitsu Morioka. The effect of neutralizing antibody against high-mobility group box 1 on cognitive impairment in mice with neuropathic pain. The 95th Annual Meeting of the Japanese Pharmacological Society, Fukuoka, 7-9 March, 2022.
- 5: Atsushi Kasai, Yusuke Iyanaga, Hiroki Ueno, Yuka Nakai, Yuta Hara, Hiroki Miura, Masato Tanuma, Misuzu Hayashida, Rei Yokoyama, Jin Ohkubo, Kaoru Seiriki, Atsuko Hayata-Takano, Shun Yamaguchi, Shiho Kitaoka, Tomoyuki Furuyashiki, Yukio Ago, Takanobu Nakazawa, Kazuhiro Takuma, Hitoshi Hashimoto. Reduced prefrontal hub function in brain networks associated with social deficits of an ASD model mouse. The 95th Annual Meeting of the Japanese Pharmacological Society, Fukuoka, 7-9 March, 2022.

- 6: Takumi Yamaguchi, Kaiga Katahira, Ryota Yamaguchi, Kenji Ishimoto, Nobumasa Hino, Akiko Takagaki, Shogo Oki, Masayuki Suzuki, Shinsaku Nakagawa, Yukio Ago. EGC-M5, a green tea catechin metabolite, alleviates cognitive deficits and depressive-like behaviors in mice. The 142nd Annual Meeting of the Pharmaceutical Society for Japan (virtual presentation), 25-28 March, 2022.
- 7: Ryota Yamaguchi, Takumi Yamaguchi, Shinsaku Nakagawa, Satoshi Asano, Keisuke Matsuura, Masanori Nakagawa, Yukio Ago. Study on the effects of imidazole dipeptide on central nervous system function in mice. The 142nd Annual Meeting of the Pharmaceutical Society for Japan (virtual presentation), 25-28 March, 2022.
- 8: Hiroki Ueno, Atsushi Kasai, Yusuke Iyanaga, Yuta Hara, Hiroki Miura, Masato Tanuma, Rei Yokoyama, Jin Ohkubo, Yuka Nakai, Kaoru Seiriki, Shun Yamaguchi, Yukio Ago, Takanobu Nakazawa, Kazuhiro Takuma, Hitoshi Hashimoto. Antiepileptic drugs recovered social impairments and hub function of the prefrontal cortex in a mouse model of developmental disorders. The 142nd Annual Meeting of the Pharmaceutical Society for Japan (virtual presentation), 25-28 March, 2022.
- 9: Satoshi Asano, Misa Yamasaka, Kairi Ozasa, James Waschek, Yukio Ago. A potential role of neuropeptide receptor VIPR2 signaling in tumor cell migration. The 55th Annual Meeting of the Hiroshima University Dental Society, Hiroshima, 11 June, 2022.
- 10: Eiji Imado, Sun Samnang, Abrar Rizal Abawa, Satoshi Asano, Kazuhiro Tsuga, Masahiro Irifune, Yukio Ago. Abnormal pain sensitivity associated with spinal microglial activation in a prenatal valproic acid-induced mouse model of autism. The 55th Annual Meeting of the Hiroshima University Dental Society, Hiroshima, 11 June, 2022.
- 11: Yukio Ago, Eiji Imado, Samnang Sun, Yoki Nakamura, Kazue Nakashima, Norimitsu Morioka, Kazuhiro Takuma, Norikazu Kiguchi, Satoshi Asano. Prenatal exposure to valproic acid induces proliferation of microglia in the spinal cord and mechanical allodynia in mice. Neuro2022 (Joint conference of the 45th Annual Meeting of the Japan Neuroscience Society, the 65th Annual Meeting of the Japanese Society for Neurochemistry, and the 32nd Annual Conference of the Japanese Neural Network Society), Okinawa, 30 June – 3 July, 2022.
- 12: Samnang Sun, Eiji Imado, Tran Ngoc Bao Huynh, Yoki Nakamura, Kazue Hisaoka-Nakashima, Norimitsu Morioka, Norikazu Kiguchi, Satoshi Asano, Yukio Ago. Possible role of histone deacetylase inhibition in tactile hypersensitivity in a mouse model of autism spectrum disorder. The 37th Forum for Drug Discovery and Pharmacology in Okayama (virtual presentation), 23 July, 2022.
- 13: Satoshi Asano, Yukio Ago. The neuropeptide receptor VIPR2 regulates tumor cell migration through PI3K pathway. The 64th Annual Meeting of Japanese Association for Oral Biology, Tokushima, 17-19 September, 2022.
- 14: Uta Sasaki, Masahiro Irifune, Eiji Imado, Serika Motoike, Aya Oda, Kana Oue, Mitsuhiro Yoshida, Yukio Ago. Involvement of dopaminergic and serotonergic neurons in the area postrema of rats in nausea and vomiting induced by intravenous anesthetics: Behavioral and brain microdialysis studies. The 50th Annual Meeting of the Japanese Dental Society of Anesthesiology, Tokyo, 27-29 October, 2022.
- 15: Eiji Imado, Masahiro Irifune, Yukio Ago. Long-lasting mechanical allodynia and spinal microglial activation in a mouse model of autism spectrum disorder. The 50th Annual Meeting of the Japanese Dental Society of Anesthesiology, Tokyo, 27-29 October, 2022.
- 16: Yukio Ago, Megumi Naito, Haruki Kawase, Momoko Higuchi, Hidekuni Yamakawa, Soichiro Ohnami, Koichi Ogawa, Atsushi Nakamura, Takahiro Kochi, Eiji Imado, Takeru Tahara, Satoshi Asano, Yaichiro Kotake, Kazuhiro Takuma, Hitoshi Hashimoto. Low doses of mu-opioid receptor agonists without analgesic efficacy improve social behavioral deficits in a mouse model of autism spectrum disorder. The Joint Annual Meeting of the 44th Annual Meeting of Japanese Society of Biological Psychiatry, the 32nd Annual Meeting of the Japanese Society of Clinical Neuropsychopharmacology, the 52nd Annual Meeting of Japanese Society of Neuropsychopharmacology, and the 6th Annual Meeting of the Japanese Society of Psychiatric Pharmacy (Joint annual meeting BPCNP/NPPP), Tokyo, 4-6 November, 2022.
- 17: Eiji Imado, Samnang Sun, Tran Ngoc Bao Huynh, Yoki Nakamura, Kazue Nakashima, Norimitsu Morioka, Norikazu Kiguchi, Satoshi Asano, Yukio Ago. Inhibition of histone deacetylase in utero causes spinal microglial activation and mechanical allodynia in mice. The 96th Annual Meeting of the Japanese Pharmacological Society, Yokohama, 30 November – 3 December, 2022.
- 18: Takeru Tahara, Eiji Imado, Haruki Kawase, Momoko Higuchi, Hidekuni Yamakawa, Koichi Ogawa, Yaichiro Kotake, Kazuhiro Takuma, Hitoshi Hashimoto, Satoshi Asano, Yukio Ago. A TRPV1

antagonist AMG517 alleviates abnormal pain sensitivity and improves social deficits in the prenatal valproic acid-induced mouse model of autism. The 96th Annual Meeting of the Japanese Pharmacological Society, Yokohama, 30 November – 3 December, 2022.

- 19: Satoshi Asano, Yukio Ago, Takashi Kanematsu. Phospholipase C like protein PRIP1 PH-domain-containing liposomes enhance apoptotic cell death in cisplatin resistant breast cancer cells. The 96th Annual Meeting of the Japanese Pharmacological Society, Yokohama, 30 November – 3 December, 2022.
- 20: Rei Yokoyama, Yukio Ago, Atsushi Kasai, Masato Tanuma, Misuzu Hayashida, Yuto Shimazaki, Momoko Higuchi, Hisato Igarashi, Kaoru Seiriki, Shun Yamaguchi, Takanobu Nakazawa, Kenji Hashimoto, Hitoshi Hashimoto. Involvement of the agranular insular cortex in antidepressant actions of arketamine. The 96th Annual Meeting of the Japanese Pharmacological Society, Yokohama, 30 November – 3 December, 2022.

F) Symposium and Special lectures in academic meetings

- 1: Yukio Ago. Animal models of depression: A lesson from the pharmacologic sensitivity of antidepressant drugs and candidates. The 95th Annual Meeting of the Japanese Pharmacological Society, Fukuoka, 7-9 March, 2022.
- 2: Yukio Ago, Kotaro Sakamoto. Pharmacological study of a novel peptide antagonist targeting VIPR2, a class-B GPCR, for the treatment of schizophrenia. The 95th Annual Meeting of the Japanese Pharmacological Society, Fukuoka, 7-9 March, 2022.
- 3: Yukio Ago, Kotaro Sakamoto, Satoshi Asano. KS-133, a novel peptide antagonist targeting VIPR2 for the treatment of schizophrenia. VPAC ISBAP 2022 (Joint symposium of the 1st Meeting of the International Society for Bioactive Peptides and the 15th International Symposium on VIP, PACAP and Related Peptides), Osaka, November 2, 2022.
- 4: Yukio Ago. Toward elucidation of the pathological basis of autism spectrum disorder and drug discovery. The 39th Annual Meeting of the Japanese Society for Disability and Oral Health, Kurashiki, 6 November, 2022.
- 5: Yukio Ago. New treatment perspectives in autism spectrum disorder: Role of brain region-specific opioid system balance in ameliorating social impairments. The 96th Annual Meeting of the Japanese Pharmacological Society, Yokohama, 30 November, 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Translational Research Grant Seeds A (TR Core Center at Osaka University) from Japan Agency for Medical Research and Development (AMED): Yukio Ago (Principal Investigator, New), Grant Number: A-194
- 2: Grant-in-Aid for Challenging Research (Exploratory) from Japan Society for the Promotion of Science (JSPS): Yukio Ago (Principal Investigator, Continuation), Grant Number: 21K19714
- 3: Grant-in-Aid for Scientific Research (B) from Japan Society for the Promotion of Science (JSPS): Yukio Ago (Principal Investigator, Continuation), Grant Number: 20H03392
- 4: Grant-in-Aid for Scientific Research (B) from Japan Society for the Promotion of Science (JSPS): Yukio Ago (Co-Investigator, Continuation), Grant Number: 20H03404
- 5: Grant-in-Aid for Scientific Research (B) from Japan Society for the Promotion of Science (JSPS): Yukio Ago (Co-Investigator, Continuation), Grant Number: 20H03429
- 6: Grant-in-Aid for Scientific Research (C) from Japan Society for the Promotion of Science (JSPS): Yukio Ago (Co-Investigator, Continuation), Grant Number: 21K10139
- 7: Grant-in-Aid for Scientific Research (C) from Japan Society for the Promotion of Science (JSPS): Satoshi Asano (Principal Investigator, Continuation), Grant Number: 20K09905
- 8: Collaborative Research Grant from Mitsui Norin Co., Ltd. (Japan): Yukio Ago (Principal Investigator, New)
- 9: Collaborative Research Grant from ICHIMARU PHARCOS Co., Ltd. (Japan): Yukio Ago (Principal Investigator, Continuation)
- 10: Collaborative Research Grant from Tokuyama Corporation (Japan): Yukio Ago (Principal Investigator, Continuation)
- 11: Research Grant from Tokyo Biochemical Research Foundation (Japan): Yukio Ago (Principal Investigator, New)

(5) Academic Awards

- 1: Eiji Imado: Young Investigator Award of the Hiroshima University Dental Society. The 55th Annual Meeting of the Hiroshima University Dental Society, 11 June, 2022.
- 2: Ami Ono: The Akira Arimura Travel Award. VPAC ISBAP 2022 (Joint symposium of the 1st Meeting of the International Society for Bioactive Peptides and the 15th International Symposium on VIP, PACAP and Related Peptides), October 30–November 2, 2022.

(6) Patents

Yukio Ago, Satoshi Asano, Kotaro Sakamoto: VIPR2 antagonist peptide for suppressing cancer metastasis (Japanese Patent Application Number: #2022-27791) (Names of Applicants: Hiroshima University, Ichimaru Pharcos Co. Ltd.)

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Department of Biomaterials

(1) Staff and Students

Professor:	Koichi Kato
Assistant Professor:	Isao Hirata, Archana Mootha
Research Collaborator:	Ayana Nakano
Graduate Student:	Fumika Abe, Karina Erda, Yenny Yustisia, Hengky Ardhiyanto Shiina Pasanen, Tamamo Matsuyama
Undergraduate student:	Akiko Narukami, Kana Takeda, Yuta Kobayashi, Naoto Hisabayashi Kanta Asano, Hinami Miyashita

(2) Main Research Activities

- 1: Biomaterials and biodevices for regenerative medicine
- 2: Study on the interactions between biological systems and biomaterial surfaces
- 3: Developing novel approaches for disease treatment with biomaterials

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: I. Goel, M. Noiri, Y. Yamauchi, K. Kato, U. Chung, Y. Teramura, Enhancement of intercellular interaction between iPSC-derived neural progenitor cells and activated endothelial cells using cell surface modification with functional oligopeptides. *Biomater. Sci.*, 10:925–938 (2022)
- 2: H. Kimura, H. Tsuka, K. Morita, I. Hirata, F. Nishio, H. Abekura, L. Doi, K. Tsuga, Nd:YVO₄ laser groove treatment can improve the shear bond strength between dental PEEK and adhesive resin cement with an adhesive system. *Dent. Mater. J.*, 41:382–391 (2022)

B) Review

- 1: T. Ogasawara, K. Kato, Solid-phase cytometry using antibody microarrays. *J. Hiroshima Univ. Dent. Soc.*, 54:1–10 (2022)
- 2: A. Nakano, K. Kato, Recombinant protein synthesis for nanomaterial assembly: Technical overview. *Bull. Soc. Nano Sci. Technol.*, 20:31–37 (2022)

C) Publications

- 1: K. Kato: Standard Dental Materials and Devices, Chapter 4, Safety and Compatibility of Biomaterials (7th ed., 3rd printing), Hiroshi Nakajima, Takashi Miyazaki, Takayuki Yoneyama eds., Gakkenshoin Ltd., in press.
- 2: K. Kato. Bioengineering challenges in regenerative medicine: Biofunctional materials design., In *Biomedical Engineering*, Akihiro Miyauchi, Yuji Miyahara, eds., Jenny Stanford Publishing, Singapore, in press.
- 3: A. Nakano, K. Kato. Regenerative nanotechnology: Engineered surfaces for stem cell production, In *Nanomedicine*. Ning Gu, ed., Springer, Singapore. First online: 9 September 2022.

D) Other Publications and Products

- 1: K. Kato, Japan-China academic exchange in nanomedicine. *Bull. Japan China Med. Assoc.*, 37:35 & 60 (2022)
- 2: Website: <https://biomaterials-hu.wixsite.com/global-dent> "Hiroshima University e-START Program, Healthcare in a Global Perspective"

E) Presentations at Scientific Meetings

- 1: A. Mootha, K. Kato, Surface immobilization of BMP-7 for promoting osteogenesis at tissue-material interface. IDMC2022 (November 4-5, 2022, Taipei)

F) Invited Lectures

- 1: K. Kato. Hiroshima University School of Dentistry, History of internationalization. JSPS Core-to-Core Program Asia-Africa Science Platforms, International Seminar (November 11, 2022, Hiroshima)
- 2: T. Ogasawara, K. Kato. Quantitative cell subset analysis on antibody microarrays. ISNM 2022 (December 6-8, 2022, Tokushima)
- 3: K. Kato: Introduction to stem cells. Special lecture, 3 in 1 Program at Faculty of Dentistry Universitas Brawijaya Malang, Indonesia (November 2, 2022, Online)
- 4: K. Kato: Bioengineering challenges in stem cell-based regenerative medicine 1. Faculty of Dentistry Universitas Brawijaya Malang, Indonesia (December 12, 2022, Online)
- 5: K. Kato: Bioengineering challenges in stem cell-based regenerative medicine 2. Faculty of Dentistry Universitas Brawijaya Malang, Indonesia (December 13, 2022, Online)

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Fund for the Promotion of Joint International Research, Fostering Joint International Research (B), Grants-in-Aid for Scientific Research, JSPS (PI: Koichi Kato): Koichi Kato, Strategy for spatially-controlled tissue regeneration. 19KK0278. 1,800,000 JPY
- 2: Grant-in-Aid for Scientific Research (C), Ministry of Education, Culture, Sports, Science and Technology, JSPS (PI: Isao Hirata): Isao Hirata, Development of Metabolic System Controlled Culture Substrates to Maintain Stemness of Mesenchymal Stem Cells. 20K09994. 800,000 JPY
- 3: Grant-in-Aid for Early-Career Scientists, Ministry of Education, Culture, Sports, Science and Technology, JSPS (PI: Mootha Archana): Mootha Archana, Bio-mimicry of paracellular surface on implant neck surface by immobilizing functional claudin peptide to establish an epithelial seal. 22K17077. 1,900,000 JPY
- 4: Grant-in-Aid for Research Activity Start-up, Ministry of Education, Culture, Sports, Science and Technology, JSPS (PI: Ayana Nakano) Ayana Nakano, Controlled release of protein factors for tissue engineering of cleft palate, 21K21014. 1,651,000 JPY
- 5: Fund for the Promotion of Joint International Research, Fostering Joint International Research (B), Grants-in-Aid for Scientific Research, JSPS (PI: Koichi Kato): Isao Hirata, Strategy for spatially-controlled tissue regeneration. 19KK0278. 200,000 JPY
- 6: Grant-in-Aid for Scientific Research (C), Ministry of Education, Culture, Sports, Science and Technology, JSPS (PI: Isao Hirata): Koichi Kato, Development of Metabolic System Controlled Culture Substrates to Maintain Stemness of Mesenchymal Stem Cells. 20K09994. 50,000 JPY
- 7: Grant-in-Aid for Scientific Research (C), Ministry of Education, Culture, Sports, Science and Technology, JSPS (PI: Kotaro Tanimoto): Koichi Kato, Functional analysis of deciduous dental pulp stem cell-derived exosomes and application to induction of cleft palate bone regeneration. 21K10186. 150,000 JPY
- 8: Grant-in-Aid for Scientific Research (B), Ministry of Education, Culture, Sports, Science and Technology, JSPS (PI: Mikihito Kajiya): Koichi Kato, Establishment of iPS cell-derived jawbone and gingival organoids using cluster culture technology and the advancement of oral regenerative medicine. 22H03275. 300,000 JPY
- 9: Grant-in-Aid for Scientific Research (C), Ministry of Education, Culture, Sports, Science and Technology, JSPS (PI: Masami Kanawa): Isao Hirata, Development of a Marker System to Predict the Differentiation Potential of Adipose-derived Mesenchymal Stem Cells. 21K09792. 100,000 JPY
- 10: Grant-in-Aid for Scientific Research (C), Ministry of Education, Culture, Sports, Science and Technology, JSPS (PI: Saiji Shimoe): Isao Hirata, Development of bio-friendly polyetheretherketone (PEEK) composite restorations. 21K10002. 100,000JPY
- 11: Grant-in-Aid for Scientific Research (C), Ministry of Education, Culture, Sports, Science and Technology, JSPS (PI: Koji Morita): Isao Hirata, Elucidation of the effects of masticatory ability on intestinal microflora and short-chain fatty acid production in persons requiring nursing care. 20K10034. 50,000 JPY

2022

JST Sakura Science Exchange Program (PI: Koichi Kato), Scientific and technological experience in biomaterials science. S2022F0500201. 2,813,000 JPY

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- **Department of Periodontal Medicine**
- **Division of Preventive and Restorative Dentistry Department of Periodontics**

(1) Staffs and Students

Professor: Noriyoshi Mizuno

Assistant Professor: Kazuhisa Ouhara, Mikihito Kajiya (-March), Tomoyuki Iwata, Shinji Matsuda, Shinya Sasaki, Yuta Hamamoto (December-)

Resident: Mizuho Kittaka (studying abroad), Tetsuya Yoshimoto (studying abroad), Ai Okanobu (April-), Tasuku Takemura, Saki Hatano, Susumu Horikoshi, Misako Tari, Hisakatsu Sone

Special Postdoctoral Researcher: Takumi Memida

Graduate Student: Zhai Ruoqi (-March), Shin Morimoto, Yuri Taniguchi, Tetsuya Tamura, Hiroki Yoshii, Mai Yoshino, Tomoya Ueda, Shoko Kohno, Fuminori Nakashima, Yurika Ninomiya, Ryoussuke Fujimori, Keisuke Yasuda

Research Student: Masahiko Suzukawa,

Clinical Trainee: Mari Kiyota, Yoshiaki Shimasaki, Ryoko Kishi (-March), Manabu Takewaki, Takuma Yanagihara, Keita Takahashi, Tomoya Ogawa

(2) Main Research Activities

- 1: Immunological and genetic study on the onset of periodontics
- 2: Study on periodontal tissue regeneration using bone marrow mesenchymal stem cells
- 3: Study on periodontal tissue regeneration using neurotrophines
- 4: Study on the relationship between periodontal disease and rheumatoid arthritis
- 5: Study on the relationship between periodontal disease and diabetes mellitus
- 6: Study on physiological function and differentiation of the cells derived from periodontal ligament
- 7: Study on prevention for periodontal disease
- 8: Study on gingival hyperplasia
- 9: Study on the relationship between periodontal disease and scleroderma
- 10: Study on the establishment of treatment methods for peri-implantitis

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Cancellous bone-like tissue replacement from calcinosis patients with systemic sclerosis with multiple external root resorption.
Memida T, Matsuda S, Nakamoto T, Ouhara K, Kajiya M, Hirata S, Sugiyama E, Kakimoto N, Mizuno N.
Bone Rep. 2022; January; 16; 101165
- 2: Cytokines regulate stemness of mesenchymal stem cells via miR-628-5p during periodontal regeneration.
Iwata T, Mizuno N, Nagahara T, Kaneda-Ikeda E, Kajiya M, Sasaki S, Takeda K, Kiyota M, Yagi R, Fujita T, Kurihara H.
J Periodontol. 2022; February; 93(2); 269-286
- 3: Comprehensive characterization of sortase A-dependent surface proteins in *Streptococcus mutans*.
Katsumata T, Nguyen-Tra Le M, Kawada-Matsuo M, Taniguchi Y, Ouhara K, Oogai Y, Nakata M, Mizuno N, Nishitani Y, Komatsuzawa H.
Microbiol Immunol. 2022; March; 66(3); 145-156
- 4: Xenotransplantation of cryopreserved human clumps of mesenchymal stem cells/extracellular matrix complexes pretreated with IFN- γ induces rat calvarial bone regeneration.
Ogawa T, Kajiya M, Horikoshi S, Yoshii H, Yoshino M, Motoike S, Morimoto S, Sone H, Iwata T, Ouhara K, Matsuda S, Mizuno N.
Regen Ther. 2022; April; 20; 117-125
- 5: Masticatory dysfunction in patients with diabetic neuropathy: A cross-sectional study
Hamamoto Y, Ouhara K, Miyagawa T, Shintani T, Komatsu N, Kajiya M, Matsuda S, Fujita T, Sasaki

- S, Iwata T, Ohno H, Yoneda M, Mizuno N, Kurihara H
PLoS One. 2022; June; 17(6); e0269594
- 6: Induction of functional xeno-free MSCs from human iPSCs via a neural crest cell lineage
Kamiya D, Takenaka-Ninagawa N, Motoike S, Kajiya M, Akaboshi T, Zhao C, Shibata M, Senda S, Toyooka Y, Sakurai H, Kurihara H, Ikeya M
NPJ Regenerative Medicine 2022; September; 7(1); 47
 - 7: Clumps of mesenchymal stem cells/ extracellular matrix complexes directly reconstruct the functional periodontal tissue in a rat periodontal defect model
Sone H, Kajiya M, Takeda K, Sasaki S, Horikoshi S, Motoike S, Morimoto S, Yoshii H, Yoshino M, Iwata T, Ouhara K, Matsuda S, Mizuno N
J Tissue Eng Regen Med. 2022; October; 16(10); 945-955
 - 8: Regulation of osteogenesis in bone marrow-derived mesenchymal stem cells via histone deacetylase 1 and 2 co-cultured with human gingival fibroblasts and periodontal ligament cells
Iwata T, Kaneda-Ikeda E, Takahashi K, Takeda K, Nagahara T, Kajiya M, Sasaki S, Ishida S, Yoshioka M, Matsuda S, Ouhara K, Fujita T, Kurihara H, Mizuno N.
J Periodontal Res. 2022; November; Epub
 - 9: The Lipopolysaccharide Mutant Re-LPS Is a Useful Tool for Detecting LPS Contamination in Rheumatoid Synovial Cell Cultures.
Kohno H, Ouhara K, Mokuda S, Tokunaga T, Sugimoto T, Watanabe H, Ishitoku M, Yoshida Y, Mizuno N, Ozawa T, Kawataka M, Hirata S, Kishi H, Sugiyama E. Pathobiology. 2022; November; 89(2); 92-100
 - 10: Periapical lesion following Cnm-positive Streptococcus mutans pulp infection worsens cerebral hemorrhage onset in an SHRSP rat model
Taniguchi Y, Ouhara K, Kitagawa M, Akutagawa K, Kawada-Matsuo M, Tamura T, Zhai R, Hamamoto Y, Kajiya M, Matsuda S, Maruyama H, Komatsuzawa H, Shiba H, Mizuno N
Clinical and Experimental Immunology 2022; December; 210(3); 321-330
 - 11: Anti-Inflammatory Effects of Geniposidic Acid on Porphyromonas gingivalis-Induced Periodontitis in Mice
Tamura T, Zhai R, Takemura T, Ouhara K, Taniguchi Y, Hamamoto Y, Fujimori R, Kajiya M, Matsuda S, Munenaga S, Fujita T and Mizuno N
Biomedicines 2022; December; 10(12); 3096

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

- 1: Clumps of MSCs/ECM complexes can induce periodontal tissue regeneration via direct differentiation
Hisakatsu Sone, Mikihiro Kajiya, Shinya Sasaki, Susumu Horikoshi, Tomoya Ogawa, Hiroki Yoshii, Shin Morimoto, Mai Yoshino, Shinji Matsuda, Tomoyuki Iwata, Kazuhisa Ouhara, Noriyoshi Mizuno
The 65th spring meeting of the Japanese society of periodontology (2022 June, Tokyo)
- 2: The role of butylidenephthalide in drug-induced gingival overgrowth
Tomoya Ueda, Shinji Matsuda, Yurika Ninomiya, Ai Okanobu, Saki Hatano, Takumi Memida, Mikihiro Kajiya, Kazuhisa Ouhara, Noriyoshi Mizuno
The 65th spring meeting of the Japanese society of periodontology (2022 June, Tokyo)
- 3: A case report of the periodontal regenerative therapy (REGROTH®) for vertical bone defect with cemental tear in mandibular right central incisor.
Takayoshi Nagahara, Aya Tokumaru, Tomoya Ueda, Shoko Kouno, Tomoyuki Iwata, Kazuhisa Ouhara, Noriyoshi Mizuno
The 65th spring meeting of the Japanese society of periodontology (2022 June, Tokyo)
- 4: Two cases in which continuous dental health guidance led to behavioral change in patients with intellectual disabilities and their caregivers and improved patients' oral hygiene.
Kozono C, Kajiya M, Tokui F, Kimura S, Nakaoka M, Yoshida Y, Oda Y, Okada Y

- The 65th spring meeting of the Japanese society of periodontology (2022 June, Tokyo)
- 5: The development of a bone marrow adipose tissue-like in vitro model using clumps of MSCs/ECM complexes.
Mai Yoshino, Mikihito Kajiya, Shin Morimoto, Hiroki Yoshii, Susumu Horikoshi, Hisakatsu Sone, Tomoyuki Iwata, Kazuhisa Ouhara, Shinji Matsuda, Noriyoshi Mizuno
The annual meeting of the Japanese Society of Inflammation and Regeneration (2022 July, Awaji/web)
- 6: Elucidation mechanisms of multiple root resorption in systemic sclerosis patients.
Takumi Memida, Shinji Matsuda, Noriyoshi Mizuno
The annual meeting of the Japanese Society for Bone and Mineral Research (2022 July, Gifu)
- 7: Transplantation of mesenchymal stem cell clumps of MSCs / ECM complexes induced by combined cartilage/bone differentiation promote bone regeneration through a mode of endochondral ossification.
Shin Morimoto, Mikihito Kajiya, Hiroki Yoshii, Mai Yoshino, Tomoyuki Iwata, Noriyoshi Mizuno
The annual meeting of the Japanese Society for Bone and Mineral Research (2022 July, Gifu)
- 8: The effect of gingipain antibody in the progression of mouse periodontitis model.
Tetsuya Tamura, Kazuhisa Ouhara, Ruoqi Zhai, Tasuku Takemura, Yuri Taniguchi, Yuta Hamamoto, Ryosuke Fujimori, Mikihito Kajiya, Shinji Matsuda, Syuichi Munenaga, Tsuyoshi Fujita, Noriyoshi Mizuno
The 65th Autumn Meeting of the Japanese Society of Periodontology (2022 September, Sendai)
- 9: Identification of new periodontal examination to evaluate the association between periodontitis and systemic diseases -multi centered clinical study-.
Shinji Matsuda, Tsutomu Sugaya, Satsuki Kato, Eiji Nemoto, Yasuo Takeuchi, Daichi Kita, Yukihiro Numabe, Tetsuya Nishida, Yorimasa Ogata, Kitetsu Shin, Takatoshi Nagano, Toshiya Morozumi, Yasutaka Komatsu, Nanae Dewake, Yosuke Kamiya, Masahiro Kitamura, Yoichiro Taguchi, Shogo Takashiba, Hiromichi Yumoto, Akiko Yamashita, Yasunori Yoshinaga, Atsutoshi Yoshimura, Hiroyuki Kawaguchi
The 65th Autumn Meeting of the Japanese Society of Periodontology (2022 September, Sendai)
- 10: Periodontal treatment (no drug change of calcium blocker) of the elderly periodontitis associated with drug-induced gingival overgrowth and the discovery of early diabetes
Takayoshi Nagahara, Aya Tokumar, Tomoya Ueda, Shoko Kouno, Tomoyuki Iwata, Kazuhisa Ouhara, Noriyoshi Mizuno
The 65th Autumn Meeting of the Japanese Society of Periodontology (2022 September, Sendai)
- 11: YAP/TAZ mechanosignaling regulates cytoprotective factors production in mesenchymal stem cells
Hiroki Yoshii, Mikihito Kajiya, Mai Yoshino
Annual Meeting of Japanese Association for Oral Biology (2022 September, Tokushima)
- 12: The development of a bone marrow adipose tissue-like in vitro model using clumps of MSCs/ECM complexes.
Mai Yoshino, Mikihito Kajiya, Hiroki Yoshii
Annual Meeting of Japanese Association for Oral Biology (2022 September, Tokushima)
- 13: Elucidation of the mechanism by which Cnm-positive Streptococcus mutans pulp infection induces cerebral hemorrhage
Yuri Taniguchi, Kazuhisa Ouhara, Masae Kitagawa, Keiichi Akutagawa, Miki Kawada-Matsuo, Yuta Hamamoto, Mikihito Kajiya, Shinji Matsuda, Hirofumi Maruyama, Hitoshi Komatsuzawa, Hideki Shiba, Noriyoshi Mizuno
The 157th Meeting of the Japanese Society of Conservative Dentistry The 24th JSCD/KACD Joint-Scientific Meeting (2022 November, Okayama)
- 14: Comprehensive dental treatment for a patient with cryptogenic arthritis.
Takayoshi Nagahara, Tomoyuki Iwata, Kazuhisa Ouhara, Noriyoshi Mizuno
The 157th Meeting of the Japanese Society of Conservative Dentistry The 24th JSCD/KACD Joint-Scientific Meeting (2022 November, Okayama)
- 15: Effect of CD4 count on periodontal therapy in HIV-infected patients
Miho Okada, T. Shintani, T. Iwata, M. Kawagoe, N. Yamasaki, N. Inoue, D. Furutama, K. Takeda, M. Nakaoka, N. Mizuno, T. Fujii, M. Kajiya, H. Shiba
Scientific Meeting of the 61st Hiroshima Prefectural Deantal Association/the 106th Hiroshima University Dental Society (2022 November, Hiroshima)
- 16: Effect of CD4 count on periodontal therapy in HIV-infected patients
Tomoaki Shintani, Miho Okada, Tomoyuki Iwata, Maiko Kawagoe, Naoya Yamasaki, Nobuko Inoue,

Teruhisa Fujii, Hideki Shiba
The 36th Annual Meeting of the Japanese Society for AIDS Research (2022 November, Hamamatsu)

F) Special lectures in academic meetings

- 1: Invited Presentation
Immune responses in periodontal tissues and effects on systemic diseases
Kazuhisa Ouhara
Rheumatoid Arthritis WEB seminar / Bristol-Myers Squibb K.K. (2022 January, Web)
- 2: Invited Presentation
Patients' follow-up after periodontal surgery and subsequent treatment planning
Noriyoshi Mizuno
Basic Web Seminar on Periodontal Surgery Covered by Dental Health Insurance/ Kaken
Pharmaceutical (2022 March, Web)
- 3: Invited Presentation
Rheumatoid arthritis affected by Porphyromonas gingivalis infection and SDGs
Kazuhisa Ouhara
The 76th Annual Meeting of the Japanese Stomatological Society (2022 April, Fukuoka)

(4) Status of Receiving Grants-in Aid for Scientific Research.

- 1: Grants-in aid for scientific research C: Noriyoshi Mizuno: 22K10000
- 2: Grants-in aid for scientific research C: Kazuhisa Ouhara: 22K09983
- 3: Grants-in aid for scientific research C: Ai Okanobu: 22K10001
- 4: Grant-in-Aid for Early-Career Scientists: Shinya Sasaki: 22K17092
- 5: Grant-in-Aid for Early-Career Scientists: Susumu Horikoshi: 22K17060
- 6: Grant-in-Aid for Early-Career Scientists: Misako Tari: 22K17039
- 7: Grants-in aid for scientific research B: Kazuhisa Ouhara: 21H03120
- 8: Grants-in aid for scientific research B: Kazuhisa Ouhara: 21H03112
- 9: Grants-in aid for scientific research B: Kazuhisa Ouhara: 21H02962
- 10: Grant-in-Aid for JSPS Fellows: Takumi Memida: 21J14643
- 11: Grants-in aid for scientific research C: Tomoyuki Iwata: 20K09975
- 12: Grants-in aid for scientific research C: Kazuhisa Ouhara: 20K09940
- 13: Grant-in-Aid for Early-Career Scientists: Shinya Sasaki: 20K18574
- 14: Program for Developing and Supporting the Next-Generation of Innovative Researchers at Hiroshima University: Yuri Taniguchi
- 15: Program for Developing and Supporting the Next-Generation of Innovative Researchers at Hiroshima University: Fuminori Nakashima
- 16: Program for Developing and Supporting the Next-Generation of Innovative Researchers at Hiroshima University: Mai Yoshino
- 17: Program for Developing and Supporting the Next-Generation of Innovative Researchers at Hiroshima University: Yurika Ninomiya
- 18: Program for Developing and Supporting the Next-Generation of Innovative Researchers at Hiroshima University: Shoko Kouno
- 19: Program for Developing and Supporting the Next-Generation of Innovative Researchers at Hiroshima University: Ryosuke Fujimori
- 20: Program for Developing and Supporting the Next-Generation of Innovative Researchers at Hiroshima University: Keisuke Yasuda

(5) Award.

- 1: Saki Hatano
Encouragement Award of the Japanese Society of Periodontology
The role of nuclear receptor 4A1(NR4A1) in drug-induced gingival overgrowth
- 2: Yuri Taniguchi
The 157th Meeting of the Japanese Society of Conservative Dentistry,
(Research Area B) GC Excellent Poster Award

Elucidation of the mechanism by which *Cnm*-positive *Streptococcus mutans* pulp infection induces cerebral hemorrhage.

3: Saki Hatano

Hiroshima University Female Researcher Encouragement Award

Verification of osteonecrosis of the jaw caused by romosozumab and research to elucidate its mechanism.

(6) Patent

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Department of Oral Oncology, Division of Oral and Maxillofacial Surgery and Oral Medicine (Department of Oral and Maxillofacial Surgery)

(1) Staff and Students

Professor: Souichi Yanamoto (*Chief: Souichi Yanamoto (by-work))
 Associate Professor: Shigeaki Toratani
 Associate Professor/Lecturer: Yasutaka Hayashido
 Assistant Professor: Ryouji Tani, Yukio Yoshioka, Koichi Koizumi, Kensaku Sumi, Tomoaki Hamana, Sachiko Yamasaki, Atsuko Hamada, Mirai Higaki
 Resident: Naohiro Kimura, Nanako Ito, Yuki Taguchi, Fumitaka Obayashi, Taeko Fukutani, Takefumi Mishima
 Clinical Trainee: Yoshinari Myoken, Yoshinori Fujita (May~), Kosei Okamoto (~Mar), Yasutaka Ishida, Yoku Ito, Erika Yamasaki (May~)
 Graduate Student: Hideaki Takahashi, Kento Okamoto, Natsuki Eboshida, Tamamo Matsuyama
 Researcher: Taku Kanda, Shigeru Sakurai, Suguru Hirota (~Mar), Yoji Nakase (~Mar), Tadayoshi Nobumoto

(2) Main Research Activities

- 1: Multi-institutional clinical research to establish EBM for oral cancer treatment
- 2: Analysis of circulating tumor cells and cfDNA in oral cancer
- 3: Study on development of the remote-controllable dental chair
- 4: The intestinal and oral microflora of patients with oral cancer

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Impact of maximum tongue pressure in patients with jaw deformities who underwent orthognathic surgery: Koizumi K, Shintani T, Yoshimi Y, Higaki M, Kunimatsu R, Yoshioka Y, Tsuga K, Tanimoto K, Shiba H, Toratani S.: *Diagnosites*, 12(2), 404, 2022.
- 2: Identification of a Cowden syndrome patient with a novel PTEN mutation and establishment of patient derived induced pluripotent stem cells: Obayashi F, Hamada A, Yamasaki S, Kanda T, Toratani S, Okamoto T.: *In Vitro Cell Dev Biol Anim*, 58(1), 69-78, 2022.
- 3: Nivolumab monotherapy after induction chemotherapy, bioradiotherapy, and cetuximab monotherapy leading to complete remission of locoregional advanced tongue cancer: A case report: Yoshioka Y, Hamana T, Mishima T, Tani R, Toratani S, Okamoto T.: *Oral Sci Int*, 19, 72-76, 2022.
- 4: A case of lichenoid oral mucositis associated with nivolumab therapy: Ito N, Tani R, Obayashi F, Okamoto K, Toratani S, Okamoto T.: *Oral Sci Int*, 19, 68-71, 2022.
- 5: Effects of tongue pressure on cerebral blood volume dynamics: a functional near-infrared spectroscopy study: Miyata H, Tani R, Toratani S, Okamoto T.: *Brain Sci*, 12(2), 296, 2022.
- 6: Two cases of temporomandibular synovial chondromatosis associated with *Gli1* gene mutation: Fukutani T, Toratani S, Kanda T, Matsui K, Yamasaki S, Sumi K, Ogawa I, Yanamoto S.: *Int J Environ Res Public Health*, 19(8), 4702, 2022.
- 7: Simultaneous defect reconstruction in stage 3 medication-related osteonecrosis of the maxilla and mandible using the buccal fat flap and submental island flap: case report: Myoken Y, Kawamoto T, Fujita Y, Toratani S.: *J Dent Sci*, 17(2), 1066-1068, 2022.
- 8: Identification of a familial cleidocranial dysplasia with a novel RUNX2 mutation and establishment of patient-derived induced pluripotent stem cells: Hamada A, Mukasa H, Taguchi Y, Akagi E, Obayashi F, Yamasaki S, Kanda T, Koizumi K, Toratani S, Okamoto T.: *Odontology*, 110(3), 444-451, 2022.
- 9: VEGF-A promotes the motility of human melanoma cells through the VEGFR1-PI3K/Akt signaling pathway: Koizumi K, Shintani S, Hamada A, Higaki M, Yoshioka Y, Sakamoto A, Yanamoto S,

- Okamoto T.: *In Vitro Cell Dev Biol Anim*, 58(8), 758-770, 2022.
- 10: A rare case of pleomorphic adenoma originating at the tip of palatine uvula: Obayashi F, Yamasaki S, Ito N, Toratani S.: *J Oral Maxillofac Surg Med Pathol*, 34(6), 784-787, 2022.
 - 11: Evaluation of oral mucosal lesions using the IllumiScan® fluorescence visualisation device: Distinguishing squamous cell carcinoma: Taguchi Y, Toratani S, Matsui K, Hayashi S, Eboshida, N, Hamada A, Ito N, Obayashi F, Kimura N, Yanamoto S.: *Int. J Environ Res Public Health*, 19(16), 10414, 2022.
 - 12: Treatment and prognosis of oral cancer patients with confirmed contralateral neck metastasis: a multicenter retrospective analysis: Sakamoto Y, Otsuru M, Hasegawa T, Akashi M, Yamada SI, Kurita H, Okura M, Yamakawa N, Kirita T, Yanamoto S, Umeda M, Kojima Y.: *Int J Environ Res Public Health*, 19(15), 9229, 2022.
 - 13: Whole blood transcriptome profiling identifies gene expression subnetworks and a key gene characteristic of the rare type of osteomyelitis: Yahara H, Yanamoto S, Takahashi M, Hamada Y, Sakamoto H, Asaka T, Kitagawa Y, Moridera K, Noguchi K, Sugiyama M, Maruoka Y, Yahara K.: *Biochem Biophys Rep*, 32, 101328, 2022
 - 14: Protocol for a multicentre, prospective observational study of elective neck dissection for clinically node-negative oral tongue squamous cell carcinoma (END-TC study): Yanamoto S, Michi Y, Otsuru M, Inomata T, Nakayama H, Nomura T, Hasegawa T, Yamamura Y, Yamada SI, Kusukawa J, Yamakawa N, Hasegawa O, Ueda M, Kitagawa Y, Hiraki A, Hasegawa T, Ohiro Y, Kobayashi W, Asoda S, Kobayashi T, Iino M, Fukuda M, Ishibashi-Kanno N, Kawaguchi K, Aijima R, Noguchi K, Okura M, Tanaka A, Sugiura T, Shintani Y, Yagihara K, Yamashiro M, Ota Y, Miyazaki A, Takeshita A, Kawamata H, Hiroshi I, Uchida K, Umeda M, Kurita H, Kirita T.: *BMJ Open*, 12(9), e059615, 2022.
 - 15: A preliminary clinical study of segmental mandibulectomy on medication-related osteonecrosis of the jaw: Otsuru M, Soutome S, Hayashida S, Rokutanda S, Yanamoto S, Umeda M.: *J Dent Sci*, 17(1), 444-450, 2022.
 - 16: Imaging findings and treatment outcomes of a rare subtype of medication-related osteonecrosis of the jaw: Otsuru M, Soutome S, Hayashida S, Yanamoto S, Sasaki M, Takagi Y, Sumi M, Umeda M.: *J Bone Miner Metab*, 40(1), 150-156, 2022.
 - 17: Long-term immunosuppressive therapy for leads to poor outcomes in patients with oral squamous cell carcinoma: Naruse T, Yanamoto S, Otsuru M, Okuyama K, Morishita K, Yamada SI, Umeda M.: *J Oral Maxillofac Surg Med Pathol*, 34(3), 275-279, 2022.
 - 18: Effects of sleep position on the treatment response of oral appliance for obstructive sleep apnea: Akahoshi R, Yanamoto S, Sakamoto Y, Naruse T, Hayashida S, Soutome S, Nakamura W, Umeda M.: *Cranio*, 40(3), 262-267, 2022.
 - 19: Prevalence of immune-related adverse events and anti-tumor efficacy following immune checkpoint inhibitor therapy in Japanese patients with various solid tumors: Yoshikawa Y, Imamura M, Yamauchi M, Hayes CN, Aikata H, Okamoto W, Miyata Y, Okada M, Hattori N, Sugiyama K, Yoshioka Y, Toratani S, Takechi M, Ichinohe T, Ueda T, Takeno S, Kobayashi T, Ohdan H, Teishima J, Hide M, Nagata Y, Kudo Y, Iida K, Chayama K.: *BMC Cancer*, 22(1), 1232, 2022.
 - 20: Analgesia-based sedation for oral surgery in patients with chronic respiratory obstructive disease: Takahashi T, Yoshida M, Ono S, Kanda T, Obayashi F, Kamio H, Oda A, Oue K, Mukai A, Doi Mitsuru, Shimizu Y.: *J Craniofac Surg*, 34(1), e70-74, 2022.
 - 21: First isolation of vancomycin-resistant enterococcus faecium carrying plasmid-borne vanD1: Hisatsune J, Tanimoto K, Kohara T, Myoken Y, Tomita Y, Sugai M.: *Antimicrob Agents Chemother*, 66(11), e0102922, 2022.
 - 22: Current status of education on dental sleep medicine in Japanese dental schools: Okuno K, Goto M, Inukai S, Inoko Y, Kawakami T, Sato T, Yanamoto S, Tonogi M.: *J Oral Sleep Med*, 8(3), 56-63, 2022.
 - 23: A case of cystadenoma of the palate: Ito N, Koizumi K, Obayashi F, Sakamoto S, Ando T, Toratani S.: *J Hiroshima Univ Dent Soc*, 54(1), 34-38, 2022.
 - 24: A clinical study on oral cancer patients treated with immune checkpoint inhibitors: Yoshioka Y, Toratani S, Ono S, Tani R, Koizumi K, Hamana T, Mizutz K, Nakagawa T, Hayashi S, Ando T, Sakamoto S, Takechi M, Miyauchi M, Okamoto T.: *J Jpn Stomatol Soc*, 71(3), 161-172, 2022.
 - 25: Epstein-Barr virus-positive mucocutaneous ulcer arising in the oral cavity of MTX-treated patients: Report of three cases and review of 25 cases reported in Japan: Omori K, Otsuru M, Katase N, Morishita K, Yanamoto S, Hayashida S, Umeda M.: *Jpn J Oral Oncol*, 34(1), 39-48, 2022.
 - 26: Angioleiomyoma of the palate: report of a case and review of 92 cases reported in Japan: Suyama K, Tokuhisa M, Naruse T, Yanamoto S, Umeda M, Okano S, Rokutanda S.: *Jpn J Oral Oncol*, 34(1), 49-

55, 2022.

