Special Webinar

New Era Creation through Dental Innovation

Presented by **J**apanese **A**ssociation for **D**ental **S**cience (JADS)

On-demand video program

September 26 (Friday) – October 31(Friday), 2025

Registration is free of charge

The Japanese Association for Dental Science (**JADS**) is an academic and research organization within the Japan Dental Association (**JDA**). The JADS was officially established in 1903, since then for more than 120 years, JADS has contributed to the development of dental science and the improvement of oral health care for the Japanese population. At present, JADS consists of 46 specialized and authorized dental organizations. JADS has approximately 100,000 members including all the JDA members. Our official journal is “Japanese Dental Science Review” (open access journal).

The 25th Scientific Meeting of the JADS will be held on September 26-28, 2025 in Yokohama, Japan. The theme is “New Era Creation through Dental Innovation”. Although the main language of the meeting is Japanese, we provide an English session as a **“Special Webinar”** to the international dental professionals. This Special Webinar is presented by JADS in cooperation with the Japanese Association for Dental, Oral, and Craniofacial Research (**JADR**) and WHO Collaborating Center for Translation of Oral Health Sciences (**WHOCC**) in Niigata University.

The cutting-edge dental technologies and the Japanese characteristic dental care systems will be presented and introduced in the lectures by the world-renowned Japanese researchers (See the program in next page). Registration for viewing the on-demand videos is free of charge and the viewing period will be from September 26 to October 31, 2025.

We encourage dentists, dental researchers, dental students and other dental professionals throughout the world to participate in this special webinar program. Don’t miss this opportunity!

Registration is now open

How to register

Visit our registration site (https://site2.convention.co.jp/25jads/english/) and fill your information.

How to view the on-demand videos

With your e-mail address and password, you can view the on-demand videos - Anytime, Anywhere!
Details will be forwarded to you by e-mail after your registration.

Inquiries & Contact

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Program

1 Universal health coverage in the dental field in Japan: Strengths and weaknesses

Chair
Assoc. Prof. Sachiko Takehara
Niigata University

Lecturer
Dr. Kakuhiro Fukai
Fukai Institute of Health Science

Abstract: The goal of Universal Health Coverage (UHC), which is included in the WHO Global Oral Health Action Plan (2023-2030), is to ensure that all people have access to health care without economic hardship. Prevention and treatment of dental disease is an integral component of UHC (UN, 2019). Japan achieved implementation of its universal health insurance system in 1961 and instituted its long-term care insurance system in 2000. Japan is one of the most advanced countries in the world in terms of dental UHC, with universal access to affordable dental and oral health insurance as well as public health services covering every life stage, starting with maternal and child health and school health services. However, significant challenges remain, such as securing financial resources and reducing health inequalities in a super-aged society. Learning about the characteristics of dental UHC in Japan can help other countries achieve their own UHC goals.

2 Phasing out of dental amalgams use in Japan, as part of SDGs achievements

Chair
Prof. Tatsuo Yamamoto
Kanagawa Dental University

Lecturer
Prof. Hiroshi Ogawa
Niigata University

Abstract: Efforts are underway to achieve the Sustainable Development Goals (SDGs), an international goal aimed at creating a sustainable and better world by 2030. Under this pin, there is a need for a phase-down of dental amalgams containing mercury. Japan has withdrawn dental amalgams from public programs, effectively phasing it out to protect human health and the environment from the adverse effects of mercury. Since 2016, dental treatment with dental amalgams has no longer been covered by health insurance, which has been recognized as a success story by other countries. In this lecture, I will review the background of the complete reduction of dental amalgam in Japan, and also discuss the challenges and contributions of Japan to further reduce dental amalgam globally.

3 Disaster dentistry -The role of dental professionals in times of disaster-

Chair
Prof. Satoshi Imazato
The University of Osaka

Lecturer
Dr. Koichi Nakakuki
Tohoku University

Abstract: In the event of a large-scale disaster, prefectures take the initiative to provide support under the Disaster Relief Act. Healthcare support is managed by the Health, Medical and Welfare Coordination Headquarters, and dental healthcare support is also provided as a part of this. The Japan Dental Alliance Team was established by the Japan Disaster Dental Health Care Liaison Council to provide this official dental health care support. Official temporary dental clinics are set up when local dental clinics cannot continue to provide dental care due to a disaster. Dental health promotion is also provided, as there may be a high risk of infectious diseases caused by oral bacteria, especially among the elderly and the sick, against the background of difficulties in maintaining oral hygiene when water supply and drainage are inadequate. Dental health promotion will continue to prevent deterioration of oral function and nutritional status due to prolonged evacuation.