- 27: A case of Langerhans cell histiocytosis arising in the temporal bone following trismus: Furukawa K, Naruse T, Tsuda S, Katase N, Yanamoto S, Umeda M.: *Jpn J Oral Oncol*, 34(1), 57-63, 2022.
- 28: Clinical study of recent 12 years orthognathic surgery at JA Onomichi General Hospital: Ito Y, Mishima T, Takatatu F, Hara J, Hamana T, Kanda T, Koizumi K, Kobayashi M, Tani R, Yanamoto S, Okamoto T.: *The Medical Bulletin of Onomichi general Hospital*, 32(1), 3-9, 2022.

B) Review

- 1: The Role of Oral Appliance Therapy in Sleep Disordered Breathing : Yanamoto S.: *J Oral Sleep Med*, 8(3), 52-55, 2022.
- 2: Integrating Genetic Alterations and the Hippo Pathway in Head and Neck Squamous Cell Carcinoma for Future Precision Medicine: Ando T, Okamoto K, Shintani T, Yanamoto S, Miyauchi M, Gutkind JS, Kajiya M.: *J Pers Med*, 12(10), 1544, 2022.
- 3: TMEM16A as a Potential Treatment Target for Head and Neck Cancer: Okuyama K, and Yanamoto S.: *J Exp Clin Cancer Res*, 41(1), 196, 2022.

C) Publications

not applicable

D) Other Publications

not applicable

E) Presentations at Scientific Meetings

- 1: Surgical treatment of stage 3 mandibular drug-related osteonecrosis of the mandible (MRONJ): application of a submucocutaneous mastoid valve: Sakurai S, Myoken Y, Fujita Y, Toratani S.: The 50th Annual Meeting of the Japanese Society of Oral Surgeons, Chugoku-Shikoku Branch (Okayama (WEB)), 2022.1.22.
- 2: A case of adenoid cystic carcinoma with long-term recurrence and lymph node metastasis: Matsui K, Kanda T, Ueda Y, Kawabata H, Keisuke S, Hattori Y, Nishisaka T, Kiriyama T.: The 50th Annual Meeting of the Japanese Society of Oral Surgeons, Chugoku-Shikoku Branch (Okayama (WEB)), 2022.1.22.
- 3: A case report of secretory carcinoma of the lip gland with confirmed diagnosis obtained by genetic analysis: Hamada A, Tani R, Kimura N, Taguchi Y, Ando T, Hirota S, Okamoto K, Toratani S.: The 50th Annual Meeting of the Japanese Society of Oral Surgeons, Chugoku-Shikoku Branch (Okayama (WEB)), 2022.1.23.
- 4: A study of cervical lymph node metastasis in early staged squamous cell carcinoma of the tongue: results of a multicenter study: Yamakawa N, Kirita T, Umeda M, Yanamoto S, Okura M, Ota Y, Otsuru M, Kurita H, Yamada SI, Akashi M, Hasegawa T, Ueda M.: The 40th Annual Meeting of Japanese Society of Oral Oncology (Gunma (WEB)), 2022.2.14~3.13.
- 5: Reconsideration and response to high risk factors for postoperative recurrent metastasis: a multicenter study: Hasegawa T, Kakei Y, Yamkawa N, Kirita T, Okura M, Yanamoto S, Otsuru M, Umeda M, Yamada SI, Kurita H, Hirai E, Rin S, Ueda M, Akashi M.: The 40th Annual Meeting of Japanese Society of Oral Oncology (Gunma (WEB)), 2022.2.14~3.13.
- 6: A review of treatment outcomes and reconsideration of surgical treatment of mandibular gingival carcinoma: a multicenter study: Yamakawa N, Okura M, Hasegawa T, Akashi M, Yanamoto S, Otsuru M, Umeda M, Yamada SI, Kurita H, Hirai E, Rin S, Ueda N, Kirita T.: The 40th Annual Meeting of Japanese Society of Oral Oncology (Gunma (WEB)), 2022.2.14~3.13.
- 7: A multicenter, retrospective, observational study of treatment outcomes in patients with primary intraosseous squamous cell carcinoma of the jaw: Japan Oral Oncology Group (JOOG) study: Naruse T, Otsuru M, Hasegawa T, Akashi M, Okura M, Yamakawa N, Kirita T, Yamada SI, Kurita H, Rin S, Ueda M, Yanamoto S, Umeda M.: The 40th Annual Meeting of Japanese Society of Oral Oncology (Gunma (WEB)), 2022.2.14~3.13.

- 8: Treatment and prognosis of oral malignant melanoma: a multicenter retrospective study: Yamada SI, Hasegawa T, Yanamoto S, Kamata T, Otsuru M, Yamakawa N, Tamura Y, Okura M, Yamashita T, Kogo T, Rin S, Ueda M, Akashi M, Kirita T, Ota Y, Umeda M, Kurita H.: The 40th Annual Meeting of Japanese Society of Oral Oncology (Gunma (WEB)), 2022.2.14~3.13.
- 9: Reconsideration of high risk factors for distant metastasis in postoperative primary cervical control cases: a multicenter study: Kakei Y, Hasegawa T, Yamakawa N, Kirita T, Okura M, Yanamoto S, Otsuru M, Umeda M, Yamada SI, Kurita H, Hirai E, Rin S, Ueda M, Akashi M.: The 40th Annual Meeting of Japanese Society of Oral Oncology (Gunma (WEB)), 2022.2.14~3.13.
- 10: Surgery with consideration of the pterygomandibular raphe in cases of posterior extension of oral cancer: Otsuru M, Yanamoto S, Naruse T, Morishita K, Sakamoto H, Omori K, Miyoshi T, Hayashida S, Kawasaki G, Murata M, Sumi M, Umeda M.: The 40th Annual Meeting of Japanese Society of Oral Oncology (Gunma (WEB)), 2022.2.14~3.13.
- 11: A multicenter retrospective study of cases with proximity to surgical margins in tongue cancer-Japan Oral Oncology Group (JOOG) study: Otsuru M, Hasegawa T, Akashi M, Yamakawa N, Kirita T, Okura M, Yamada SI, Kurita H, Hirai E, Yamamoto K, Inomata T, Satomi T, Saito H, Nomura T, Furukawa K, Naruse T, Yanamoto S, Umeda M.: The 40th Annual Meeting of Japanese Society of Oral Oncology (Gunma (WEB)), 2022.2.14~3.13.
- 12: Immunohistological study of the extranodal extension of cervical lymph node metastasis in oral cancer: Fukushima T, Naruse T, Yanamoto S, Omori K, Furukawa K, Umeda M.: The 40th Annual Meeting of Japanese Society of Oral Oncology (Gunma (WEB)), 2022.2.14~3.13.
- 13: Pembrolizumab in the treatment of recurrent and metastatic oral cancer in our department: Miyoshi T, Omori K, Nakamura N, Fukushima T, Naruse T, Otsuru M, Yanamoto S, Umeda M.: The 40th Annual Meeting of Japanese Society of Oral Oncology (Gunma (WEB)), 2022.2.14~3.13.
- 14: Prevention of oral candidiasis during radiotherapy for oral and oropharyngeal cancer with miconazole oral adhesive tablets: Soutome S, Otsuru M, Miyoshi T, Omori K, Sakamoto H, Morishita K, Hayashida S, Naruse T, Murata M, Yanamoto S, Umeda M.: The 40th Annual Meeting of Japanese Society of Oral Oncology (Gunma (WEB)), 2022.2.14~3.13.
- 15: A case of the temporal gas gangrene from ARONJ: Murata M, Ito H, Matusaka Y, Ito Y.: The 150th Hiroshima department of dermatology district meeting (Hiroshima), 2022.2.27.
- 16: The examination of complications for titanium plate reconstruction of the mandible in department of oral and maxillofacial surgery, Hiroshima university hospital: Kimura N, Yoshioka Y, Higaki M, Hamada A, Hamana T, Koizumi K, Tani R, Toratani S, Yanamoto S.: The 76th Annual Meeting of Japanese Stomatological Society (Fukuoka), 2022.4.21~4.23.
- 17: AXL activates YAP and confers resistance to EGFR inhibitors in oral squamous cell carcinoma: Okamoto K, Ando T, Toratani T, Yanamoto S, Miyauchi M.: The 76th Annual Meeting of Japanese Stomatological Society (Fukuoka), 2022.4.21~4.23.
- 18: A case of dental infection associated with a suspected Lemierre syndrome: Matsuyama T, Hamana T, Yoshioka Y, Hamada A, Higaki M, Toratani S, Yanamoto S.: The 76th Annual Meeting of Japanese Stomatological Society (Fukuoka), 2022.4.23.
- 19: Evaluation of physical and oral status of hospitalized patients managed oral care by dentistry in Shimokamagari Public Hospital: Ishida Y, Higashi H, Nagahara M, Marumoto A.: The 19th Annual Meeting of the Japanese Society of Oral Care and the 2nd Annual Meeting of the International Society of Oral Care (Osaka), 2022.4.23~24.
- 20: Clinical analysis of mandibular reconstruction with titanium plate in patients with oral cancer: Kimura N, Yoshioka Y, Higaki M, Hamada A, Hamana T, Koizumi K, Tani R, Toratani S, Yanamoto S.: The 55th Annual Meeting of Hiroshima University Dental Society (Hiroshima), 2022.6.11.
- 21: AXL activates YAP and confers resistance to EGFR inhibitors in oral squamous cell carcinoma: Okamoto K, Ando T, Kajiya M, Yanamoto S, Miyauchi M.: The 55th Annual Meeting of Hiroshima University Dental Society (Hiroshima), 2022.6.11.
- 22: Clinical study of oral cancer patients receiving immune checkpoint inhibitors in the department of oral surgery, Hiroshima university hospital: Yoshioka Y, Ono S, Koizumi K, Hamana T, Nakagawa T, Higaki M, Aikawa T, Yanamoto S.: The 46th Annual Meeting of Japan Society for Head and Neck Cancer (Nara), 2022.6.17~6.18.
- 23: Analysis of the clinical significance of extranodal extension of cervical lymph node metastasis in oral squamous cell carcinoma: Higaki M, Ando T, Yoshioka Y, Koizumi K, Hamana T, Yamasaki S, Hamada A, Ito N, Kimura N, Taguchi Y, Obayashi T, Fukutani T, Okamoto K, Eboshida N, Matsuyama T, Yanamoto S.: The 46th Annual Meeting of Japan Society for Head and Neck Cancer (Nara),

- 2022.6.17~6.18.
- 24: A study on the impact of surgical intervention before the start of treatment on the prognosis of gingival squamous cell carcinoma: Omori K, Naruse T, Fukushima T, Miyoshi T, Furukawa K, Otsuru M, Yanamoto S, Umeda M.: The 46th Annual Meeting of Japan Society for Head and Neck Cancer (Nara), 2022.6.17~6.18.
 - 25: A multicenter retrospective study of cases with closed surgical margin in tongue cancer JOOG study (RA2101): Otsuru M, Hasegawa T, Yamakawa N, Okura M, Yamada SI, Hirai E, Inomata T, Saito H, Miura K, Furukawa K, Naruse T, Yanamoto S, Umeda M.: The 46th Annual Meeting of Japan Society for Head and Neck Cancer (Nara), 2022.6.17~6.18.
 - 26: Clinicopathological study on extranodal extension of cervical lymph node metastasis of oral cancer: Furukawa K, Fukushima T, Naruse T, Omori K, Miyoshi T, Otsuru M, Yanamoto S, Umeda M.: The 46th Annual Meeting of Japan Society for Head and Neck Cancer (Nara), 2022.6.17~6.18.
 - 27: Clinical study on time to late lymph node metastasis and prognosis in oral cancer: Naruse T, Otsuru M, Furukawa K, Fukushima T, Omori K, Sakamoto H, Miyoshi T, Nakamura N, Yanamoto S, Umeda M.: The 46th Annual Meeting of Japan Society for Head and Neck Cancer (Nara), 2022.6.17~6.18.
 - 28: Classification of pterygomandibular raphe line invasion in cases of posterior extension of oral cancer: Otsuru M, Yanamoto S, Naruse T, Morishita K, Sakamoto H, Omori K, Sumi M, Umeda M.: The 46th Annual Meeting of Japan Society for Head and Neck Cancer (Nara), 2022.6.17~6.18.
 - 29: A multicenter, retrospective, observational study of primary intra-osseous squamous cell carcinoma of the jaw: Japan Oral Oncology Group (JOOG) study: Naruse T, Otsuru M, Hasegawa T, Akashi M, Okura M, Yamakawa N, Kirita T, Yamada SI, Kurita H, Rin S, Ueda M, Yanamoto S, Umeda M.: The 46th Annual Meeting of Japan Society for Head and Neck Cancer (Nara), 2022.6.17~6.18.
 - 30: Experience with pembrolizumab in recurrent and metastatic oral cancer: Miyoshi T, Omori K, Nakamura N, Fukushima T, Otsuru M, Yanamoto S, Umeda M.: The 46th Annual Meeting of Japan Society for Head and Neck Cancer (Nara), 2022.6.17~6.18.
 - 31: Multi-institutional research of oral cancer in Japan: Yanamoto S, Umeda M, Kurita H, Yamada SI, Ota Y, Okura M, Ueda M, Hasegawa T, Yamakawa N, Kirita T.: International Association of Oral Oncology 2022 (Chicago), 2022.6.23.
 - 32: AXL activates YAP and confers resistance to EGFR inhibitors in oral squamous cell carcinoma: Okamoto K.: Sentan-Shigaku School 2022 (Tokushima), 2022.8.26~8.27.
 - 33: Efforts to promote the activities of our hospital's swallowing support team and future challenges: Shimomura S, Ohara K, Kondo Y, Ehara H, Kawasaki I, Nakamura N, Iwami H, Sera T, Ueda Y, Matsui K, Kanda T.: The 14th Annual Meeting of the Japan Society for Clinical Nutrition and Metabolism, Chugoku-Shikoku Branch (Hiroshima (WEB)), 2022.8.27.
 - 34: The role of oral management in perioperative management center team medicine: Nobuhara H, Matsugu Y, Ito K, Fukuda H, Ishibashi S, Aoki Y, Sasaki E, Kawai C, Matsui K, Kanda T.: The 14th Annual Meeting of the Japan Society for Clinical Nutrition and Metabolism, Chugoku-Shikoku Branch (Hiroshima (WEB)), 2022.8.27.
 - 35: Swallowing function in patients with proximal femur fracture in the acute phase: Tanaka M, Kikugawa K, Tsuyuguchi Y, Watanabe C, Goto K, Deie M, Arita Y, Matsuoka K, Tsukisaka K.: The 24th Annual Meeting of Japan Osteoporosis Society (Osaka), 2022.9.2~9.4.
 - 36: Effectiveness of virtual surgical planning for mandible reconstruction: Hamana T, Yoshioka Y, Ito N, Fukutani T, Matsuyama T, Eboshida N, Okamoto K, Takahashi H, Mishima T, Obayashi F, Taguchi Y, Kimura N, Higaki M, Hamada A, Yamasaki S, Sumi K, Koizumi K, Tani R, Hayashido Y, Nagamatsu S, Sasaki A, Fujioka Y, Fujita A, Koshima I, Yanamoto S.: The 116th Annual meeting of Society of Clinical Oncology Hiroshima (Hiroshima), 2022.9.10.
 - 37: Novel regulatory mechanism of the Hippo pathway by AXL: Ando T, Okamoto K, Yanamoto S, Miyauchi M.: The 33rd Annual Meeting of Japanese Society of Oral Pathology • The 32nd Congress of the Japanese Society Oral Medicine • The 34th Annual Meeting of the Japanese Society of Oral Diagnosis / Oral Medicine Joint Conference (Sapporo), 2022.9.22~24.
 - 38: Effects of the antipsychotics in the patients with dysphasia: Nagata K, Morikawa N, Yasuhara, Yokoyama S, Harada Y, Arita Y.: The 32nd Annual Meeting of the Japanese Society of Pharmaceutical Health Care and Sciences (Takasaki), 2022.9.23~9.25.
 - 39: Multicentre, prospective observational study of elective neck dissection for clinically node-negative oral tongue squamous cell carcinoma (END-TC study) -An ongoing study in Japan-: Yanamoto S, Umeda M, Kurita H, Kirita T.: European Association of Craniofacial Maxillofacial Surgery 2022

- (Madrid), 2022.9.27.
- 40: Prioperative management and genetic analysis glycogen storage disease type 1a with maxillary cyst: a case report: Obayashi F, Tani R, Higaki M, Hamada A, Yamasaki S, Ito N, Yanamoto S.: The 69th Annual Meeting of the Chugoku Shikoku Local Section Japanese Stomatological Society (Tottori (WEB)), 2022.10.22.
 - 41: Surgical treatment of medication-related osteonecrosis of the jaw (MRONJ) with submental flap: Sakurai S, Myoken Y, Fujita Y, Koyama J, Toratani S, Yanamoto S.: The 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.11.4~11.6.
 - 42: A case of reconstruction of stage 3 MRONJ in the upper and lower jaw using buccal pad flap and submental flap: Koyama J, Myoken Y, Sakurai S, Fujita Y, Toratani S, Yanamoto S.: The 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.11.4~11.6.
 - 43: Salvage surgery for recurrent carcinoma of the oral cavity: Ito N, Koizumi K, Mishima T, Fukutani T, Taguchi Y, Kimura N, Hamana T, Yoshioka Y, Tani R, Yanamoto S.: The 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.11.4~11.6.
 - 44: Clinical study of postoperative cervical lymph node metastasis in T1-2N0 tongue cancer: Obayashi F, Koizumi K, Higaki M, Ito N, Hamada A, Yamasaki S, Hamana T, Yoshioka Y, Tani R, Yanamoto S.: The 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.11.4~11.6.
 - 45: Clinical significance of extranodal extension of cervical lymph node metastasis in oral squamous cell carcinoma: Higaki M, Koizumi K, Ando T, Tani R, Yoshioka Y, Hamana T, Yamasaki S, Hamada A, Ito N, Kimura N, Taguchi Y, Obayashi T, Fukutani T, Okamoto K, Eboshida N, Matsuyama T, Yanamoto S.: The 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.11.4~11.6.
 - 46: Statistical study of elderly patients with oral squamous cell carcinoma in our department: Hamada A, Koizumi K, Obayashi F, Ito N, Higaki M, Yamasaki S, Hamana T, Yoshioka Y, Tani R, Yanamoto S.: The 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.11.4~11.6.
 - 47: Clinical and statistical study of orthognathic surgery in Dentistry and Oral Surgery at Hiroshima Prefectural Hospital: Omachi K, Ueda Y, Matsui K, Kanda T, Kiriyaama T.: The 68th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.11.4~11.6.
 - 48: A case of chondrolipoma arising in the mental region: Ueda Y, Omachi K, Matsui K, Kanda T, Hattori Y, Nishisaka T, Kiriyaama T.: The 69th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.11.4~11.6.
 - 49: A case of recurrent lip cancer with middle skull base invasion with response to cetuximab and paclitaxel combination chemotherapy after nivolumab monotherapy : Yamasaki S, Tani R, Toratani S, Yanamoto S.: The 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.11.4~11.6.
 - 50: A case of Paget's disease of bone with Periapical Periodontitis in mandibular bone: Hirota S, Okamoto K, Kaneko M.: The 68th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.11.4~11.6.
 - 51: A case of the temporal gas gangrene from MRONJ: Ito Y.: The 68th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.11.4~11.6.
 - 52: Whole blood RNA-seq for gene expression biomarkers of osteomyelitis of the jaw: Yahara H, Yanamoto S, Takahashi M, Hamada H, Asaka T, Kitagawa Y, Moridera K, Noguchi K, Maruoka Y.: The 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.11.4~11.6.
 - 53: A multicenter retrospective study of surgical margin distance in early staged tongue cancer: Otsuru M, Hasegawa T, Akashi M, Yamakawa N, Kirita T, Okura M, Yamada SI, Kurita H, Hirai E, Yamamoto K, Inomata T, Satomi T, Saito H, Nomura T, Miura K, Furukawa K, Naruse T, Yanamoto S, Umeda M.: The 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.11.4~11.6.
 - 54: Innovation of surgical techniques and devices in oral cancer resection and reconstruction: Yanamoto S.: The 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.11.5.
 - 55: A case of oral hygiene management in a patient with neurofibromatosis type I (von Recklinghausen's disease): Wakita A, Tokikazu T, Kanda T, Fukutani T, Oda Y, Nakaoka M, Okada Y.: The 39th Annual

- Meeting of the Japanese Society for Disability and Oral Health (Kurashiki), 2022.11.4~11.6.
- 56: Changes in parent's anxiety and image of effectiveness before and after introduction of laughing air inhalation sedation: Watari M, Morizane T, Nakano M, Kanda T, Oda Y, Okada Y.: The 40th Annual Meeting of the Japanese Society for Disability and Oral Health (Kurashiki), 2022.11.4~11.6.
- 57: Prevention of SSI through oral care: Nobuhara H, Matsugu Y, Ito K, Ikeda S, Omachi K, Ueda Y, Matsui K, Kanda T.: The 35th Annual Meeting of Japan Society for Surgical Infection (Kurashiki), 2022.11.9.
- 58: A case of reconstruction of stage 3 drug-related osteonecrosis of the upper and lower jaw (MRONJ) using buccal fat body valves and submandibular skin valves: Koyama J, Myoken Y, Sakurai S, Fujita Y, Kobayashi J, Toratani S.: The 61st Scientific Meeting of Hiroshima Prefectural Dental Association, joint of the 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.11.13.
- 59: A case of inverted mesiodens extraction from the nasal cavity side with otolaryngology: Ito Y, Hayashi S, Ishii H, Takahashi M.: The 61st Scientific Meeting of Hiroshima Prefectural Dental Association, joint of the 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.11.13.
- 60: Effectiveness of a CAD/CAM designed custom-made plate for mandibular reconstruction: Fukutani T, Hamana T, Yoshioka Y, Ito N, Matsuyama T, Eboshida N, Okamoto K, Takahashi H, Mishima T, Obayashi F, Taguchi Y, Kimura N, Higaki M, Hamada A, Yamasaki S, Sumi K, Koizumi K, Tani R, Hayashido Y, Nagamatsu S, Sasaki A, Fujioka Y, Fujita A, Koshima I, Yanamono S.: The 61st Scientific Meeting of Hiroshima Prefectural Dental Association, joint of the 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.11.13.
- 61: Trend survey and case study of oral cancer patients visiting the department of oral and maxillofacial surgery, hiroshima university hospital: Eboshida N, Koizumi K, Tanigawa A, Matsuyama T, Okamoto K, Takahashi H, Mishima T, Fukutani T, Obayashi F, Taguchi Y, Kimura N, Higaki M, Hamada A, Yamasaki S, Hamana T, Yoshioka Y, Tani R, Hayashido Y, Yanamono S.: The 61st Scientific Meeting of Hiroshima Prefectural Dental Association, joint of the 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.11.13.
- 62: Statistical study of elderly patients with oral squamous cell carcinoma in our department: Hamada A, Koizumi K, Kawahara M, Fukutani T, Yamasaki S, Eboshida N, Matsuyama T, Okamoto K, Takahashi H, Mishima T, Obayashi F, Taguchi Y, Kimura N, Ito N, Higaki M, Hamana T, Yoshioka Y, Tani R, Hayashido Y, Yanamono S.: The 61st Scientific Meeting of Hiroshima Prefectural Dental Association, joint of the 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.11.13.
- 63: Clinical study of postoperative cervical lymph node metastasis of T1-2N0 tongue cancer in the department of oral and maxillofacial surgery, hiroshima university hospital: Obayashi F, Koizumi K, Eboshida N, Matsuyama T, Okamoto K, Takahashi H, Mishima T, Fukutani T, Taguchi Y, Kimura N, Ito N, Higaki M, Hamada A, Yamasaki S, Hamana T, Yoshioka Y, Tani R, Hayashido Y, Yanamoto S.: The 61st Scientific Meeting of Hiroshima Prefectural Dental Association, joint of the 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.11.13.
- 64: Prognostic relevance of extranodal extension of cervical lymph node metastasis in oral squamous cell carcinoma: Higaki M, Koizumi K, Kunihara S, Ando T, Hamada A, Ito N, Obayashi T, Eboshida N, Matsuyama T, Okamoto K, Takahashi H, Mishima F, Fukutani T, Taguchi Y, Kimura N, Yamasaki S, Hamana T, Yoshioka Y, Tani R, Hayashido Y, Yanamoto S.: The 61st Scientific Meeting of Hiroshima Prefectural Dental Association, joint of the 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.11.13.
- 65: The ideal oral cancer treatment: Yanamoto S.: The 61st Scientific Meeting of Hiroshima Prefectural Dental Association, joint of the 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.11.13.
- 66: A case of Pierre Robin syndrome with OSA: Sakamoto Y, Yanamoto S, Kojima Y.: The 21st Annual Meeting of the Japanese Academy of Dental Sleep Medicine (Okinawa), 2022.11.20.
- 67: The proceeding with a multicenter study: Yanamoto S.: The 55th Japanese Stomatological Society Kyushu regional Association (Nagasaki), 2022.11.26.
- 68: A case of giant cemento-ossifying fibroma of the mandible.: The 51st Annual Meeting of the Japanese Society of Oral Surgeons, Chugoku-Shikoku Branch (Kagawa (WEB)), 2022.12.3.
- 69: A case of multiple beaded schwannomas of the oral floor: Matsui K, Ueda Y, Omachi Y, Kanda T, Nishisaka T, Kiriya T.: The 51st Annual Meeting of the Japanese Society of Oral Surgeons, Chugoku-Shikoku Branch (Kagawa (WEB)), 2022.12.3.

F) Special lectures in academic meetings

- 1: Treatment strategies for recurrent and/or metastatic oral cancer-guidelines and clinical experience: Yanamoto S.: The 37th Nara Prefecture Head and Neck Tumor Study Group (Nara). 2022.1.15.
- 2: Case report in our department: Sado T.: Emergency medical lecture in the Miyoshi city dental association (Miyoshi). 2022.1.29.
- 3: Response to dysphagia in the community medicine: Arita Y.: The 20th Symposium of the Measures Council for Health of the Nishi-Saiki Ward Joint Community (Hiroshima Prefectural Medical Hall) (Hiroshima). 2022.2.16.
- 4: Multi-institutional research on oral cancer - clinical application of liquid biopsy for the analysis of CTCs and ctDNA -: Yanamoto S.: Short seminar of cancer and genome medicine group meeting (Hiroshima). 2022.4.13.
- 5: The ideal oral cancer treatment: Yanamoto S.: Lecture Meeting of Nagasaki University School of Dentistry Alumni Association 2022 (Nagasaki). 2022.5.14.
- 6: Clinical experience with pembrolizumab in recurrent and metastatic oral cancer and practice of multispecialty collaboration: Yanamoto S.: Oral Cancer Internet Lecture (Hiroshima (WEB)). 2022.5.19.
- 7: Partial glossectomy: Yanamoto S.: Oral and Maxillofacial Surgery Video Seminar (WEB). 2022.6.23.
- 8: Surgical therapy for elderly oral cancer patients: Yanamoto S.: Association for Oral Cancer Treatment of the Elderly (Yokohama). 2022.7.8.
- 9: Oral care for good health: Ishida Y.: Nursing care prevention class “Otassha muscle strengthening class” (Kure). 2022.8.1.
- 10: Treatment strategies for recurrent and/or metastatic oral cancer: Yanamoto S.: Oral Cancer Treatment Seminar in Nagasaki (Nagasaki). 2022.9.6.
- 11: Medication-related osteonecrosis of the jaw: Yanamoto S.: Oncology Meeting in Hiroshima University Hospital (Hiroshima). 2022.9.14.
- 12: Dentistry for medically compromised patient: Yanamoto S.: Kochi City Dental Association, 3rd Academic Lecture Meeting 2022 (Kochi). 2022.10.16.
- 13: Effects of the antipsychotics on dysphasia: Arita Y.: The 8th conference of Dysphagia (Mazda Hospital) (Aki-gun). 2022.11.10.
- 14: Oral care for good health: Ishida Y.: Nursing care prevention class “Otassha muscle strengthening class” (Kure). 2022.11.16.
- 15: Prevention and early detection of MRONJ: Ito N.: Onomichi City Dental Association, Academic Lecture Meeting (WEB). 2022.11.27.
- 16: The role of oral appliance therapy in sleep disordered breathing: Yanamoto S.: Academic Lecture Meeting of Hiroshima Orthodontists Association in 2022, (Hiroshima). 2022.12.1.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grants-in aid for scientific research (B): Yanamoto S., Multicenter study of circulating tumor cells and circulating tumor DNA involved in distant metastasis of oral cancer. 22H03292. 3,600,000 yen
- 2: Grants-in aid for scientific research (C): Hayashido Y., Inhibition of metastasis of oral cancer by induction of selective autophagy targeting cell adhesion molecules. 19K10310. 1,200,000 yen
- 3: Grants-in aid for scientific research (C): Tani R., Microbiome-regulated expression kinetics of PD-L1 in the oral cancer stem cell niche. 22K10120. 1,700,000 yen
- 4: Grants-in aid for scientific research (C): Koizumi K., Development of detection system for oral cancer patient's blood circulating tumor cells and prediction of clinical pathology and prognosis using it. 22K10146. 1,100,000 yen
- 5: Grants-in aid for scientific research (C): Hamana T., Elucidation of the mechanism of E-cadherin processing-mediated oral cancer cell proliferation for therapeutic application. 21K10114. 1,000,000 yen
- 6: Grants-in aid for scientific research (C): Yamasaki S., Establishment of iPS cells from activated lymphocytes derived from oral cancer patients in serum-free culture and their therapeutic application. 18K09723. 900,000 yen
- 7: Grants-in aid for scientific research (C): Hamada A., Research about the mechanism of supernumerary tooth development with cleidocranial dysplasia disease-specific iPS cell. 22K10148. 800,000 yen
- 8: Grant-in-Aid for Early-Career Scientists: Higaki M., Functional analysis of FGF-Binding Protein in squamous cell carcinoma cells using the CRISPR/Cas9 system. 21K17141. 900,000 yen
- 9: Grant-in-Aid for Early-Career Scientists: Taguchi Y., Identification of growth factors involved in

- maintaining undifferentiated nature of dental pulp-derived iPSCs in serum-free systems. 19K19233. 800,000 yen
- 10: Grant-in-Aid for Early-Career Scientists: Obayashi F., Stem cell studies in cancer organoids generated from PTEN+/- Cowden syndrome-specific iPSCs. 20K18670. 1,000,000 yen
 - 11: Grants-in aid for scientific research (C): Kanda T., Development of a gene therapy for PTEN mutation Cowden syndrome using serum-free cultured iPSCs. 20K10117. 1,000,000 yen
 - 12: Grant-in-Aid for Early-Career Scientists: Sakurai S., Nucleic acid medicines targeting integrin $\beta 8$ involved in invasive metastasis of oral squamous cell carcinoma. 20K18726. 1,000,000 yen
 - 13: Grant-in-Aid for Early-Career Scientists: Nobumoto T., Elucidation of the processing mechanism of tight junction proteins involved in oral cancer metastasis. 21K17139. 1,200,000 yen
 - 14: Grants-in aid for scientific research (C): Yanamoto S (Co-Investigator), Biomarkers for invasion and metastasis of oral cancer via partial-EMT. 22K10161. 50,000 yen
 - 15: Grants-in aid for scientific research (C): Yanamoto S (Co-Investigator), Molecular biology of extranodal extension mechanism of cervical lymph node metastasis in oral squamous cell carcinoma. 21K10040. 10,000 yen
 - 16: Grants-in aid for scientific research (C): Yanamoto S (Co-Investigator), Multi-institutional study to determine indications for preventive dissection of tongue cancer, biomarker search and establishment of tissue bank. 21K10098. 10,000 yen
 - 17: Grants-in aid for scientific research (C): Yanamoto S (Co-Investigator), Elucidation of drug sensitivity mechanisms for predicting therapeutic efficacy of pembrolizumab. 21K10117. 50,000 yen
 - 18: Grants-in aid for scientific research (C): Yanamoto S (Co-Investigator), Phase III study on prevention of radiation-induced oral mucositis with steroid ointment and changes in oral microflora. 20K10097. 30,000 yen
 - 19: Grants-in aid for scientific research (C): Yanamoto S (Co-Investigator), Establishment of a highly accurate method for diagnosing oral cancer lymph node metastasis using US. 20K10122. 0 yen
 - 20: Hiroshima Prefectural Hospital Fiscal Year 2022 Director's Discretionary Funds (Research and Training): Kanda T., Quality Improvement of Rehabilitation Guidance for Eating and Swallowing Dysphagia. 500,000 yen

(5) Academic Awards, etc.

not applicable

(6) Patents

not applicable

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Department of Oral and Maxillofacial Surgery

Division of Oral and Maxillofacial Surgery and Oral Medicine (Department of Oral and Maxillofacial Reconstructive)

(1) Staff and Students

Professor: Tomonao Aikawa (Jan~)

Research Associate: Yoshiaki Ninomiya (Diagnosis and treatment lecturer), Shigehiro Ono (Diagnosis and treatment lecturer), Kuniko Mizuta, Takayuki Nakagawa, Misato Tada (~May), Akiko Fukui, Takako Naruse, Ryo Uetsuki(Apr~), Miyuki Sakuma (Nov~)

Resident: Yasuki Ishioka, Yoko Ishida, Kazuki Sasaki, Ryo Uetsuki(~Mar), Miyuki Sakuma (~Oct), Shohei Fukada(Apr~)

Graduate Student: Shohei Fukada (~Mar), Nao Yamakado, Misaki Akagi, Erina Hashimoto(~Mar), Chieko Niwata, Ayumi Fujii, Daitoku Murakami, Keijyuuro odan(Apr~)

Teaching the study assistant: Yuko Shintaku(Dec~)

Registered Intern: Masaki Kiyomihara, Yoshihisa Inoue, Taro Kashihara

(2) Main Research Activities

- 1: Functional evaluation and development of oral and maxillofacial reconstructive surgeries
- 2: Genomic analysis of stomatognathic diseases
- 3: Biochemical characterization and development of therapeutics of oral tumors
- 4: Molecular-biological studies on control of invasion and migration of oral cancers
- 5: Studies on responsible gene of osseous dysplasia of jaws
- 6: Molecular-biological studies on dental and periodontal tissue regeneration
- 7: Development of biomaterials of oral and maxillofacial reconstruction
- 8: Development of biomaterial for dental implant treatment

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Original work (including case reports)
- 2: Analgesia-based Sedation for Oral Surgery in Patients With Chronic Respiratory Obstructive Disease. Takahashi T, Yoshida M, Ono S, Kanda T, Obayashi F, Kamio H, Oda A, Oue K, Mukai A, Doi M, Shimizu Y. *J Craniofac Surg.* 2022.
- 3: Sunitinib promotes apoptosis via p38 MAPK activation and STAT3 downregulation in oral keratinocytes. Fukada S, Ohta K, Sakuma M, Akagi M, Kato H, Naruse T, Nakagawa T, Shigeishi H, Nishi H, Takechi M, Aikawa T. *Oral Dis.* 2022. (Online ahead of print)
- 4: Postoperative Complications of Impacted Mandibular Third Molar Extraction Related to Patient's Age and Surgical Difficulty Level: A Cross-Sectional Retrospective Study. Rizqian A, Lesmaya YD, Rasyida AZ, Amir MS, Ono S, Kamadjaja DB. *Int J Dent.* 2022.
- 5: Dexamethasone resets stable association of nuclear Snail with LSD1 concomitant with transition from EMT to partial EMT. Okuda S, Yamakado N, Higashikawa K, Uetsuki R, Ishida F, Rizqian A, Ono S, Mizuta K, Kamata N, Tobiume K. *Biochem Biophys Res.* 13;30:101277, 2022.
- 6: Long-standing temporomandibular joint dislocation treated by intraoral condylectomy: a case report and review of the literature. Uetsuki R, Ono S, Tada M, Okuda S, Takechi M. *J Med Case Rep.* 23;16:245, 2022.
- 7: Melatonin enhances cisplatin-induced cell death through inhibition of DERL1 in mesenchymal-like CD44high OSCC cells. Shigeishi H, Yokoyama S, Murodumi H, Sakuma M, Fukada S, Okuda S, Yamakado N, Ono S, Takechi M, Ohta K. *J Oral Pathol Med.* 51:281-289, 2022.
- 8: Decision-Making Criteria of Odontectomy or Surgical Exposure in Impacted Maxillary Canine Based on Treatment Difficulty Index Modification. Gunardi OJ, Danudiningrat CP, Rizqian A, Mulyawan I, Amir MS, Kamadjaja DB, Sumarta NPM, Anugraha G, Fessi RA, Barus L, Ono S. *Eur J Dent.* 16:796-802, 2022.

- 9: Development of a radiomics and machine learning model for predicting occult cervical lymph node metastasis in patients with tongue cancer. Kubo K, Kawahara D, Murakami Y, Takeuchi Y, Katsuta T, Imano N, Nishibuchi I, Saito A, Konishi M, Kakimoto N, Yoshioka Y, Toratani S, Ono S, Ueda T, Takeno S, Nagata Y. *Oral Surg Oral Med Oral Pathol Oral Radiol.* 134:93-101, 2022.
- 10: Inhibition of angiogenesis and tumor progression of MK-0429, an integrin $\alpha\beta3$ antagonist, on oral squamous cell carcinoma. Nakagawa T, Ohta K, Naruse T, Sakuma M, Fukada S, Yamakado N, Akagi M, Sasaki K, Niwata C, Ono S, Aikawa T. *J Cancer Res Clin Oncol.* 148:3281-3292, 2022.
- 11: Immune response to cytosolic DNA via intercellular receptor modulation in oral keratinocytes and fibroblasts. Naruse T, Ohta K, Kato H, Ishida Y, Shigeishi H, Sakuma M, Fukui A, Nakagawa T, Tobiume K, Nishi H, Takechi M. *Oral Dis.* 28:150-163, 2022.
- 12: Expression of anti-fungal peptide, β -defensin 118 in oral fibroblasts induced by *C. albicans* β -glucan-containing particles. Sakuma M, Ohta K, Fukada S, Kato H, Naruse T, Nakagawa T, Shigeishi H, Nishi H, Takechi M. *J Appl Oral Sci.* 30: e20210321, 2022.
- 13: Effects of CEACAM1 in oral keratinocytes on HO-1 expression induced by *Candida* β -glucan particles. Sakuma M, Ohta K, Fukada S, Akagi M, Kato H, Ishida Y, Naruse T, Takechi M, Shigeishi H, Nishi H, Aikawa T. *J Appl Oral Sci.* 30:20220158, 2022.
- 14: Physical Properties and Antimicrobial Release Ability of Gentamicin-Loaded Apatite Cement/ α -TCP Composites: An In Vitro Study. Sasaki K, Ninomiya Y, Takechi M, Tsuru K, Ishikawa K, Shigeishi H, Ohta K, Aikawa T. *Materials.* 16(3): 995, 2022. (In press)
- 15: Chemical inhibition of LSD1 leads to epithelial to mesenchymal transition in vitro of an oral squamous cell carcinoma OM-1 cell line via release from LSD1-dependent suppression of ZEB1. Yamakado N, Okuda S, Tobiume K, Uetsuki R, Ono S, Mizuta K, Nakagawa T, Aikawa T. *Biochem Biophys Res Commun.* 647: 23-29, 2022. (In press)
- 16: A case of desmoplastic fibroma of the mandible extending to the medial pterygoid muscle and causing trismus in a child. Matsuga H, Tokumiya M, Senoo H, Nishimura N, Ishibashi M, Kishino M, Tanaka S, Murakami S, Aikawa T. *The Journal of Osaka University Dental Society* 66(2): 55-59, 2022.
- 17: A case of pseudoaneurysm developing after extraction of the upper third molar requiring transcatheter arterial embolization. Matsuga H, Ishibashi M, Hara T, Tokumiya M, Senoo H, Aikawa T. *Japanese Journal of Oral and maxillofacial surgery* 68(5): 219-225, 2022.
- 18: A case of left-sided cleft lip and palate under long-term observation after maxillary distraction osteogenesis and sagittal split ramus osteotomy using the RED system. : Aoyama G, Kurosaka H, Mihara K, Uematsu S, Aikawa T, Kogo M, Yamashiro T : *Journal of Japanese Cleft Palate Association* 7(3): 220-230, 2022.
- 19: A case of tetanus with trismus. Nakahara K, Okumura T, Ono S, Takechi M. *Japanese Society of Oral and Maxillofacial Traumatology* 21(1): 14-18, 2022.
- 20: A case of a fractured carbide bur fragment straying into the extraction socket during surgical extraction of a horizontally impacted mandibular wisdom tooth. : Ninomiya Y, Takechi M. : *The Journal of The Academy of Clinical Dentistry* 41(3): 208-211, 2022.
- 21: A case of maxillary wisdom tooth extraction with a complication of chipped carbide bar straying into the maxillary sinus. : Ninomiya Y. *The Journal of The Academy of Clinical Dentistry* 42(1): 26-29, 2022.
- 22: A case of Trousseau syndrome caused by tongue cancer with lung metastases during pharmacotherapy in an adolescent and young adult patient. : Kato H, Mizuta K, Sasaki K, Ando T, Ohta K, Takechi M. : *Japanese Journal of Oral and maxillofacial surgery* 68(9): 362-369, 2022.
- 23: A case of epithelioid cell granuloma that led to the discovery of ulcerative colitis. Hasegawa D, Niwata C, Hosoi K, Tabayashi M, Bessho H. *Japanese Journal of Oral and maxillofacial surgery* 68(3): 155-160, 2022.
- 24: A clinical study on oral cancer patients treated with immune checkpoint inhibitors. : Yoshioka Y, Toratani S, Ono S, Tani R, Koizumi K, Hamana T, Mizuta K, Nakagawa T, Hayashi S, Ando T, Sakamoto S, Takechi M, Miyauchi M, Okamoto T. *Journal of The Japanese Stomatological Society* 71(3): 161-172, 2022.

B) Review

C) Publications

- 1: How to use medicine in dentistry 2023-2026 : Aikawa T, et al. Editorial committee : Kaneko A, Tomino Y, Kobayashi M, Iida S, Kitagawa Y, Ichinohe T, Shinohara M. Dental Diamond Co., Tokyo, 2022 : 186-195.
- 2: Oral Surgery Hand Manual ' 22 : Aikawa T, et al. Editorial committee : Japanese Society of Oral and Maxillofacial Surgeons. Quintessence Publishing Co., Tokyo, 2022 : 194-292.
- 3: Basic knowledge of jaw deformity treatment : Aikawa T, et al. Editorial committee : Specified non-profit corporation The Japanese Society for Jaw Deformities. Quintessence Publishing Co., Tokyo, 2022 : 14-17, 46-48

D) Other Publications

E) Presentations at Scientific Meetings

- 1: A case of bilateral huge dentigerous cysts in the part of the mandibular wisdom tooth. : Fujii A, Ono S, Nakagawa T, Tada M, Fukui A, Nishi H, Sakamoto S, Takechi M, Aikawa T. : The 50th Congress of the Japanese Society of Oral and Maxillofacial Surgeons Chugoku Shikoku Branch (2022.1.22 Okayama Web)
- 2: A case of phantom cell odontogenic carcinoma derived from peripheral dentin-forming phantom cell tumor in the mandible.: Kato H, Mizuta K, Uetsuki R, Sasaki K, Ono S, Sakamoto S, Ando T, Miyauchi M, Aikawa T. : The 40th Annual Meeting of Japanese Society of Oral Oncology (2022.2.14~3.13 Gunma Web)
- 3: Clinical study of vertical translation and anterior maxillary bone lengthening for patients with cleft lip and cleft palate.: Kawata S, Seki S, Tanaka N, Harada K, Miyagawa K, Aikawa T, Yokota Y, Nohara K, Tanaka S. : The 76th Annual Meeting of the Japanese Stomatological society (2022.4.21~4.23 Fukuoka)
- 4: Rethinking Surgical Orthodontic Treatment of Cleft Lip and Palate. Orthognathic surgery for cleft lip and/or palate. Clinical evaluation of maxillary anterior distraction osteogenesis (MASDO) : Aikawa T. : The 46th Annual Meeting of Japanese Cleft Palate Association (2022.5.26~5.27 Kagoshima) Symposium
- 5: A case of severe open bite with Beckwith-Wiedemann Syndrome treated by surgical orthodontic treatment.: Uetsuki R, Ono S, Mizuta K, Nakagawa T, Sasaki K, Fukui A, Tada M, Takechi M, Nonoyama D, Aikawa T.: The 32nd Annual Meeting of the Japanese Society for Jaw Deformities (2022.6.9~6.10 Niigata)
- 6: A case of secondary mandibular reconstruction treated by applied Kostecka's technique.: Nakagawa K, Urabe K, Shintaku Y, Aikawa T.: The 32nd Annual Meeting of the Japanese Society for Jaw Deformities (2022.6.9~6.10 Niigata)
- 7: Postoperative course of TMJ-disc repositioning surgery for idiopathic condylar resorption in adolescent patient.: Aikawa T, Shintaku Y, Harada K, Miyagawa K, Seki S, Arikawa C, Ono S, Tanaka S, Kogo M.: The 32nd Annual Meeting of the Japanese Society for Jaw Deformities (2022.6.9~6.10 Niigata)
- 8: A clinical study on oral cancer patients treated with immune checkpoint inhibitors in the Department of Oral Surgery, Hiroshima University Hospital.: Yoshioka Y, Ono S, Koizumi K, Hamana T, Nakagawa T, Higaki M, Aikawa T, Yanamoto S.: The 46th Annual Meeting of Japan Society for Head and Neck Cancer (2022.6.17~6.18 Nara)
- 9: A CLP patient with midfacial deficiency treated by MASDO, Le Fort I osteotomy and SSRO.: Shiraishi Y, Kurosaka H, Aikawa T, Tanaka S, Yamashiro T.: The 81st Annual Meeting of the Japanese Orthodontic Society (2022.10.5~10.7 Osaka)
- 10: Mandibular prognathism with achondroplasia and facial paralysis treated with orthognathic surgery and free flap transplantation.: Murotani T, Itoh S, Aikawa T, Tsujimoto T, Inubushi T, Kurosaka H, Yamashiro T.: The 81st Annual Meeting of the Japanese Orthodontic Society (2022.10.5~10.7 Osaka)
- 11: Analysis of Sunitinib induction of apoptosis via p38MAPK/STAT3 in oral mucosal epithelial cells.: Fukada S, Ohta K, Akagi M, Sakuma M, Shigeishi H, Naruse T, Nakagawa T, Kato H, Takechi M,

- Aikawa T.: The 69th Annual Meeting of the Japanese Stomatological Society Chugoku Shikoku Branch (2022.10.22 Tottori Web)
- 12: Experience in the treatment of TMJ degenerative pathology with total temporomandibular joint replacement prostheses.: Aikawa T. The 67th Congress of the Japanese Society of Oral and Maxillofacial Surgery (2022.11.4~11.6 Chiba Web)
 - 13: Three-dimensional structural characterization of cases with mandibular condyle resorption after orthognathic surgery.: Arikawa C, Miyagawa K, Matsushita Y, Harada K, Seki S, Shimaoka Y, Miyamoto H, Yokota Y, Tanaka S, Aikawa T.: The 67th Annual Meeting of the Japanese Society of Oral and Maxillofacial Surgeons (2022.11.4~11.6 Chiba Web)
 - 14: A case of phantom cellular odontogenic carcinoma of the lower jaw.: Mizuta K, Ono S, Sasaki K, Kato H, Sakamoto S, Ando T, Miyauchi M, Aikawa T.: The 67th Annual Meeting of the Japanese Society of Oral and Maxillofacial Surgeons (2022.11.4~11.6 Chiba Web)
 - 15: Inhibition of angiogenesis and tumor progression of MK-0429, an integrin $\alpha\beta3$ antagonist, on oral squamous cell carcinoma.: Nakagawa T, Ohta K, Naruse T, Sakuma M, Okuda S, Fukada S, Yamakado N, Akagi M, Sasaki K, Niwata C, Ono S, Aikawa T.: The 67th Annual Meeting of the Japanese Society of Oral and Maxillofacial Surgeons (2022.11.4~11.6 Chiba Web)
 - 16: A case of AA amyloidosis with symptoms of jaw bone osteomyelitis.: Fukui A, Nakagawa T, Ono S, Sasaki K, Ando T, Aikawa T.: The 67th Annual Meeting of the Japanese Society of Oral and Maxillofacial Surgeons (2022.11.4~11.6 Chiba Web)
 - 17: Sunitinib induces apoptosis in oral mucosal epithelial cells via p38MAPK/STAT3.: Fukada S, Ohta K, Akagi M, Sakuma M, Shigeishi H, Naruse T, Nakagawa T, Kato H, Takechi M, Aikawa T.: The 67th Annual Meeting of the Japanese Society of Oral and Maxillofacial Surgeons (2022.11.4~11.6 Chiba Web)
 - 18: Transition from EMT to partial EMT by dexamethasone in oral cancer cells.: Yamakado N, Tobiume K, Okuda S, Uetsuki R, Nakagawa T, Mizuta K, Ono S, Aikawa T.: The 67th Annual Meeting of the Japanese Society of Oral and Maxillofacial Surgeons (2022.11.4~6 Chiba Web)
 - 19: Induction of ACE2 Expression in Oral Mucosal Cells by Intracellular Introduction of Nucleic Acid.: Akagi M, Ohta K, Fukada S, Sakuma M, Kato H, Naruse T, Nakagawa T, Shigeishi H, Aikawa T.: The 67th Annual Meeting of the Japanese Society of Oral and Maxillofacial Surgeons (2022.11.4~11.6 Chiba Web)
 - 20: Clinical study of factors affecting initial implant stability.: Ishioka Y, Ninomiya Y, Ono S, Mizuta K, Nakagawa T, Sasaki K, Fukada S, Sakuma M, Uetsuki R, Ishida Y, Fukui A, Odan K, Aikawa T.: The 61st Hiroshima Dental Society/106th Hiroshima University Dental Society Regular Meeting (2022.11.13 Hiroshima)
 - 21: Investigation of risk factors that led to removal of peri-implantitis patients.: Ninomiya Y, Ishioka Y, Ono S, Mizuta K, Nakagawa T, Sasaki K, Fukada S, Sakuma M, Uetsuki R, Ishida Y, Fukui A, Odan K, Aikawa T.: The 61st Hiroshima Dental Society/106th Hiroshima University Dental Society Regular Meeting (2022.11.13 Hiroshima)
 - 22: A case of skeletal prognathism with open bite caused by Beckwith-Wiedemann syndrome undergoing surgical orthodontic treatment.: Uetsuki R, Ono S, Mizuta K, Nakagawa T, Sasaki K, Fukui A, Takechi M, Nonoyama D, Aikawa T.: The 61st Hiroshima Dental Society / 106th Hiroshima University Dental Society Regular Meeting (2022.11.13 Hiroshima)
 - 23: A case of jaw deformity caused by hyaluronic acid injection causing bone resorption in the chin.: Ishida Y, Nakagawa T, Fukui A, Ono S, Higuchi M, Matsushita Y, Shintaku Y, Kato K, Aikawa T.: The 51st Annual Meeting of the Chugoku-Shikoku Branch of the Japanese Society of Oral and Maxillofacial Surgeons (2022.12.3 Kagawa Web)
 - 24: A case of broken anesthesia needle and straying into soft tissue during mandibular foramen anesthesia.: Fukada S, Ono S, Mizuta K, Ninomiya Y, Uetsuki R, Sasaki K, Naruse T, Aikawa T.: The 51st Annual Meeting of the Chugoku-Shikoku Branch of the Japanese Society of Oral and Maxillofacial Surgeons (2022.12.3 Kagawa Web)
 - 25: Analysis of enterococci at Hiroshima University Hospital.: Fujii A, Matsuo M, Masuda K, Tadera K, Hisatsune J, Sugawara T, Kashiyama S, Yokozaki M, Aikawa T, Ohge H, Sugai M, Komatsuzawa H.: The 15th Research Center for Nosocomial Infectious Disease Project Report Meeting (2022.12.20 Hiroshima Web)

F) Special lectures in academic meetings

- 1: Recurrent workshop in the second semester of 2021 organized by the Center for Dental Hygienist Education and Training, Hiroshima University School of Dentistry: "Basic Knowledge of 'Oral Surgery' that Dental Hygienists in General Dental Clinics Should Know" (2022.1.13 Web) Ono S.
- 2: 2021 Hiroshima City Dental Association WEB Scientific Lecture "Oral Cancer - Importance of Early Detection and Early Treatment -" (2022.2.17 Web), Ono S.
- 3: Kyushu Edgewise Orthodontic Study Group "Current status, state-of-the-art, and future development of treatment of jaw deformities" (2022.7.21 WEB), Aikawa T. (2022.7.22 Web), Aikawa T.
- 4: SORG Seminar "Jaw deformity Class II" (2022.7.22 Web), Aikawa T.
- 5: The 18th Annual Educational Workshop of the Japanese Society for Jaw Deformities, "Basic Knowledge of Jaw Deformity Treatment", "Le Fort I Osteotomy" (2022.8.15~9.19 Web), Aikawa T.
- 6: The 1st SONS Stryker Orthognathic Nishi-nihon Seminar, "Mastering SSRO" (2022.10.16 Web), Aikawa T.
- 7: Special Lecture "Toward plastic and reconstructive surgery in the field of oral surgery" at the 61st Annual Meeting of the Hiroshima Dental Society and the 105th Annual Meeting of the Hiroshima University Dental Society (2022.11.13 Hiroshima), Aikawa T.
- 8: Hiroshima Orthodontists' Association Academic Lecture Meeting "Current status, state-of-the-art, and future development of treatment of jaw deformities" (2022.12.1 Hiroshima), Aikawa T.
- 9: IBRA (international bone research association) seminar, orthognathic surgery, (2022.12.3~12.4 Yokohama), Aikawa T.
- 10: The 2nd SONS Stryker Orthognathic Nishi-nihon Seminar "Mastering the Le Fort I Osteotomy" (2022.12.22 Web), Aikawa T.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grant-in-Aid for Scientific Research (Scientific research (C)) continuation : Aikawa T.: Research on the mechanism of tumor-induced bone resorption: Comprehensive analysis focusing on RANKL expression regulation and osteoclastogenesis. Issue number 19K10266
- 2: Grant-in-Aid for Scientific Research (Scientific research (C)) continuation : Ishioka Y, Ono S.: Study on the mechanism of nuclear receptor-mediated acquisition of antineoplastic resistance in human salivary gland tumors. Issue number 20K10161
- 3: Grant-in-Aid for Scientific Research (Scientific Research (C)) continuation : Ono S, Takechi M, Tobiume K.: Elucidation of the involvement of EMT and cancer stem cells in the mechanism of inducible oral cancer metastasis. Issue number 20K10139
- 4: Grant-in-Aid for Scientific Research (Scientific Research (C)) continuation : Shigeishi H, Ono S.: Elucidation of mechanotransduction mechanism in CD44 highly expressed oral squamous cell carcinoma. Issue number 20K10138
- 5: Grant-in-Aid for Scientific Research (Scientific Research (C)) continuation : Takechi M, Ohta K, Nakagawa T.: Basic research for developing dental implant treatment guidelines for patients receiving bisphosphonates. Issue number 21K09952
- 6: Grants-in-Aid for Scientific Research (Scientific Research (C)) continuation : Nakagawa T, Takechi M, Ohta K.: Development of transplantation material for treatment of jaw bone necrosis with angiogenic effect. Issue Number 21K10094
- 7: Grants-in-Aid for Scientific Research (Challenging Research (C)) continuation : Naruse T.: Elucidation of the immune response mechanism of SARS-Cov-2 binding receptors in the oral mucosa. Issue Number 21K17116
- 8: Grants-in-Aid for Scientific Research (Scientific Research (C)) new : Mizuta K., Tobiume K.: Does noncoding RNA involved in the development of mandibular diaphyseal dysplasia (GDD)? Issue Number 22K10119
- 9: Grants-in-Aid for Scientific Research (Scientific Research (C)) new : Aikawa T, Miyagawa K.: Bone resorption mechanisms in the tumor microenvironment : Analysis centered on IL-7 and RANKL expression mechanisms. Issue Number 22K10145
- 10: Grants-in-Aid for Scientific Research (Challenging Research (C)) new : Uetsuki R.: Analysis of relationship between Snail-induced EMT and cancer stem cell characteristics in oral cancer cells. Issue Number 22K17158
- 11: Grants-in-Aid for Scientific Research (Challenging Research (C)) new : Ishida Y.: Expression of HO-1 and inflammatory genes induced by Ca from oral mucosa. Issue Number 22K17185

(5) Academic Awards, etc.

- 1: The Japanese Society for Dental Materials and Devices Paper Award “In vitro investigation of the cell compatibility and antibacterial properties of titanium treated with calcium and ozone” Takechi M, Takamoto M, Ninomiya Y, Ono S, Mizuta K, Nakagawa T, Shigeishi H, Ohta K, Ishikawa K, Tsuru K. Dental Materials Journal 40 (3) (2022.5.21)

(6) Patents

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Department of Advanced Prosthodontics

Division of Preventive and Restorative Dentistry

(Department of Oral Implant)

(1) Staff and Students

Professor : Kazuhiro Tsuga
 Associate Professor : Yasuhiko Abe, Mineka Yoshikawa, Takayasu Kubo
 Assistant Professor : Hiroshi Oue, Yohei, Shinsuke Okada, Yoshifumi Oki, Maho Takeuchi, Hanako Umehara
 Resident : Mariko Maruyama, Aya Hiraoka, Kiichi Nakamori
 Graduate Student : Azusa Haruta, Anna Takehara, Yutaro Takahashi, Rie Hatakeyama, Yoko Hama, Hengky Bowo Ardhiyanto
 Special Postdoctoral Researcher: Eri Ishida
 Research Student : Takashi Ogino
 Clinical Trainee : Michihiko Kawamura, Hideki Yamamoto, Toru Akutsu
 Administrative staff : Rinko Kurumi

(2) Main Research Activities

- 1: Basic research on PEEK materials for dental applications and clinical research on PEEK crowns for molars
- 2: Colonization survey of drug-resistant bacteria in long-term care facilities
- 3: Implementation of tongue resistance training for the elderly and verification of its effect
- 4: Relationship between eating behavior and oral function in healthy young people
- 5: Relationship between cognitive decline due to tooth loss and intestinal bacteria
- 6: The mechanism by which tooth loss causes cognitive decline
- 7: Development of novel biomaterial with "bio-metal"
- 8: Establishment of a new oral hygiene assessment method using an IOS
- 9: Development of a predict diagnostic device t for implant treatment
- 10: Performance and safety evaluation of dental materials containing new inorganic antibacterial agents

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Relationship between food crushing and oral function in older adults requiring nursing home care: Yamawaki K, Mori T, Itaki S, Haruta A, Takeda C, Hiraoka A, Maruyama M, Yoshikawa M, Yoshida M, Tsuga K.: A pilot study: International Journal of Environmental Research and Public Health, 19(6):3419, 2022.
- 2: Oral and Rectal Colonization by Antimicrobial-Resistant Gram-Negative Bacteria and Their Association with Death among Residents of Long-Term Care Facilities: A Prospective, Multicenter, Observational, Cohort Study: Kajihara T, Yahara K, Yoshikawa M, Haruta A, Kawada-Matsuo M, Le MN, Arai C, Takeuchi M, Kitamura N, Sugawara Y, Hisatsune J, Kayama S, Ohta K, Tsuga K, Komatsuzawa H, Ohge H, Sugai M.: Gerontology, 6:1:12, 2022.
- 3: Disinfectant Susceptibility of Third-Generation-Cephalosporin/Carbapenem-Resistant Gram-Negative Bacteria Isolated from the Oral Cavity of Residents of Long-Term-Care Facilities: Haruta A, Kawada-Matsuo M, Le MN, Yoshikawa M, Kajihara T, Yahara K, Kitamura N, Kutsuno S, Arai C, Takeuchi M, Sugawara Y, Hisatsune J, Tsuga K, Ohge H, Sugai M, Komatsuzawa H.: Appl Environ Microbiol, 89(1): e0171222, 2022.
- 4: Oral hypofunction and its relation to frailty and sarcopenia in community-dwelling older people: Yoshida M, Hiraoka A, Takeda C, Mori T, Maruyama M, Yoshikawa M, Tsuga K: Gerodontology. 39(1): 26-32, 2022.
- 5: Prosthetic rehabilitation and nutrition education for a segmental mandibulectomy patient without bone reconstruction: a case report: Mori T: Ann Jpn Prosthodont Soc, 14(1): 81-84, 2022.

- 6: Association between dietary hardness score and activities of daily living among individuals aged 90 years. Urabe H, Oue H, Hiasa K, Tsuga K. *Clin Exp Dent Res*. 2022 Oct;8(5):1202-1206. doi: 10.1002/cre2.622. Epub 2022 Jun 24.
- 7: Experimental tooth loss affects spatial learning function and blood-brain barrier of mice. Oue H, Hatakeyama R, Ishida E, Yokoi M, Tsuga K. *Oral Dis*. 2022 Sep 17. doi: 10.1111/odi.14379. Online ahead of print.
- 8: Clinical report of six-month follow-up after cementing PEEK crown on molars: Kimura H(1), Morita K(2), Nishio F(3), Abekura H(1), Tsuga K(1): *Sci Rep*. Nov 9;12(1):19070. doi: 10.1038/s41598-022-23458-5, 2022.
- 9: Implant Stability Following Osseointegration of Dental Implants in Bone Sites Reconstructed with Novel Porous Titanium Scaffold: Wakamatsu K, Doi K, Kobatake R, Makihara Y, Yoshiga C, Tsuga K.: *J Hard Tissue Biol*, 31(2): 115-120, 2022.
- 10: Investigation to Predict Primary Implant Stability Using Frictional Resistance Torque of Tap Drilling: Wakamatsu K, Doi K, Kobatake R, Makihara Y, Oki Y, Tsuga K.: *J Oral Maxillofac Res*, 13(4): e1, 2022.
- 11: Histological and histomorphometric aspects of continual intermittent parathyroid hormone administration on osseointegration in osteoporosis rabbit model.: Oki Y, Doi K, Kobatake R, Makihara Y, Morita K, Kubo T, Tsuga K.: *PLoS One*. 8;17(6):e0269040, 2022.
- 12: Antimicrobial adhesive polyurethane gel sheet with cetylpyridinium chloride-montmorillonite for facial and somato prosthesis fastening. Nakamori K, Abe Y, Takeuchi M, Kagawa K, Yoshihara K, Yoshida Y, and Tsuga K : *J Prosthodont Res*, Available online 3 June 2022.
- 13: Microbial differences between active and remission peri-implantitis: Hashimoto Y, Okada S, Yasuda K, Kawagoe M, Kajiya M, Tsuga K: *Sci Rep*. 2022 Mar 28;12(1):5284
- 14: Impact of Maximum Tongue Pressure in Patients with Jaw Deformities Who Underwent Orthognathic Surgery: Koizumi K, Shintani T, Yoshimi Y, Higaki M, Kunitatsu R, Yoshioka Y, Tsuga K, Tanimoto K, Shiba H, Toratani S.: *Diagnostics (Basel)*, 12(2):404, 2022.
- 15: Prenatal exposure to valproic acid causes allodynia associated with spinal microglial activation: Imado E, Sun S, Abawa AR, Tahara T, Kochi T, Huynh TNB, Asano S, Hasebe S, Nakamura Y, Hisaoka-Nakashima K, Kotake Y, Irifune M, Tsuga K, Takuma K, Morioka N, Kiguchi N, Ago Y.: *Neurochem Int*, Epub, 2022.
- 16: Prosthodontic treatment can improve the ingestible food profile in Japanese adult outpatients: Kimura-Ono A, Maekawa K, Kuboki T, Nawachi K, Fujisawa M, Sato H, Aita H, Koyama S, Hideshima M, Sato Y, Wake H, Nagao K, Kodaira-Ueda Y, Tamaki K, Sadamori S, Tsuga K, Nishi Y, Sawase T, Koshino H, Masumi SI, Sakurai K, Ishibashi K, Ohyama T, Akagawa Y, Hirai T, Sasaki K, Koyano K, Yatani H, Matsumura H, Ichikawa T, Ohkawa S, Baba K.: *J Prosthodont Res*, Online ahead of print, 2022.

B) Review

C) Publications

- 1: Oral antimicrobial-resistant bacteria and eating and swallowing functions in older adults requiring nursing care in long-term medical treatment: what dental professionals can do to support older adults' ability to eat until the end of life: Yoshikawa M: *The Journal of the Japan dental association*, Vol75, No.6, P17-25, 433-441, 2022

D) Other Publications

E) Presentations at Scientific Meetings

- 1: Susceptibility of disinfectants against cephalosporin-resistant Gram-negative bacteria isolated from oral cavity: Haruta A, Matsuo M, Yoshikawa M, Takeuchi M, Le MN, Tsuga K, Komatsuzawa H: *The 64th Annual Meeting of Japanese Association for Oral Biology*, Tokushima, 2022.
- 2: Susceptibility of disinfectants against 3rd-generation Cephalosporin/Carbapenem-resistant Gram-negative bacteria isolated from oral cavity of long-term care facility residents: Haruta A, Matsuo-Kawada M, Yoshikawa M, Takeuchi M, Le MN, Tsuga K, Komatsuzawa H: *The 15th Korea-Japan*

- International Symposium on Microbiology, Yeosu (Korea), 2022.
- 3: Survey of antimicrobial resistant bacteria from oral cavity in one long-term-care facility: Takeuchi M, Haruta A, Yoshikawa M, Hiraoka A, Mori T, Maruyama M, Takeda C, Takahashi Y, Ueda Y, Yoshida M, Tsuga K: The 33rd Annual Meeting of the Japanese Society of Geriatric Dentistry, Niigata, 2022.
 - 4: Relationship among Defect Patterns, Asymmetrical Masticatory Function, and Preferred Chewing Side: Takahashi Y, Mori T, Haruta A, Takeda C, Yokoi M, Hiraoka A, Maruyama M, Morita K, Yoshikawa M, Yoshida M, Moriya N, Tsuga K: The 131th Annual Meeting of the Japan Prosthodontic Society, Osaka and Web, 2022.
 - 5: Effects of tongue resistant training using “Peko-Panda” on oral environment in older adults requiring nursing care: Yoshikawa M, Yamawaki K, Takemoto R, Sakihama H, Hiraoka A, Takeda C, Nagasaki S, Tsuga K: The 28th Annual Meeting of The Japanese Society of Dysphagia Rehabilitation, Chiba, 2022
 - 6: Two case reports of invasive dental treatment for the patients with high risk of BRONJ: Itaki E, Kanehisa Y, Yamawaki K, Taji T, Yoshikawa M: The 33rd Annual Meeting of the Japanese Society of Geriatric Dentistry, Niigata, 2022.
 - 7: A case report of dysphagia rehabilitation for an older adult with long-term care after stroke: Oda Y, Yoshikawa M: The 33rd Annual Meeting of the Japanese Society of Geriatric Dentistry, Niigata, 2022.
 - 8: The effect of tooth loss in early age mouse on cognitive function and femoral bone strength : Hatakeyama R, Yokoi M, Ishida E, Oue H, Tsuga K : The 131th Annual Meeting of the Japan Prosthodontic Society, Osaka, 2022.
 - 9: Impact of maternal Porphyromonas gingivalis infection on brain of offspring : Ishida E, Furusho H, Miyauchi M: 2022 IADR/APR General Session & Exhibition, WEB, 2022
 - 10: Impact of maternal Porphyromonas gingivalis infection on brain of offspring: Ishida E, Furusho H, Shiba F, Renn Ting Yi, Miyauchi M, Tsuga K: The 64th Annual Meeting of Japanese Association for Oral Biology, Tokushima, 2022
 - 11: Polishing method of tooth-colored PEEK material: Kato M, Abekura H, Nishio F, Kimura H, Yokoi M, Kagawa K, Dowaki I, Morita K, Tsuga K: The 131st Annual Meeting of the Japan Prosthodontic Society, Osaka, 2022.
 - 12: The eight cases report of over 2 years after wearing PEEK crown on molars: Yokoi M, Abekura H, Kagawa K, Nishio F, Kimura H, Umehara H, Oki Y, Doi K, Morita K, Tsuga K: The 131st Annual Meeting of the Japan Prosthodontic Society, Osaka, 2022.
 - 13: Elucidation of the actual state of integral value of masseteric electromyogram during daytime: Ishimaru T, Yamaguchi T, Saito T, Hattori Y, One T, Arai Y, Hasegawa Y, Shiga H, Tamaki K, Tanaka J, Tsuga K, Abekura H, Minami S, Gotoda A, Satoh K: Annual Scientific Meeting of Japan Prosthodontic Society Touhoku & Hokkaido Branch And Citizen forum October, Sendai, WEB, 2022.
 - 14: A case report of oral health evaluation using intraoral scanner: Yoshiga C, Doi K, Oue H, Umehara H, Kawagoe M, Tsuga K: The 55th Hiroshima University Dental Society, Hiroshima, 2022.
 - 15: Novel method of predictable primary implant stability using frictional resistance torque of tap drilling measurement: Wakamatsu K, Doi K, Makihara Y, Oki Y, Kobatake R, Kubo T, Tsuga K: The 55th Hiroshima University Dental Society, Hiroshima, 2022.
 - 16: Preliminary study of frictional resistance torque of tap drilling and primary implant stability: Wakamatsu K, Doi K, Makihara Y, Oki Y, Kobatake R, Kubo T, Tsuga K: The 52nd Annual Scientific Meeting of the Japanese Society of Oral Implantology, Nagoya, 2022.
 - 17: The controlled release of cetylpyridinium chloride and adhesive force of antimicrobial adhesive polyurethane gel sheet : Nakamori K, Abe Y, Yoshihara K, Yoshida Y, Tsuga K : The 79th General Session of the Japanese Society for Dental Materials and Devices, Morioka, 2022.

F) Special lectures in academic meetings

- 1: Tongue" health method to enjoy chewing happily: Tsuga K: Academic Lecture of Japanese Society for Mastication Science and Health Promotion, 2022
- 2: Delicious meals and roles of tongue: Yoshikawa M: Academic Lecture of Japanese Society for Mastication Science and Health Promotion, 2022
- 3: Correspondence to oral hypofunction that dental hygienists should work on: Yoshikawa M: the 5th Recurrent workshop in 2022 by dental hygienist education center in Hiroshima university dental school, 2022
- 4: “Do you notice? Slight decline of oral functions -oral frails and oral hypofunction”: Yoshikawa M:

- Keynote speech #2 in Plus style seminar “Let's observe blood sugar levels well”
- 5: Prosthodontic approach to dysphagia: Yoshikawa M: the 4th specialist workshop by Japan Prosthodontic Society, 2022.
 - 6: Story of oral care by dentist : Yokoi M, Umehara H : Hiroshima City Family Care Class, Hiroshima, 2022.
 - 7: Basic knowledge and dental support for the elderly requiring long-term care: Tsuga K: Hiroshima Prefectural Consultant Training Workshop for Persons Who Have Difficulty Providing Dental Health Care Services, Hiroshima, 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: MEXT Grant-in-Aid for Scientific Research (C): Yoshikawa M: 英語タイトル Understanding the distribution of antimicrobial-resistant bacteria in oral cavity and the impact of oral hygiene management by dental professionals on the pneumonia related to medical and nursing care on oral antimicrobial-resistant bacteria. (Grant No. 20K10248). ¥3,700,000
- 2: MEXT Grant-in-Aid for Scientific Research©: Oue H: Elucidation of mechanism by which tooth loss causes cognitive decline (Grant No. 20K10035). ¥910,000.
- 3: Grant-in-Aid for Research Activity Start-up: Umehara H: Development of novel bio titanium mesh membrane. (Grant No. 21K21088). ¥1,560,000.
- 4: MEXT Grant-in-Aid for Scientific Research (C): Kubo T: Exploring the effects of osteoporosis therapy on masticatory and cognitive functions. (Grant No. 20K10072). ¥1,690,000
- 5: MEXT Grant-in-Aid for Scientific Research (C): Oki Y: Novel development of bone remodeling regulating porous titanium. (Grant No. 22K10034). ¥780,000
- 6: MEXT Grant-in-Aid for Scientific Research (C) : Abe Y : Development of antibacterial denture base material that does not allow Candida to colonize deep in the denture base (Grant No. 20K10052). ¥1,690,000
- 7: MEXT Grant-in-aid (B): PI: Tsuga K, Can Diagnosis of Low Tongue Pressure and Early Intervention in the Early Elderly Prevent Oral Hypofunction. (Grant No. 21H03132). ¥3,380,000.
- 8: Program for Developing the Next-Generation of Innovative Researchers at Hiroshima University: Tsuga K. ¥400,000

(5) Academic Awards, etc.

- 1: Ishida E : Impact of maternal Porphyromonas gingivalis infection on brain of offspring : 70 th annual meeting, JADR/GC Young Investigator Award, 2022
- 2: Nakamori K : The controlled release of cetylpyridinium chloride and adhesive force of antimicrobial adhesive polyurethane gel sheet : The 79th General Session of the Japanese Society for Dental Materials and Devices, Research Encouragement Award, 2022.

(6) Patents

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Department of Advanced Prosthodontics Division of Preventive and Restorative Dentistry (Department of Prosthetic Dentistry)

(1) Staff and Students

Professor : Kazuhiro Tsuga
 Assistant Professor : Kazuya Doi, Kouji Morita,, Yusuke Makihara, Keisuke Yasuda, Miyuki Yokoi
 Resident : Kazuko Kagawa, Fumiko Nishio, Hitomi Kimura, Chiho Takeda
 Graduate Student : Yuhei Hashimoto, Kaiken Wakamatsu, Chihiro Yoshiga, Masayasu Kato
 Research Fellow : Reiko Kobatake
 Researcher : Hitoshi Abekura
 Clinical Trainee : Naoyuki Kouyama
 Administrative staff : Rinko Kurumi

(2) Main Research Activities

- 1: Basic research on PEEK materials for dental applications and clinical research on PEEK crowns for molars
- 2: Colonization survey of drug-resistant bacteria in long-term care facilities
- 3: Implementation of tongue resistance training for the elderly and verification of its effect
- 4: Relationship between eating behavior and oral function in healthy young people
- 5: Relationship between cognitive decline due to tooth loss and intestinal bacteria
- 6: The mechanism by which tooth loss causes cognitive decline
- 7: Development of novel biomaterial with “bio-metal”
- 8: Establishment of a new oral hygiene assessment method using an IOS
- 9: Development of a predict diagnostic device for implant treatment
- 10: Performance and safety evaluation of dental materials containing new inorganic antibacterial agents

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Relationship between food crushing and oral function in older adults requiring nursing home care: Yamawaki K, Mori T, Itaki S, Haruta A, Takeda C, Hiraoka A, Maruyama M, Yoshikawa M, Yoshida M, Tsuga K.: A pilot study: International Journal of Environmental Research and Public Health, 19(6):3419, 2022.
- 2: Oral hypofunction and its relation to frailty and sarcopenia in community-dwelling older people: Yoshida M, Hiraoka A, Takeda C, Mori T, Maruyama M, Yoshikawa M, Tsuga K: Gerodontology. 39(1): 26-32, 2022.
- 3: Experimental tooth loss affects spatial learning function and blood-brain barrier of mice. Oue H, Hatakeyama R, Ishida E, Yokoi M, Tsuga K. Oral Dis. 2022 Sep 17. doi: 10.1111/odi.14379. Online ahead of print.
- 4: Clinical report of six-month follow-up after cementing PEEK crown on molars: Kimura H, Morita K, Nishio F, Abekura H, Tsuga K: Sci Rep. Nov 9;12(1):19070. doi: 10.1038/s41598-022-23458-5, 2022.
- 5: Implant Stability Following Osseointegration of Dental Implants in Bone Sites Reconstructed with Novel Porous Titanium Scaffold: Wakamatsu K, Doi K, Kobatake R, Makihara Y, Yoshiga C, Tsuga K.: J Hard Tissue Biol, 31(2): 115-120, 2022.
- 6: Investigation to Predict Primary Implant Stability Using Frictional Resistance Torque of Tap Drilling: Wakamatsu K, Doi K, Kobatake R, Makihara Y, Oki Y, Tsuga K.: J Oral Maxillofac Res, 13(4): e1, 2022.
- 7: Histological and histomorphometric aspects of continual intermittent parathyroid hormone administration on osseointegration in osteoporosis rabbit model.: Oki Y, Doi K, Kobatake R, Makihara Y, Morita K, Kubo T, Tsuga K.: PLoS One. 8;17(6):e0269040, 2022.

- 8: Antimicrobial adhesive polyurethane gel sheet with cetylpyridinium chloride-montmorillonite for facial and somato prosthesis fastening.
Nakamori K, Abe Y, Takeuchi M, Kagawa K, Yoshihara K, Yoshida Y, and Tsuga K : *J Prosthodont Res*, Available online 3 June 2022.

B) Review

C) Publications

D) Other Publications

E) Presentations at Scientific Meetings

- 1: Survey of antimicrobial resistant bacteria from oral cavity in one long-term-care facility: Takeuchi M, Haruta A, Yoshikawa M, Hiraoka A, Mori T, Maruyama M, Takeda C, Takahashi Y, Ueda Y, Yoshida M, Tsuga K: The 33rd Annual Meeting of the Japanese Society of Geriatric Dentistry, Niigata, 2022.
- 2: Relationship among Defect Patterns, Asymmetrical Masticatory Function, and Preferred Chewing Side: Takahashi Y, Mori T, Haruta A, Takeda C, Yokoi M, Hiraoka A, Maruyama M, Morita K, Yoshikawa M, Yoshida M, Moriya N, Tsuga K: The 131th Annual Meeting of the Japan Prosthodontic Society, Osaka and Web, 2022.
- 3: Effects of tongue resistant training using “Peko-Panda” on oral environment in older adults requiring nursing care: Yoshikawa M, Yamawaki K, Takemoto R, Sakihama H, Hiraoka A, Takeda C, Nagasaki S, Tsuga K: The 28th Annual Meeting of The Japanese Society of Dysphagia Rehabilitation, Chiba, 2022
- 4: Polishing method of tooth-colored PEEK material: Kato M, Abekura H, Nishio F, Kimura H, Yokoi M, Kagawa K, Dowaki I, Morita K, Tsuga K: The 131st Annual Meeting of the Japan Prosthodontic Society, Osaka, 2022.
- 5: The eight cases report of over 2 years after wearing PEEK crown on molars: Yokoi M, Abekura H, Kagawa K, Nishio F, Kimura H, Umehara H, Oki Y, Doi K, Morita K, Tsuga K: The 131st Annual Meeting of the Japan Prosthodontic Society, Osaka, 2022.
- 6: Elucidation of the actual state of integral value of masseteric electromyogram during daytime: Ishimaru T, Yamaguchi T, Saito T, Hattori Y, One T, Arai Y, Hasegawa Y, Shiga H, Tamaki K, Tanaka J, Tsuga K, Abekura H, Minami S, Gotoda A, Satoh K: Annual Scientific Meeting of Japan Prosthodontic Society Touhoku & Hokkaido Branch And Citizen forum October, Sendai, WEB, 2022.
- 7: A case of aesthetic restoration by occlusal elevation for bruxism: Morita K: The 131st Annual Meeting of the Japan Prosthodontic Society, Osaka, 2022.
- 8: A case report of oral health evaluation using intraoral scanner: Yoshiga C, Doi K, Oue H, Umehara H, Kawagoe M, Tsuga K: The 55th Hiroshima University Dental Society, Hiroshima, 2022.
- 9: Novel method of predictable primary implant stability using frictional resistance torque of tap drilling measurement: Wakamatsu K, Doi K, Makihara Y, Oki Y, Kobatake R, Kubo T, Tsuga K: The 55th Hiroshima University Dental Society, Hiroshima, 2022.
- 10: Preliminary study of frictional resistance torque of tap drilling and primary implant stability: Wakamatsu K, Doi K, Makihara Y, Oki Y, Kobatake R, Kubo T, Tsuga K: The 52nd Annual Scientific Meeting of the Japanese Society of Oral Implantology, Nagoya, 2022.

F) Special lectures in academic meetings

- 1: Story of oral care by dentist : Yokoi M, Umehara H : Hiroshima City Family Care Class, Hiroshima, 2022.
- 2: Higher Grade Bonding, Non-Cracking, Non-Removable CAD/CAM Resin and All-Ceramic Crowns, Lecture I Overview of insured CAD/CAM resin and all-ceramic crowns: Abekura H, Tottori Dental Association Lifelong Learning Open Seminar, Cosponsored by the Japanese Society of Prosthetic Dentistry Tottori , WEB, 2022.
- 3: Development of new biomaterials of porous titanium and micro-mesh titanium membrane: Doi K: Medical device industry forum, Osaka 2022
- 4: The Possibility of Titanium Porous Materials in Implant Treatment, Satellite Symposium of Advances for Implant Dentistry section: Doi K: 2022 IADR/APR General Session & Exhibition Virtual Experience,

China, Chengdu and WEB, 2022

- 5: Plant cultivation plan with the Porous Titanium: Yoshiga C: Woman in Entrepreneurship Education Symposium, Hiroshima, 2022.
- 6: Creation of the new mask with titanium mesh membranes: Wakamatsu K: Woman in Entrepreneurship Education Symposium, Hiroshima, 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grant-in-Aid for Young Scientists:Yokoi M, Establishment of bone regeneration therapy for peri-implantitis bone defect using FGF receptor signal inhibition(GrantNo.19K19069). ¥1,398,000.
- 2: Grant-in-Aid for Young Scientists:Yokoi M, Exploratory research on the relationship between cognitive decline due to tooth loss and intestinal bacteria(GrantNo.22K171140). ¥2,100,000.
- 3: MEXT Grant-in-Aid for Scientific Research©: Oue H: Elucidation of mechanism by which tooth loss causes cognitive decline (Grant No. 20K10035). ¥910,000.
- 4: MEXT Grant-in-Aid for Scientific Research (C): Abekura H: Research on clinical application of last molar crowns and molar bridges made of PEEK (Grant No. 21K10021). ¥910,000.
- 5: Research Grant for Clinical Trials, Clinical Studies and Research Papers, Hiroshima University Hospital, Principal Investigator Hitoshi Abekura, Title of presented paper: Clinical report of six-month follow-up after cementing PEEK crown on molars. Grant amount: ¥500,000.
- 6: MEXT Grant-in-Aid for Scientific Research (C): Morita K: Elucidation of the effects of masticatory ability for care recipients on intestinal flora and short-chain fatty acid production (Grant No. 20K10034). ¥800,000.
- 7: MEXT Grant-in-Aid for Scientific Research (C): Doi K: Establish of bone regeneration therapy using bio metal. (Grant No. 21K09934). ¥1,170,000.
- 8: MEXT Grant-in- Aid for Young Scientists: Kobatake R: Novel development of bone reconstruction material / dental implant complex. (Grant No. 21K17043). ¥2,730,000.
- 9: Satake Fund for 2022: Yoshiga C: Research on preventive diagnosis system by AI oral health evaluation. ¥200,000.
- 10: Collaborative Research Grant from NSK Nakanishi Corporation: Doi K. ¥2,040,000.

(5) Academic Awards, etc.

- 1: Yoshiga C: New interior planter with porous titanium: 20th Campus Venture Grand Prix (CVG) Chugoku Regional Competition Excellence Award, 2022.
- 2: Wakamatsu K: Creation of the new functional mask toward SDGs: 20th Campus Venture Grand Prix (CVG) Chugoku Regional Competition Special Award, 2022.
- 3: Yoshiga C: Research on preventive diagnosis system by AI oral health evaluation: Satake Fund for 2022, 2022.

(6) Patents

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**Department of Orthodontics and Craniofacial Development
Biology
Division of Oral Health and Development
Department of Orthodontics**

(1) Staff and Students

Professor: Kotaro Tanimoto

Associate Professor: Ryo Kunimatsu, Naoto Hirose (2022.10~)

Assistant Professor: Yuki Asakawa, Yuki Yoshimi, Yuji Tsuka, Takaharu Abe, Makoto Yanoshita, Isamu Kado

Intern: Koji Iwai, Sakura Yamada, Shota Ito, Kazuyo Ando, Shuzo Sakata, Ayaka Nakatani, Sayuri, Nishiyama, Yuma Koizumi, Kazutaka Ikeda, Eri Ishida, Tomohiro Ogasawara, Eri Tsuboi, Kodai Rikitake

Education and Research Support Staff: Cynthia Concepción Medina

Graduate Student: Kanae Oda, Naoki Kubo, Nurul Aisyah Rizky Putranti, Fumika Abe, Shintaro Ogashira, Sho Oshima, Ayaka Odo, Risako Oshiro, Saki Ogawa, Daiki Kita, Katsuhito Sugai, Izumi Tanabe, Shun Ogata, Naonobu Okimura, Ami Ono, Rio Shibata, Saki Takesue, Minori Nakazato, Ryosuke Nakajima, Shina Pasanen, Reina Hatano, Akira Hirabae

Visiting Professor: Kazuo Tanne, Eiji Tanaka, Ichiro Takahashi, Shoichi Miyawaki

Registered Intern: Kuniaki Tanaka, Kazunori Itatani, Shoutoku Kojima, Aya Kimura, Taeko Yamamoto, Azusa Onishi, Mami Takano, Jin Izumino, Hiroki So, Tomoka Hiraki, Ayana Nakano

Dental Hygienist: Miho Okada, Mariko Nakamura

(2) Main Research Activities

- 1 : Elucidation of pathogenic mechanism in malocclusion and management of oral maxillofacial skeletal growth
- 2 : Optimization of tooth movement by orthodontic force
- 3 : Establishment of a new orthodontic treatment based on the image and biochemical diagnosis of temporomandibular disorders (TMD)
- 4 : Application of regeneration medicine to orthodontic treatment
- 5 : Suppression of caries risk in orthodontic treatment
- 6 : Evaluation of the contribution of various oral functions to general fitness
- 7 : Development of new instruments and materials for orthodontic treatment

(3) Research Achievements

A) Original Papers (2022.1-2022.12 including Case Reports)

- 1 : Automated segmentation of articular disc of the temporomandibular joint on magnetic resonance images using deep learning : Ito S., Mine Y., Toshimi Y., Takeda S., Tanaka A., Tzu-Yu Peng, Nakamoto T., Nagasaki T., Kakimoto N., Murayama T., Tanimoto K.: *Sci Rep*, 7;12(1): 221. 2022. doi: 10.1038/s41598-021-04354-w.
- 2 : Imipramine prevents *Porphyromonas gingivalis* lipopolysaccharide-induced microglial neurotoxicity : Yamawaki Y., So H., Oue K., Asano H., Furusho H., Miyauchi M., Tanimoto K., Kanematsu T.: *Biochem Biophys Res Commun.*, 634: 92-99, 2022. doi: 10.1016/j.bbrc.2022.09.109.
- 3 : Complete Genome Sequence of a Hyaluronate Lyase HysA- and HysB-Producing, Methicillin-Resistant *Staphylococcus aureus* Sequence Type 30, Staphylococcal Cassette Chromosome mec Type IVc Strain Isolated from Furunculosis in Japan. : Koizumi Y., Hisatsune J., Toyoda A., Yamasaki O., Kaneko J., Sugai M.: *Microbiology resource Announcements*, 11(9): e0030822, 2022. doi: 10.1128/mra.00308-22. doi: 10.1038/s41598-021-04354-w

- 4 : Effects of high-frequency near-infrared diode laser irradiation on pain induced by experimental tooth movement in rats : Nakatani A., Kunimatsu R., Tsuka Y., Sakata S., Horie K., Gunji H., Ito S., Kado I., Putranti NAR., Terayama R., Tanimoto K.: *Lasers Med Sci.*, 37(6):2697-2706, 2022. doi: 10.1007/s10103-022-03543-x.
- 5 : Regenerative Nanotechnology: Engineered Surfaces for Stem Cell Production : Nakano A., Kato K.: *Nanomedicine*, 1-18, 2022. doi.org/10.1007/978-981-13-9374-7_20-1
- 6 : Masticatory Function Assessment of Adult Patients With Cleft Lip and Palate After Orthodontic Treatment : Miura S., Ueda H., Iwai K., Medina CC., Ishida E., Kunimatsu R., Tanimoto K.: *Cleft Palate Craniofac J.*, 59 (3):390-398, 2022. doi: 10.1177/1055665621991733.
- 7 : Dental and occlusal changes during mandibular advancement device therapy in Japanese patients with obstructive sleep apnea: four years follow-up : Ishida E., Kunimatsu R., Medina CC., Iwai K., Miura S., Tsuka Y., Tanimoto K.: *J clin Med.*, 19;11(24):7539, 2022. doi: 10.3390/jcm11247539.
- 8 : Combination of carbonate apatite and stem cells from human deciduous teeth promotes bone regeneration by enhancing BMP2, VEGF, and CD31 expression in immunodeficient mice : Putranti NAR., Rikitake K., Hiraki T., Nakajima K., Abe T., Tsuka Y., Sakata S., Nakatani A., Nikawa H., Tanimoto K.: *Cells.*, 13;11(12):1914, 2022. doi: 10.3390/cells11121914.
- 9 : Longitudinal effects of estrogen on mandibular growth and changes in cartilage during the growth period in rats : Kubo N., Awada T., Hirose N., Yanoshita M., Takano M., Nishiyama S., Tsuboi E., Kita D., Ito S., Nakatani A., Onishi A., Asakawa Y., Tanimoto K.: *Developmental Biology*, 492: 126-132, 2022. doi: 10.1016/j.ydbio.2022.10.007.
- 10 : Correction of severe skeletal Class II high angle case with mandibular retrusion and a gummy smile by double jaw surgery. : Yamamoto T., Kaku M., Ono S., Takechi M., Tanimoto K.: *Bull. Tokyo Dent. Coll.*, 11;63(4):177-187, 2022. doi: 10.2209/tdcpublication.2022-0016.
- 11 : Orthodontic treatment for a patient with root resorption of all four maxillary incisors due to bilaterally impacted canines : Yanoshita M., Hirose N., Onishi A., Nishiyama S., Kubo N., Kita D., Tanimoto K.: *Case reports in dentistry*, 5628030, 2022. doi: org/10.1155/2022/5628030
- 12 : Effects of baicalin on the proliferation and expression of OPG and RANKL in human cementoblast-lineage cells : Kunimatsu R., Kimura A., Tsuka Y., Horie K., Yoshimi Y., Abe T., Yamada S., Sakata S., Nakatani A., Kitagawa M., Miyauchi M., Takata T., Tanimoto K.: *J Dent Sci.*, 2022;17(2):162-169 doi.org/10.1016/j.jds.2021.05.009.
- 13 : The Influence of 2-Methacryloyloxyethyl Phosphorylcholine Polymer Materials on Orthodontic Friction and Attachment of Oral Bacteria : Kunimatsu R., Tsuka Y., Nakajima K., Sumi K., Yoshimi Y., Kado I., Inada A., Kiritoshi Y., Tanimoto K.: *Materials*, 21;15(16):5770, 2022. doi: 10.3390/ma15165770.
- 14 : Effects of Human Deciduous Dental Pulp-Derived Mesenchymal Stem Cell-Derived Conditioned Medium on the Metabolism of HUVECs, Osteoblasts, and BMSCs : Kunimatsu R., Hiraki T., Rikitake K., Nakajima K., Putranti NAR., Abe T., Ando K., Nakatani A., Sakata S., Tanimoto K.: *Cells*, 14;11(20):3222, 2022. doi: 10.3390/cells11203222.
- 15 : Functional regulation of osteoblastic MC3T3E-1 cells by hyperbaric oxygen treatment : Kaku M., Izumino J., Yamamoto T., Yashima Y., Shimoe S., Tanimoto K.: *Arch Oral Biol.*, 2022. Online ahead of print doi: 10.1016/j.archoralbio.2022.105410.
- 16 : Impact of Maximum Tongue Pressure in Patients with Jaw Deformities Who Underwent Orthognathic Surgery : Koizumi K., Shintani T., Yoshimi Y., Higaki M., Kunimatsu R., Yoshioka Y., Tsuga K., Tanimoto K., Shiba H., Toratani S.: *Diagnostics*, 12(2): 404, 2022. doi: 10.3390/diagnostics12020404.
- 17 : Characteristics of the Maxillofacial Morphology in Patients with Idiopathic Mandibular Condylar Resorption : Tanimoto K., Awada T., Onishi A., Kubo N., Asakawa Y., Kunimatsu R., Hirose N.: *J Clin Med.*, 2022 11;11(4):952 doi: 10.3390/jcm11040952.
- 18 : Study of Alveolar Bone Remodeling Using Deciduous Tooth Stem Cells and Hydroxyapatite by Vascular Endothelial Growth Factor Enhancement and Inhibition of Matrix Metalloproteinase-8 Expression in vivo : Saskianti T., Nugraha AP., Prahasanti C., Ernawati DS., Tanimoto K., Riawan W., Kanawa M., Kawamoto T., Fujimoto K.: *Clin Cosmet Investig Dent.*, 14: 71-78, 2022. doi: 10.2147/CCIDE.S354153.

- 19 : Evaluation of Frictional Force due to Bracket Size Difference -A Pilot Study- : Tsuka Y., Kunimatsu R., Nakajima K., Tsuga K., Tanimoto K.: The journal of Hiroshima University Dental Society, 54(1):18-24, 2022.
- 20 : Orthodontic Treatment of A Patient with Non-syndromic Oligodontia and Skeletal Class II : Kunimatsu R., Asakawa Y., Tsuka Y., Sakata S., Ikeda K., Tanimoto K.: The journal of Hiroshima University Dental Society, 54(2):89-98, 2022.
- 21 : Recombinant protein synthesis for nanomaterial assembly: Technical overview. : Nakano A., Kato K.: Nano Gakkai kaihou, 20(2):31-37, 2022.
- 22 : Orthodontic treatment with temporary anchorage devices for the patient with crowding occurred after serial extraction in childhood : Hirose N., Onishi A., Yanoshita M., Yamauchi Y., Nishiyama S., Kubo N., Kita D., Matsunaga M., Tanimoto K.: The Journal of Chu-shikoku Orthodontic Society, 34(1):31-38, 2022.
- 23 : A case of surgical orthodontic treatment for osteogenesis imperfecta with mandibular protrusion and dentinogenesis imperfecta : Komatsu M., Asakawa Y., Tsuboi E., Nakatani A., Kunimatsu R., Tanimoto K.: The Journal of Chu-shikoku Orthodontic Society, 34(1):65-74, 2022.

B) Review (2022.1-2022.12)

1 :

C) Publications (2022.1-2022.12)

1 :

D) Other Publications (2022.1-2022.12)

- 1 : Tanimoto K.: Anatomy and dental education, Hiroshima University Shiragiku, 52, 21-22, 2022.
- 2 : Tanimoto K.: Information from the committee of certified orthodontists, Japanese Orthodontic Society information letter, No.1, 7, 2022

E) Presentations at Scientific Meetings (2022.1-2022.12)

- 1 : Automatic segmentation of articular disc of temporomandibular joint from MRI using deep learning. : Yoshimi Y., Mine Y., Ito S., Takeda S., Okazaki S., Urabe S., Murayama T., Tanimoto K.: The 13th Scientific Meeting of the Japan Academy of Digital Dentistry (Tokyo), 2022.
- 2 : Prediction of cephalometric angles from lateral profile photographs using a convolutional neural network. : Urabe S., Mine Y., Okazaki S., Ito S., Yoshimi Y., Takeda S., Eguchi T., Tanimoto K., Murayama T.: The 13th Scientific Meeting of the Japan Academy of Digital Dentistry (Tokyo), 2022.
- 3 : Application to bone regeneration therapy using CD146-positive stem cells from human exfoliated deciduous teeth. : Rikitake K., Kunimatsu R., Yoshimi Y., Nakajima K., Hiraki T., Putranti NAR., Tsuka Y., Abe T., Ando K., Tanimoto K.: The 46th Annual Meeting of Japanese Cleft Palate Association (Kagoshima), 2022.
- 4 : A case of skeletal Class 3 with deep bite. : Tsuka Y., Kunimatsu R., Asakawa Y., Tani R., Tanimoto K.: The 32nd Annual Meeting of The Japanese Society for Jaw Deformities (Niigata), 2022.
- 5 : Prediction of cephalometric ANB angle on lateral profile photographs using convolutional neural network. : Okazaki S., Mine Y., Urabe S., Ito S., Yoshimi Y., Tanimoto K., Takeda S., Murayama T.: The 55th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.
- 6 : Deep learning for fully automated segmentation of articular discs of the temporomandibular joint on magnetic resonance images: A multi-vendor study. : Mine Y., Okazaki S., Yoshimi Y., Ito S., Tanimoto K., Murayama T.: The 113th Annual Meeting of the Japan Prosthodontic Society (Osaka), 2022.
- 7 : Examination of relapse during retention in patients with jaw deformity using 3D dental models. : Abe T., Ito S., Izumino J., Yoshimi Y., Kado I., Hirano K., Tanimoto K.: The 65th Annual Meeting of the Chu-Shikoku Orthodontic Society (Hiroshima), 2022.

- 8 : A clinical study of surgical orthodontic treatment for maxillary protrusion in Hiroshima University Hospital during the past 30 years. : Sakata S., Asakawa Y., Yoshimi Y., Onishi A., Nakano A., Ikeda K., Rikitake K., Tanimoto K.: The 65th Annual Meeting of the Chu-Shikoku Orthodontic Society (Hiroshima), 2022.
- 9 : A case of bimaxillary protrusion with trismus and osteoarthritis treated with a comprehensive orthodontic approach. : Hirose N., Yanoshita M., Onishi A., Nishiyama S., Kubo N., Kita D., Asakawa Y., Tanimoto K.: The 35th Annual Meeting of the Japanese Society for the Temporomandibular Joint (Hokkaido), 2022.
- 10 : Effect of age difference on Semaphorin3A expression in rat temporomandibular joint and serum. : Tsuboi E., Hirose N., Asakawa Y., Yanoshita M., Onishi A., Takano M., Nishiyama S., Kubo N., Kita D., Tanimoto K.: The 35th Annual Meeting of the Japanese Society for the Temporomandibular Joint (Hokkaido), 2022.
- 11 : Effects of estrogen on mandible and cartilage during growth period. : Kubo N., Hirose N., Awada T., Yanoshita M., Nishiyama S., Tsuboi E., Kita D., Onishi A., Asakawa Y., Tanimoto K.: The 35th Annual Meeting of the Japanese Society for the Temporomandibular Joint (Hokkaido), 2022.
- 12 : Morphological and histological changes in mandibular condyle of anterior disc displacement model rats. : Kita D., Yanoshita M., Hirose N., Nishiyama S., Tsuboi E., Kubo N., Onishi A., Asakawa Y., Tanimoto K.: The 35th Annual Meeting of the Japanese Society for the Temporomandibular Joint (Hokkaido), 2022.
- 13 : Orthodontic treatment of maxillary protrusion and open bite with TMJ-OA and unstable occlusion. : Hirose N., Yanoshita M., Nishiyama S., Kubo N., Kita D., Iwai K., Ishida E., Tanimoto K.: The 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association (Osaka), 2022.
- 14 : A case of root resorption of four maxillary incisors caused by impacted bilateral canines. : Yanoshita M., Hirose N., Onishi A., Nishiyama S., Kubo N., Kita D., Tanimoto K.: The 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association (Osaka), 2022.
- 15 : Automatic prediction of skeletal pattern of patients from facial photographs using a convolutional neural network. : Ito S., Yoshimi Y., Mine Y., Urabe S., Okazaki S., Takeda S., Murayama T., Tanimoto K.: The 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association (Osaka), 2022.
- 16 : High-frequency near-infrared diode laser irradiation suppressed experimental tooth movement-induced excessive inflammatory markers in the periodontal ligament tissues of rats. : Nakatani A., Kunimatsu R., Tsuka Y., Sakata S., Ito S., Kado I., Putranti NAR., Tanimoto K.: The 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association (Osaka), 2022.
- 17 : A case of open bite with mandibular lateral shift treated with orthodontic anchor screws. : Nishiyama S., Hirose N., Yanoshita M., Onishi A., Kubo N., Kita D., Tanimoto K.: The 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association (Osaka), 2022.
- 18 : A case of anterior open bite treated with oral myofunctional therapy and orthodontic treatment. : Ishida E., Asakawa Y., Hirose N., Yanoshita M., Iwai K., Concepcion MC., Nishiyama S., Kubo N., Kita D., Tsuka Y., Ando K., Okada M., Yamada S., Tanimoto K.: The 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association (Osaka), 2022.
- 19 : Evaluation of osteogenic differentiation potential of CD146-positive stem cells from human exfoliated deciduous teeth. : Rikitake K., Kunimatsu R., Yoshimi Y., Nakajima K., Hiraki T., Putranti NAR., Tsuka Y., Abe T., Ando K., Tanimoto K.: The 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association (Osaka), 2022.
- 20 : Application of bone regeneration using stem cells from human exfoliated deciduous teeth and carbonate apatite. : Putranti NAR., Kunimatsu R., Rikitake K., Hiraki T., Yoshimi Y., Nakajima K., Abe T., Tsuka Y., Sakata S., Nakatani A., Nikawa H., Tanimoto K.: The 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association (Osaka), 2022.

- 21 : Effects of pulp-derived mesenchymal stem cell exosomes on bone marrow-derived mesenchymal stem cells. : Abe T., Kunimatsu R., Ito S., Sakata S., Rikitake K., Putranti NAR., Shibata R., Tanimoto K.: The 61st Hiroshima Prefectural Dental Association The 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.
- 22 : Investigation of the effect of changes in the position of bone segments after mandibular advancement orthognathic surgery on the morphology of the upper airway. : Sakata S., Kunimatsu R., Abe T, Iwai K., Medina CC., Asakawa Y., Yoshimi Y., Ikeda K., Rikitake K., Tanimoto K.: The 61st Scientific Meeting of Hiroshima Prefectural Dental Association and 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.
- 23 : Effects of high-frequency near-infrared diode laser irradiation on pain induced by experimental tooth movement model. : Nakatani A., Kunimatsu R., Tsuka Y., Sakata S., Ito S., Kado I., Putranti NAR., Terayama R., Tanimoto K.: The 61st Scientific Meeting of Hiroshima Prefectural Dental Association and 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.
- 24 : Application of bone regeneration using stem cells from human exfoliated deciduous teeth and carbonate apatite. : Putranti NAR., Kunimatsu R., Rikitake K., Hiraki T., Yoshimi Y., Nakajima K., Abe T., Tsuka Y., Sakata S., Nakatani A., Nikawa H., Tanimoto K.: The 61st Scientific Meeting of Hiroshima Prefectural Dental Association and 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.
- 25 : Long-term changes in the morphology of upper airway after mandibular advancement orthognathic surgery. : Sakata S., Kunimatsu R., Abe T., Iwai K., Medina CC., Asakawa Y., Yoshimi Y., Ikeda K., Rikitake K., Tanimoto K.: The 21st Annual Meeting of the Japanese Academy of Dental Sleep Medicine (Okinawa), 2022.
- 26 : Effect of Er: YAG laser irradiation on bone metabolism-related factors using cultured human osteoblasts. : Tsuka Y., Kunimatsu R., Sakata S., Nakatani A., Tanimoto K.: The 34th Annual meeting of Japanese Society for Laser Dentistry (Tokyo), 2022.
- 27 : Effects of High-Frequency Near-Infrared Diode Laser Irradiation on Expression of Inflammatory Cytokines in Human Chondrocytes. : Sakata S., Kunimatsu R., Tsuka Y., Nakatani A., Tanimoto K.: The 34th Annual meeting of Japanese Society for Laser Dentistry (Tokyo), 2022.
- 28 : Effects of high-frequency near-infrared diode laser irradiation on the osteogenic differentiation of human cementoblast lineage cells. : Nakatani A., Kunimatsu R., Tsuka Y., Sakata S., Tanimoto K.: The 34th Annual meeting of Japanese Society for Laser Dentistry (Tokyo), 2022.
- 29 : Euron-specific overexpression of human VPAC2 receptors in mice causes cognitive dysfunction : Ono A., Koan D., Asano S., Miyaoka T., Chen L., Yamada M., Nakagawa S., Hayata-Takano A., Nakazawa T., Harada A., Hashimoto H., Waschek J.A., Ago Y.: The 15th International Symposium on VIP, PACAP and Related Peptides/The 1st International Society for BioactivePeptides Meeting of VPAC ISBAP 2022 (Osaka), 2022.

F) Special lectures in academic meetings (2022.1-2022.12)

- 1 : Tanimoto K : Application of AI to Orthodontic Treatment, The academic seminar of Hiroshima Orthodontic Society 2021 (Hiroshima, online), 2022.
- 2 : Tanimoto K : Orthodontics and temporomandibular disorders -The mechanism of condylar resorption and possible solutions -, The 4th International Advanced Orthodontic Training Program in TMU (Taipei, online), 2022.
- 3 : Tanimoto K : Preventive and Interceptive Orthodontics in Children, Stovit Online Series (SOS) 2022, Universitas Airlangga (Surabaya, online), 2022
- 4 : Tanimoto K : Functional Jaw Orthopedics in Children, Stovit Online Series (SOS) 2022, Universitas Airlangga (Surabaya, online), 2022.
- 5 : Asakawa Y : Postoperative changes in the long-term course and the factor of orthognathic treatment for maxillary protrusion with mandibular retrusion, The 65st Annual Meeting of the Chu-Shikoku Orthodontic Society (Hiroshima), 2022
- 6 : Tanimoto K : Requirements to deal with temporomandibular disorders that occur during orthodontic treatment, 35th Annual Meeting of The Japanese Society for the Temporomandibular Joint (Hokkaido), 2022.

- 7 : Yanoshita M : The mechanism of condylar resorption by excessive mechanical stress, 35th Annual Meeting of The Japanese Society for the Temporomandibular Joint (Hokkaido), 2022.
- 8 : Tanimoto K : New applications for clinical training facilities, implementation report from training facilities, and field surveys, The 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association (Osaka), 2022.
- 9 : Tanimoto K : Management for idiopathic condylar resorption of the temporomandibular joint, The 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association (Osaka), 2022.
- 10 : Tanimoto K : Consideration from the course of temporomandibular disorders during orthodontic treatment, The 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association (Osaka), 2022.
- 11 : Tanimoto K : Prognosis of Surgical Orthodontic Treatment -Consideration of Long-term Postoperative Stability-, The 61st Scientific Meeting of Hiroshima Prefectural Dental Association and 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.
- 12 : Kunimatsu R : 半導体レーザーを応用した歯の移動時における疼痛軽減の作用機序解明, The 34th Annual meeting of Japanese Society for Laser Dentistry (Tokyo), 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1 : Grant-in-aid for Scientific Research (C) : Tanimoto K., Functional analysis of exosome in human exfoliated deciduous teeth (SHED) and application to bone regeneration for cleft palate. 21K10186. 1,300,000 yen
- 2 : Grant-in-aid for Scientific Research (C) : Tsuka Y., Optimal transplantation condition of stem cells from human exfoliated deciduous teeth and establishment of cleft palate regeneration therapy by cold laser. 20K10226. 1,300,000 yen
- 3 : Grant-in-aid for Scientific Research (C) : Yoshimi Y., Application to root resorption prevention using functional amelogenin peptide and stem cell paracrine action. 22K10247. 1,820,000 yen
- 4 : Grant-in-aid for Scientific Research (C) : Hirose N., Elucidation of mechanics of ideopathic condylar resorption and establishment of new therapeutic methods with estrogen-NFAT pathway. 22K10272. 1,950,000 yen
- 5 : Grant-in-aid for Scientific Research (C) : Asakawa Y., Elucidation of mechanisms of promoting mandibular cartilage differentiation by Sema3A and its application to new treatment with mandibular retrusion. 22K10273. 1,690,000 yen
- 6 : Grant-in-Aid for Early-Career Scientists : Abe T., Establishment of minimally invasive cleft palate closure treatment using mesenchymal stem cell-derived exosome from human exfoliated deciduous teeth. 21K17186. 2,730,000 yen
- 7 : Grant-in-Aid for Early-Career Scientists : Kado I., Development of comprehensive oral microbiome analysis and construction of risk management method for orthodontic patients using a next generation sequencing. 21K17161. 2,990,000 yen
- 8 : Grant-in-Aid for Early-Career Scientists : Yamamoto T., Comparison of the root resorption restraint effect and elucidation of the mechanism of NSAIDs and acetaminophen. 21K17184. 1,170,000 yen
- 9 : Grant-in-Aid for Early-Career Scientists : Kimura A., Explore the treatment option of TMJ-OA and mechanism of condylar resorption with flavonoid herbal medicine. 21K17160. 2,340,000 yen
- 10 : Grant-in-Aid for Early-Career Scientists : Izumino J., Searching for periodontal metabolic activity by natural product chemical biology and application to root resorption prevention treatment. 21K17185. 2,730,000 yen
- 11 : Grant-in-aid for Scientific Research : Yanoshita M., New establishment of temporomandibular joint osteoarthritis model by anterior disc displacement and elucidation of OA mechanism. 22K17230. 2,340,000 yen
- 12 : Grant-in-aid for Scientific Research : Onishi A., Effect of mechanical stress via Integrin on hyaluronic acid receptor CD44. 22K17231. 2,340,000 yen
- 13 : Grant-in-aid for Early-Career Scientists : Ito S., Examination of novel bone regeneration targeting bone metabolism regulated by miR-125b. 22K17252. 1,560,000 yen

- 14 : Grant-in-Aid for Early-Career Scientists : Nishiyama S., Elucidation of cartilage substrate destruction mechanism of ANGPTL2 and establishment of new therapeutic agent for therapies for temporomandibular joint osteoarthritis. 22K17253. 2,210,000 yen
- 15 : Grant-in-Aid for Early-Career Scientists : Hiraki T., Analysis of bone regeneration mechanism in stem cells from human exfoliated deciduous teeth (SHED) conditioned media and exosomes and application to alveolar cleft bone regeneration treatment. 22K17229. 2,470,000 yen
- 16 : Grant-in-aid for Scientific Research (Research Activity Start-up) : Sakata S., Establishment of cartilage regeneration therapy for temporomandibular joint using cold laser technology to control matrix metabolic activity. 21K21041. 1,560,000 yen
- 17 : Grant-in-aid for Scientific Research (Research Activity Start-up) : Nakano A., Controlled release of protein factors for the treatment of cleft palate by tissue engineering. 21K21014. 1,560,000 yen
- 18 : Grant-in-aid for Scientific Research (Research Activity Start-up) : Ando K., Susceptibility genes assessment and elucidation of bone differentiation mechanism using crispr technology in fibrous dysplasia. 21K21015. 1,560,000 yen
- 19 : Grant-in-aid for Scientific Research (Research Activity Start-up) : Rikitake K., Identification of deciduous dental pulp-derived mesenchymal stem cell population and elucidation of bone regeneration mechanism for new jaw cleft closure treatment. 22K21062. 1,430,000 yen
- 20 : Grant-in-aid for Scientific Research (Research Activity Start-up) : Ogasawara T., miR-125b が担う骨代謝機能の解析と矯正歯科治療への応用の可能性. 22K21040. 1,170,000 yen
- 21 : Collaborative research with Maruzen Pharmaceuticals Co., Ltd.: Kunimatsu R., Evaluation of anti-inflammatory materials. 1,000,000 yen
- 22 : Grant-in-aid Shin-sangyousouritsu-kennkyuukai : Kunimatsu R., Exploration of Naturally Derived Extracts that can new functions in oral applications and Development of Oral Care Products. 1,000,000 yen

(5) Academic Awards, etc.

- 1 : Yoshimi Y. : The 13th Scientific Meeting of the Japan Academy of Dental Dentistry Excellent Presentation Award.
- 2 : Rikitake K. : The 25th Japanese Orthodontic Society Academic Encouragement Award.
- 3 : Kita D. : The 35th Annual Meeting of the Japanese Society for the Temporomandibular Joint Excellence (Ishibashi) Award.
- 3 : Ito S. : The 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association Excellent Presentation Award.
- 4 : Rikitake K. : The 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association Excellent Presentation Award.
- 5 : Nakatani A. : The 34th Annual meeting of Japanese Society for Laser Dentistry Excellent Presentation Award.
- 6 : Sakata S. : The 34th Annual meeting of Japanese Society for Laser Dentistry Excellent Presentation Award.
- 7 : Kubo N. : Hiroshima University, Excellent Student Scholarship 2022.
- 8 : Kunimatsu R. : The 25th Hiroshima University school of dentistry alumni association research encouragement prize.

(6) Patents

• **Department of Oral & Maxillofacial Radiology**
 • **Division of Oral and Maxillofacial Surgery and Oral
 Medicine (Department of Oral and Maxillofacial Radiology)**

(1) Staff and Students

Professor : Naoya Kakimoto
 Associate Professor : Takashi Nakamoto
 Associate Professor/Lecturer : Yoshikazu Suei, Masaru Konishi
 Assistant Professor : Toshikazu Nagasaki, Masahiko Ohtsuka, Kiichi Shimabukuro(July~)
 Resident : Kiichi Shimabukuro(April~June)
 Graduate Student : Kiichi Shimabukuro(~March), Pongsapak Wongratwanich(~September)

(2) Main Research Activities

- 1: Radiographic diagnosis of oral diseases
- 2: Radiographic study on mandibular osteomyelitis
- 3: Study of radiation dosimetry in X-ray region for diagnosis
- 4: Study on the videofluoroscopic examination of swallowing
- 5: Improvement of treatment results in the radiotherapy for oral cancers
- 6: Radiographic study to screen osteoporosis using panoramic radiographs of the jaw
- 7: Study on taste disorder with oral cancer patients after radiotherapy
- 8: Quantitative analysis of temporomandibular joint on MRI

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Brachytherapy with ¹⁹⁸Au grains for cancer of the floor of the mouth: relationships between radiation dose and complications: Konishi M, Takeuchi Y, Imano N, Kubo K, Nishibuchi I, Murakami Y, Shimabukuro K, Wongratwanich P, Kakimoto N, Nagata Y: *Oral Radiol*, 38(1): 105-113, 2022.
- 2: Predictive factors of late cervical lymph node metastasis using intraoral sonography in patients with tongue cancer: Konishi M, Fujita M, Shimabukuro K, Wongratwanich P, Kakimoto N: *Anticancer Res*, 42(1): 287-292, 2022.
- 3: Reirradiation using ¹⁹⁸Au grain brachytherapy for recurrent oral cancer cases previously treated by definitive radiotherapy: Konishi M, Takeuchi Y, Kubo K, Imano N, Nishibuchi I, Murakami Y, Shimabukuro K, Wongratwanich P, Kakimoto N, Nagata Y: *Anticancer Res*, 42(1): 293-300, 2022.
- 4: Investigating the displacement of radioactive sources during ¹⁹⁸Au grain brachytherapy for hospitalized oral cancer patients: Konishi M, Takeuchi Y, Kubo K, Imano N, Nishibuchi I, Murakami Y, Shimabukuro K, Wongratwanich P, Kakimoto N, Nagata Y: *J Contemp Brachytherapy*, 14(2): 115-122, 2022.
- 5: Development of a radiomics and machine learning model for predicting occult cervical lymph node metastasis in patients with tongue cancer: Kubo K, Kawahara D, Murakami Y, Takeuchi Y, Katsuta T, Imano N, Nishibuchi I, Saito A, Konishi M, Kakimoto N, Yoshioka Y, Toratani S, Ono S, Ueda T, Takeno S, Nagata Y: *Oral Surg Oral Med Oral Pathol Oral Radiol*, 134(1):93-101, 2022.
- 6: Periodontal inflamed surface area in oral cavity associated with febrile neutropenia in patients with hematologic malignancy undergoing chemotherapy: Nishi H, Ohta K, Kuramoto Y, Shigeishi H, Obayashi T, Yoshioka Y, Konishi M, Shimizu Y, Munenaga S, Kakimoto N, Ohge H, Kurihara H, Ichinohe T, Kawaguchi H: *Sci Rep*, 15;12(1):2483, 2022.
- 7: Low-Dose-Rate Irradiation Suppresses the Expression of Cell Cycle-Related Genes, Resulting in Modification of Sensitivity to Anti-Cancer Drugs: Shimabukuro K, Fukazawa T, Kanai A, Kawai H, Mekata K, Hirohashi N, Kakimoto N, Tanimoto K.: *Cells*, 11(3):501, 2022
- 8: Osteoporosis screening support system from panoramic radiographs using deep learning by

- convolutional neural network: Nakamoto T, Taguchi A, Kakimoto N: *Dentomaxillofac Radiol*, 51(6): 20220135. doi: 10.1259/dmfr.20220135, 2022.
- 9: Cancellous bone-like tissue replacement from calcinosis in patients with systemic sclerosis with multiple external root resorption: Memida T, Matsuda S, Nakamoto T, Ouhara K, Kajiya M, Hirata S, Sugiyama E, Kakimoto N, Mizuno N: *Bone Rep*, 16:101165. doi: 10.1016/j.bonr.2021.101165, 2022.
 - 10: Intra- and inter-examination reproducibility of T2 mapping for temporomandibular joint assessment at 3.0 T: Wongratwanich P, Nagasaki T, Shimabukuro K, Konishi M, Ohtsuka M, Suei Y, Nakamoto T, Akiyama Y, Awai K, Kakimoto N: *Sci Rep*. 12(1):10993. doi: 10.1038/s41598-022-15184-9, 2022.
 - 11: Automated segmentation of articular disc of the temporomandibular joint on magnetic resonance images using deep learning: Ito S, Mine Y, Yoshimi Y, Takeda S, Tanaka A, Onishi A, Peng TY, Nakamoto T, Nagasaki T, Kakimoto N, Murayama T, Tanimoto K: *Sci Rep*. 2022 12(1):221. doi: 10.1038/s41598-021-04354-w, 2022.
 - 12: Evaluation of alveolar bone hypomineralization in pediatric hypophosphatasia using orthopantomography: Okawa R, Nakamoto T, Matayoshi S, Nakano K, Kakimoto N: *Sci Rep*. 12(1):1211. doi: 10.1038/s41598-022-05171-5, 2022.
 - 13: Four cases of cytokine storm after COVID-19 vaccination: case report: Murata K, Nakao N, Ishiuchi N, Fukui T, Katsuya N, Fukumoto W, Oka H, Yoshikawa N, Nagao T, Namera A, Kakimoto N, Oue N, Awai K, Yoshimoto K, Nagao M: *Frontiers in Immunology*. 2022 Aug 15;13:967226. doi: 10.3389/fimmu.2022.967226.
 - 14: Analysis of the feasibility of using deep learning for multiclass classification of dental anomalies on panoramic radiographs: Okazaki S, Mine Y, Iwamoto Y, Urabe S, Mitsuhashi C, Nomura R, Kakimoto N, Murayama T: *Dent Mater J*. 2022 Nov 30;41(6):889-895. doi: 10.4012/dmj.2022-098.
 - 15: Osteoporosis screening support system from panoramic radiographs using deep convolutional neural network: Nakamoto T, Taguchi A, Kakimoto N: *Dentomaxillofac Radiol*. 2022 Aug 2:20220135. doi: 10.1259/dmfr.20220135.

B) Review

C) Publications

- 6: Chapter 2: "Team Building in Radiotherapy" Section 1: Building a Team 3b: Teamwork that came alive in the introduction of new brachytherapy; Practice! Cancer Radiotherapy Team Oncology "Good" for All: Hiroshima University Hospital Radiotherapy Team Medical Project edited by Nishiki-Print Corporation (Hiroshima): Kakimoto, N., 45-48, 2022.
- 7: Chapter V. Radiotherapy for Oral Cancer 3. Adverse Reactions and Oral Management of Radiotherapy Patients; Dental Radiology Learned by Visually (Kaneda T., Murakami H., Morimoto Y.): Kakimoto N.: Suna Shobo Ltd. (Tokyo), 148-150, 2022.
- 8: Chapter 1 Examination 2-2CT; Handbook of Oral Surgery Training (Harada H, Kirita T, Chung H, Ikebe T, Kishimoto H): Kakimoto N: Ishiyaku Shuppan Co Ltd (Tokyo): 9-15, 2022

E) Presentation at Scientific Meeting

- 1: Tastes change after administering brachytherapy for tongue cancer patients: Konishi M, Shimabukuro K, Wongratwanich P, Kakimoto N: The 13th Asian Congress of Oral and Maxillo-facial Radiology, Gifu, Japan, 2022.
- 2: Brachytherapy with Au grains for buccal mucosa cancer patients: treatment outcomes and complications: Konishi M, Hirokawa J, Miyoshi S, Katsuta T, Imano N, Nishibuchi I, Murakami Y, Shimabukuro K, Kakimoto N, Nagata Y: The 35th Annual Meeting of the Japanese Society for Radiation Oncology, Hiroshima, 2022.
- 3: A case report of lobular capillary hemangioma with the mandible: Suzuki Y, Nagasaki T, Obayashi F, Ando T, Shimabukuro K, Otsuka M, Suei Y, Konishi M, Nakamoto T, Kakimoto N: The 41th annual joint meeting of Kansai and Kyushu of Japan Society of Oral and Maxillofacial Radiology, Kanazawa, 2022.
- 4: Evaluation of Pre-eruptive intracoronal resorption using CBCT: Shimabukuro K, Masaru K, Nagasaki T, Otsuka M, Nakamoto T, Suei Y, Kakimoto N: The 41th annual joint meeting of Kansai and Kyushu

- of Japan Society of Oral and Maxillofacial Radiology, Kanazawa, 2022.
- 5: Fiberoptic endoscopic evaluation of swallowing may increase pharyngeal residue in postoperative oral cancer patient: Nagasaki T, Yamada S, Yoshida M, Yoshikawa M, Shimabukuro K, Ohtsuka M, Konishi M, Suei Y, Nakamoto T, Kakimoto N: The 13th Asian Congress of Oral and Maxillo-facial Radiology, Gifu, Japan, 2022.
 - 6: Longitudinal analysis of mandibular bone mineral density in patients with hypophosphatasia without enzyme replacement therapy: Okuda M, Matayoshi S, Kariya R, Nakamoto T, Okawa R, Kakimoto N, Nakano K: 60th Annual Meeting of the Japanese Society of Pediatric Dentistry, Chiba (hybrid), 2022.
 - 7: Quantitative evaluation of mandibular bone density in patients with hypophosphatasia using panoramic radiographs: Takagi M, Matayoshi S, Kariya R, Nakamoto T, Ohkawa R, Kakimoto N, Nakano K: The 60th Annual Meeting of the Japanese Society of Pediatric Dentistry, Chiba City (Hybrid), 2022.
 - 8: A Preliminary Survey for the IPW under the Disasters -the Knowledge of Medical and Dental Students about Roles of Dentistry and other Health Professions-: Oka H, Kakimoto N: 41st Annual Meeting of the Japanese Society of Dental Medical Education: Web-based, 2022.
 - 9: Activities of the Center for Education and Research on Cause of Death and its Department of Dentistry, Graduate School of Medical Sciences, Hiroshima University: Summary Report in 2021: Oka H, Kakimoto N, Nomura R, Fukumoto W, Katsuya T, Ishiuchi N, Namara A, Awai K, Nagao M: The 106th Hiroshima University Dental Associations and 61st Hiroshima Prefectural Dental Society, Hiroshima, 2022.
 - 10: Verification of dental metal materials used in the oral cavity of the elderly: Analysis of 21 cases at the Research and Education Center for Cause of Death: Oka H, Obayashi N, Kitagawa M, Katsuya T, Ishiuchi N, Kakimoto N, Nagao M: The 106th Hiroshima University Dental Associations and 61st Hiroshima Prefectural Dental Society, Hiroshima, 2022.
 - 11: Maxillary tumor (Juvenile psammomatoid ossifying fibroma and odontoma associated with Sturge-Weber syndrome): Furusho H, Satou A, Matsumura T, Nakano M, Sawaki K, Yoshioka Y, Akashi S, Mizukawa N, Iida S, Kakimoto N, Miyauchi M: The joint meeting of the 32nd Annual Meeting of Japanese Society of Oral Medicine, the 33rd Annual Meeting of Japanese Society of Oral Pathology and the 35th Annual Meeting of Japanese Society of Oral Diagnosis/ Oral Medicine, Sapporo, 2022.

F) Special lectures in academic meetings

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grant-in-aid for Early-Career Scientists: Konishi M., Mechanism of taste dysfunction and recovery after radiotherapy. 20K18807, 700,000 JPY.
- 2: Joint research from Reasearch Center for Radiation Disaster Medical Science: Konishi M. Study on the mechanism of taste disorder from radiation. 100,000 JPY.
- 3: Research Grant (Nakanishi Co., Ltd): Doi K (Representative), Konishi M: Fundamental study for establishment of bone quality diagnosis system by bone cutting resistance value. 200,000 JPY.
- 4: Grant-in-aid for Scientific Research (C): Kakimoto N, Saito A, Nakamoto T, Konishi M, Quantitative dosimetry and dose distribution prediction modeling for high-dose-rate adaptive interstitial brachytherapy for oral cancer. 22K10219, 2,290,000 JPY

(5) Academic Awards

[Return to Contents](#)

Department of Biological Endodontics Division of Preventive and Restorative Dentistry (Department of Endodontics and Operative Dentistry)

(1) Staff and Students

Professor: Hideki Shiba

Lecturer: Katsuhiko Takeda

Assistant Professor: Shizu Hirata-Tsuchiya, Noriko Saito, Kazuma Yoshida, Jun Nakanishi,
Daisuke Furutama

graduate Student: Satomi Shirawachi, Tomoki Kumagai, Naoki Sadaoka, Tomoya Naruse,
Tomoki Kawayanagi, Wang Chutian, Saki Nishihama, Ayaka Miyata,

(2) Main Research Activities

Studies on biological regeneration of dentin/pulp complex and periapical tissues

Studies on pulp regeneration by regulation of inflammation

Studies on biological obturation of root canals at apical areas

Studies on development of a new therapeutic agent for intractable pain

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Oxidative stress impairs the calcification ability of human dental pulp cells: Shirawachi S., Takeda K., Naruse T., Takahashi Y., Nakanishi J., Shindo S., Shiba H.: *BMC Oral Health*, 22 :437, 2022.
- 2: Loss of IκB ζ drives dentin formation via altered H3K4me3 Status: Yuan H., Suzuki S., Terui H., Hirata-Tsuchiya S., Nemoto E., Yamasaki K., Saito M., Shiba H., Aiba S., Yamada S.: *J. Dent. Res.*, 101: 951-961, 2022.
- 3: Oxytocin suppresses CXCL10 production in TNF- α -stimulated human dental pulp stem cells: Kumagai T., Shindo S., Takeda K., Shiba H.: *Cell Biol. Int.*, 46: 1530-1535, 2022.
- 4: Impact of maximum tongue pressure in patients with jaw deformities who underwent orthognathic surgery: Koizumi K., Shintani T., Yoshimi Y., Higaki M., Kunimatsu R., Yoshioka Y., Tsuga K., Tanimoto K., Shiba H., Toratani S.: *Diagnostics (Basel)*. 12: 404, 2022.
- 5: Periapical lesion following Cnm-positive *Streptococcus mutans* pulp infection worsens cerebral hemorrhage onset in an SHRSP rat model: Taniguchi Y., Ouhara K., Kitagawa M., Akutagawa K., Kawada-Matsuo M., Tamura T., Zhai R., Hamamoto Y., Kajiya M., Matsuda S., Maruyama H., Komatsuzawa H., Shiba H., Mizuno N.: *Clin. Exp. Immunol.*, uxac094. doi: 10.1093/cei/uxac094, 2022.
- 6: Successful regenerative response of a severe bone defect in a right lower central incisor affected by a cemental tear: Nagahara T., Takeda K., Inoue S., Wada K., Shiba H.: *Clin. Case Rep.*, 10: e6472, 2022.
- 7: Cytokines regulate stemness of mesenchymal stem cells via miR-628-5p during periodontal regeneration: Iwata T., Mizuno N., Nagahara T., Kaneda-Ikeda E., Kajiya M., Sasaki S., Takeda K., Kiyota M., Yagi R., Fujita T., Kurihara H.: *J Periodontol.*, 93(2):269-286, 2022.
- 8: Clumps of mesenchymal stem cells/extracellular matrix complexes directly reconstruct the functional periodontal tissue in a rat periodontal defect model. Sone H., Kajiya M., Takeda K., Sasaki S., Horikoshi S., Motoike S., Morimoto S., Yoshii H., Yoshino M., Iwata T., Ouhara K., Matsuda S., Mizuno N.: *J Tissue Eng Regen Med*. 2022 (in press)
- 9: Three cases of endo-periodontal lesions: Nagahara T., Takeda K., Shiba H.: *Jpn. J. Conserv. Dent.*, 65 : 294–304, 2022.
- 10: A questionnaire survey on the effects of experience-based learning and scenario-based practice on pre- and post-graduate dental education in the basic education of operative dentistry and endodontology: Washio A., Morotomi T., Saito N., Yoshii S., Fujimoto M., Orimoto A., Aihara R., and Kitamura C.: *The Japanese Journal of Conservative Dentistry*, 65(2): 134-144, 2022.

B) Review

C) Publications

- 1: Aseptic procedure for endodontics: Takeda K., Shiba H.: 94-102, Endodontics, 6th edition (Chief editor: Okiji T., Ishii N., Kitamura C., Hayashi M.), Nagasue Shoten (Kyoto, Japan), 2022.

D) Other Publications

- 1: Cementum tear, from structure, pathogenesis, and cause to specific measures: Nagahara T., Shiba H.: 74-94, The Nippon Dental Review, Hyoron, July, 2022.
- 2: Handbook for new clinical internship dentists: Correspondence to the revision of medical fees in 2022, Correspondence at the time of perforation of the floor of the pulp: Saito N., Kitamura C.: (edited by Hirofujii T., Awano S., and Yoneda M.) Ishiyaku Publishers, Inc. :340-343, 2022.

E) Presentations at Scientific Meetings

- 1: Three cases of endo-periodontal lesions: Nagahara T., Takeda K., Shiba H.: The 156th meeting of the Japanese Society of Conservative Dentistry, held online, 2022.
- 2: A case report of invasive cervical resorption of a maxillary central incisor: Takeda K., Shiba H.: The 43th meeting of the Japan Endodontic Association, held online, 2022.
- 3: A case of autotransplantation for a radicular-cyst-affected tooth with root fracture and periapical osteoperiostitis : Nagahara T., Wada K., Furutama D., Takada K., Shiba H.: The 43th meeting of the Japan Endodontic Association, held online, 2022.
- 4: Relationship between CD4+ T-cell counts at the first visit and initial periodontal treatment efficacy in people living with HIV: A retrospective observational study: Shintani T., Okada M., Iwata T., Kawagoe M., Yamazaki N., Inoue N., Fujii T., Shiba H.: The 36th annual meeting of the Japanese Society for AIDS Research, 2022.
- 5: Successful regenerative response of severe bone defect with cemental tear: Takayoshi N., Katsuhiro T., Hideki S.: The 108th Annual Meeting of the American Academy of Periodontology in collaboration with the Japanese Academy of Clinical Periodontology, the Japanese Society of Periodontology. Phoenix, AZ, 2022.
- 6: Association between anti-*P. gingivalis* antibodies and anti-citrullinated vimentin antibodies in the patients with rheumatoid arthritis: Shindo S., Nakamura S., Rawas-Qalaji M., Potempa J., Arvikar S., Kazuhisa O., Shiba H., Kawai T.: IMMUNOLOGY 2022, Portland, OR, 2022.
- 7: Relationship between CD4+ T-cell counts at the first visit and initial periodontal treatment efficacy in people living with HIV: A retrospective observational study: Okada M., Shintani T., Iwata T., Kawagoe M., Yamazaki N., Inoue N., Furutama D., Takada K., Nakaoka M., Mizuno N., Fujii T., Kajiya M., Shiba H.: The 61th meeting of Hiroshima Prefectural Dental Association and the 106th regular meeting of Hiroshima University Dental Society, Hiroshima, 2022.
- 8: Implementation status of AIDS measures in the Chugoku-Shikoku block: Shiba H.: 24th Japan Society for HIV Dental Medicine, 2022.
- 9: Pathogenic diversity of clinical isolates of *Streptococcus mutans* : Wang C., Takeda K., Shiba H.: The 157th meeting of the Japanese Society of Conservative Dentistry, 2022.
- 10: Analysis of the interaction between BMP/Smad and TNF α -induced inflammatory signals: Hirata-Tsuchiya S., Suzuki S., Sato A., Nakanishi J., Yoshida K., Yamada S., Shiba H.: The 157th Japanese Society of Conservative Dentistry (Okayama), 2022.
- 11: Analysis of MXRA5 function in pulp cells: Yoshida K., Suzuki S., Sato A., Yamada S., Shiba H.: The 157th Japanese Society of Conservative Dentistry (Okayama), 2022.
- 12: Anti-inflammatory effect of hybrid recombinant Phosphoryn affects BMP-2-induced bone formation.: Nakanishi J., Suzuki S., Yoshida K., Hirata-Tsuchiya S., Akiko Sato., Yamada S., Shiba H.: The 157th Japanese Society of Conservative Dentistry (Okayama), 2022.
- 13: Prognostic survey after root canal filling of a single-root-canal tooth with an apical root canal enlarged equally to and more than ISO standard No. 55.: Furutama D., Hirata-Tsuchiya S., Saitou N., Naruse T., Kawayanagi T., Nishihama S., Miyata A., Sadaoka N., Shirawachi S., Yoshida K., Nakanishi J., Takeda K., Shiba H.: The 157th Japanese Society of Conservative Dentistry (Okayama), 2022.

- 2022.
- 14: Resistance mechanism of cariogenic bacteria streptococcus mutans to nukacin produced by Staphylococcus epidermidis: Sadaoka N., Matsuo M., LE Nguyen TRA MI., Shiba H., Komatsuzawa H.: The 64th Journal of Oral Biosciences (Tokushima), 2022.
 - 15: Genetic analysis of ESBL-producing bacteria in Hiroshima Prefecture in 2020 : Kawayanagi T., Matsuo M., Liansheng Y., Hisatsune J., Kayama S., Ikeda M., Masuda K., Arai T., Le M, Shiba H., Sugai M., Ohge H., Komatsuzawa H.: The 70th Annual Meeting of the Japanese Society for Chemotherapy (Gifu), 2022.
 - 16: Genetic analysis of ESBL-producing bacteria in Hiroshima Prefecture in 2020 : Kawayanagi T., Matsuo M., Liansheng Y., Hisatsune J., Kayama S., Ikeda M., Masuda K., Arai T., Le M., Shiba H., Sugai M., Ohge H., Komatsuzawa H.: The 75th General Meeting of the Central Shikoku Branch of the Japan Bacteriological Society (Okayama), 2022.
 - 17: Prognostic study after root canal filling of single root canal tooth with destruction of apical foramen: Saito N., Hirata-Tsuchiya S., Furutama D., Naruse T., Kawayanagi T., Nishihama S., Miyata A., Sadaoka N., Shirawachi S., Yoshida K., Nakanishi J., Takeda K., Shiba H.: The 61th meeting of Hiroshima Prefectural Dental Association and 106th regular meeting of Hiroshima University Dental Society (Hiroshima), 2022.

F) Special lectures in academic meeting

- 1: Approach for endo-periodontal lesions: Shiba H.: 2022 Japan Endodontic Association Workshop, online, June, 2022.
- 2: Proposal for Biological Endodontics : Shiba H.: Stovit Online Series (TADS), Universitas Airlangga, on line, July, 2022.
- 3: Endodontic topics: Invasive cervical resorption : Takeda K.: Stovit Online Series (TADS), Universitas Airlangga, on line, July, 2022.
- 4: Drug-resistant Gram-negative rods in the oral cavity: a new aspect of infection control, Kawayanagi T.: The 1st Research Seminar on Oral Infectious Diseases (Project Research Center for Oral Infectious Diseases, Hiroshima University), Hiroshima, 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Research grants: Grants for research received from Hiroshima Prefecture: Hideki Shiba, Study on network-construction of dental practice for HIV infection: ¥3,000,000.
- 2: Grants-in-Aid for Scientific Research(B): Shiba H, Extension of healthy life expectancy through elucidating the mechanism of exacerbation of cerebral hemorrhage through PRIP by Cnm-positive cariogenic bacteria. #21H03120. ¥5,000,000.
- 3: Grants-in-Aid for Scientific Research(C): Takeda K, Development of a new conservative treatment of dental pulp using BDNF based on the regulation of pulp cell-macrophage cooperation. #20K09976. ¥1,200,000.
- 4: Grants-in-Aid for Scientific Research (C): Tsuchiya S, Development of hard tissue regeneration treatment through the regulation of estrogen signaling by the MTI-II. #20K09956. ¥1,430,000.
- 5: Grant-in-Aid for Early-Career Scientists: Yoshida K, Development of novel vital pulp therapy with MXRA5. #22K17037. ¥1,600,000.
- 6: Grant-in-Aid for Early-Career Scientists: Nakanishi J, Development of conservative treatment of dental pulp applying hybrid recombinant Phosphophoryn. #20K18510. ¥754,000.
- 7: Grant-in-Aid for Early-Career Scientists: Nakanishi J, Bone regeneration with bone supplementing material that has the multi-functionality of hybrid recombinant phosphophoryn. #22K17059. ¥1,700,000.
- 8: Grant-in-Aid for Early-Career Scientists: Furutama D, Elucidation of the Effect of Chronic Inflammation induced by Periodontitis on Sarcopenia. #21K16969. ¥1,800,000.
- 9: JSPS Research Fellowship for Young Scientists: Kumagai T, Development of new treatment for rheumatoid arthritis related to Periodontitis by using specific inhibitors for PAD from periodontopathogenic bacteria. #22J1254700. ¥900,000.
- 10: Grant-in-Aid for Early-Career Scientists: Saito N, Analysis of physiological function and clinical application of semaphorin 7A in pulpitis. #19K189981. ¥1,600,000.

(5) Academic Awards, etc.

(6) Patents

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Department of Pediatric Dentistry

Division of Oral Health and Development

Department of Pediatric Dentistry

(1) Staff and Students

Professor: Ryota Nomura (Feb.~) (*)Chief: Ryota Nomura (by-work)
 (Feb.~)
 Associate Professor: Chieko Mitsuata Chief: Chieko Mitsuata (by-work) (~Feb.)
 Assistant Professor: Noriko Niizato (~Sep.), Meiko Tachikake, Yuko Iwamoto,
 Masashi Nakano, Tatsuya Akitomo
 Resident: Tomoko Ogasawara, Yuria Asao (Apr.~)
 Graduate Student: Yuria Asao (~Mar.), Satoru Kusaka, Momoko Usuda, Mariko Kametani
 Clinical Trainee: Fumiko Hayashi, Akira Yamane, Seiko Watanabe, Ami Okamine, Shuhei Kaneko

(2) Main Research Activities

- 5: Research on the effects of oral bacteria on systemic diseases
- 6: Bacteriological research of onset mechanism and prevention of dental caries in children
- 7: Bacteriological research in periodontal diseases in children
- 8: Clinical research in oral care in children suffering from systematic diseases
- 9: Evaluation of psychological stress in dental treatment in children
- 10: Dental approach to pediatric dysphagia
- 11: Investigation of oral status of Cambodian children
- 12: Research in oral environment and dental diseases in abused children

(3) Research Achievements

A) Original Papers (including Case Reports)

English papers

- 7: Three-year survey of oral hygiene conditions of Cambodian public primary school children: Asao Y., Iwamoto Y., Mitsuata C., Naito M., Kozai K.: *Journal of Oral Science*, 64(3), 208-211, 2022.
- 8: Green tea catechins inhibit *Porphyromonas gulae* LPS-induced inflammatory responses in human gingival epithelial cells: Yoshida S., Inaba H., Nomura R., Nakano K., Matsumoto-Nakano M.: *Journal of Oral Biosciences*, 64(3), 352-358, 2022.
- 9: Simultaneous presence of *Campylobacter rectus* and *cnm*-positive *Streptococcus mutans* in the oral cavity is associated with renal dysfunction in IgA nephropathy patients: 5-year follow-up analysis: Misaki T., Naka S., Nagasawa Y., Matsuoka D., Ito S., Nomura R., Matsumoto-Nakano M., Nakano K.: *Nephron*, 23, 1-10, 2022.
- 10: Characterization of the unique oral microbiome of children with Down syndrome: Mitsuata C., Kado N., Hamada M., Nomura R., Kozai K.: *Scientific Reports*, 12, 14150, 2022.
- 11: Detecting the presence of supernumerary teeth during the early mixed dentition stage using deep learning algorithms: A pilot study: Mine Y., Iwamoto Y., Okazaki S., Nakamura K., Takeda S., Peng T.Y., Mitsuata C., Kakimoto N., Kozai K., Murayama T.: *International Journal of Paediatric Dentistry*, 32(5), 678-685, 2022.
- 12: Analysis of the feasibility of using deep learning for multiclass classification of dental anomalies on panoramic radiographs: Okazaki S., Mine Y., Iwamoto Y., Urabe S., Mitsuata C., Nomura R., Kakimoto N., Murayama T.: *Dental Materials Journal*, 41(6), 889-895, 2022.
- 13: Clinical characteristics of children and guardians possessing CBP-positive *Streptococcus mutans* strains: a cross-sectional study: Otsugu M., Mikasa Y., Kitamura T., Suehiro Y., Matayoshi S., Nomura R., Nakano K.: *Scientific Reports*, 12, 17510, 2022.
- 14: Establishment of indicator for screening of child abuse and neglect in primary school-age children: Kaihara Y., Sasahara H., Niizato N., Yamane A., Nikawa H., Yamasaki K., Hosohara K., Kozai K.:

- European Journal of Paediatric Dentistry, 23(4), 315-320, 2022.
- 15: The effect of improving oral health literacy among teachers on the oral health condition of primary schoolchildren in Cambodia: Asao Y., Iwamoto Y., Chea C., Chher T., Mitsuhata C., Naito M., Kozai K.: European Journal of Paediatric Dentistry, 23(4), 321-326, 2022.
 - 16: Distribution of periodontopathic bacterial species between saliva and tonsils: Nomura R., Nagasawa Y., Misaki T., Ito S., Naka S., Okunaka M., Watabe M., Tsuzuki K., Matsumoto-Nakano M., Nakano K.: Odontology, in press.
 - 17: Detection of *Helicobacter pylori* from extracted teeth of a patient with idiopathic thrombocytopenic purpura: Hamada M., Nomura R., Matayoshi S., Ogaya Y., Kameyama H., Uzawa N., Nakano K.: Microorganisms, 10(11), 2285, 2022.

Japanese papers

- 1: A survey of the oral health conditions of hemophilic children: Akitomo T., Niizato N., Usuda M., Kametani M., Kusaka S., Asao Y., Ogasawara T., Nakano M., Iwamoto Y., Tachikake M., Mitsuhata C., Nomura R., Kozai K.: The Japanese Journal of Pediatric Dentistry, 60(3), 93-98, 2022.
- 2: A case of ectopic eruption of the left mandibular second molar in a child with Williams syndrome improved by occlusal guidance: Tachikake M., Nakano M., Akitomo T., Iwamoto Y., Asao Y., Mitsuhata C.: Journal of the Japanese society for disability and oral health, 43(2), 129-136, 2022.

B) Review

- 2: Management of bisphosphonate preparation-treated children in the field of pediatric dentistry: Mitsuhata C., Kozai K.: Japanese Dental Science Review, 58, 155-161, 2022.
- 3: Solid-Phase cytometry using antibody microarrays: Ogasawara T., Kato K.: J. Hiroshima Univ. Dent. Soc., 54(1), 1-10, 2022.
- 4: Association between the Maternal Caries Experience and Early Childhood Caries -A Systematic Review-: Kondo M., Sumitani E., Nishimura R., Ishizu H., Asao Y., Iwamoto Y., Naito M.: Hiroshima Univ. Dent. Soc., 54(2), 63-68, 2022.

C) Publications

- 9: Communication and behavioral science on health care. 2nd edition: Iwamoto Y. (co-authored): Ishiyaku Publishers, Inc., (Tokyo), 166-171, 2022.
- 10: Pediatric Dentistry for Clinicians BASIC & CASEBOOK: Nomura R. (co-authored): Dental Diamond Co., (Tokyo), 152-155, 2022.

D) Other Publications

E) Presentations at Scientific Meetings

- 6: Long-term observation of sisters with Basal Cell Nevus Syndrome: Tachikake M., Nakano M., Mitsuhata C., Kozai K.: The 60th Congress of Japanese Society of Pediatric Dentistry (Chiba), 2022.
- 7: A case of third supernumerary tooth occurring in the same region: Akitomo T., Asao Y., Iwamoto Y., Mitsuhata C., Kozai K.: The 60th Congress of Japanese Society of Pediatric Dentistry (Chiba), 2022.
- 8: Three cases of crown malformation of permanent teeth derived from traumatic injuries to upper anterior primary teeth in 1-year-old children: Asao Y., Tachikake M., Nakano M., Akitomo T., Mitsuhata C., Kozai K.: The 60th Congress of Japanese Society of Pediatric Dentistry (Chiba), 2022.
- 9: The dental findings of child with Pitt-Hopkins Syndrome: Usuda M., Akitomo T., Niizato N., Asao Y., Ogasawara T., Mitsuhata C., Kozai K.: The 60th Congress of Japanese Society of Pediatric Dentistry (Chiba), 2022.
- 10: Effect of continuous dental treatment and oral health education of haemophilic children: Kametani M., Akitomo T., Niizato N., Mitsuhata C., Kozai K.: The 60th Congress of Japanese Society of Pediatric Dentistry (Chiba), 2022.
- 11: Cariostatic effect of Apatite from Scallop Shells on *Streptococcus mutans*: Usuda M., Kametani M., Kadota K., Ogaya Y., Akitomo T., Mitsuhata C., Nakano K., Nomura R.: The 41st Congress of Japanese Society of Pediatric Dentistry Kinki Branch (Hirakata), 2022.
- 12: Analysis of the oral microbiome using dental plaque from children with Down syndrome: Kametani

- K., Mitsuhashi C., Usuda M., Kozai K., Nomura R.: The 41st Congress of Japanese Society of Pediatric Dentistry Kinki Branch (Hirakata), 2022.
- 13: Antimicrobial effect of Shikonin on cariogenic bacteria and oral streptococci: Suehiro Y., Matayoshi S., Nomura R., Nakano K.: The 41st Congress of Japanese Society of Pediatric Dentistry Kinki Branch (Hirakata), 2022.
 - 14: A case of inverted impacted supernumerary teeth in the maxillary midline region erupted as normal supernumerary teeth after several years: Asao Y., Niizato N., Tachikake M., Iwamoto Y., Akitomo T., Mitsuhashi C., Nomura R., Kozai K.: The 34th Annual Meeting and Academic conference of Japanese Society of Pediatric Oral and Maxillofacial Surgery (Tokyo), 2022.
 - 15: Past efforts at temporary shelters in Hiroshima prefecture and the transition to outsourced dental health promotion services for temporary shelters: Maeshima M., Okamoto M., Yamane T., Goda H., Shintani N., Nii N., Danjo A., Shitozawa M., Ito T., Shintani H., Yamanaka N., Kamikawa K., Yamasaki K., Mitsuhashi C., Nomura R., Niizato N., Kozai K.: The 61st Hiroshima Dental Society, The 106th Annual Meeting of Hiroshima University Dental Society (Hiroshima), 2022.
 - 16: Activities of the center for cause of death investigation research and education and health sciences and its division of legal dentistry, Graduate School of Biomedical and Health Sciences, Hiroshima University: A summary report for 2021: Oka H., Kakimoto N., Nomura R., Fukumoto W., Katsuya N., Iishiuchi N., Narama A., Awai K., Nagao M.: The 61st Hiroshima Dental Society, The 106th Annual Meeting of Hiroshima University Dental Society (Hiroshima), 2022.
 - 17: A case of long term oral management with liner nevus sebaceous syndrome: Iwamoto Y., Nakano M., Kametani M., Akitomo T., Watanabe S., Asao Y., Mitsuhashi C., Kozai K., Nomura R.: The 41st Congress of Japanese Society of Pediatric Dentistry Chushikoku Branch (Tokushima), 2022.
 - 18: A case of broken instrument in the root canal of a deciduous molar: Nakano M., Kusaka S., Tachikake M., Kaneko S., Ogasawara T., Mitsuhashi C., Kozai K., Nomura R.: The 41st Congress of Japanese Society of Pediatric Dentistry Chushikoku Branch (Tokushima), 2022.
 - 19: A case of cusp of the palate side diagnosed as fused tooth with the maxillary lateral incisor: Akitomo T., Usuda M., Okamine A., Niizato N., Mitsuhashi C., Kozai K., Nomura R.: The 41st Congress of Japanese Society of Pediatric Dentistry Chushikoku Branch (Tokushima), 2022.
 - 20: Inhibitory effect of S-PRG filler on *Streptococcus mutans* in the presence of sucrose: Kametani M., Usuda M., Akitomo T., Nakano M., Suehiro Y., Matayoshi S., Mitsuhashi C., Nakano K., Nomura R.: The 41st Congress of Japanese Society of Pediatric Dentistry Chushikoku Branch (Tokushima), 2022.
 - 21: Study on the localization of *Helicobacter pylori* in extracted teeth: Usuda M., Kametani M., Akitomo T., Suehiro Y., Matayoshi S., Nakano M., Mitsuhashi C., Naka S., Nakano M., Nakano K., Nomura R.: The 41st Congress of Japanese Society of Pediatric Dentistry Chushikoku Branch (Tokushima), 2022.
 - 22: Investigation of the wound healing therapeutic effect of Shikonin on human vascular endothelial cells infected with *Porphyromonas gingivalis*: Suehiro Y., Matayoshi S., Nomura R., Nakano K.: The 41st Congress of Japanese Society of Pediatric Dentistry Chushikoku Branch (Tokushima), 2022.

F) Special lectures in academic meetings

- 1: JSPS Core-to-Core program Asia-Africa science platforms international seminar now and future for international medical education and fostering young researchers: Dental support activity in Cambodia - to save children's oral health -: Iwamoto Y.: Hiroshima university Kasumi-campus (Hiroshima), 2022.11.10.
- 2: Ehime dental hygienists' association 2022 1st professional training session of 5th lifelong training system: Oral health for infants and school children ~Spreading "knowledge" to protect their health~: Iwamoto Y.: (online), 2022.5.29.
- 3: The 30th Hiroshima prefecture school dental health research conference: Dental trauma in childhood: Nomura R.: (on demand), 2022.9.12-12.20.
- 4: Pediatric dentistry clinical level up workshop: Pediatric dentistry for general dentists: Nomura R.: Hiroshima prefectural dental hall (Hiroshima), 2022.10.23.
- 5: 2022 School dentists' conference: Trauma to children's mouths - Toward the simplest and best method of treatment: Nomura R.: Hiroshima prefectural dental hall (Hiroshima), 2022.11.24.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grant-in-Aid for Scientific Research (C): Nomura R. (Principal Investigator), A new strategy for the prevention of *Helicobacter pylori* colonization in children focusing on dental caries and the oral environment. 21K10184. ¥1,322,000.
- 2: Grant-in-Aid for Scientific Research (B): Nomura R. (Co-Investigator), Investigation of new mechanisms for the control of systemic diseases induced by cariogenic bacteria. 21H03149. ¥1,900,000.
- 3: Fostering Joint International Research (B): Nomura R.(Co-Investigator), A new strategy to reduce systemic disease in low- and middle-income countries focusing on the collagen-binding ability of cariogenic bacteria. 21KK0160. ¥1,050,000.
- 4: Grant-in-Aid for Scientific Research (C): Nomura R. (Co-Investigator), Investigation of the colonization environment and methods to prevent the colonization of cariogenic bacteria, which are highly associated with systemic diseases. 22K10268. ¥450,000.
- 5: Grant-in-Aid for Scientific Research (C): Nomura R.(Co-Investigator), Investigation of the association between *Helicobacter pylori* and periodontopathic bacterial colonization in the oral cavity of children. 22K10269. ¥450,000.
- 6: Grant-in-Aid for Scientific Research (C): Nomura R. (Co-Investigator), Elucidation of the mechanism of development of red complex species and IgA nephropathy and development of new treatment methods. 21K08242. ¥300,000.
- 7: Grant-in-Aid for Scientific Research (C): Nomura R. (Co-Investigator), Pathogenicity and function/structure relationships of *S. mutans* collagen-binding proteins solved by antibody-mimetic molecules. 22K10233. ¥200,000.
- 8: Grant-in-Aid for Scientific Research (C): Mitsuhashi C. (Principal Investigator), Effect of childhood stress on developmental brain formation. 21K10161. ¥1,100,000.
- 9: Grant-in-Aid for Scientific Research (C): Mitsuhashi C. (Co-Investigator), Elucidation of caries-preventive mechanisms in children by the TAS2R family of bitter taste receptors. 20K10203. ¥400,000.
- 10: Grant-in-Aid for Early-Career Scientists: Iwamoto Y. (Principal Investigator), Development of oral health education model for children in Cambodia and Southeast Asia. 19K19330. ¥800,000.
- 11: Grant-in-Aid for Scientific Research (C): Iwamoto Y. (Co-Investigator), Effect of childhood stress on developmental brain formation. 21K10161. ¥100,000.
- 12: FUTOKU foundation: Akitomo T, Elucidation of cariostatic effect of Hydroxy- α -Sanshool. ¥300,000.

(5) Academic Awards, etc.

(6) Patents

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**Department of Dental Anesthesiology,
Graduate School of Biomedical and Health Sciences and
Department of Dental Anesthesiology,
Division of Oral & Maxillofacial Surgery and Oral Medicine**

(1) Staff and Students

Lecturer: Mitsuhiro Yoshida
Research Associate: Yoshitaka Shimizu, Mitsuru Doi, Akari Mukai, Kana Oue
Resident: Tamayo Takahashi, Aya Oda, Hisanobu Kamio, Serika Motoike, Utaka Sasaki, Takahiro Kochi

(~Sep.)

Graduate Student: Eiji Imado

Clinical Trainee: Michio Kawahara, Masaki Yasusaka, Taiga Yoshinaka, Yuka Maetani

(2) Main Research Activities

- 1: Study on mechanisms of general anesthetic action
- 2: Development of a novel general anesthetic method applying enhancement of descending pain suppression system
- 3: Study on role of each neuron in an intravenous anesthetic agent-induced anesthetic factor
- 4: Study on a stage of delirium in general anesthesia
- 5: Study on involvement of dopamine neurons in awakening from general anesthesia
- 6: Study on antianxiety effects of sedative drugs
- 7: Study on respiratory sound monitor during dental treatment under sedation
- 8: Study on effects of nitrous oxide on cardiovascular system
- 9: Study on chronic pain
- 10: Study on medical emergency during dental treatments

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Central high mobility group box-1 induces mechanical hypersensitivity with spinal microglial activation in a mouse model of hemi-Parkinson's disease: Sato F, Nakamura Y, Ma S, Kochi T, Hisaoka-Nakashima K, Wang D, Liu K, Wake H, Nishibori M, Morioka N, Biomed Pharmacother, 145, 112479, 2022.
- 2: Real-time assessment of swallowing sound using an electronic stethoscope and an artificial intelligence system: Suzuki K, Shimizu Y, Ohshimo S, Oue K, Saeki N, Sadamori T, Tsutsumi Y, Irifune M, Shime N: Clin Exp Dent Res., 8(1), 225-230, 2022.
- 3: Pentobarbital may protect against neurogenic inflammation after surgery via inhibition of substance P release from peripheral nerves of rats: Onizuka C, Irifune M, Mukai A, Shimizu Y, Doi M, Oue K, Yoshida M, Kochi T, Imado E, Kanematsu T, Nakamura Y, Morioka N, Nakata Y, Sakai N: Neurosci Lett, 6, 771:136467, 2022.
- 4: Effects of antipsychotics on intravenous sedation with midazolam and propofol during dental treatment for patients with intellectual disabilities: Oda Y, Yoshida K, Kawano R, Yoshinaka T, Oda A, Takahashi T, Oue K, Mukai A, Irifune M, Okada Y: J Intellect Disabil Res, 66(4):323-331, 2022.
- 5: Mirogabalin alleviates nociceptive hypersensitivity without causing sedation in a mouse model of post-traumatic trigeminal neuropathy: Kochi T, Nakamura Y, Ma S, Uemoto S, Hisaoka-Nakashima K, Irifune M, Morioka N: Behav Brain Res, 3, 425, 113829, 2022.
- 6: Interoceptive accuracy is related to the psychological mechanisms of the burning mouth syndrome: a cross-sectional study: Yoshino A, Otsuru N, Doi M, Maekawa T, Sasaoka T, Yamawaki S: BMC Oral Health, 22(1), 297, 2022.
- 7: Difficult intubation and postoperative aspiration pneumonia associated with Moebius syndrome: a

case report.: Oda A, Oue K, Oda Y, Taguchi S, Takahashi T, Mukai A, Doi M, Shimizu Y, Irifune M, Yoshida M: *BMC Anesthesiol*, 22(1), 316, 2022.

- 8: Prenatal exposure to valproic acid causes allodynia associated with spinal microglial activation: Imado E, Sun S, Abawa AR, Tahara T, Kochi T, Huynh TNB, Asano S, Hasebe S, Nakamura Y, Hisaoka-Nakashima K, Kotake Y, Irifune M, Tsuga K, Takuma K, Morioka N, Kiguchi N, Ago Y: *Neurochem Int*, 160, 105415, 2022.

B) Review

C) Publications

- 1: Evaluation of pain: Clinical dental anesthesiology 6th edn. (Hitoshi Niwa, Masahiro Irifune, Hikaru Kohase, Toru Shibuya): Mitsuru Doi: Nagasue shoten inc. (Kyoto), 228-230, 2022.

D) Other Publications

E) Presentation at Scientific Meeting

- 1: Involvement of microglia in mechanical allodynia in a mouse model of neurodevelopmental disorder: Eiji Imado, Samnang Sun, Abrar Abawa, Satoshi Asano, Yoki Nakamura, Kazue Nakashima, Norimitsu Morioka, Kazuhiro Tsuga, Masahiro Irifune, Kazuhiro Takuma, Norikazu Kiguchi, Yukio Ago: The 95th Annual Meeting of the Japanese Pharmacological Society (Fukuoka), 2022.
- 2: Pretreatment with RAGE inhibitor prevents the onset of nociceptive behavior in mice with distal infraorbital nerve chronic constriction injury: Simeng Ma, Yoki Nakamura, Takahiro Kochi, Kazue Nakashima, Norimitsu Morioka: The 95th Annual Meeting of the Japanese Pharmacological Society (Fukuoka), 2022.
- 3: Abnormal pain sensitivity associated with spinal microglial activation in a prenatal valproic acid-induced mouse model of autism: Eiji Imado, Sun Samnang, Abrar Rizal Abawa, Satoshi Asano, Kazuhiro Tsuga, Masahiro Irifune, Yukio Ago: The 55th Annual Meeting of the Hiroshima University Dental Society (Hiroshima), 2022.
- 4: Waiting Is Effective for Smoothed Tooth Extraction Under Intravenous Sedation: Mitsuhiro Yoshida, Shigehiro Ono, Tamayo Takahashi, Aya Oda, Akari Mukai, Kana Oue, Mitsuru Doi, Yoshitaka Shimizu, Masahiro Irifune: 2022 IADR/LAR General Session & Exhibition (web), 2022.
- 5: Prenatal valproic acid exposure in mice causes allodynia and spinal microglial activation: Yukio Ago, Eiji Imado, Samnang Sun, Yoki Nakamura, Kazue Nakashima, Norimitsu Morioka, Kazuhiro Takuma, Norikazu Kiguchi, Satoshi Asano: *Neuro 2022* (Okinawa), 2022.
- 6: Possible role of histone deacetylase inhibition in tactile hypersensitivity in a mouse model of autism spectrum disorder : Samnang Sun, Eiji Imado, Tran Ngoc Bao Huynh, Yoki Nakamura, Kazue Hisaoka-Nakashima, Norimitsu Morioka, Norikazu Kiguchi, Satoshi Asano, Yukio Ago: The 37th Drug discovery and Pharmacology Forum (Okayama), 2022.
- 7: A case of malignant tumor surgery in an elderly patient with bronchiectasis managed with sedation mainly for analgesia: Tamayo Takahashi, Eiji Imado, Utaka Sasaki, Serika Motoike, Hisanobu Kamio, Aya Oda, Kana Oue, Akari Mukai, Mitsuru Doi, Yoshitaka Shimizu, Mitsuhiro Yoshida: The 36th Scientific Meeting of Dental Anesthesiology in Chugoku and Shikoku Branch (web), 2022.
- 8: Reality shock and the mental health of dental students: Mitsuru Doi, Akari Mukai, Kana Oue, Tamayo Takahashi, Aya Oda, Utaka Sasaki, Serika Motoike, Eiji Imado, Hisanobu Kamio, Yoshitaka Shimizu, Mitsuhiro Yoshida: The 36th Scientific Meeting of Dental Anesthesiology in Chugoku and Shikoku Branch (web), 2022.
- 9: An oral management of severe persistent asthma patient who has allergy to drugs and foods for 7 years in medical-dental collaboration: Aya Oda, Kana Oue, Hisanobu Kamio, Tamayo Takahashi, Akari Mukai, Mitsuru Doi, Yoshitaka Shimizu, Mitsuhiro Yoshida: The 50h Annual Meeting of the Japanese Dental Society of Anesthesiology (Tokyo), 2022.
- 10: A case of intravenous sedation with remimazolam for implant surgery: Kana Oue, Aya Oda, Taiga Yoshinaka, Yuka Maetani, Akari Mukai, Mitsuru Doi, Yoshitaka Shimizu, Mitsuhiro Yoshida: The 50h Annual Meeting of the Japanese Dental Society of Anesthesiology (Tokyo), 2022.
- 11: Involvement of dopaminergic and serotonergic neurons in the area postrema of rats in nausea and

- vomiting induced by intravenous anesthetics : Behavioral and brain microdialysis studies: Utaka Sasaki, Masahiro Irifune, Eiji Imado, Serika Motoike, Aya Oda, Kana Oue, Mitsuhiro Yoshida, Yukio Ago: The 50th Annual Meeting of the Japanese Dental Society of Anesthesiology (Tokyo), 2022.
- 12: Long-lasting mechanical allodynia and spinal microglial activation in a mouse model of autism spectrum disorder: Eiji Imado, Masahiro Irifune, Yukio Ago: The 50th Annual Meeting of the Japanese Dental Society of Anesthesiology (Tokyo), 2022.
 - 13: A case of brain abscess from infective endocarditis after tooth extraction in an adult Down's syndrome patient with congenital heart disease: Kana Oue, Yuki Oda, Akari Mukai, Taiga Yoshinaka, Aya Oda, Tamayo Takahashi, Eiji Imado, Yoshitaka Shimizu, Yoshiyuki Okada, Mitsuhiro Yoshida: The 39th Annual Meeting of the Japanese Society for Disability and Oral Health (Kurashiki), 2022.
 - 14: A case of dental treatment for a multiple system atrophy patient with trismus under nitrous oxide inhalation sedation: Tamayo Takahashi, Akari Mukai, Eiji Imado, Aya Oda, Kana Oue, Yuki Oda, Yoshitaka Shimizu, Yoshiyuki Okada, Mitsuhiro Yoshida: The 39th Annual Meeting of the Japanese Society for Disability and Oral Health (Kurashiki), 2022.
 - 15: Perioperative anesthesia management of a COVID-19-infected autism spectrum disorder child with severe obesity: Aya Oda, Kana Oue, Yuki Oda, Eiji Imado, Tamayo Takahashi, Akari Mukai, Yoshitaka Shimizu, Yoshiyuki Okada, Mitsuhiro Yoshida: The 39th Annual Meeting of the Japanese Society for Disability and Oral Health (Kurashiki), 2022.
 - 16: A case of nonodontogenic toothache improved with behavioral activation: Hisanobu Kamio, Naohiro Kimura: The 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.
 - 17: A case of fiberoptic nasotracheal intubation using remimazolam for a patient with difficult airway: Kana Oue, Aya Oda, Tamayo Takahashi, Yuki Oda: The 42nd Annual Meeting of the Japan Society for Clinical Anesthesia (Kyoto), 2022.
 - 18: Perioperative management of a suspected Klippel-feil syndrome child with polymicrogyria: Aya Oda, Yuki Oda, Tamayo Takahashi, Kana Oue: The 42nd Annual Meeting of the Japan Society for Clinical Anesthesia (Kyoto), 2022.
 - 19: Anesthetic management of a pediatric patient with glycogen storage disease type 1 who had intraoperative severe lactic acidosis: Tamayo Takahashi, Kana Oue, Aya Oda, Yuki Oda: The 42nd Annual Meeting of the Japan Society for Clinical Anesthesia (Kyoto), 2022.
 - 20: Low doses of μ -opioid receptor agonists without analgesic efficacy improve social behavioral deficits in a mouse model of autism spectrum disorder: Yukio Ago, Megumi Naito, Haruki Kawase, Momoko Higuchi, Hidekuni Yamakawa, Koichi Ogawa, Atsushi Nakamura, Takahiro Kochi, Eiji Imado, Hajime Tahara, Satoshi Asano, Yaichiro Kotake, Kazuhiro Takuma, Hitoshi Hashimoto: BPCNP4 (Tokyo), 2022.
 - 21: Inhibition of histone deacetylase in utero causes spinal microglial activation and mechanical allodynia in mice: Eiji Imado, Samnang Sun, Abrar Abawa, Satoshi Asano, Yuki Nakamura, Kazue Nakashima, Norimitsu Morioka, Kazuhiro Tsuga, Masahiro Irifune, Kazuhiro Takuma, Norikazu Kiguchi, Yukio Ago: The 96th Annual Meeting of the Japanese Pharmacological Society (Yokohama), 2022.
 - 22: A TRPV1 antagonist AMG517 alleviates abnormal pain sensitivity and improves social deficits in the prenatal valproic acid-induced mouse model of autism: Hajime Tahara, Eiji Imado, Haruki Kawase, Momoko Higuchi, Hidekuni Yamakawa, Koichi Ogawa, Yaichiro Kotake, Kazuhiro Takuma, Hitoshi Hashimoto, Satoshi Asano, Yukio Ago: The 96th Annual Meeting of the Japanese Pharmacological Society (Yokohama), 2022.

G) Special lectures in academic meetings

- 1: Symposium 2 From the standpoint of practicing psychosomatic dentistry at a university hospital - Cognitive-behavioral therapy for dental psychosomatic patients: Mitsuru Doi: The 37th Annual Meeting of the Japanese Society of Psychosomatic Dentistry (web), 2022.
- 2: Refresher Course 6 Pain and psychology: Mitsuru Doi: The 27th Annual Meeting of Japanese Society of Orofacial Pain (Matsudo), 2022.
- 3: Clinical practice of orofacial pain II - Focus on pharmacotherapy and affect: Mitsuru Doi: Ministry of Health, Labor and Welfare Model project for dissemination of chronic pain medical system and human resource development (Tokai area web), 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grant-in-Aid No. 17K11908 for Scientific Research (C) from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (Continued): Doi M, Functional brain imaging evaluation of treatment effect of cognitive behavioral therapy and antidepressant drugs on glossodynia. \500,000.
- 2: Grant-in-Aid No. 20K10116 for Scientific Research (C) from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (Continued): Yoshida M, Clarification of the mechanism of functional alteration of the central nervous system in development of chronic pain of masticatory muscle. ¥1,040,000.
- 3: Grant-in-Aid No. 20K18669 for Young Scientists (B) from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (Continued): Oue K, Study on interaction of obesity and periodontal disease on cognitive impairment. ¥1,170,000.
- 4: Grant-in-Aid No. 21K10139 for Scientific Research (C) from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (Continued): Irifune M, Mukai A, Ago Y, Development of a control method for depth of anesthesia and/or sedation applied to a selective dopamine receptor subtype ligand. ¥1,300,000.
- 5: Grant-in-Aid No. 21K10072 for Young Scientists (B) from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (Continued): Shimizu Y, Analysis of noise characteristics from dental apparatus during auscultation of breath sounds to prevent from air-way obstruction under sedation. ¥1,300,000.
- 6: Grant-in-Aid No. 22K17015 for Early-Career Scientists from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (New): Kochi T, Elucidation of the onset mechanism of dental treatment-induced intractable pain that tends to occur in patients with depression and anxiety and establishment of a preventive method. \1,040,000.
- 7: Grant-in-Aid No. 22K17184 for Early-Career Scientists from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (New): Oda A, Establishment of safe conscious sedation with remimazolam using electroencephalogram and pharmacokinetic analysis. \1,950,000.
- 8: Grant-in-Aid No. 22K17091 for Early-Career Scientists from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (New): Kamio H, Elucidation of the biocompatibility of titanium implants and the role of decorin in surrounding bone regeneration. \2,600,000.
- 9: Grant-in-Aid No. 22K20993 for Research Activity Start-up from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (New): Motoike S, Propofol and ketamine-driven signal transduction system and serotonin transporter regulatory mechanism. \1,430,000.
- 10: Grant-in-Aid No. 22K21061 for Research Activity Start-up from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (New): Sasaki U, Elucidation of the neurochemical basis for general anesthetic-induced nausea and vomiting. \1,430,000.

(5) Academic Awards, etc.

- 1: Eiji Imado: The 55th Annual Meeting of the Hiroshima University Dental Society: encouragement prize, 2022.
- 2: Eiji Imado: Hiroshima University Excellent Student Scholarship, 2022.
- 3: Eiji Imado: Morita Scholarship Foundation: scholarship student, 2022.

(6) Patents

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Department of Public Oral Health

(1) Staff and Students

Professor: Kouji Ohta (*) Chief in Department of Oral Health: Kouji Ohta
 Associate Professor: Hideo Shigeishi
 Assistant Professor: Tomoko Maehara, Yoshino Kaneyasu
 Graduate Student: Yoshimi Kawamura, Mariko Nakamura (D3), Kanako Yano (D1),
 Iori Oka, Wu Chia-Hsin (M2), Mio Sasaki, Natsuki Hamada, Honami Kitasaki (M1)

(2) Main Research Activities

- 1: Study on Prevention for oral infection and oral complication of systemic diseases
- 2: Study on efficacy of perioperative oral care on systemic diseases
- 3: Study on human papillomavirus in oral squamous cell carcinoma
- 4: Study on mechanism of oral mucosa against micro organism
- 5: Study on efficacy of care program for elderly
- 6: Study on development of new device and examination for oral hygiene management
- 7: Study on associations between dysphagia and lifestyle for Japanese adults

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Melatonin enhances cisplatin-induced cell death through inhibition of DERL1 in mesenchymal-like CD44^{high} OSCC cells. Shigeishi H, Yokoyama S, Murodumi H, Sakuma M, Fukada S, Okuda S, Yamakado N, Ono S, Takechi M, Ohta K. *Journal of Oral Pathology & Medicine*, 51(3): 281-289, 2022.
- 2: Co-Infection of Oral *Candida albicans* and *Porphyromonas gingivalis* Is Associated with Active Periodontitis in Middle-Aged and Older Japanese People. Oka I, Shigeishi H, Ohta K. *Medicina (Kaunas)*, 58(6): 723, 2022.
- 3: Prevalence of oral Epstein-Barr virus and *Porphyromonas gingivalis* and their association with periodontal inflamed surface area: A cross-sectional study. Shigeishi H, Oka I, Su CY, Hamada N, Nakamura M, Nishimura R, Sugiyama M, Ohta K. *Medicine (Baltimore)*. 101(43):e31282, 2022.
- 4: Analysis of the Deflection, Bristle Splaying, and Abrasion of a Single Tuft of a Polybutylene Terephthalate Toothbrush after Use: A Randomized Controlled Trial. Kaneyasu Y, Shigeishi H, Ohta K, Sugiyama M. *Materials (Basel)*. 15(14):4890, 2022.
- 5: Immune response to cytosolic DNA via intercellular receptor modulation in oral keratinocytes and fibroblasts. Naruse T, Ohta K, Kato H, Ishida Y, Shigeishi H, Sakuma M, Fukui A, Nakagawa T, Tobiume K, Nishi H, Takechi M. *Oral Diseases*, 28(1): 150-163, 2022.
- 6: Two PARP13 isoforms are associated with induction of antiviral factors in oral mucosal cells. Kato H, Ohta K, Sakuma M, Fukada S, Naruse T, Shigeishi H, Nishi H, Takechi M. *Molecular Medicine Reports*, 25(3): 106, 2022.
- 7: Periodontal inflamed surface area in oral cavity associated with febrile neutropenia in patients with hematologic malignancy undergoing chemotherapy. Nishi H, Ohta K, Kuramoto Y, Shigeishi H, Obayashi T, Yoshioka Y, Konishi M, Munenaga S, Nagoshi H, Yoshida T, Fukushima N, Kakimoto N, Ohge H, Kurihara H, Ichinohe T, Kawaguchi H. *Scientific Reports*, 12(1): 2483, 2022.
- 8: Expression of anti-fungal peptide, β -defensin 118 in oral fibroblasts induced by *C. albicans* β -glucan-containing particles. Sakuma M, Ohta K, Fukada S, Kato H, Naruse T, Nakagawa T, Shigeishi H, Nishi H, Takechi M. *J Appl Oral Sci*, 30: e20210321, 2022.
- 9: Effects of CEACAM1 in oral keratinocytes on HO-1 expression induced by *Candida* β -glucan particles. Sakuma M, Ohta K, Fukada S, Akagi M, Kato H, Ishida Y, Naruse T, Takechi M, Shigeishi H, Nishi H, Aikawa T. *J Appl Oral Sci*, 30:e20220158, 2022.
- 10: Sunitinib promotes apoptosis via p38 MAPK activation and STAT3 downregulation in oral keratinocytes. Fukada S, Ohta K, Sakuma M, Akagi M, Kato H, Naruse T, Nakagawa T, Shigeishi H,

- Nishi H, Takechi M, Aikawa T. Oral Dis. 2022. (Online ahead of print)
- 11: Inhibition of angiogenesis and tumor progression of MK-0429, an integrin $\alpha\beta 3$ antagonist, on oral squamous cell carcinoma. Nakagawa T, Ohta K, Naruse T, Sakuma M, Fukada S, Yamakado N, Akagi M, Sasaki K, Niwata C, Ono S, Aikawa T. J Cancer Res Clin Oncol. 148:3281-3292, 2022.
 - 12: Depression and Quality of Life of Oral Cancer Patients who have Completed Active Treatment: Sasahara K, Sugiyama M, Uchida K, Nishimura R, Maehara T, Kurasaki Y, Hayashido Y, Nikawa H. : J Dent Hlth 72: 266-271, 2022.
 - 13: A case of Trousseau syndrome caused by tongue cancer with lung metastases during pharmacotherapy in an adolescent and young adult patient. : Kato H, Mizuta K, Sasaki K, Ando T, Ohta K, Takechi M. : Japanese Journal of Oral and maxillofacial surgery 68(9): 362-369, 2022.

B) Review

- 1: Sexual behavior and smoking as risk factors for oral human papillomavirus infection. Shigeishi H. Japanese Journal of Sexually Transmitted Infections, 33(1), pp1-8, 2022.

C) Publications

- 1: Let's find the difference! Prevention of COVID-19. Kaneyasu Y. Nihon Gakko Hoken kensyuusya Inc, pp8-10, 2022.
- 2: [Learn on the bulletin board] School health check!. Kaneyasu Y. Higashiyamasyobo, pp84-85, 2022.

D) Other Publications

- 1: Oral Human Papillomavirus infection. Shigeishi H. Japanese Association for Oral Infectious Disease. News Letter. No. 33, 2022.
- 2: [Learn on the bulletin board] Let's look inside our bodies!. Kaneyasu Y. Higashiyamasyobo, pp102-103, 2022.
- 3: [Learn on the bulletin board] Let's look inside our ears! Let's get 100 scores answering the test of preventing COVID-19!. Kaneyasu Y. Higahsiyamashobo, pp94-95, 2022.

E) Presentations at Scientific Meetings

- 1: Relationship between oral Epstein-Barr virus infection and periodontal inflamed surface area: Shigeishi H, Oka I, Hamada N, Ohta K.:The 61th Scientific Meeting of Hiroshima Prefecture Dental Association and 106th Scientific Meeting of Hiroshima University Dental Society (Hiroshima), 2022.
- 2: Changes in the oral hygiene indices by using the leaflet or e-learning education materials: Inoue A, Hamasaki M, Kaneyasu Y, Shigeishi H, Ohta K: he 61th Scientific Meeting of Hiroshima Prefecture Dental Association and 106th Scientific Meeting of Hiroshima University Dental Society (Hiroshima), 2022.
- 3: The efficacy of e-learning materials on oral health education: systematic review and meta-analysis: Kaneyasu Y, Shigeishi H, Ohta K: The 61th Scientific Meeting of Hiroshima Prefecture Dental Association and 106th Scientific Meeting of Hiroshima University Dental Society (Hiroshima), 2022.
- 4: Changes in Physical and Oral Function after a Long-Term Care Prevention Program in Community-Dwelling Japanese Older Adults: Kawamura Y, Shigeishi H, Uchida S, Kawano S, Maehara T, Sugiyama M, Ohta K. : The 17th Annual Meeting of the Japan Society for Dental Hygiene (Web), 2022.
- 5: Detection and antifungal susceptibility of Candida isolated from patients with head and neck cancer and esophageal cancer : Yano K., Nishi H., Shigeishi H., Kaneyasu Y., Kawaguchi H., Ohta K. : The 17th Annual Meeting of the Japan Society for Dental Hygiene (web), 2022.
- 6: Online International Exchange Program Initiative of the Department of Oral Health Sciences, School of Dentistry, Hiroshima University: Nishimura R, Maehara T, Niitani Y, Matsumoto A, Shigeishi H, Ohta K, Takemoto T, Naito M.: The 17th Annual Meeting of the Japan Society for Dental Hygiene, (Web) 2022.

- 7: The association between periodontopathic bacteria and periodontal inflamed surface area in older people. Shigeishi H, Nakamura M, Oka I, Yano K, Hamada N, Sasaki M, Kitasaki H, Wu C-H, Kaneyasu Y, Maehara T, Sugiyama M, Ohta K : The 55th Annual Meeting of the Hiroshima University Dental Society, 2022.
- 8: Co-infection of oral *Candida albicans* and *Porphyromonas gingivalis* is associated with active periodontitis in middle-aged and older people. Oka I, Shigeishi H, Nakamura M, Yano K, Kaneyasu Y, Maehara T, Ohta K : The 55th Annual Meeting of the Hiroshima University Dental Society, 2022.
- 9: Antifungal susceptibility of *Candida* isolated from patients with head and neck cancer and esophageal cancer : Yano K., Nishi H., Shigeishi H., Kaneyasu Y., Kawaguchi H., Ohta K. : The 31th Japanese Association for Oral Infectious Diseases (Nagoya), 2022.
- 10: Associations between passive smoking level and risk of dysphagia: Maehara T, Nishimura R, Hama Y, Tamura T, Kato Y, Kubo Y, Okada R, Nagayoshi M, Hishida A, Wakai K, Hamajima N, Ohta K, Naito M: 2022 IADR/APR General Session & Exhibition (China, Web), 2022.
- 11: Analysis of Sunitinib induction of apoptosis via p38MAPK/STAT3 in oral mucosal epithelial cells.: Fukada S, Ohta K, Akagi M, Sakuma M, Shigeishi H, Naruse T, Nakagawa T, Kato H, Takechi M, Aikawa T.: The 69th Annual Meeting of the Japanese Stomatological Society Chugoku Shikoku Branch (web) 2022
- 12: Sunitinib induces apoptosis in oral mucosal epithelial cells via p38MAPK/STAT3.: Fukada S, Ohta K, Akagi M, Sakuma M, Shigeishi H, Naruse T, Nakagawa T, Kato H, Takechi M, Aikawa T.: The 67th Annual Meeting of the Japanese Society of Oral and Maxillofacial Surgeons (web) 2022
- 13: Induction of ACE2 Expression in Oral Mucosal Cells by Intracellular Introduction of Nucleic Acid.: Akagi M, Ohta K, Fukada S, Sakuma M, Kato H, Naruse T, Nakagawa T, Shigeishi H, Aikawa T.: The 67th Annual Meeting of the Japanese Society of Oral and Maxillofacial Surgeons (web) 2022

F) Lectures

- 1: Ohta K: ‘meaning of oral management for prevention of perioperative complication.’ Foursome 2022, (Hiroshima), 2022
- 2: Ohta K: ‘Basis and clinical practice of oral candidiasis – To prevent severe infections -meaning of oral management for prevention of perioperative complication. The 17th, Hiroshima dental hygiene education and study group (Hiroshima), 2022
- 3: Ohta K: Proper use of antibiotics for dental treatment based on AMR The 61st Hiroshima Dental Society/106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022
- 4: Yano K: The 17th Annual Meeting of the Japan Society for Dental Hygiene Research Discussion(web), 2022.

G) Contribution to Community

- 1: Maehara T: Assessment of oral function at special nursing home “Kosei-En” (Hiroshima), 2022.
- 2: Maehara T: Hiroshima Prefecture Comprehensive Project for Ensuring Comprehensive Regional Medical Care, Project to improve the qualifications of dental hygienists for the promotion of home dental care. Oral Hygiene Management Lecture, Department of oral health, Hiroshima university (Hiroshima), 2022.
- 3: Maehara T: Hiroshima Prefecture Comprehensive Project for Ensuring Comprehensive Regional Medical Care, Project to improve the qualifications of dental hygienists for the promotion of home dental care. On-site training instruction, Department of oral health, Hiroshima university (Hiroshima), 2022.
- 4: Kaneyasu Y: Hiroshima City International Adolescent Volunteer Project, “Let’s study methods of preventing Covid-19” Lecter, Hiroshima City Culture Foundation (Hiroshima), 2022.
- 5: Kaneyasu Y: Association of Yogo teacher in Tsuru City, Providing the education materials (Yamanashi), 2022.
- 6: Kaneyasu Y: Tsuru City Tanimura Daiichi Elementary School, making and providing the educational materials before body measuring (Yamanashi), 2022.
- 7: Kaneyasu Y: Japan Yogo teacher training college conference 2022 Training and Educational seminar Facilitator, 2022.

- 8: Ohta K: Japan dental hygienist seminar, dental health safety management course, e-learning lecture, “Environmental improvement as infection prevention measures” “Standard preventive measures in dental office” “Risk management of dental hygienist ” “medical safety measures related to oral surgery”(2022. web)
- 9: Ohta K: Japan dental hygienist seminar, dental health safety management course. on line exercise “Learn risk management process as risk manager”(2022. web)
- 10: Ohta K: Japan Dental Hygienist Society Certified Dental Hygienist Seminar Staff of Dental Care Safety Management Course, 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grants-in-Aid for Scientific Research (Scientific Research (C) : Shigeishi H (Main researcher) : Study on mechanotransduction mechanism of CD44high oral squamous cell carcinoma cells. (No. 20K10138).
- 2: Grants-in-Aid for Scientific Research (Scientific Research (C) Shigeishi H (Co- researcher): Functional analysis of novel candida cell wall component recognition receptor in oral mucosa and their significance in oral candidiasis. (No.20K10179)
- 3: Grants-in-Aid for Scientific Research (Scientific Research (C) : Ohta K (Co- researcher): Basic research for developing dental implant treatment guidelines for patients receiving bisphosphonates. (No.21K09952)
- 4: Grants-in-Aid for Scientific Research (Scientific Research (C) : Ohta K (Co- researcher): Development of transplantation material for treatment of jaw bone necrosis with angiogenic effect. (21K10094)
- 5: Grants-in-Aid for Scientific Research (Scientific Research (C) : Ohta K (Co- researcher): Constitution of systemic complication prevention system for cancer chemotherapy targeting oral bacteria. (No.20K10162)
- 6: Grants-in-Aid for Scientific Research (Scientific Research (C) : Ohta K (Co- researcher): Effect of distribution of resistant bacteria in the oral cavity and managing oral hygiene on medical / long term care related pneumonia (No.20K10248)
- 7: Grants-in-Aid for Scientific Research (Scientific Research (C) : Ohta K (Co- researcher): Useful of perioperative oral management with probiotics (No.18K09880)
- 8: Grants-in-Aid for Scientific Research (Scientific Research (C) : Ohta K (Co- researcher): Establishment of IPS-derived jawbone and gingival organoids by conglomerate culture technology and advancement of oral regenerative medicine (No.22H03275)

(5) Academic Awards, etc.

- 1: Measurement of bristle splaying of toothbrushes using digital imaging and evaluation of plaque removal efficacy over 3 months: A randomized controlled trial (RCT). Kaneyasu Y, 25th Incentive Award, Alumni association of Hiroshima University Dental School, 2022.
- 2: Japan Dental Engineering Society Paper Award In vitro investigation of the cell compatibility and antibacterial properties of titanium treated with calcium and ozone」 Takechi M, Takamoto M, Ninomiya Y, Ono S, Mizuta K, Nakagawa T, Shigeishi H, Ohta K, Ishikawa K, Tsuru K. Dental Materials Journal 40 (3) (2022.5.21)

(6) Patents

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Department of Oral Epidemiology

(1) Staff and Students

Professor:NAITO Mariko

Research Associate:NISHIMURA Rumi

Graduate Student:ASAEDA Mayuka

ARIMOTO Nishiki

YAMADA Sachiko

HAMA Yohko (Advanced Prosthodontics)

NISHIMOTO Misa

KURAWAKI Yuuko

KONDO Minami

OMODA Maho

FUKUTANI Haruka

TAKESHITA Moeno

ISHIGAMI Marin

SUZUKI Yoshitaka

(2) Main Research Activities

- 1: Study on the methods for Oral health care
- 2: Study on the education program for Oral health
- 3: Study on the development of oral function
- 4: Epidemiological studies regarding associations between oral health and general health
- 5: Molecular epidemiology and gene-environmental interaction
- 6: Associations between health screening behavior, health status and lifestyle
- 7: Research for dysphagia patients and their caregivers
- 8: QOL/PRO research

(3) Achievements

A) Original Papers (including Case Reports)

- 1: Association between the maternal caries experience and early childhood caries: A systematic review.: Kondo M, Sumitani E, Nishimura R, Ishizu H, Asao Y, Iwamoto Y, Naito M., J Hiroshima Univ Dent Soc. 54(2):63-68. 2022.
- 2: Literature Review on Periodontal Disease and Cognitive Decline: Hamakubo H, Sasaki K, Nishimura R, Tsuruda K, Ishigami M, Omoda M, Naito M., J Hiroshima Univ Dent Soc.54(2):69-77. 2022.
- 3: The Activity Report and Future Prospects about Center for Dental Hygienists' Education and Training, Hiroshima University School of Dentistry: Kurawaki Y, Misumi K, Daijo A, Nishimura R, Matsumoto A, Naito M, Takemoto T: The Journal of Hiroshima University Dental Society, 54(2): 114-121, 2022.
- 4: Depression and Quality of Life of Oral Cancer Patients who have Completed Active Treatment:Sasahara H, Sugiyama M, Uchida K, Nishimura R, Maehara T, Kurawaki Y, Hayashido Y, Nikawa H : J Dent Hlth 72: 266-271,2022
- 5: Effect of toothbrushes with differences in design of filament ends on plaque removal. Takeshita M, Okazawa Y, Kato K. J Dent Hlth; 72(2): 84-91.2022.
- 6: Associations of food modification for swallowing,oral health-related Quality of life, and Dysphagia-related symptoms among elderly people admitted to a fee-paying nursing home with long-term care: Yoshitake A, Matsuda Y, Fuji W, Akifusa S, Suzukamo Y, Nishimura R, Muraki Y, Naito M.: The Japanese journal of dysphagia rehabilitation 26(3): 201-206.2022.
- 7: University student's attitudes toward human interaction and health in the Corona Disaster.: Sasahara H, Taji T, Nishimura R, Maehara T, Nikawa H. Bulletin of general health research 37,7-17,2022.
- 8: Prevalence of oral Epstein-Barr virus and Porphyromonas gingivalis and their association with periodontal inflamed surface area : A cross-sectional study": Shigeishi H, Oka I, Su CY, Hamada N, Nakamura M, Nishimura R, Sugiyama M, Ohta K.:Medicine (Baltimore) 28;101(43):e31282. doi:

10.1097/MD.00000000000031282.2022.

- 9 : Genetic loci and prioritization of genes for kidney function decline derived from a meta-analysis of 62 longitudinal genome-wide association studies : Gorski M, Rasheed H, Teumer A, Thomas LF, Graham SE, Sveinbjornsson G, Winkler TW, Günther F, Stark KJ, Chai JF, Tayo BO, Wuttke M, Li Y, Tin A, Ahluwalia TS, Ärnlöv J, Åsvold BO, Bakker SJL, Banas B, Bansal N, Biggs ML, Biino G, Böhnke M, Boerwinkle E, Bottinger EP, Brenner H, Brumpton B, Carroll RJ, Chaker L, Chalmers J, Chee ML, Chee ML, Cheng CY, Chu AY, Ciullo M, Cocca M, Cook JP, Coresh J, Cusi D, de Borst MH, Degenhardt F, Eckardt KU, Endlich K, Evans MK, Feitosa MF, Franke A, Freitag-Wolf S, Fuchsberger C, Gampawar P, Gansevoort RT, Ghanbari M, Ghasemi S, Giedraitis V, Gieger C, Gudbjartsson DF, Hallan S, Hamet P, Hishida A, Ho K, Hofer E, Holleccek B, Holm H, Hoppmann A, Horn K, Hutri-Kähönen N, Hveem K, Hwang SJ, Ikram MA, Josyula NS, Jung B, Kähönen M, Karabegović I, Khor CC, Koenig W, Kramer H, Krämer BK, Kühnel B, Kuusisto J, Laakso M, Lange LA, Lehtimäki T, Li M, Lieb W; Lifelines Cohort Study; Lind L, Lindgren CM, Loos RJJ, Lukas MA, Lyytikäinen LP, Mahajan A, Matias-Garcia PR, Meisinger C, Meitinger T, Melander O, Milanese Y, Mishra PP, Mononen N, Morris AP, Mychaleckyj JC, Nadkarni GN, Naito M, Nakatochi M, Nalls MA, Nauck M, Nikus K, Ning B, Nolte IM, Nutile T, O'Donoghue ML, O'Connell J, Olafsson I, Orho-Melander M, Parsa A, Pendergrass SA, Penninx BWJH, Pirastu M, Preuss MH, Psaty BM, Raffield LM, Raitakari OT, Rheinberger M, Rice KM, Rizzi F, Rosenkranz AR, Rossing P, Rotter JI, Ruggiero D, Ryan KA, Sabanayagam C, Salvi E, Schmidt H, Schmidt R, Scholz M, Schöttker B, Schulz CA, Sedaghat S, Shaffer CM, Sieber KB, Sim X, Sims M, Snieder H, Stanzick KJ, Thorsteinsdottir U, Stocker H, Strauch K, Stringham HM, Sulem P, Szymczak S, Taylor KD, Thio CHL, Tremblay J, Vaccargiu S, van der Harst P, van der Most PJ, Verweij N, Völker U, Wakai K, Waldenberger M, Wallentin L, Wallner S, Wang J, Waterworth DM, White HD, Willer CJ, Wong TY, Woodward M, Yang Q, Yerges-Armstrong LM, Zimmermann M, Zonderman AB, Bergler T, Stefansson K, Böger CA, Pattaro C, Köttgen A, Kronenberg F, Heid IM.: *Kidney Int.* 102(3):624-639, 2022.
- 10 : Three-year survey of oral hygiene conditions of Cambodian public primary school children : Asao Y, Iwamoto Y, Mitsuhashi C, Naito M, Kozai K. *J Oral Sci.* 64(3):208-211, 2022.
- 11 : Low-intensity cigarette smoking and mortality risks: a pooled analysis of prospective cohort studies in Japan : Inoue-Choi M, Freedman ND, Saito E, Tanaka S, Hirabayashi M, Sawada N, Tsugane S, Usui Y, Ito H, Wang C, Tamakoshi A, Takeuchi T, Kitamura Y, Utada M, Ozasa K, Sugawara Y, Tsuji I, Wada K, Nagata C, Shimazu T, Mizoue T, Matsuo K, Naito M, Tanaka K, Katanoda K, Inoue M; Research Group for the Development and Evaluation of Cancer Prevention Strategies in Japan : *Int J Epidemiol.* 51(4):1276-1290, 2022.
- 12 : Alcohol intake and stomach cancer risk in Japan: A pooled analysis of six cohort studies : Tamura T, Wakai K, Lin Y, Tamakoshi A, Utada M, Ozasa K, Sugawara Y, Tsuji I, Ono A, Sawada N, Tsugane S, Ito H, Nagata C, Kitamura T, Naito M, Tanaka K, Shimazu T, Mizoue T, Matsuo K, Inoue M; Research Group for the Development and Evaluation of Cancer Prevention Strategies in Japan : *Cancer Sci.* 113(1):261-276, 2022.

B) Review

None

C) Publications

- 1 : Mariko Naito. Chapter 11: Theories and Models of Health Behavior. Takaezu, Y. Fukai, H. (ed.). *Communication and Behavioral Sciences in Health Care*, 2nd ed. Tokyo: Iyakuyaku Shuppan; 2022.

D) Other Publications

- 1: Chapter 8 Caries activity tests : Prophylactic Treatment of Dental Caries for Dental Hygienists 2nd: Niitani Y, Nishimura R(ed. By Nakagaki H, Katou K, Ishitobi K and Kousaka T): Ishiyaku Publishers,Inc (Tokyo): 126-130,2022.
- 2: Implant treatment: The newest series of textbook for dental hygienist education -Basic theory and practical process for prosthodontic dentistry: Nishimura R (ed. By Akagawa Y, Suese K, Masui I, Aiba C and Yamada S): Ishiyaku Publishers,Inc (Tokyo): 200-209, 2022.
- 3: Dysphagia Rehabilitation for Dental Hygienists 2nd: Nishimura R (ed. By Inoue M, Kikutani T, Sato

- Yshimoyama K, Fujitani J, Huruya J, Mizugami M and Mukai Y) : Ishiyaku Publishers, Inc (Tokyo): 135-144, 2022.
- 4: Food and Nutrition: Food and Nutritional Counseling Q&A for use in pediatric outpatient clinics and infant health checkups 2nd: Nishimura R (ed. By Hiraiwa M, Ooya Y, Tsutsumi C, Watanabe S): SHINDAN TO CHIRYO SHA(Tokyo):17,143,144. 2022.
 - 5: Japanese Dental Hygienist's Rehabilitation of Egestion and Swallowing: DentalNews.com (KOREA): http://xnvb0bt7hhzpl6k.com/board/view.php?bo_table=influencer_hygienist&wr_id=10&page=2:2022.11.28.
 - 6: About frail: DentalNews.com (KOREA): http://xnvb0bt7hhzpl6k.com/board/view.php?bo_table=influencer_hygienist&wr_id=14&page=2: 2022.12.29.

E) Presentations at Scientific Meetings

- 1: Online International Exchange Program Initiative of the Department of Oral Health Sciences, School of Dentistry, Hiroshima University.: Nishimura R, Maehara T, Niitani Y, Matsumoto A, Kaneyasu Y, Shigeishi H, Oota K, Takemoto T, Naito M: The 17th Annual Meeting of the Japan Society for Dental Hygiene (Web), 2022.
- 2: Examination of the relationship between oral sensation and nutritional intake status in young adults.: Sasaki M, Kuroda R, Nishimura R, Naito M: The 17th Annual Meeting of the Japan Society for Dental Hygiene (Web), 2022.
- 3: Factors contributing to delayed eruption in permanent teeth: a systematic review.: Kuwabara Y, Yoshimura J, Nishimura R, Naito M: The 17th Annual Meeting of the Japan Society for Dental Hygiene (Web), 2022.
- 4: Relationship between falls and physical and oral functions in older adults.: Fukuda M, Ujihashi T, Takahashi Y, Uehara H, Sawada M, Nakamura M, Mizumura Y, Asaeda M, Yagi T, Yoshida Y: The 17th Annual Meeting of the Japan Society for Dental Hygiene(Web), 2022.
- 5: Effect of incompetent lip seal "Okuchi-Pokan" on young children (aged 3-5years) growth and development : 1st report : Nakamura M, Yagi T, Fukuda M, Nishiyasu A, Asaeda M, Takahashi Y, Hama Y, Bannaka K, Yamashiro K, Yoshida Y: The 17th Annual Meeting of the Japan Society for Dental Hygiene(Web), 2022.
- 6: The psychosocial impact and educational effect on interest in oral health of tooth whitening.: Ujihashi T, Yagi T, Fukuda M, Hama Y, Nakamura M, Mizumura Y, Asaeda M, Nishiyasu A, Yoshida Y: The 17th Annual Meeting of the Japan Society for Dental Hygiene(Web), 2022.
- 7: A Study of Splash Dispersal during Cutting of Model Teeth with an Air Turbine.: Omoda M, Yamada C, Takemoto T, Niitani Y, Naito M, Nishimura R: The 17th Annual Meeting of the Japan Society for Dental Hygiene (Web), 2022.
- 8: A study of occupational stress in novice dental hygienists: Kurawaki Y, Aimi R, Misumi K, Daijo A, Nishimura R, Matsumoto A, Naito M, Takemoto T: The 17th Annual Meeting of the Japan Society for Dental Hygiene (Web), 2022
- 9: Survey on obesity in ambulatory general anesthesia patients : Hama Y, Miyauchi M, Oishi M, Yasuda S, Okino E, Shintani H, Suzuki J, Oishi K, Yamanaka H, Kamikawa K, Yamasaki K: The 39th Annual Meeting of the Japanese Society for Disability and Oral Health.(Okayama),2022.
- 10: A study on the safety of intravenous sedation in older patients:Miyauchi M, Hama Y, Oishi M, Yasuda S, Okino E, Shintani H, Suzuki J, Oishi K, Yamanaka H, Kamikawa K, Yamasaki K: The 39th Annual Meeting of the Japanese Society for Disability and Oral Health.(Okayama),2022.
- 11: Intranasal Midazolam Conscious Sedation for Dental Surgery in Child with Left Ventricular Noncompaction: Hama Y, Miyauchi M, Shintani H, Yamanaka H, Kamikawa K, Yamasaki K: The 2nd Congress of Asia Association for Disability and Oral Health (web), 2022.
- 12: Examination of dental hygienist clinical training under the spread of COVID-19 infection:Okino E, Oishi M, Yasuda S, Morishita K, Yamaguchi M, Hama Y, Miyauchi M, Shintani H, Miyoshi T, Yamanaka H, Kubo K, Kamikawa K, Yamasaki K: The 61th Scientific Meeting of Hiroshima Prefecture Dental Association and 106th Scientific Meeting of Hiroshima University Dental Society (Hiroshima),2022.
- 13: Changes and subsequent measures in the results of dental health examinations at a high school in Hiroshima city:Kubota Y, Oosugi S, Takeda N, Kawamoto M, Sugai C, Suzuki Y, Suzuki Y, Nishimura R, Naito M: The 61th Scientific Meeting of Hiroshima Prefecture Dental Association and 106th

- Scientific Meeting of Hiroshima University Dental Society (Hiroshima),2022.
- 14: Approaches to the treatment of a lower elementary age patient who have difficulty with impressions and placement of intraoral devices:Oosugi S, Kubota Y, Takeda N, Kawamoto M, Sugai C, Suzuki Y, Suzuki Y, Nakajima M, Tanimoto K, Nishimura R, Naito M:The 61th Scientific Meeting of Hiroshima Prefecture Dental Association and 106th Scientific Meeting of Hiroshima University Dental Society (Hiroshima),2022.
 - 15: Dental Hygienist Recurrent Training Workshop Initiatives at Center for Dental Hygienists' Education and Training, Hiroshima University School of Dentistry: Misumi K Kurawaki Y, Aimi R, Daijo A, Nishimura R, Matsumoto A, Naito M, Takemoto T: The 61st Scientific Meeting of Hiroshima Prefecture Dental Association and 106th Scientific Meeting of Hiroshima University Dental Society (Hiroshima),2022.
 - 16: The impact of long-term oral health education interventions on the oral cavity in school-aged children: a systematic review.: Yasuhara A, Maehara Y, Nishimura R, Naito M: The 61st Scientific Meeting of Hiroshima Prefecture Dental Association and 106th Scientific Meeting of Hiroshima University Dental Society (Hiroshima),2022.
 - 17: Effects of mouthwash on halitosis-causing substances and salivary amylase: Ishigami M:The 38th Annual Meeting of the Hiroshima Dental Hygienists' Association. (Hiroshima),2022.
 - 18: A case of first phase treatment using rapid maxillary expansion appliances and functional appliances in stages:Suzuki Y:The 41th Congress of Japanese Society of Pediatric Dentistry Chushikoku Branch (Tokushima), 2022.
 - 19: Relationship between the Oral Frailty Check Questionnaire and the results of oral function measurement - Comparison between younger-old and older-old adults.: Fukuda M, Ujihashi T, Takahashi Y, Uehara H, Miyode M, Sawada M, Nakamura M, Mizumura Y, Asaeda M, Yoshida Y: The 29th Annual Meeting of the Japanese Society of Health, Fitness and Nutrition(Web), 2022.
 - 20: Relationships between oral health status and attitudes towards oral health among new university students.: Nishiyasu A, Yagi T, Asaeda M, Fukuda M, Takahashi Y, Hama Y, Nakamura M, Ujihashi T, Yamashiro K, Yoshida Y: The 29th Annual Meeting of the Japanese Society of Health, Fitness and Nutrition(Web), 2022.
 - 21: Effect of incompetent lip seal on young children (aged 3-5years) growth and development.: Yagi T, Nakamura M, Fukuda M, Nishiyasu A, Asaeda M, Takahashi Y, Hama Y, Mizumura Y, Yamashiro K, Yoshida Y: The 29th Annual Meeting of the Japanese Society of Health, Fitness and Nutrition(Web), 2022.
 - 22: Development of mastication instruction method using wearable device to measure chewing frequency.: Yagi T, Asaeda M, Mizumura Y, Ujihashi T, Nishiyasu A: The 10th Kobe Tokiwa Academic Forum(Kobe), 2022.
 - 23: Development of an objective evaluation method for dental plaque scores.: Fukuda M, Nakamura M, Asaeda M: The 10th Kobe Tokiwa Academic Forum(Kobe), 2022.
 - 24: Effectiveness of professional collaboration education through joint practice of dental hygiene and nursing students : From the findings of post-training group work.: Sawada M, Ako K, Asaeda M: The 10th Kobe Tokiwa Academic Forum(Kobe), 2022.
 - 25 : Fiberoptic endoscopic evaluation of swallowing may increase pharyngeal residue in postoperative Oral cancer patients:Nagasaki T, Yamada S, Yoshikawa M, Yoshida M, Kiichi S, Ohtsuka M, Konishi M, Sueti Y, Nakamoto T, Kakimoto N.: The 13th Asian Congress of Oral and Maxillo-Facial Radiology(ACOMFR 2022)&The 62th general assembly and annual scientific congress of Japanese Society for Oral and Maxillo-Facial Radiology(JSOMFR) (web),2022.
 - 26: Associations between passive smoking exposure level and dysphagia risk: Maehara T,Nishimura R, Hama Y, Tamura T, Kato Y, Kubo Y, Okada R, Nagayoshi M, Hishida A, Wakai K, Hamajima N, Oota K, Naito M: 2022 IADR/APR General Session & Exhibition(web),2022.
 - 27: The content and effectiveness of the "Clinical Dental Education" course for acquiring educational skills in the pre-graduation period.: Iwamoto A, Kakuda M, Takemoto T, Taiji T, Nishimura R: The 41st General science meeting of the Japanese dental education association(web),2022.
 - 28: Investigation of the effect of taste stimulation on salivary secretion.:Sanbuichi E, Nishimura R, Kanehisa Y.: The 25th Chiba Association of school Health(Chiba),2022.
 - 29: Association between PAPSS1 gene polymorphism and abnormal liver function: Wata Fuji, Mariko Naito, Mineko Tsukamoto, Yuka Kadomatsu, Yoko Kubo, Rieko Okada, Tae Shinokabe, Sayo Kawai, Takashi Tamura, Asayo Hishida, Kentoki Takeuchi, Takeshi Wakai, Nobuyuki Hamashima: 32nd Annual Meeting of the Japanese Epidemiological Society, 2022.

- 30: APOE ε2 haplotype increases serum uric acid levels: Ogura M, Toyoda Y, Kawamura Y, Nakayama M, Takada R, Shimizu S, Higashino T, Nakajima M, Shinomiya N, Matsuo H, Sakiyama M, Yamanashi Y, Naito M, Hishida A, Kawai S, Okada R, Sasaki M, Ayaori M, Suzuki Y, Takada K Katsunori Ikewaki, Mariko Siba: The 55th Annual Meeting of the Japanese Society for Gout and Uric Acid Nucleic Acid Research, 2022.

F) Lectures

- 1:Asaeda M : Open lecture” General health starts with oral health!” : Kobe Tokiwa girls' high school (Kobe), 2022.
- 2: Nishimura R: TMDU Dental Hygienist professional development center symposium(web),2022.
- 3: Nishimura R, Kondo M, Ishigami M, Omoda M.: Aspiration prevention and oral care: Ninoshima Area Comprehensive Support Center (Hiroshima) , 2022.
- 4: Mariko Naito: Symposium of the 131st Annual Meeting of the Japanese Society of Prosthetic Dentistry, "Quality of life assessment in oral health," 2022.

G) Social Contributions

- 1:Asaeda M : Dental counseling for infants: Child-care Comprehensive Support Facility “KIT” , Toki-wan Moto-roku” and Toki-wan Noe-suta (Kobe), 2022.
- 2: Asaeda M : Assessment of oral function at Tokiwa Kindergarten attached to Kobe Tokiwa University (Kobe), 2022.
- 3: Asaeda M : Assessment of oral function at Tachibana-Uruma Nursery School (Hyogo), 2022.
- 4: Asaeda M : 2022 KOBE TOKIWA Kenko-Fureai Festa : Assessment of oral function at Kobe Tokiwa University (Kobe) , 2022.
- 5: Nishimura R, Kondo M, Ishigami M, Omoda M.: Assessment of oral function at special nursing home “Kosei-En” (Hiroshima), 2022.
- 6: Nishimura R.: Project to improve the qualifications of dental hygienists for the promotion of home dental care (Hiroshima), 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc

- 1: Grants-in-Aid for Scientific Research Scientific Research (C): Asaeda M (Co-researcher): Effect of lip closing force on young children (aged 3-5years) growth and development. Project No. 21K10845. ¥200,000.
- 2: 2022 Hiroshima University Female Researcher Encouragement Award: Nishimura R: Evaluation of "difficulty eating" by oral sensory examination: ¥400,000.
- 3: JSPS Grants-in-Aid for Scientific Research, Grant-in-Aid for Scientific Research (B): Mariko Naito (Co-investigator): Establishment of scientific evaluation methods for patient-reported outcomes and quality of life: verification based on basic principles and applied practice, Project No. 20H03905: ¥200,000.
- 4: MHLW Grants-in-Aid for Scientific Research on Public Health, Labour and Welfare, Policy Science Research (ICT infrastructure for clinical research and implementation of artificial intelligence): Mariko Naito (co-researcher): Development of PRO guidelines in collaboration with related academic societies, Project No. 20AC1003: ¥300,000.
- 5: 2022 Hiroshima University Female Researcher Encouragement Award: Rumi Nishimura: Evaluation of "difficulty in eating" by intraoral sensory testing: ¥400,000.

(5) Academic Awards, etc.

None

(6) Patents

None

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Department of Anatomy and Functional Restorations

(1) Staff and Students

Professor : Masato Kaku
 Associate Professor : Saiji Shimoe
 Graduate Students : Momoyo Higo, Haruya Kawabata, Kosuke Yamada
 Undergraduate Student : Rei Ueda, Shiori Takeda, Risa Yamamoto, Nao Sakamoto, Rinko Shubiki,
 Nene Morie, Nana Morikiyo, Soichiro Yamaga
 Research Student : Shogo Iwaguro
 Clinical Resident : Kazunori Itatani

(2) Main Research Activities

- 1: Effects of mechanical stress on bone metabolism and angiogenesis
- 2: Tongue-palatal contact during articulation and swallow
- 3: Study on dental materials for esthetic
- 4: Study on new clinical application using novel dental ceramic
- 5: Study on objective evaluation using the three-dimensional image

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Kaku M, Izumino J, Yamamoto T, Yashima Y, Shimoe S, Tanimoto K. 2022, Functional regulation of osteoblastic MC3T3E-1 cells by hyperbaric oxygen treatment. *Arch Oral Biol*, 138: 105410. doi: 10.1016/j.archoralbio.2022.105410.
- 2: Yoshioka R, Mine Y, Kaku M, Nikawa H, Murayama T. 2022, Lansoprazole and zoledronate delays hard tissue healing of tooth extraction sockets in dexamethasone-treated mice. *Biomed. Pharmacother*, 150: 112991.
- 3: Mine Y, Okuda K, Yoshioka R, Sasaki Y, Peng TY, Kaku M, Yoshiko Y, Nikawa H, Murayama T. 2022, Occlusal trauma and Bisphosphonate-Related osteonecrosis of the jaw in mice. *Calsif Tissue Int*, Sep 27. doi: 10.1007/s00223-021-00916-2
- 4: Kodaira, Akihisa; Koizumi, Hiroyasu; Hiraba, Haruto; Takeuchi, Yoshimasa; Koike, Mari; Shimoe, Saiji. Bonding of resin luting materials to titanium and titanium alloy. *J Oral Sci*, Vol. 64 (3), pp. 181-184,2022
- 5: Iwaguro, Shogo; Shimoe, Saiji; Yamamoto, Kohei; Mine, Yuichi; Takayama, Yukihiro; Kaku, Masato, Influence of dental abrasives on surface roughness, gloss, and color of titanium. *J Oral Sci*, Vol. 64 (3), pp. 247-250,2022
- 6: Yamamoto T, Kaku M, Ono S, Takechi M, Tanimoto K. 2022, Correction of severe skeletal Class II high angle case with mandibular retrusion and a gummy smile by double jaw surgery. *Bull Tokyo Dent Coll*, doi: 10.2209/tdcpublication.
- 7: Higo M, Shimoe S, Tamura Y, Iwaguro S, Kaku M: Evaluation of the durability of light-cured glazing agents applied to denture base acrylic resin. *Journal of Nippon Academy of Dental Technology*, Vol.43, (2), pp.105–112 2022.
- 8: Koseki H, Yamamoto T, Kaku M. 2021, A case of skeletal and dental maxillary protrusion treated with fenestration and traction of impacted mandibular right second molar. *J Hiroshima Univ Soc, Biomed. Pharmacother*, 53: 102-108 (Available in January, 2022).

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

- 1: Shimoe S: To contribute to the safety and security of dental care, Symposium 1 Mission of future dental technicians as medical technicians. The 44th the meeting of the Nippon Academy of Dental Technology (Online), 2022.
- 2: Shimoe S: Infection control in the prosthesis manufacturing process. Ministry of Health, Labor and Welfare commissioned infectious disease prevention dental technician workshop (Miyazaki), 2022.11.6
- 3: Yamamoto R, Shimoe S, Iwaguro S, Kaku M : Effect of UV irradiation on adhesion of PEEK to composite resin and denture base resin. The 44th the meeting of the Nippon Academy of Dental Technology (Online), 2022.
- 4: Takeda S, Shimoe S, Takayama Y, Kaku M: Effect of Impression Method on Improving Accuracy in Intraoral Scanner. The 44th the meeting of the Nippon Academy of Dental Technology (Online), 2022.
- 5: Higo M, Shimoe S, Otaku M, Kaku M: Effect of Primer Treatment on Adhesion of PEEK to Indirect Composite Resin and Denture Base Resin. the 44th the meeting of the Nippon Academy of Dental Technology (Online), 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

Grant-in-Aid for Scientific Research(C): (representative) Saiji Shimoe, (member) Masato Kaku, Isao Hirata: Development of bio-friendly polyetheretherketone (PEEK) complex type restoration. (No. 21K10002), ¥1,000,000

(5) Academic Awards, etc.

- 1: Akemi Nishimura : The 24nd Student's Carving Contest, Gold Award, 2022.3.23
- 2: Kohei Yamamoto, Saiji Shimoe, Yuichi Mine, Yukihiro Takayama, Masato Kaku : The 43nd Japanese Academy of Dental Technology, Best Presentation Award, 2022.3.9
- 3: Yukihiro Takayama, Saiji Shimoe, Go Taji, Hiroki Nikawa : The 43nd Japanese Academy of Dental Technology, Poster Award, 2022.3.9
- 4: Shiori Takeda, Saiji Shimoe, Yukihiro Takayama, Masato Kaku : The 44nd Japanese Academy of Dental Technology, Best Presentation Award, 2022.12.6
- 5: Momoyo Higo, Saiji Shimoe, Mai Otaku, Masato Kaku : The 44nd Japanese Academy of Dental Technology, Poster Award, 2022.12.6
- 6: Momoyo Higo, 2022 Hiroshima University Excellent Student Scholarship, 2022.12.21

(6) Patents

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Program of Oral Health Sciences

Department of Medical System Engineering

(1) Staff and Students

Professor	: Takeshi Murayama
Lecturer	: Yuichi Mine
Graduate Students	: Memori Minoda, Shota Okazaki, Shiho Urabe, Yuuki Sasaki, Mami Kato, Hiroki Hase, Keiki Tanioka, Kohei Yamamoto
Graduation Research Students	: Sumire Oba, Moeka Kasagawa, Mizuho Sano, Miyui Shimanouchi, Eri Nagasawa, Hitone Hirose, Mahina Kamada, Honoka Aoe, Hinako Atarashi, Momoka Ikuma, Mei Ishikawa, Reon Furukawa, Noriko Mae

(2) Main Research Activities

- 1: Application of artificial intelligence to dentistry
- 2: Application of 3-d technologies to dentistry
- 3: Study on mechanisms of medication-related osteonecrosis of the jaw (MRONJ)

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Occlusal Trauma and Bisphosphonate-related Osteonecrosis of the Jaw in Mice: Mine Y, Okuda K, Yoshioka R, Sasaki Y, Peng TY, Kaku M, Yoshiko Y, Nikawa H, Murayama T: *Calcified Tissue International*, 110 (3), 380-392, 2022.
- 2: Detecting the presence of supernumerary teeth during the early mixed dentition stage using deep learning algorithms: A pilot study: Mine Y, Iwamoto Y, Okazaki S, Nakamura K, Takeda S, Peng TY, Mitsuhata C, Kakimoto N, Kozai K, Murayama T: *International Journal of Paediatric Dentistry*, 32 (5), 678-685, 2022.
- 3: Alterations to titanium surface depending on the fluorides and abrasives in toothpaste: Shuto T, Mine Y, Makihira S, Nikawa H, Wachi T, Kakimoto K: *Materials*, 15 (1), 51, 2022.
- 4: Automated segmentation of articular disc of the temporomandibular joint on magnetic resonance images using deep learning: Ito S, Mine Y, Yoshimi Y, Takeda S, Tanaka A, Onishi A, Peng TY, Nagasaki T, Nakamoto T, Kakimoto N, Murayama T, Tanimoto K: *Scientific Reports*, 12 (1), 221, 2022.
- 5: Lansoprazole and zoledronate delays hard tissue healing of tooth extraction sockets in dexamethasone-treated mice: Yoshioka R, Mine Y, Kaku M, Nikawa H, Murayama T: *Biomedicine & pharmacotherapy*, 150, 112991, 2022.
- 6: Influence of dental abrasives on the surface roughness, gloss, and color of titanium: Iwaguro S, Shimoe S, Yamamoto K, Mine Y, Takayama Y, Kaku M: *Journal of Oral Science*, 64 (3), 247-250, 2022.
- 7: BMP and activin membrane-bound inhibitor negatively regulate connective tissue growth factor controlling mesothelioma cell proliferation: Hoang NTD, Hassan G, Suehiro T, Mine Y, Matsuki T, Fujii M: *BMC Cancer*, 22 (1), 984, 2022.
- 8: Analysis of the feasibility of using deep learning for multiclass classification of dental anomalies on panoramic radiographs: Okazaki S, Mine Y, Iwamoto Y, Urabe S, Mitsuhata C, Nomura R, Kakimoto N, Murayama T: *Dental Materials Journal*, 41 (6), 889-895, 2022.
- 9: Effects of the methyl methacrylate addition, polymerization temperature and time on the MBG@PMMA core-shell structure and its application as addition in electrospun composite fiber bioscaffold: Lin HN, Peng TY, Kung YR, Chiou YJ, Chang WM, Wu SH, Mine Y, Chen CY, Lin CK: *Ceramics International* in press
- 10: Effect of Oral Lacticaseibacillus Isolates on the Function of Tight Junction in Mouse Gingival Epithelial Cells: Shuto T, Mine Y, Tsuyama M, Ito R, Taji T, Nikawa H: *Journal of Antibacterial and*

Antifungal Agents, 50 (12), 515–520, 2022.

B) Review

C) Publications

D) Other Publications

- 1: Development of innovative support system for maxillofacial prosthesis using deep learning: Mine Y: COSMETOLOGY, 30, 217-220, 2022.

E) Presentation at Scientific Meeting

- 1: Detection of supernumerary teeth and odontoma on panoramic radiographs using deep learning: Okazaki S, Mine Y, Urabe S, Takeda S, Eguchi T, Murayama T: The 13rd Annual Conference of Japan Academy of Digital Dentistry (Tokyo), 2022.
- 2: Prediction of cephalometric angles from lateral profile photographs using a convolutional neural network: Urabe S, Mine Y, Okazaki S, Ito S, Yoshimi Y, Takeda S, Eguchi T, Tanimoto K, Murayama T: The 13rd Annual Conference of Japan Academy of Digital Dentistry (Tokyo), 2022.
- 3: Automatic segmentation of articular disc of temporomandibular joint from MRI images using deep learning: Yoshimi Y, Mine Y, Ito S, Takeda S, Okazaki S, Urabe S, Murayama T, Tanimoto K: The 13rd Annual Conference of Japan Academy of Digital Dentistry (Tokyo), 2022.
- 4: Deadline time minimization scheduling using genetic algorithms -crossover method based on job delays-: Watanabe K, Eguchi T, Murayama T: 2022 Conference of Japan Society for Design Engineering Chugoku Branch (Hiroshima), 2022.
- 5: Prediction of cephalometric ANB angle on lateral profile photographs using convolutional neural network: Okazaki S, Mine Y, Urabe S, Ito S, Yoshimi Y, Tanimoto K, Takeda S, Murayama T: The 55th General Meeting of Hiroshima University Dental Society (Hiroshima), 2022.
- 6: Multiclass Classification of Odontoma and Supernumerary Tooth Using Deep Learning: Okazaki S, Mine Y, Iwamoto Y, Urabe S, Mitsuhashi C, Murayama T: 2022 IADR/APR General Session & Exhibition (Chengdu), 2022.
- 7: Abnormal classification of tooth number from panoramic X-ray images by deep learning: Okazaki S, Mine Y, Urabe S, Murayama T: The 61st Annual Conference of Japanese Society for Medical and Biological Engineering (Niigata), 2022.
- 8: Deep learning for fully automated segmentation of articular discs of the temporomandibular joint on magnetic resonance images: A multi-vendor study: Mine Y, Okazaki S, Yoshimi Y, Ito S, Tanimoto K, Murayama T: The 131st Annual Meeting of Japan Prosthodontic Society (Osaka), 2022.
- 9: Risedronate induced PGRN expression in human mesenchymal stem cells: Tanioka K, Mine Y, Makihira S, Nikawa H, Murayama T: The 131st Annual Meeting of Japan Prosthodontic Society (Osaka), 2022.
- 10: Investigation of the effect of *Lacticaseibacillus rhamnosus* L8020 on inflammatory responses in the mouse hippocampal region: Fujishiro R, Kinoshita N, Kamiura I, Mine Y, Taji T, Kumatani H, Sasaki M, Nikawa H: 2022 Annual Meeting of Japan Prosthodontic Society Chugoku & Shikoku Branch (Takamatsu), 2022.
- 11: PDGFR regulates cell proliferation through CTGF expression: Suehiro T, Mine Y, Fujii M: The 81st Annual Meeting of the Japanese Cancer Association (Yokohama), 2022.
- 12: Automatic prediction of skeletal pattern of patients from facial photographs using a convolutional neural network: Ito S, Yoshimi Y, Mine Y, Urabe S, Okazaki S, Takeda S, Murayama T, Tanimoto K: The 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association of Ortodontists (Osaka), 2022.
- 13: Analysis of mandibular lateral deviation on posteroanterior cephalograms using a deep learning algorithm: Okazaki S, Mine Y, Yoshimi Y, Ito S, Takeda S, Tanimoto K, Murayama T: International Dental Materials Congress 2022 (Taipei), 2022.
- 14: Regulation of bone-related cell differentiation by synthetic BMP-2 peptide and RANKL-binding

peptide: Shuto T, Mine Y, Tani A: International Dental Materials Congress 2022 (Taipei), 2022.

- 15: Gene expression in gingival epithelial-like cells stimulated by *P. gingivalis* and analysis of effect of mouth-derived lactic acid bacteria spray-dried powder: Kanzaki S, Fujishiro R, Kamiura I, Mine Y, Kumatani H, Sasahara H, Kawahara K, Taji T, Nikawa H: 106th Regular Meeting of Hiroshima University Dental Society (Hiroshima), 2022.

F) Special Lectures in Academic Meetings

- 1 : Artificial Intelligence in Dentistry: Current Status of Deep Learning Studies: Yuichi Mine: The 2nd International Symposium on Digital Dentistry and Biomedical Materials (Taiwan), 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: KAKENHI Grant-in-Aid for Scientific Research (C): (Principal Investigator) Mine Y, Development of a Novel Treatment for MRONJ by Regulation of Local Bone Metabolism. Grant Number 22K10059.
- 2: KAKENHI Grant-in-Aid for Scientific Research (C): (Co-Investigator) Mine Y, HiPIMS-DLC for Peri-implantitis Control. Grant Number 20K10053.
- 3: KAKENHI Grant-in-Aid for Scientific Research (C): (Co-Investigator) Mine Y, Development of a Novel Root Surface Caries Preventive Agent to Reduce Tooth Loss in the Elderly. Grant Number 20K10260.
- 4: KAKENHI Grant-in-Aid for Scientific Research (C): (Co-Investigator) Murayama T, Mine Y, A Pioneering Support System for Maxillofacial Prosthesis Realized by Digital Transformation. Grant Number 21K10020.
- 5: KOSE COSMETOLOGY RESEARCH FOUNDATION: (Principal Investigator) Mine Y, Development of innovative maxillofacial prosthesis fabricating system applying deep learning
- 6: National Research and Development Agency, Japan Agency for Medical Research and Development (AMED) Translational Research Program preF: (Co-investigator) Mine Y, Development of vascular calcification inhibitors
- 7: National Research and Development Agency, Japan Science and Technology Agency (JST) START Social Return Acceleration Program (SCORE) Team Promotion Type: (Co-Investigator) Mine Y Verification of commercialization of jawbone reconstruction therapy using bone-like tissue from cell clump culture technology without artificial materials
- 8: Joint research agreement, Nobelpharma: (co-investigator) Mine Y

(5) Academic Awards, etc.

- 1: Okazaki S, Mine Y, Urabe S, Takeda S, Eguchi T, Murayama T: Excellent presentation award of the 13rd Annual Conference of Japan Academy of Digital Dentistry, 2022.
- 2: Yoshimi Y, Mine Y, Ito S, Takeda S, Okazaki S, Urabe S, Murayama T, Tanimoto K: Excellent presentation award of the 13rd Annual Conference of Japan Academy of Digital Dentistry, 2022.
- 3: Okazaki S: 2022 Hiroshima University Excellent Student Scholarship, 2022.
- 4: Yamamoto K, Shimoe S, Mine Y, Takayama Y, Kaku M: Excellent Poster presentation award of the 42th Meeting of the Nippon Academy of Dental Technology, 2022.
- 5: Ito S, Yoshimi Y, Mine Y, Urabe S, Okazaki S, Takeda S, Murayama T, Tanimoto K: Excellent presentation award of the 81st Annual Meeting of the Japanese Orthodontic Society & The 9th Joint Symposium of the Japanese Orthodontic Society and Korean Association of Ortodontists, 2022.

(6) Patents

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Department of Oral Biology & Engineering

(1) Staff and Students

Professor : Hiroki Nikawa
 Associate Professor : Tsuyoshi Taji
 Lecturer : Hisako Sasahara(-2022.3)
 Education and Research Support Staff : Kaori Taguchi
 Research Student : Kazuko Kawahara
 Graduate Student : Tomoya Suehiro, Ibuki Kamiura, Ryo Fujishiro, Nanao Kinoshita
 Undergraduate Student : Taiga Bunai, Ato Isshiki, Amika Tsuchida, Kaho Shinoda, Manami Yatsuka, Mako shimizu, Haruka Oune, Koji Munemoto, Nina Ochi, Sarara Kanzaki

(2) Main Research Activities

- 1: Study on candidal biofilms and denture plaque
- 2: Study on dental caries and probiotics
- 3: Design for cationic antimicrobial peptides
- 4: Study on mechanisms of the alveolar bone resorption
- 5: Development of bone-resorption inhibitors
- 6: Study on dental implant materials
- 7: Collaborative research about allergy
- 8: Study on digital dentistry
- 9: Collaborative research about aortic aneurysm
- 10: Development of oral function devices
- 11: Analysis of food texture

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1 : Occlusal Trauma and Bisphosphonate-related Osteonecrosis of the Jaw in Mice : Mine Y, Okuda K, Yoshioka R, Sasaki Y, Peng TY, Kaku M, Yoshiko Y, Nikawa H, Murayama T : *Calcified Tissue International* 110(3): 380-392.2022.
- 2 : Alterations to titanium surface depending on the fluorides and abrasives in toothpaste : Shuto T, Mine Y, Makihira S, Nikawa H, Wachi T, Kakimoto K : *Materials* 15(1): 51.2022.
- 3 : Lansoprazole and zoledronate delays hard tissue healing of tooth extraction sockets in dexamethasone-treated mice : Yoshioka R, Mine Y, Kaku M, Nikawa H, Murayama T. *Biomedicine & pharmacotherapy* 150: 112991.2022.
- 4 : How school life with international students develops the intercultural competence of domestic dental students: Oka H, Taji T : *European Journal of Dental Education* 26: 717-727.2022.
- 5 : Combination of Carbonate Hydroxyapatite and Stem Cells from Human Deciduous Teeth Promotes Bone Regeneration by Enhancing BMP - 2, VEGF and CD31 Expression in Immunodeficient Mice : Nurul Aisyah Rizky Putranti, Ryo Kunimatsu, Kodai Rikitake, Tomoka Hiraki, Kengo Nakajima, Takaharu Abe, Yuji Tsuka, Shuzo Sakata, Ayaka Nakatani, Hiroki Nikawa and Kotaro Tanimoto : *Cells*. 11, doi: 10.3390/cells11121914.2022.
- 6 : Comparison of the accuracy of different handheld-type scanners in three-dimensional facial image recognition: Yumi Tsuchida, Maho Shiozawa, Kazuyuki Handa, Hidekazu Takahashi, Hiroki Nikawa: *J Prosthodont Res*. Online ahead of print. 2022.
- 7 : Establishment of indicator for screening of child abuse and neglect in primary school-age children : Kaihara Y, Sasahara H, Niizato N, Yamane A, Nikawa H, Yamasaki K, Hosohara K, Kozai K: *European Journal of Paediatric Dentistry* , 23(4) : 315-320.2022.

B) Review

- 1: Role of Lactobacillus rhamnosus in Oral Health of Disabled Individuals : Yuki Oda, Chiaki Furutani, Yuika Mizota, Hiroki Nikawa : Current Oral Health Reports vol 9:1-6, 2022.

C) Publications

- 1: Development of Etak, an ethoxysilane-based immobilized antibacterial and antiviral agent : Biomedical Engineering (印刷中) : Hiroki Nikawa and Takemasa Sakaguchi

D) Other Publications

E) Presentation at Scientific Meeting

F) Symposium and special lecture

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1 : Grants-in-Aid for Scientific Research (Scientific Research (C)) :Hiroki Nikawa (Head), Tsuyoshi Taji (Co-investigators), Research Project Number: 20K10053. \1,430,000
- 2 : Grants-in-Aid for Scientific Research (Scientific Research (C)) : Tsuyoshi Taji (Head), Hiroki Nikawa (Co-investigators), Research Project Number: 21K10020. ¥910,000
- 3 : Grants-in-Aid for Scientific Research (Scientific Research (C)) : Yuishi Mine(Head), Hiroki Nikawa (Co-investigators), Research Project Number: 22K10059. \1,560,000
- 4 : Collaborative Research budget from Eisai Co., Ltd. to Hiroki Nikawa. \500,000
- 5 : Donation from Shikoku nyugyou corporation to Hiroki Nikawa. \300,000
- 6 : Donation from JEX Co., Ltd. to Hiroki Nikawa. \500,000
- 7 : Donation from CampusMedico Co., Ltd. to Hiroki Nikawa. \2,000,000

(5) Academic Awards, etc.

(6) Patents

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Graduate School of Biomedical and Health Sciences Central Research Laboratory

(1) Staff and Students

Assistant Professor: Fuminori KATO

(2) Main Research Activities

- 1: Toxin-antitoxin systems in *Staphylococcus aureus*
- 2: Transcriptional regulators for pathogenic genes in *Staphylococcus aureus*
- 3: Molecular genetic tools in *Staphylococcus aureus*

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: A Novel Inhibitor from Toxin-Antitoxin system expressed by *Staphylococcus aureus* : Kato F., Yamaguchi Y., Inouye K., Matsuo K., Ishida Y., Inouye M : The FEBS Journal, 2022.

B) Review

C) Publications

E) Presentations at Scientific Meetings

- 1: Characterization of TsbT toxin, a novel *Staphylococcus aureus* toxin-antitoxin system, Fuminori Kato, The Annual Meeting of the Molecular Biology Society of Japan (Chiba), 2022.
- 2: Characterization of TsaA/TsaT, a novel *Staphylococcus aureus* Toxin-Antitoxin system, Fuminori Kato, Masayori Inouye, American Society for Microbiology (ASM) Microbe 2022 (Washington D.C.), 2022.
- 3: *Staphylococcus aureus* TA system consisting of membrane proteins: Fuminori Kato, Masayori Inouye: The 16th Annual Meeting of Society of Genome Microbiology (Tokyo online), 2022.
- 4: Characterization of DNA gyrase inhibitor, TsbT in *Staphylococcus aureus*: Fuminori Kato, Masayori Inouye: The 95th Annual Meeting of Japanese Society for Bacteriology (Tokyo, online), 2022

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: JSPS Grant-in-Aid For Scientific Research(C) : *Staphylococcus aureus* toxin-antitoxin system regulating bacterial cell death and persister formation: Fuminori Kato, Grant Number JP20K07480, 4,290,000 yen
- 2: JSPS Grant-in-Aid For the Promotion of Joint International Research (Fostering Joint International Research (A)): Development of novel antibiotics targeting toxin-antitoxin system in *Staphylococcus aureus* : Fuminori Kato, JP19KK0409, 15,210,000 yen

(5) Academic Awards, etc.

(6) Patents

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Graduate School of Biomedical and Health Sciences Center for Cause of Death Investigation Research & Education

(1) Staff and Students

Associate Professor/Lecturer: Hiroko Oka (Special Designation)

(2) Main Research Activities

- 1: Cuses of death and oral findings
- 2: Age prediction using oral specimen and findings
- 3: Personal identification system
- 4: Education method and assessment on forensic odontology

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Oka H, Taji T: How school life with international students develops the intercultural competence of domestic dental students. *European Journal of Dental Education*, 26(4):717-727, 2022.
- 2: Oka H, Ariani MD, Akazaki T, Miyauchi M, Kitagawa M: Some tips on age estimation using DNA methylation in saliva samples as an index across the Japanese and Indonesian ethnicities. *Legal Medicine (Tokyo)*, 56:102042, 2022.
- 3: Oka H, Nishi H, Obayashi T, Shiba H, Kawaguchi H: Does the presence of education about Disaster Dentistry affect the awareness of dental trainees? -From questionnaire surveys with dental trainees at Hiroshima University Hospital in FY 2019, 2020 and 2021-: *Journal of Japanese Dental Education* 38(1):43-51, 2022.
- 4: Murata K, Nakao N, Ishiuchi N, Fukui T, Katsuya N, Fukumoto W, Oka H, Yoshikawa N, Nagao T, Namera A, Kakimoto N, Oue N, Awai K, Yoshimoto K, Nagao M: Four cases of cytokine storm after COVID-19 vaccination: Case report. *Frontiers in Immunology*. 13:967226, 2022.
- 5: Oka H, Asao Y, Nakao N, Mitsuata C, Matsumoto Y, Nomura R, Kakimoto N, Nagao M, Kozai K: Dental radiographic information of term newborn babies within the first month: Analyzing five radiographic cases along with physical attributes in Japan. *Legal Medicine (Tokyo)*, 60:102171, 2022.

B) Review

C) Publications

D) Other Publications

E) Presentations at Scientific Meetings

- 1: Oka H, Kakimoto N: Preliminary Survey for the IPW under the Disasters -the Knowledge of Medical and Dental Students about Roles of Dentistry and other Health Professions-: Hiroko Oka< Naoya Kakimoto: The 41th Annual Academic Meeting of Japanese Dental Education Association (Web), 2022.
- 2: Oka H, Kakimoto N, Nomura R, Fukumoto W, Katsuya N, Ishiuchi N, Namera A, Awai K, Nagao M: Activities of the Center for Cause of Death Investigation Research and Education and Division of Forensic Odontology, Graduate School of Biomedical Sciences, Hiroshima University: A Summary Report for FY2021: The 61th Scientific Meeting of Hiroshima Prefectural Dental Association, The 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022. (Hiroshima), 2022.
- 3: Oka H, Ohbayashi N, Kitagawa M, Katsuya N, Ishiuchi N, Kakimoto N, Nagao M: Study on Dental Metal Materials Used in the Oral Cavities of the Elderly: Analysis of 21 Cases from the Center for Causes of Death Investigation Research and Education: The 61th Scientific Meeting of Hiroshima Prefectural Dental Association, The 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.
- 4: Obayashi N, Shintani T, Oka H, Ando T, Kawaguchi H, Kajiya M: A delayed-type resin allergy with angioedema after dental treatment: The 15th Annual Meeting of Japanese Society for Evidence and the Dental Professionals (Yokohama), 2022.
- 5: Oka H, Nagao M: Study of dental materials used in the oral cavity of Asians - Report 2: The 16th Annual Meeting of Japanese Society of Forensic Dental Science (Yokohama), 2022.
- 6: Oka H, Takeuchi A, Suzuki T, Katsuragi E, Saitoh H, Sakurada K, Yamashita H: Current Status of the Department of Forensic Odontology at the Center for Education and Research on Cause of Death -A Summary Report for the FY 2021 and Changes from the FY 2022: The 19th General Conference of Police Cooperative Dentists (Osaka), 2022.

F) Special lectures in academic meetings

- 1: Hiroko Oka (Panelist): Changes in Attitudes toward Disaster Dentistry after Studying Disaster Dentistry in Undergraduate Education - Questionnaire Survey of Dental Trainees at Hiroshima University in 2019, 2020, and 2021.
The 28th Annual Meeting of Japanese Association for Disaster Medicine (Hiroshima + Web), 2022.
- 2: Hiroko Oka (Lecturer): Topics related to Personal Identification by Dental Findings.
Special Seminar for Police officers and Cooperative Dentists by Shiga Prefecture Dentist Association (Otu), 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grants-in-Aid for Scientific Research (Scientific Research(C)) : Hiroko Oka, No. 21K10253
Pfizer Health Research Foundation 2020 : Hiroko Oka, A study for personal identification based on the dental metal composition in oral cavity of Asians

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Division of General Dentistry

Department of General Dentistry

(1) Staff and Students

Professor: Hiroyuki Kawaguchi

Assistant Professor: Hiromi Nishi, Taiji Obayashi, Syuichi Munenaga

Resident: Nami Obayashi

Graduate Student: Noriaki Ide

(2) Main Research Activities

- 1: Research in patient-centered dentistry based on narrative approach
- 2: Research in general dentistry
- 3: Examination of postgraduate dental training program
- 4: Research in health communication strategy
- 5: Research in clinical education
- 6: Research in assessment of clinical skills
- 7: Research in development and standardization of simulated patients
- 8: Research in taste disorder of patients receiving chemotherapy

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Nishi H, Ohta K, Kuramoto Y, Shigeishi H, Obayashi T, Yoshioka Y, Konishi M, Munenaga S, Nagoshi H, Yoshida T, Fukushima N, Kakimoto N, Ohge H, Kurihara H, Ichinohe T, Kawaguchi H. Periodontal inflamed surface area in oral cavity associated with febrile neutropenia in patients with hematologic malignancy undergoing chemotherapy. *Sci Rep.* 2022 Feb 15;12(1):2483. doi: 10.1038/s41598-022-06485-0. PMID: 35169215; PMCID: PMC8847642.
- 2: Naruse T, Ohta K, Kato H, Ishida Y, Shigeishi H, Sakuma M, Fukui A, Nakagawa T, Tobiume K, Nishi H, Takechi M. Immune response to cytosolic DNA via intercellular receptor modulation in oral keratinocytes and fibroblasts. *Oral Dis.* 2022 Jan;28(1):150-163. doi: 10.1111/odi.13725. Epub 2020 Nov 30. PMID: 33200485.
- 3: Nezu T, Hosomi N, Aoki S, Nishi H, Nakamori M, Shiga Y, Imamura E, Shintani T, Kawaguchi H, Maruyama H. Assessment of serum IgG titers to various periodontal pathogens associated with atrial fibrillation in acute stroke patients. *J Stroke Cerebrovasc Dis.* 2022 Jan 12;31(3):106301. doi: 10.1016/j.jstrokecerebrovasdis.2021.106301. Epub ahead of print. PMID: 35032756.
- 4: Kato H, Ohta K, Sakuma M, Fukada S, Naruse T, Shigeishi H, Nishi H, Takechi M. Two PARP13 isoforms are associated with induction of antiviral factors in oral mucosal cells. *Mol Med Rep.* 2022 Mar;25(3):106. doi: 10.3892/mmr.2022.12622. Epub 2022 Feb 1. PMID: 35103291.
- 5: Sakuma M, Ohta K, Fukada S, Kato H, Naruse T, Nakagawa T, Shigeishi H, Nishi H, Takechi M. Expression of anti-fungal peptide, β -defensin 118 in oral fibroblasts induced by *C. albicans* β -glucan-containing particles. *J Appl Oral Sci.* 2022 Apr 29;30:e20210321. doi: 10.1590/1678-7757-2021-0321. PMID: 35507985; PMCID: PMC9064192.
- 6: Sakuma M, Ohta K, Fukada S, Akagi M, Kato H, Ishida Y, Naruse T, Takechi M, Shigeishi H, Nishi H, Aikawa T. Effects of CEACAM1 in oral keratinocytes on HO-1 expression induced by *Candida* β -glucan particles. *J Appl Oral Sci.* 2022 Nov 7;30:e20220158. doi: 10.1590/1678-7757-2022-0158. PMID: 36350873; PMCID: PMC9651918.
- 7: Miyauchi S, Nishi H, Ouhara K, Tokuyama T, Okubo Y, Okamura S, Miyamoto S, Oguri N, Uotani Y, Takasaki T, Katayama K, Furusho H, Miyauchi M, Takahashi S, Hiyama T, Nakano Y. Relationship Between Periodontitis and Atrial Fibrosis in Atrial Fibrillation: Histological Evaluation of Left Atrial Appendages. *JACC Clin Electrophysiol.* doi: 10.1016/j.jacep.2022.08.018. Epub 2022 Oct 31. PMID: 36697200.
- 8: Suzuki K, Sasada S, Nishi H, Kimura Y, Shintani T, Emi A, Masumoto N, Kadoya T, Kawaguchi H, Okada M. Impact of oral hygiene on febrile neutropenia during breast cancer chemotherapy. *Breast*

- Cancer. doi: 10.1007/s12282-022-01410-9. Epub 2022 Oct 21. PMID: 36271187
- 9: Fukada S, Ohta K, Sakuma M, Akagi M, Kato H, Naruse T, Nakagawa T, Shigeishi H, Nishi H, Takechi M, Aikawa T. Sunitinib promotes apoptosis via p38 MAPK activation and STAT3 downregulation in oral keratinocytes. *Oral Diseases*. 2022 Nov 29. doi: 10.1111/odi.14457. Epub ahead of print. PMID: 36447393.
 - 10: Tamura T, Zhai R, Takemura T, Ouhara K, Taniguchi Hamamoto Y, Fujimori R, Kajiya M, Matsuda S, Munenaga S, Fujita T, Mizuno N. Anti-Inflammatory Effects of Geniposidic Acid on Porphyromonas gingivalis-Induced Periodontitis in Mice *Biomedicines* 2022 Dec 1;10(12):3096.

B) Review

- 1: Nishi H., Munenaga S., Kawaguchi H. Can PISA be a common language for medical-dental cooperation? *Periodontal Review* 2022, vol. 64, no. 1, p. 36-38.

C) Publications

D) Other Publications

- 1: Hiromi Nishi: DOCTOR-ASE DOCTORASE, an information magazine for medical students, No. 43, p.20-21, Notocord Ltd.

E) Presentations at Scientific Meetings

- 1: A case of a large tooth-containing cyst in the bilateral mandibular wisdom teeth: Ayumi Fujii, Shigehiro Ono, Takayuki Nakagawa, Misato Tada, Akiko Fukui, Hiromi Nishi, Shinichi Sakamoto, Masaaki Takechi, Tomonao Aikawa: The 50th Annual Meeting of the Japanese Association for Oral Surgery Chugoku-Shikoku Branch, Okayama, Japan, 22/01/22
- 2: PISA is associated with the development of chemotherapy-induced febrile neutropenia in patients with hematologic cancers. H. Nishi, T. Ohbayashi, S. Munenaga, H. Kawaguchi: PISA is associated with chemotherapy-induced febrile neutropenia in hematologic cancer patients. 65th Spring Annual Meeting of the Japanese Society of Periodontology, Tokyo, 22/22/ Tokyo, 22/06/03
- 3: Identification of new periodontal examination to evaluate the association between periodontitis and systemic diseases~multi centered clinical study~: Shinji Matsuda, Hiroyuki Kawaguchi et al.: 65th Annual Meeting of the Japanese Society of Periodontology, Sendai, 22/09/02.
- 4: Periodontitis Relates to Atrial Fibrosis of Atrial Fibrillation Patients: Histological Miyauchi, Mutsumi, Hisako Furusho, Ting-Yi Renn, Shunsuke Miyauchi, Kazuhisa Ohara, Hiromi Nishi, Hiroyuki Kawaguchi: 65th Annual Meeting of the Japanese Society of Periodontology, Sendai, 22/09/02.
- 5: Detection status and antifungal susceptibility of Candida strains isolated from perioperative patients with head and neck cancer and esophageal cancer: Kanako Yano, Hiromi Nishi, Hideo Shigeishi, Yoshino Kanayasu, Hiroyuki Kawaguchi, Koji Ota: The 17th Annual Meeting of the Japanese Society of Dental Hygiene, Tokushima, 22/09/18
- 6: Serum antibody titer and prognosis of Fusobacterium nucleatum -A study of clinical features of different subspecies. Toru Yoshikawa, Hiromi Nishi, Manabu Emi, Manato Osawa, Ryosuke Hirohata, Yoichi Hamai, Morito Okada: Esophageal Surgery Society of Japan, Tokyo, 22/09/26
- 7: Different amino acid sequence for CprABC affects nisin A susceptibility in Clostridioides difficile isolates: Noriaki Ide, Miki Kawada-Matsuo, Mi Nguyen-Tra Le, Hiromi Nishi, Hiroyuki Kawaguchi, Hitoshi Komatsuzawa: The 15th Korea-Japan International Symposium on Microbiology: WEB held: Poster presentation, 22/10/1
- 8: The cellular and molecular mechanisms underlying irinotecan-induced changes in behavioral taste responses : Sugita M., Sakayori N., Kawaguchi H., Obayashi N. : The 74th Annual Meeting of the PSJ Chugoku-Shikoku Division (Kochi), 22/11/05-06
- 9: A resin allergy with a sudden swelling of the face after dental treatment: Obayashi N., Shintani T., Kitagawa M., Oka H., Ando T., Nishitani M., Kawaguchi H., Kajiya M.: The 15th Annual Meeting of the Japanese Society for Evidence and the Dental Professional (Kanagawa Hybrid) 22/12-13.
- 10: Study on Dental Metal Materials Used in the Oral Cavities of the Elderly: Analysis of 21 Cases from the Center for Causes of Death Investigation Research and Education: Oka H., Obayashi N., Kitagawa

M., Katsuya N., Ishiuchi N., Kakimoto N., Nagao M.: The 61th Scientific Meeting of Hiroshima Prefectural Dental Association and the 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 22/11/13.

F) Implementation of Seminars / Workshops

- 1: Kawaguchi H (Facilitator): Seminar of Instructor of Dentist Clinical Training by Himawari Dental Clinic. (Hiroshima) 22/6/21,22
- 2: Kawaguchi H (Facilitator): Reiwa 4th year Japan Dental Hygienist Association Certified Dental Hygienist Seminar. (Hiroshima) 22/8/27,28
- 3: Kawaguchi H (Facilitator): Seminar of Instructor of Dentist Clinical Training at Fukuoka Dental College Hospital. (Fukuoka) 22/9/10,11
- 4: Kawaguchi H (Facilitator): The 25th Seminar of Instructor of Dentist Clinical Training at Chugoku-Sikoku regions. (Tokushima) 22/10/29,30

G) Lecturer • Symposium

- 1: Kawaguchi H : “Rethinking medical quality and safety management – non-technical skills and resilience engineering –“ Common training for dental specialists held by the Japanese Society of Periodontology. (On demand WEB) 22/1/20-3/18.
- 2: Nishi H : "Regional Cooperation - Points of Disease to Be Aware of," Hiroshima Prefecture Training Workshop for Consultants for People with Difficulties in Providing Dental Health Care Services (Hiroshima), 22/3/6
- 3: Nishi H : "Medical safety measures in perioperative oral care and home-visit treatment," Certified Dental Hygienist Seminar "Dental Health Care Safety Management" Course, 22/3/7
- 4: Kawaguchi H : “Resilience engineering and safety management“ Seminar of Instructor of Dentist Clinical Training 22/6/22
- 5: Nishi H : "Medical and Dental Cooperation - Points of Cooperation for Typical Diseases" "Oral Hygiene Management Skills - From the Basics to Difficult Cases such as Cancer Patients" Onomichi Dental Association and Dental Hygienists' Association Onomichi District Joint Workshop (online) 22/7/31
- 6: Kawaguchi H : "Management of Medical Safety" Certified Dental Hygienist Seminar "Dental Safety Management" Course (On demand WEB), 22/7/30~9/4.
- 7: Kawaguchi H : "Resilience Engineering and Medical Safety" Certified Dental Hygienist Seminar "Dental Safety Management" Course (On demand WEB), 22/7/30~9/4.
- 8: Nishi H : "Approaches of Hiroshima University Hospital in perioperative oral management: Searching for evidence by clinical research using oral examination," The 6th Conference for the Promotion of Clinical Research in Dentistry at National and Public Universities (Hiroshima) 22/8/26
- 9: Nishi H : "Oral Flora - Relationship with Disease Complications and Prognosis," The 2nd NST Nutritional Management Seminar, sponsored by Otsuka Pharmaceutical Co. 22/9/28
- 10: Nishi H : "Oral care in cancer treatment," The 35th Annual Meeting of the Japanese Society of Radiation Oncology (Hiroshima), 22/11/12
- 11: Nishi H : "Oral Care Supporting Nutrition of Critically Ill Patients," 5th Forum on Nutritional Management of Critically Ill Patients (Hiroshima), 22/11/25

H) Attending of Lectures, Seminars, and Workshops

I) Implementation of OSCE, CSA

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grant-in-Aid for Scientific Research (C): Principal Investigator: Kawaguchi H, Utility of the perioperative oral management by the probiotics. Project No. 18K09880. 4,030,000 yen
- 2: Grant-in-Aid for Scientific Research (C): Principal Investigator: Nishi H, Development of a system to prevent systemic complications in cancer chemotherapy targeting oral bacteria. Project No. 20K10162.

- 4,420,000 yen
- 3: AMED 2022: Project sharing Leader: Nishi H, "Research and Development of Innovative Drugs for Emerging and Re-emerging Infectious Diseases", Research and Development on Inhibition of the Establishment of Drug-Resistant Bacteria in the Oral and Respiratory Tracts.
 - 4: Collaborative Research: PI: Nishi H, "Exploratory Study on the Efficacy and Safety of Diode Laser for Stomatitis in Japanese Patients with Hematopoietic Malignancies undergoing Allogeneic or Autologous Hematopoietic Stem Cell Transplantation: An Open-Label Exploratory Study on the Effect of Low Power Laser on Chemotherapy-Induced Stomatitis," Project Number 302KA7382. 500,000yen
 - 5: Grants-in-Aid for Early-Career Scientists: Munenaga S.: Elucidation of the multiple sclerosis mechanism via periodontal tissue-induced HuR and RANKL-expressing Th17 cells. 21K16970, 4,680,000 yen
 - 6: Grants-in-Aid for Early-Career Scientists: Obayashi N.: Elucidation the mechanism of taste alteration induced by irinotecan, an anticancer drug focusing on salty taste. 22K17207, 1,560,000 yen

(5) Academic Awards, etc.

(6) Patents

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Division of Oral Health and Development

Department of Oral Health

(1) Staff and Students

Professor: Kouji Oota, Toshinobu Takemoto, Mariko Naito, Hiroki Nikawa, Masato Kaku

(*) Chief: Kouji Oota (by-work)

Associate Professor: Tsuyoshi Taji

Associate Professor/Lecturer: Hideo Shigeishi, Atsue Matsumoto

Assistant Professor: Yoshie Niitani, Rumi Nishimura, Tomoko Maehara, Yoshino Kaneyasu

Education and Research Support Staff: Naomi Nakashima, Sanae Miyoshi, Yuuko Kurawaki, Kotomi Testumori, Ayumi Daijo, Keiko Misumi

Please refer to the research achievements of the following each department.

- 1: Department of Public Oral Health: Kouji Oota, Hideo Shigeishi, Tomoko Maehara, Yoshino Kaneyasu
- 2: Department of Oral Epidemiology: Mariko Naito, Rumi Nishimura, Yuuko Kurawaki
- 3: Department of Oral Health Management: Toshinobu Takemoto, Atsue Matsumoto, Yoshie Niitani
- 4: Department of Anatomy and Functional Restorations: Masato Kaku
- 5: Department of Oral Biology & Engineering: Hiroki Nikawa, Tsuyoshi Taji, Hisako Sasahara

(2) Main Research Activities

- 1: Study on oral function in the elderly
- 2: Study on Job Return Support Program

(3) Achievements

A) Original Papers (including Case Reports)

- 1: The Activity Report and Future Prospects about Center for Dental Hygienists' Education and Training, Hiroshima University School of Dentistry : Kurawaki Y, Misumi K, Daijo A, Nishimura R, Matsumoto A, Naito M, Takemoto T : The Journal of Hiroshima University Dental Society, 54, 114-121, 2022.

B) Review

C) Publications

D) Other Publications

E) Presentations at Scientific Meetings

- 1: Dental hygiene research becomes one word that 'gets across'! Practical examples in the community: Sanae Miyoshi, Symposium 13 of the 33rd Annual Meeting of the Japanese Society of Geriatric Dentistry (Niigata), 2022.
- 2: Initiatives Toward Membership Expansion in the Hiroshima Prefecture Dental Hygienists' Association Report 1: Survey of Trends of Members and Withdrawals: Reiko Aimi, Chihiro Fujiwara, Satomi Kuwahara, Chie Okugawa, Michiko Senge, Ayumi Daijou, Keiko Misumi, Kotomi Miyagawa, Akiko Kuramoto, Sanae Miyoshi, The 17th Annual Meeting of the Japan Dental Hygiene Society (Web), 2022.
- 3: Efforts to Expand Membership in the Hiroshima Dental Hygienists' Association 2nd Report: Reiko Aimi, Chihiro Fujiwara, Satomi Kuwahara, Chie Okugawa, Michiko Senge, Ayumi Daijou, Keiko Misumi, Kotomi Miyagawa, Akiko Kuramoto, Sanae Miyoshi, The 17th Annual Meeting of the Japan Society of Dental Hygiene (Web), 2022.
- 4: A study of occupational stress in novice dental hygienists: Kurawaki Y, Aimi R, Misumi K, Daijo A,

- Nishimura R, Matsumoto A, Naito M, Takemoto T: The 17th Annual Meeting of the Japan Society for Dental Hygiene (Web), 2022.
- 5: Dental Hygienist Recurrent Training Workshop Initiatives at Center for Dental Hygienists' Education and Training, Hiroshima University School of Dentistry: Misumi K Kurawaki Y, Aimi R, Daijo A, Nishimura R, Matsumoto A, Naito M, Takemoto: The 61st Scientific Meeting of Hiroshima Prefecture Dental Association and 106th Scientific Meeting of Hiroshima University Dental Society (Hiroshima),2022.
 - 6: Report on a Questionnaire Survey on 'Membership Merits' of the Hiroshima Dental Hygienists' Association: Chihiro Fujiwara, Reiko Aimi, Satomi Kuwahara, Chie Okugawa, Michiko Senge, Ayumi Daijou, Keiko Misumi, Kotomi Miyagawa, Akiko Kuramoto and Sanae Miyoshi, The 106th Regular Meeting of the Hiroshima University Dental Society held in conjunction with the 61st Hiroshima Prefecture Dental Society (Hiroshima),2022.
 - 7: Key points of dietary support in preventing nursing care and frailty: Sanae Miyoshi, Symposium of the 24th General Meeting and Scientific Lecture of the Hospital Dental Care Research Society (Hiroshima),2022.

F) Lectures

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

(5) Academic Awards, etc.

(6) Patents

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Division of Oral Health and Development Department of Special Care Dentistry

(1) Staff and Students

Professor	: Yoshiyuki Okada
(※) Chief:	Yoshiyuki Okada
Lecturer	: Yuki Oda (lecturer in Hospital)
Assistant professor	: Yuriko Yoshida
Medical Doctor	: Chiaki Furutani, Hironao Asahina
Clinical Staff	: Hironori Miyazaki, Hisaho Yamaguchi, Masako Morimoto, Yoshifumi Nishio, Kota Miyahara (~March)
Research Student	: Kota Miyahara, Hironori Miyazaki, Hisaho Yamaguchi, Masako Morimoto, Yoshifumi Nishio, Momo Adachi (~March)
Clinical Trainee	: Fumiko Hayashi, Nobuyuki Ando, Masaki Hayashiuchi (~March)

(2) Main Research Activities

- 1: Underlying mechanisms of suppressed pressor responses to pain stimulation by N₂O inhalation.
- 2: Effects of N₂O inhalation on baroreflex sensitivity.
- 3: Association between intra-oral inflammation and central arterial stiffness and its effect on blood pressure baroreflex sensitivity.
- 4: Effect of vasoconstrictors added to local anesthetics on blood pressure reflex sensitivity.
- 5: A study about the influence of *L. Rhamnosus* on caries and periodontal risk with disabled patients.
- 6: A study on relationship between autism spectrum disorder and oral-intestinal flora.
- 7: Effect of different administration route of midazolam on sedation in patients with intellectual disabilities.
- 8: Evaluation of anxiety and stress caused by the spread of Covid-19 infection in people involved in Special Care Dentistry.
- 9: A study on the mechanism of the nerve tracts of the spinal cord using the soleus H-reflex.
- 10: Effects of Bruxism and Hypoxic Sleep on Central Circulatory Regulatory Mechanisms.
- 11: A study on the frequency of bruxism and clenching during sleep in patients with cerebral palsy.
- 12: Effect of licking training for the deterioration of oral function in people with Down syndrome.
- 13: A study on the chronological changes in the oral microbiota of tube-fed patients with xerostomia.
- 14: Compensation of impaired baroreceptor reflexes in patients with pacemakers.
- 15: Effects of sedation on vascular resistance and arterial pulse wave.

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Posture-related changes in sympathetic baroreflex sensitivity during normal pregnancy. Sarah L Hissen, Ryosuke Takeda, Jeung-Ki Yoo, Mark B Badrov, Abigail S L Stickford, Stuart A Best, Yoshiyuki Okada, Sara S Jarvis, David B Nelson, Qi Fu: *Clin Auton Res.* 32(6):485-495, 2022
- 2: Effects of antipsychotics on intravenous sedation with midazolam and propofol during dental treatment for patients with intellectual disabilities. Yuki Oda, Keita Yoshida, Taiga Yoshinaka, Aya Oda, Tamayo Takahashi, Kana Oue, Akari Mukai, Masahiro Irifune, Yoshiyuki Okada: *J Intellectual Disabil Res*, doi: 10.1111/jir.12913, 2022
- 3: Statements from the 2019 Second International Workshop on Sports Dentistry in Osaka Japan. Toshikazu Yasui, Yoshinobu Maeda, Anthony Clough, Melvin Choy, Kazunori Nakajima, Rieko Koushi, Kazunori Ikebe, Paul Picciniinni, Hiroshi Suzuki, Hidehisa Matsumura, Yuto Tanaka, Yuriko Yoshida, Tsung-Chieh Yang, David Kumamoto, Kung Rock Kwon, Tomotaka Takeda, Kairi Hayashi, Sylvaine Goupy, Ashraf Samy Ghanem, Naoki Tsukimura, Hiroshi Churei, Gen Tanabe, Siegfried Marquardt, Richard Lee Sungbok, Tomoyo Gonda, Kazunari Kimoto, Nanaho Katsutani: *International Journal of Sports Dentistry*, 15 (1): pp. 7-16. 2022
- 4: Difficult intubation and postoperative aspiration pneumonia associated with Moebius syndrome: a

case report. Aya Oda, Kana Oue, Yuki Oda, Shima Taguchi, Tamayo Takahashi, Akari Mukai, Mitsuru Doi, Yoshitaka Shimizu, Masahiro Irifune, Mitsuhiko Yoshida. *BMC Anesthesiol*, <http://doi.org/10.1186/s12871-022-01859-3>, 2022

- 5: A Study of Age-Related Changes in the Rate of Prosthodontics Wear among Persons with Disabilities: Comparison with the 2016 Survey of Dental Diseases. Yuki Oda, Yuka Wakabayashi, Haruka Yasuda, Hironori Miyazaki, Kohta Miyahara, Chiaki Furutani, Yuriko Yoshida, Yoshiyuki Okada. *JJSDH* 43 (1): pp. 26-33, 2022

B) Review

C) Publications

1. Dental Hygiene Course, Dentistry for the Disabled, 3rd Edition, "Mental Disorders and Oral Findings": Yoshiyuki Okada (co-author): Nagasue Shoten (Kyoto, Japan)
2. Dentistry for the Elderly, 3rd Edition, "Epidemiology of the Elderly": Yoshiyuki Okada (co-author): Eisue Shoten (Kyoto, Japan)

D) Other Publications

E) Presentations at Scientific Meetings

- 1: Comparison of dental plaque flora in intellectually disabled patients and healthy individuals – cross-sectional study: Yuki Oda, Chiaki Furutani, Yuika Mizota, Hironori Miyazaki, Masako Morimoto, Yoshifumi Nishio, Hisaho Yamaguchi, Yuriko Yoshida, Yoshiyuki Okada, Hiroki Nikawa: The 26th Congress of International Association for Disability and Oral Health, (Paris), 2022
- 2: A case of gingivectomy and fenestration for numerous impacted teeth in patients with Reye's syndrome: Yuki Oda, Hisaho Yamaguchi, Yoshifumi Nishio, Hironori Miyazaki, Masako Morimoto, Hironao Asahina, Kota Miyahara, Chiaki Furutani, Yuriko Yoshida, Yoshiyuki Okada: The 2nd Congress of Asia Association for Disability and Oral Health, (Kurashiki), 2022
- 3: A case of serial recordings of onset-phase circulatory dynamics of a hyperventilation attack during inhalation of nitrous oxide: Hironori Miyazaki, Yoshifumi Nishio, Masako Morimoto, Hisaho Yamaguchi, Kota Miyahara, Yuriko Yoshida, Yuki Oda, Yoshiyuki Okada: The 31st Annual Meeting of Japanese Society of Dentistry for Medically Compromised Patient (Ginowan), 2022
- 4: A case of multicenter collaboration for Down's syndrome patient with severe heart disease who developed infective endocarditis after tooth extraction. Yuki Oda, Hironori Miyazaki, Kota Miyahara, Masako Morimoto, Hisaho Yamaguchi, Yoshifumi Nishio, Yuriko Yoshida, Yoshiyuki Okada: The 31st Annual Meeting of Japanese Society of Dentistry for Medically Compromised Patient (Ginowan), 2022
- 5: A case of dental treatment under intravenous sedation for a patient taking guanfacine: Yuriko Yoshida, Yuki Oda, Kota Miyahara, Hisaho Yamaguchi, Masako Morimoto, Yoshiyuki Okada: The 31st Annual Meeting of the Japanese Society of Dentistry for Medically Compromised Patient, (Ginowan), 2022.
- 6: Development of acute heart failure in a patient with Cornelia de Lange under oral management: a case report -Evaluation of the relationship between dental treatment and heart failure-: Masako Morimoto, Yuki Oda, Chiaki Furutani, Hironori Miyazaki, Kota Miyahara, Hisaho Yamaguchi, Yoshifumi Nishio, Yuriko Yoshida, Yoshiyuki Okada: The 31st Annual Meeting of Japanese Society of Dentistry for Medically Compromised Patient (Ginowan), 2022.
- 7: A case report of overdenture with magnetic attachments reduced excessive burden to abutment teeth by tooth grinding in a patient with cerebral palsy: Yamaguchi Hisaho , Yoshida Yuriko , Miyahara Kota , Miyazaki Hironori , Furutani Chiaki , Nishio Yoshifumi , Morimoto Masako , Oda Yuki , Okada Yoshiyuki : The 31st Annual Meeting of Japanese Society of Dentistry for Medically Compromised Patient (Ginowan), 2022
- 8: Effects of central command induced by stress experiences on hemodynamic responses and modification by nitrous oxide sedation: Hironori Miyazaki, Yoshifumi Nishio, Masako Morimoto, Hisaho Yamaguchi, Kota Miyahara, Akinao Asahina, Yuriko Yoshida, Yuki Oda, Yoshiyuki Okada: The 39th Japanese Society for Disability and Oral Health (Kurashiki), 2022
- 9: Perioperative anesthesia management of a COVID-19-infected autism spectrum disorder child with

- severe obesity. Aya Oda, Kana Oue, Yuki Oda, Eiji Imado, Tamayo Takahashi, Yoshitaka Shimizu, Yoshiyuki Okada, Mitsuhiro Yoshida: The 39th Japanese Society for Disability and Oral Health (Kurashiki), 2022
- 10: Changes in anxiety and image of effectiveness before and after the use of nitrous oxide sedation in parents of special needs patients. Mayuko Watari, Masashi Nakano, Taku Kanda, Yuki Oda, Toshiya Morizane, Yoshiyuki Okada: The 39th Japanese Society for Disability and Oral Health (Kurashiki), 2022
 - 11: A case report of dental treatment for a multiple system atrophy patient with trismus under nitrous oxide inhalation sedation. Tamayo Takahashi, Akari Mukai, Eiji Imado, Aya Oda, Kana Oue, Yuki Oda, Yoshitaka Shimizu, Yoshiyuki Okada, Mitsuyoshi Yoshida: The 39th Japanese Society for Disability and Oral Health (Kurashiki), 2022
 - 12: A case of infective endocarditis and brain abscess after tooth extraction in a Down's syndrome patient with adult congenital heart disease. Kana Oue, Yuki Oda, Akari Mukai, Taiga Yoshinaka, Aya Oda, Tamayo Takahashi, Eiji Imado, Yoshitaka Shimizu, Yoshiyuki Okada, Mitsuhiro Yoshida: The 39th Japanese Society for Disability and Oral Health (Kurashiki), 2022
 - 13: Intervention support by a dental hygienist increased the motivation of a patient with intellectual disabilities and family members for her oral care to improve the oral environment. Fumi Tokui, Chika Kozono, Yuriko Yoshida, Yuki Oda, Miyuki Nakaoka, Yoshiyuki Okada: The 39th Japanese Society for Disability and Oral Health (Kurashiki), 2022
 - 14: A case of oral hygiene management in a patient with neurofibromatosis type 1 (von Recklinghausen's disease). Atsuko Wakita, Tomoko Tokikazu, Taku Kanda, Taeko Fukutani, Yuki Oda, Miyuki Nakaoka, Yoshiyuki Okada: The 39th Japanese Society for Disability and Oral Health (Kurashiki), 2022
 - 15: A case of de Lange syndrome patient for whom inter-professional work was interrupted due to exacerbation of self-injury: Masako Morimoto, Yuki Oda, Chiaki Furutani, Hironao Asahina, Hironori Miyazaki, Kota Miyahara, Hisaho Yamaguchi, Yoshifumi Nishio, Yuriko Yoshida, Katsuya Ogata, Yoshiyuki Okada: The 39th Japanese Society for Disability and Oral Health (Kurashiki), 2022.
 - 16: A case report of a patient with Mowat Wilson syndrome whose spitting habit was improved by lip bumper: Yamaguchi Hisaho, Oda Yuki, Miyahara Kota, Miyazaki Hironori, Furutani Chiaki, Nishio Yoshifumi, Morimoto Masako, Yoshida Yuriko, Okada Yoshiyuki: The 39th Japanese Society for Disability and Oral Health (Kurashiki), 2022
 - 17: Influence of intrathoracic pressure on remote facilitation of soleus H-reflex: Yuriko Yoshida, Hisaho Yamaguchi, Ryo Hirabayashi, Yoshiyuki Okada: The 33rd Annual Meeting of the Japanese Society of Sports Dentistry, (Tokyo), 2022.
 - 18: Effects of left-right occlusal pressure balance on the nucleus accumbens and spinal excitability: Ryo Hirabayashi, Yoshiyuki Okada, Yuriko Yoshida, Mutsuaki Edama: The 33rd Annual Meeting of the Japanese Society of Sports Dentistry, (Tokyo), 2022.
 - 19: A Case of dysphagia rehabilitation for elderly patient with long-term progression after stroke onset. Yuki Oda, Mineka Yoshikawa: The 33th Annual Meeting of the Japanese Society of Gerontology (Niigata), 2022
 - 20: Behavioral modification for patients with intellectual disabilities and their caregivers by continuous dental health guidance improve patients' oral hygiene: case report. Chika Kozono, Mikito Kajiya, Miyuki Nakaoka, Yuriko Yoshida, Yuki Oda, Yoshiyuki Okada: The 65th Spring Meeting of the Japanese Society of Periodontology (Tokyo), 2022
 - 21: Two cases of severely mentally retarded patients with gingival hyperplasia who made good progress after providing necessary dental health guidance to their families: Chika Kozono, Mikihito Kaziya, Miyuki Nakaoka, Yuriko Yoshida, Yuki Oda, Yoshiyuki Okada: The 66th Autumn Meeting of the Japanese Society of Periodontology (Sendai), 2022.
 - 22: A case of dental procedure for a chronic heart failure patient remaining life of six months by lung cancer: Hironao Asahina, Tadashi Ogasawara: The 33rd Annual Meeting of Japanese Society of Gerodontology (Niigata), 2022
 - 23: Oral and intestinal bacterial flora in centenarians and octogenarians with low functional independence in nursing homes: Ma Xiangtao, Takefumi Ikeda, Hironao Asahina, Tadashi Ogasawara, Nobuo Yoshinari: The 33rd Annual Meeting of Japanese Society of Gerodontology (Niigata), 2022.
 - 24: A case of dental procedures under intravenous sedation for a patient with dissociative identity disorder suffering from frequent flashback: Hironao Asahina, Yasuhiko Murakami, Yusuke Yamagami, Mami Osaki, Yoshiyuki Okada: The 39th Annual Meeting of Japanese Society for Disability and Oral Health (Kurashiki), 2022.

- 25: A case report of medication management for a patient with intellectual disability who suffered repeated tooth fractures due to falls related to epileptic seizures :Yoshifumi Nishio, Hironori Miyazaki, Kota Miyahara, Masako Morimoto, Hisaho Yamaguchi, Hironao Asahina, Chiaki Furutani, Yuruko Yoshida, Yuki Oda, Yoshiyuki Okada: The 38th Japanese Society for Disability and Oral Health (Kurashiki), 2022.

F) Special lectures in academic meetings

- 1: Special Needs Dentistry Supported by the Community -Aiming for a Society Where No One is Left Behind-: Yoshiyuki Okada (Lecturer): Dental Health Workshop, Aki Takata City Dental Association, 2022
- 2: Mastering Laugh-Inhalation Sedation: Yoshiyuki Okada (Lecturer): The 39th Annual Meeting and Annual Conference of the Japanese Society of Dentistry for the Disabled: Luncheon Seminar (Kurashiki), 2022
- 3: Let's begin with the collaboration between dental care and welfare for people with disabilities: Yuki Oda (symposist), The 39th Japanese Society for Disability and Oral Health, Kurashiki – Japan, 2022
- 4: Basic Knowledge and Dental Treatment of Children with Disabilities: Yoshiyuki Okada (Lecturer): Hiroshima Prefecture Comprehensive Project for Ensuring Regional Medical Care: Consultation Doctor Training Workshop: Hiroshima Prefectural Dental Association, 2022
- 5: "Goals and Current Situation in Oral Health Care for People with Difficulties in Providing Dental Care": Yoshiyuki Okada (Lecturer): Project for Promotion of Dental and Oral Health Care According to Life Stages: Workshop for Directors in Charge of Public Health in County and City Districts, 2022

G) Organizing conferences and seminars

1. The 39th Annual Meeting of the Japanese Society of Dentistry for Persons with Disabilities and the Annual Conference "Dental Care to Support "Living"-Cooperation between Community Medicine and Welfare-: Yoshiyuki Okada (Preparatory Committee Chairman), Tomonori Oda (Executive Committee Chairman), Kurashiki City (Okayama) 2022
2. The 12th Chugoku Regional Clinical Study Group on Dentistry for Persons with Disabilities: Yoshiyuki Okada (Preparatory Committee Chairman), Tomonori Oda (Executive Committee Chairman), Hiroshima City, Hiroshima 2022
3. The 8th Special Olympics Japan Summer National Games Special Smile Screening Project: Yoshiyuki Okada (Preparatory Committee Chairman), Yuriko Yoshida (Executive Committee Chairman)

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grants-in-Aid for scientific research (A): Yoshiyuki Okada (CI, New), Non-invasive microneurography: Reconstruction of peripheral sympathetic nerve activity using an arterial mechanics model. 22H00197. 41,730,000 yen.
- 2: Grants-in-Aid for scientific research (C): Yoshiyuki Okada (CI, New), Evaluation of nociceptive stimulation by electrical activity of peripheral artery. 21K08923, 4,030,000yen
- 3: Grants-in-Aid for scientific research (C): Yoshiyuki Okada (CI, New), Association of sympathetic baroreflex with the occurrence of atrial fibrillation after transcatheter aortic valve replacement. 21K08053, 4,160,000yen
- 4: Grants-in-Aid for scientific research (C): Yuki Oda (CI, Continuance), Construction of dental capability strategy for persons with disabilities and their families: Oral and well-being surveys at other facilities. 21K10206. 3,900,000yen.
- 5: Grants-in-Aid for young scientists : Yuki Oda (PI, Continuance), Effects of probiotics on the oral, intestinal, and brain phases -Examination in autistic spectrum disorder. 21K17199. 4,550,000 yen.
- 6: Grants-in-Aid for young scientists : Hironao Asahina (PI, New), A study on the chronological changes in the oral microbiota of tube-fed patients with xerostomia. 22K21015. 2,200,000 yen.
- 7: Japan Dental Association 8020 Foundation 8020 Research Project, Yoshiyuki Okada (PI, new), Verification of site-specific contamination of oral care children by caregivers and establishment of prevention methods for vector-borne infection. 600,000 yen
- 8: Fuminokai Research Grant Project, Tokui Fumi (PI, New), Danger of blood and saliva contamination

to caregivers during assisted brushing. 200,000 yen

(5) Academic Awards, etc.

2: The 39th Japanese Society for Disability and Oral Health Presentation Award. Hironori Miyazaki

(6) Patents

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Central Clinical Divisions • Special Dental Clinic Section

(1) Staff and Students

Chief Professor : Kotaro Tanimoto

Research Associate : Sachiko Yamada

Research Associate : Yukimi Yasuhara

(2) Main Research Activities

- 1: Research for improvement in articulation problem
- 2: Research for relation between lingual pressure and the function of speech/swallowing
- 3: Research for speech and swallowing rehabilitation of oral cancer

(3) Research Achievements

A) Original Papers (including Case Reports)

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

- 1: Fiberoptic endoscopic evaluation of swallowing may increase pharyngeal residue in postoperative oral cancer patients : Nagasaki T., Yamada S., Yoshikawa M., Yoshida M., Shimabukuro K., Ohtsuka M., Konishi M., Suei Y., Nakamoto T., Kakimoto N.: The 13th Asian Congress of Oral and Maxillo-Facial Radiology & The 62nd general assembly and annual scientific congress of Japanese Society for Oral and Maxillo-Facial Radiology (Gifu), 2022.

F) Special lectures in academic meetings

Lecture

- 1: Do you know what the Speech therapists exactly do at work? : Yasuhara Y.: Kumano High School(Aki), Mar. 2022.
- 2: Do you know what the Speech therapists exactly do at work? : Yasuhara Y.: Kumano High School(Aki), Sept. 2022.
- 3: Do you know what the Speech therapists exactly do at work? : Yasuhara Y.: Hiroshima Commercial.High School (Hiroshima), 2022.
- 4: Do you know what the Speech therapists exactly do at work? : Yasuhara Y.: Yanai Gakuen High School (Yanai), 2022.
- 5: Do you know what the Speech therapists exactly do at work? : Yasuhara Y.: Hiro High School (Kure), 2022.
- 6: Do you know what the Speech therapists exactly do at work? : Yasuhara Y.: Yonago Shoin High School (Yonago), 2022.

- 7: Do you know what the Speech therapists exactly do at work? : Yasuhara Y.: Setouchi High School. (Hiroshima), 2022.
- 8: Assessment and actuality of Dysphagia Rehabilitation: Yasuhara Y.: Hiroshima pref. community based health care and nursing mutual security project: Workshop of the swallowing functional training (Hiroshima), Feb.2022.
- 9: Assessment and actuality of Dysphagia Rehabilitation: Yasuhara Y.: Hiroshima pref. community-based health care and nursing mutual security project: Workshop of the swallowing functional training (Hiroshima), Oct.2022.
- 10 : Assessment and actuality of Dysphagia Rehabilitation: Yasuhara Y.: Hiroshima pref. community-based health care and nursing mutual security project: Workshop of the swallowing functional training (Fukuyama), 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

(5) Academic Awards, etc.

(6) Patents

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Central Clinical Divisions

Center of Oral Clinical Examination

(1) Staff and Students

Director: Mikihito Kajiya
 Lecturer: Tomoaki Shintani
 Research Associate: Toshinori Ando
 Dentist: Nami Obayashi (In training from the Department of General Dentistry)
 Technician: Rie Miyata

(2) Main Research Activities

- 1: Developing the promising tissue regenerative therapy using stem cells and 3D culture techniques.
- 2: Establish a novel culture system that can mimic the oral cavity using 3D cell constructs and micro-devices.
- 3: Diagnostic pathological study on head and neck lesions.
- 4: Study on test and treatment of metal allergy and dry mouth.
- 5: Molecular pathological study on development and progression of oral squamous cell carcinoma.
- 6: Study on molecular target therapy to oral cancer targeted with HBp17/FGFBP.
- 7: Analysis of actual condition of oral bacterial infection.
- 8: Molecular pathological research on oral/head and neck cancer focusing on genomic alterations and the Hippo pathway.

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Clumps of mesenchymal stem cells/extracellular matrix complexes directly reconstruct the functional periodontal tissue in a rat periodontal defect model : Sone H., Kajiya M., Takeda K., Sasaki S., Horikoshi S., Motoike S., Morimoto S., Yoshii H., Yoshino M., Iwata T., Ouhara K., Matsuda S., Mizuno N.: *Journal of Tissue Engineering and Regenerative Medicine*, 16 (10), 945-955, 2022.
- 2: Assessment of Serum IgG Titers to Various Periodontal Pathogens Associated with Atrial Fibrillation in Acute Stroke Patients : Nezu T., Hosomi N., Aoki S., Nishi H., Nakamori M., Shiga Y., Imamura E., Shintani T., Kawaguchi H., Maruyama H.: *J Stroke Cerebrovasc Dis*, 31 (3), 106301, 2022.
- 3: Impact of Maximum Tongue Pressure in Patients with Jaw Deformities Who Underwent Orthognathic Surgery : Koizumi K., Shintani T., Yoshimi Y., Higaki M., Kunimatsu R., Yoshioka Y., Tsuga K., Tanimoto K., Shiba H., Toratani S.: *Diagnostics (Basel)*, 12 (2), 404, 2022.
- 4: Masticatory dysfunction in patients with diabetic neuropathy: A cross-sectional study : Hamamoto Y., Ouhara K., Miyagawa T., Shintani T., Matsuda S., Fujita T., Sasaki S., Iwata T., Ohno H., Yoneda M., Mizuno N., Kurihara H.: *PLoS One*, 17 (6), e0269594, 2022.
- 5: VEGF-A promotes the motility of human melanoma cells through the VEGFR1-PI3K/Akt signaling pathway : Koizumi K., Shintani T., Hayashido Y., Hamada A., Higaki M., Sakamoto A., Yanamoto S., Okamoto T.: *In Vitro Cell Dev Biol Anim*, 58 (8), 758-770, 2022.
- 6: Integrating Genetic Alterations and the Hippo Pathway in Head and Neck Squamous Cell Carcinoma for Future Precision Medicine : Ando T., Okamoto K., Shintani T., Yanamoto S., Miyauchi M., Gutkind JS., Kajiya M.: *J Pers Med*, 12 (10), 1544, 2022.
- 7: A case of multiple myeloma diagnosed by extramedullary disease in the submandibular region : Koizumi K., Sakaue T., Nakase Y., Obayashi F., Ando T., Shintani T., Yanamoto S.: *J Oral Maxillofac Surg, Med, Pathol*, In press.
- 8: Secretory carcinoma of the minor salivary gland in the lip with ETV6-NTRK3 fusion: case report and literature review : Hamada A., Tani R., Kimura N., Taguchi Y., Hirota S., Ando T., Okamoto K., Toratani S., Yanamoto S.: *Journal of Oral and Maxillofacial Surgery, Medicine, and Pathology*, in press, 2022.

- 9: A clinical study on oral cancer patients treated with immune checkpoint inhibitors: Yoshioka Y, Toratani S, Ono S, Tani R, Koizumi K, Hamana T, Mizuta K, Nakagawa T, Hayashi S, Ando T, Sakamoto S, Takechi M, Miyauchi M, Okamoto T.: *Journal of the Japanese Stomatological Society*, 71(3), 161-172, 2022.
- 10 : A case of Trousseau syndrome caused by tongue cancer with lung metastases during pharmacotherapy in an adolescent and young adult patient: Kato H, Mizuta K, Sasaki K, Ando T, Ohta K, Takechi M.: *Japanese Journal of Oral and Maxillofacial Surgery*, 68(9), 362-369, 2022.
- 11 : A case of Cystadenoma of the Palate: Ito N, Koizumi K, Obayashi F, Sakamoto S, Ando T, Toratani T: *The Journal of Hiroshima University Dental Society*, 54(1), 34-38, 2022.
- 12 : Non-sebaceous lymphadenoma-like mucoepidermoid carcinoma: A case report : Sakamoto S., Miyauchi M., Ando T., Fujihara M., Nakaguro M., Nagao T., Ogawa I.: *Pathology International*, 72(7), 371-375, 2022.
- 13: Oral administration of bovine lactoferrin suppresses the progression of rheumatoid arthritis in an SKG mouse model : Yanagisawa S., Nagasaki K., Chea C., Ando T., Ayuningtyas NF., Inubushi T., Ishikado A., Imanaka H., Sugiyama E., Takahashi I., Miyauchi M., Takata T.: *PLoS One*, 17(2), e0263254. 2022.

B) Review

- 1: Integrating Genetic Alterations and the Hippo Pathway in Head and Neck Squamous Cell Carcinoma for Future Precision Medicine : Ando T., Okamoto K., Shintani T., Yanamoto S., Miyauchi M., Gutkind JS., Kajiya M.: *Journal of Personalized Medicine*. 12, 1544, 2022.

C) Publications

- 1: Medical Technology, Train your eye required for early detection of malignant tumor by cytology 2. Points important for early detection 3) Salivary gland, Cytology: Sakamoto S, Ando T, Yasumura N, Saito A, Kuraoka K, Kawamoto R, Yamamoto T, Nishisaka T, Miyauchi M, Ogawa I: *ISHIYAKU PUBLISHERS, INC. (Tokyo)*, 50(6), 568-571, 2022.

D) Other Publications

E) Presentations at Scientific Meetings

- 1: New Avenues for Regenerative Medicine Opened by 3D Cell Clumps Culture Techniques and Nanodevices : Kajiya M. : The 7th International symposium on biomedical engineering (Web) , 2022.
- 2: The Effect of CD4 Count on the Effectiveness of Periodontal Treatment in HIV-Infected Patients : Shintani T., Okada M., Iwata T., Kawagoe M., Yamasaki N., Inoue T., Fujii T., Shiba H. : The 36th Annual Meeting of Japanese Society for AIDS Research (Hamamatsu), 2022.
- 3: The Effect of CD4 Count on the Effectiveness of Periodontal Treatment in HIV-Infected Patients : Okada M., Shintani T., Iwata T., Kawagoe M., Yamasaki N., Inoue T., Furutama D., Takeda K., Nakaoka M., Mizuno N., Fujii T., Kajiya M., Shiba H. : The 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.
- 4: A case of delayed resin allergy with angioedema after dental treatment : Obayashi N., Shintani T., Kitagawa M., Oka H., Ando T., Kawaguchi H., Kajiya M. : The 15th Annual Meeting of Japanese Society for Evidence and the Dental Professional (Yokohama), 2022.
- 5: Development of innovative cancer immunotherapy focusing on novel interaction between YAP/TAZ and RBM39: Ando T : *BioJapan 2022 (Yokohama)*, 2022.
- 6: Novel regulatory mechanism of the Hippo pathway by AXL: Ando T, Okamoto K, Yanamoto S, Miyauchi M.: The 33rd Annual Meeting of Japanese Society of Oral Pathology • The 32nd Congress of the Japanese Society Oral Medicine • The 35th Annual Meeting of the Japanese Society of Oral Diagnosis / Oral Medicine Joint Conference (Sapporo), 2022.
- 7: AXL activates YAP and confers resistance to EGFR inhibitors in oral squamous cell carcinoma: Okamoto K, Ando T, Kajiya M, Yanamoto S, Miyauchi M: The 55th Annual Meeting of the Dental Association of Hiroshima University (Hiroshima), 2022.

- 8: Deciphering mechanism of AXL-mediated YAP activation and resistance to EGFR inhibitor in oral squamous cell carcinoma: Okamoto K, Ando T, Toratani T, Yanamoto S, Miyauchi M: The 76th Annual Meeting of Japanese Stomatological Society (Fukuoka, Hybrid), 2022.
- 9: Analysis of the Clinical Significance of Extranodal Extension of Cervical Lymph Node Metastasis in Oral Squamous Cell Carcinoma : Higaki M, Ando T, Yoshioka Y, Koizumi K, Hamana T, Yamasaki S, Hamada A, Ito N, Kimura N, Taguchi Y, Obayashi T, Fukutani T, Okamoto K, Eboshida N, Matsuyama T, Yanamoto S : The 46th Annual Meeting of Japan Society for Head and Neck Cancer (Nara) , 2022.
- 10: Clinical Significance of Extranodal Extension of Cervical Lymph Node Metastasis in Oral Squamous Cell Carcinoma : Higaki M, Koizumi K, Ando T, Tani R, Yoshioka Y, Hamana T, Yamasaki S, Hamada A, Ito N, Kimura N, Taguchi Y, Obayashi T, Fukutani T, Okamoto K, Eboshida N, Matsuyama T, Yanamoto S : The 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Makuhari), 2022.
- 11: Prognostic relevance of extranodal extension of cervical lymph node metastasis in oral squamous cell carcinoma : Higaki M, Koizumi K, Kunihara S, Ando T, Hamada A, Ito N, Obayashi T, Eboshida N, Matsuyama T, Okamoto K, Takahashi H, Mishima F, Fukutani T, Taguchi Y, Kimura N, Yamasaki S, Hamana T, Yoshioka Y, Tani R, Hayashido Y, Yanamoto S : The 61th Scientific Meeting of Hiroshima Prefectural Dental Association, joint of the 106th Hiroshima University Dental Society Regular Meeting (Hiroshima), 2022.
- 12: The cellular and molecular mechanisms underlying irinotecan-induced changes in behavioral taste responses : Sugita M., Sakayori N., Kawaguchi H., Obayashi N. : The 74th Annual Meeting of the PSJ Chugoku-Shikoku Division (Kochi), 2022.
- 13: A resin allergy with a sudden swelling of the face after dental treatment: Obayashi N., Shintani T., Kitagawa M., Oka H., Ando T., Nishitani M., Kawaguchi H., Kajiya M.: The 15th Annual Meeting of the Japanese Society for Evidence and the Dental Professional (Kanagawa Hybrid) ,2022.
- 14: Study on Dental Metal Materials Used in the Oral Cavities of the Elderly: Analysis of 21 Cases from the Center for Causes of Death Investigation Research and Education: Oka H., Obayashi N., Kitagawa M., Katsuya N., Ishiuchi N., Kakimoto N., Nagao M.: The 61th Scientific Meeting of Hiroshima Prefectural Dental Association and the 106th Hiroshima University Dental Society Regular Meeting(Hiroshima), 2022.

F) Case presentations

- 1: Retrospective study on the therapeutic effect of zinc acetate hydrate preparations for patients with zinc deficiency dysgeusia : Shintani T. : Tuberos Sclerotic Collaborative Seminar (Hiroshima), 2022.
- 2: Clinical Research on HIV Infection Conducted at Dentistry of Hiroshima University Hospital : Shintani T. : 2022 Workshop on HIV Infectious Diseases for Members and Associate Members of the Hiroshima Dental Association (Hiroshima), 2022.
- 3: A case report of secretory carcinoma of the lip gland with confirmed diagnosis obtained by genetic analysis : Hamada A, Tani R, Kimura N, Taguchi Y, Ando T, Hirota S, Okamoto K, Toratani S : The 50th Academic Meeting of the Japanese Society of Oral Surgery, Chugoku-Shikoku Branch (Okayama), 2022.
- 4: A case of phantom cell odontogenic carcinoma derived from peripheral dentin-forming phantom cell tumor in the mandible : Kato D, Mizuta K, Uetsuki R, Sasaki K, Ono S, Sakamoto S, Ando T, Miyauchi M, Aikawa T : The 40th Annual Meeting of Japanese Society of Oral Oncology (Web), 2022.
- 5: A case of AA amyloidosis with symptoms of jaw bone osteomyelitis : Fukui A, Nakagawa T, Ono S, Sasaki K, Ando T, Aikawa T : The 67th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Chiba), 2022.
- 6: A case report of lobular capillary hemangioma with the mandible : Suzuki T, Nagasaki T, Obayashi F, Ando T, Shimabukuro K, Ohtsuka M, Sueti Y, Konishi M, Nakamoto T, Kakimoto N : The 41st annual joint meeting of Kansai and Kyushu of Japan Society of Oral and Maxillofacial Radiology, (Kanazawa), 2022.
- 7: A delayed-type resin allergy with angioedema after dental treatment : Obayashi N, Shintani T, Oka H, Ando T, Kawaguchi H, Kajiya M : The 15th Annual Meeting of Japanese Society for Evidence and the Dental Professional (Kanagawa), 2022.

- 8: A case of phantom cellular odontogenic carcinoma of the lower jaw : Mizuta K, Ono S, Sasaki K, Kato H, Sakamoto S, Ando T, Miyauchi M, Aikawa T : The 67th Annual Meeting of the Japanese Society of Oral and Maxillofacial Surgeons (2022.11.4~11.6 Chiba Web).

G) Special lectures in academic meetings

- 1: Regulatory mechanism of the Hippo signaling pathway by genetic alterations in cancer : Ando T : The 72nd web seminar of Hiroshima research center for Healthy Aging (HiHA) (Hiroshima), 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grants-in-Aid for Scientific Research (B): Kajiya M.: Development of iPS Cell-derived jawbone/gingival organoids using clumps culture technique for the oral regenerative medicine. 22H03275, 17,290,000 yen
- 2: JST START University Ecosystem Promotion Type (no. JPMJST2283): Kajiya M.: The manufacturing and sales business of cell preparation for bone regenerative medicine by using clumps of MSCs. JPMJST2283, 7,500,000 yen
- 3: Grants-in-Aid for Scientific Research (C): Shintani T.: Mechanism of induction of squamous cell differentiation by HBp17/FGFBP knockout. 22K10147, 1,200,000 yen
- 4: Grants-in-Aid for Early-Career Scientists: Ando T.: Exploring receptor type tyrosine kinases regulating Hippo pathway for the treatment of patients with head and neck cancer. 20K18477, 1,200,000 yen
- 5: The Hiroshima University Fund “Nozomi H Foundation” subsidy for the promotion of cancer treatment research: Ando T.: Exploring novel nuclear YAP-interacting molecule in cancer and application to the treatment. 1,000,000 yen (for 2 year)
- 6: Ministry of Education, Culture, Sports, Science and Technology (MEXT) “Strategic Professional Development Program for Young Researchers” World-Class Researcher Development Through Regional Collaboration, HIRAKU-Global Researcher (3rd Cohort): Ando T.: 1,500,000 yen (for start-up and travel fees)
- 7: Grants-in-Aid for Early-Career Scientists: Obayashi N.: Elucidation the mechanism of taste alteration induced by irinotecan, an anticancer drug focusing on salty taste. 22K17207, 1,560,000 yen

(5) Academic Awards, etc.

- 1: Ando T.: Oral Presentation Award, The 33rd Annual Meeting of Japanese Society of Oral Pathology • The 32nd Congress of the Japanese Society Oral Medicine • The 35th Annual Meeting of the Japanese Society of Oral Diagnosis / Oral Medicine Joint Conference, 2022

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Central Clinical Divisions

Dental Laboratory

(1) Staff and Students

Director of Dental Technicians Section : Hiroki Nikawa (Prof.)
 Assistant Chief Dental Technician : Ryoji Kato
 Dental Technician : Eisaku Habu, Yoshihiro Ohtani, Shogo Iwaguro,
 Yukihiro Takayama, Mai Ohtaku

(2) Main Research Activities

- 1: Management of the patient's information by the use of implanted devices in the denture.
- 2: Radioprotective prostheses for irradiation therapies
- 3: Clinical analysis of superstructure of implant.
- 4: Esthetic dentistry
- 5: Accuracy of castings
- 6: Information processing in the dental laboratory
- 7: Study on dental composite materials for esthetic

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1 : Influence of dental abrasives on surface roughness, gloss, and color of titanium : Iwaguro S, Shimoe S, Yamamoto K, Mine Y, Takayama Y, Kaku M : J Oral Sci, Vol. 64 (3), pp. 247-250,2022.
- 2 : Alterations to titanium surface depending on the fluorides and abrasives in toothpaste : Shuto T, Mine Y, Makihira S, Nikawa H, Wachi T, Kakimoto K :*Materials* 15(1): 51.2022.
- 3 : Comparison of the accuracy of different handheld-type scanners in three-dimensional facial image recognition: Tsuchida Y, Shiozawa M, Handa K, Takahashi H, Nikawa H : J Prosthodont Res. Online ahead of print. 2022.
- 4 : Effects of dimensions of laser-milled grid-like microslits on shear bond strength between porcelain or indirect composite resin and zirconia : Iwaguro S, Shimoe S, Takenaka H, Wakabayashi Y, Tzu-Yu Peng, Kaku M : J Prosthodont Res, 66(1), 151-160, 2022.

B) Review

- 1 : Role of Lactobacillus rhamnosus in Oral Health of Disabled Individuals : Yuki Oda, Chiaki Furutani, Yuika Mizota, Hiroki Nikawa : Current Oral Health Reports vol 9:1-6, 2022.

C) Publications

- 1 : Development of Etak, an ethoxysilane-based immobilized antibacterial and antiviral agent : Biomedical Engineering (now printing) : Hiroki Nikawa and Takemasa Sakaguchi

D) Other Publications

E) Presentation at Scientific Meeting

F) Symposium and special lecture

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

(5) Academic Awards, etc.

(6) Patents

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Central Clinical Divisions

Dental Hygiene Section

(1) Staff and Students

Director of Dental Hygiene Section: Koji Ohta

Section leader of Dental Hygiene Section: Miyuki Nakaoka

Section sub-leader of Dental Hygiene Section: Miho Okada(by-work, From April)

Chief Dental Hygienist: Miho Okada(Till March), Kanako Yano, Maiko Kawagoe, Natsumi Ino

Dental Hygienists: Atsuko Wakita, Tomoko Tokikazu, Chika Kozono, Yuika Mizota, Kana Dainobu, Fumi Tokui, Mariko Nakamura, Haruka Yasuda, Shoko Kimura(Till March), Hina Nitanda, Yasuko Yokoyama, Yuka Kurozumi, Kotone Tanabe, Kiho Naganuma, Fuki Matsuda, Ruri Miyano, Su chengyih(From April)

Dental Assistants : Keiko Kodani (Till September), Saori Nagamine, Ayako Masuda

(2) Main Research Activities

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Learning effects of coaching with practice progress chart and self-goal setting inclinical practice of special-needs dentistry : Watari M., Nagatani Y., Wakita A., Tokikazu T., Mizota Y., Nakaoka M. : The Journal of Japan society for dental hygiene, 16(2), 75-83, 2022.
- 2: A Study on Age-related Changes in Prosthesis-wearing Rate in Persons with Disabilities:Comparison with the 2016 Survey of Dental Diseases : Oda Y., Wakabayashi Y., Yasuda H., Miyazaki H., Miyahara K., Furutani C., Yoshida Y., Okada Y. : Journal of the japanese society for disability and oral health, 43(1), 26-33, 2022.
- 3: Microbial differences between active and remission peri-implantitis : Hashimoto, Y., Okada, S., Yasuda, K., Kawagoe, M., Kajiya, M., & Tsuga, K. : Scientific reports, 12(1) 5284, 2022.

B) Review

- 1: Role of Lactobacillus rhamnosus in Oral Health of Disabled Individuals : Yuki Oda., Chiaki Furutani., Yuika Mizota., Hiroki Nikawa. : Current Oral Health Reports, 9(1), 1-6, 2022.

C) Publications

D) Other Publications

E) Presentations at Scientific Meetings

- 1: 4 years after in-office whitening of tetracycline-discolored teeth : Yano K. : The 33rd General Scientific Meeting of Japan Academy of Esthetic Dentistry(Niigata), 2022.
- 2: A case of improvements in oral hygiene management of facility staff through dental health manuals prepared for the families of severely mentally handicapped patients : Tanabe K., Kozono C., Yoshida Y., Oda Y., Okada Y. : 39th japan Society of Dentistry for Persons with Disabilities(kurashiki), 2022.
- 3: Intervention support by a dental hygienist increased the motivation of a patient with intellectual disabilities and family members for her oral care to improve the oral environment. : Tokui F., Kozono C., Yoshida Y., Oda Y., Nakaoka M., Okada Y. : 39th japan Society of Dentistry for Persons with Disabilities(kurashiki), 2022.
- 4: A case of oral hygiene management in a patient with Neurofibromatosis type 1 (von Recklinghausen's disease) : Wakita A., Tokikazu T., Kanda T., Fukutani T., Oda Y., Nakaoka M., Okada Y., : 39th japan Society of Dentistry for Persons with Disabilities(kurashiki), 2022.

- 5: Oral hygiene instruction through a family member evoked interprofessional work, which improved plaque control in a patient with severe intellectual disability: a case report : Kurozumi Y., Kozono C., Miyazaki H., Yoshida Y., Oda Y., Okada Y. : 39th Japan Society of Dentistry for Persons with Disabilities(kurashiki), 2022.
- 6: Effect of CD4 count on periodontal therapy in HIV-infected patients : Okada M., Shintani T., Iwata T., Kawagoe M., Yamasaki N., Inoue Y., Furutama D., Takeda K., Nakaoka M., Mizuno T., Fujii T., Kajiya M., Shiba H. : The 106th Dental Society of Hiroshima University(Hiroshima), 2022.
- 7: A case of anterior open bite treated with oral myofunctional therapy and orthodontic treatment. : Ishida E., Asakawa Y., Hirose N., Yanoshita M., Iwai K., Concepcion MC., Nishiyama S., Kubo N., Kita D., Tsuka Y., Ando K., Okada M., Yamada S., Tanimoto K. : The 81st Annual Meeting of the Japanese Orthodontic Society(Osaka), 2022.
- 8: Two cases in which continuous dental health guidance led to behavioral change in patients with intellectual disabilities and their caregivers and improved patients' oral hygiene. : Kozono C., Kajiya M., Tokui F., Kimura S., Nakaoka M., Yoshida Y., Oda Y., Okada Y. : Spring Meeting of the Japanese Society of Periodontology(Tokyo), 2022.
- 9: Two cases in which improvements in gingival hyperplasia in severely disabled patients living in nursing homes were observed after dental professionals provided their families with the necessary dental health guidance. : Kozono C., Kajiya M., Nakaoka M., Yoshida Y., Oda Y., Okada Y. : Autumn Meeting of the Japanese Society of Periodontology(Sendai), 2022.

F) Lecture

- 1: Oral care in Special care dentistry : Yano K. : Hiroshima prefecture regional medical care nursing comprehensive securing business Education at Hiroshima Oral Health Center· Research function development project Hiroshima prefecture dental health care service provision difficult person consultation physician training workshop(Hiroshima), 2022.
- 2: Oral health care in Special care dentistry : Tokikazu T. : Hiroshima prefecture regional medical care nursing comprehensive securing business Education at Hiroshima Oral Health Center· Research function development project Hiroshima prefecture dental health care service provision difficult person consultation physician training workshop (Hiroshima), 2022.
- 3: Role of the dental hygienist in hemophilia care : Okada M. : Hemophilia Academy Multidisciplinary Seminar (Hiroshima), 2022.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: FUTOKU foundation, Grants for research on dental hygiene and dental hygiene education : Tokui F., Risk of blood and saliva contamination to the caregiver during brushing. 200000

(5) Academic Awards, etc.

(6) Patents

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Central Clinical Facilities

Division of Medical Informatics and Systems Management

(1) Staff and Students

Director : Yoshiyuki Okada(Co.)
Assistant Professor : Masahiko Ohtsuka (Co.), Takeshi Tanaka(Co.)
Technician : Tokue Yanagida (Co.)

(2) Main Research Activities

- 1: Research on development and management of healthcare and welfare information system.
- 2: Research on Medical Informatics.

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Tanaka T: A measurement of Japanese vocabulary and kanji difficulties on national and public university hospital websites: Japan Journal of Medical Informatics, 42 (Suppl.): 1411-1414, 2022.

B) Review

None.

C) Publications

None.

D) Other Publications

None.

E) Presentation at Scientific Meeting

- 1: Tanaka T et al: A case report on division of roles by medical / non-medical qualified persons to support inter-facility medical welfare collaboration: The 23rd Meeting of Japan Society for Low-vision Research and Rehabilitation (Kagoshima, Japan), 2022.
- 2: Narai A et al: Awareness survey on visual rehabilitation for visually impaired persons in Japan: The 23rd Meeting of Japan Society for Low-vision Research and Rehabilitation (Kagoshima, Japan), 2022.
- 3: Tanaka T: A Tentative Assessment of Medical Institution Webpage Model Available in Browsing by Using Extremely Extended Characters: Japan Association for Medical Informatics Spring Conference 2022 (Takamatsu, Japan), 2022.
- 4: Fujita R, Tanaka T, Masuda S, Tokumo K, Narai A: "The Visual Rehabilitation Cooperation Support Project" Implemented at Hiroshima University Hospital: The 30th Conference for Researches on Rehabilitation of Visually Impaired (Nagoya, Japan & Web), 2022.
- 5: Fujita R, Tanaka T, Kiuchi Y, Narai A: A case report of the visual rehabilitation cooperation support project at a public hospital: Joint Conference on Rehabilitation and Nursing Care (Tomakomai, Japan), 2022.
- 6: Fujita R, Tanaka T, Ando H, Kishi Y, Kiuchi Y, Narai A: A trial of a patient-participating clinical pathway that builds collaboration between medical care and welfare: The 22nd Annual Meeting of the Japan Society for Clinical Pathway (Gifu, Japan), 2022.
- 7: Tanaka T: A measurement of Japanese vocabulary and kanji difficulties on national and public university hospital websites: The 42nd Joint Conference on Medical Informatics (Sapporo, Japan), 2022.

F) Special lectures in academic meetings

None.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: MEXT KAKENHI Grant-in-aid for Scientific Research(C), No. 21K12594. 1400 thousand JPY.
- 2: MEXT KAKENHI Grant-in-aid for Scientific Research(B), No. 20H01595. 2100 thousand JPY.

(5) Academic Awards, etc.

None.

(6) Patents

None.

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