4 The prevention of oral frailty extends the healthy life expectancy

Chair
Prof. Koichiro Matsuo
Institute of Science Tokyo

Lecturer
Prof. Masanori Iwasaki
Hokkaido University

Abstract: The importance of oral function in the aging population has gained further attention. In Japan, oral frailty (OF) has been introduced as a multidimensional concept for describing poor oral function. Particularly, the “Joint Working Committee on Oral Frailty” by three academic societies; the Japan Geriatrics Society, Japanese Society of Gerodontology, and Japanese Association on Sarcopenia and Frailty, issued a consensus statement on oral frailty, on April 1, 2024, to improve public understanding of OF. The available evidence suggests that OF is associated with poor dietary variety, social isolation, physical frailty, disability, and mortality. OF countermeasures must go beyond healthcare professionals’ assessments and interventions, requiring early awareness, personal engagement, and multidisciplinary coordination. OF is a novel concept. Maintaining good oral function may be key to healthy longevity.

5 How best to treat caries in the elderly: Management of root caries and endodontic treatments

Chair (Part 1) & Lecturer (Part 2)
Prof. Mikako Hayashi
The University of Osaka

Lecturer (Part 1) & Chair (Part 2)
Prof. Hidefumi Maeda
Kyushu University

Abstract:

Part 1) Geriatric Endodontics

The geriatric population is increasing not only in Japan but worldwide. A close relationship between loss of teeth and general health has been demonstrated. Therefore, retention of natural teeth is significant to live in the era of 100-year lifespans. In particular, endodontic treatment plays a crucial role in surviving teeth. According to the survey conducted by the Ministry of Health, Labour and Welfare in Japan, the number of root canal treatments implemented by age is higher in the 40s-70s, and especially high in the 70s. In treating elderly patients with endodontic therapy, we need to pay more special attention to various age-related changes, such as the greater constriction of the pulp chamber than usual. In this session, I will review issues, including the current status, difficulty, and outcome of endodontic treatment for the elderly in addition to these problems.

Part 2) Biological MI treatment of root caries in the elderly

Japan has set the laudable goal of 80-20 meaning that at the age of 80, people would have at least 20 of their natural teeth. But to achieve this, dentistry needs to undergo a paradigm shift. Everyone involved, government and dentists particularly must enhance the concept of Minimal Intervention (MI). Experts from the Japanese Society of Conservative Dentistry in 2022 published a clinical guideline for evidence-based treatments of root caries based on MI policy. The aim was to make “drilling of healthy teeth” a thing of the past. Especially in elderly people, preventing and managing root caries is critical to keep their healthy oral condition. This presentation will explain the latest scientific evidence, the best modern materials, the advanced clinical techniques that are combining with MI to make dentistry a key partner in helping patients lead longer healthier lives.

6 Advancing direct restorative approach with adhesive and digital technologies

Chair
Prof. Yasushi Shimada
Institute of Science Tokyo

Lecturer
Prof. Keiichi Hosaka
Tokushima University

Abstract: Recent advancements in adhesive and digital technologies have revolutionized direct restorative dentistry, enabling a more precise, efficient, and minimally invasive approach while preserving the natural anatomy of the tooth. Universal adhesive systems enhance bonding reliability across various substrates, ensuring long-term stability. Universal single-shade composites, utilizing advanced optical properties, simplify shade selection and improve workflow efficiency. The integration of 3D-printed clear indices and injection molding techniques has further optimized precision in composite placement, particularly in complex anterior restorations, direct resin bridges, and full-mouth rehabilitation. These innovations support conservative preparation, reducing unnecessary tooth reduction while achieving superior esthetics and function. Digital workflows, including CAD/CAM integration, enhance predictability and reproducibility in clinical applications. By embracing these technologies within the framework of minimally invasive dentistry (MID), clinicians can provide durable, esthetic restorations while respecting natural tooth structure and improving overall treatment outcomes.

7 Cutting-edge developments in zirconia and lithium disilicate glass ceramics

Chair
Prof. Motohiro Uo
Institute of Science Tokyo

Lecturer
Prof. Masanao Inokoshi
Institute of Science Tokyo

Abstract: The widespread adoption of CAD-CAM technology has significantly advanced dental ceramic materials. Among these, zirconia and lithium disilicate glass ceramics have become widely utilized in clinical dentistry. Both materials enable the fabrication of monolithic restorations, eliminating the need for veneering porcelain and thereby reducing complications such as chipping. Zirconia, in particular, has seen the introduction of various types, including conventional zirconia, shade-gradient zirconia with a single composition, and strength-gradient zirconia containing multiple types of zirconia within a single disc. Understanding the characteristics of these ceramics is crucial for optimizing clinical outcomes. This presentation will highlight the speaker’s research findings and provide insights into the latest developments in ceramic materials.

8 Maxillofacial prosthodontics in Japan -Education, clincal practice and research-

Chair
Prof. Miwa Matsuyama
Tokushima University

Lecturer
Prof. Yuka Sumita
Nippon Dental University Tokyo

Abstract: Japan's aging society is having a significant impact on the field of dentistry. One of the most pressing challenges is the increase in the number of cancer survivors. Consequentry, the cases of Medication-related Osteonecrosis of the Jaw (MRONJ) associated with cancer treatments such as breast and prostate cancer are also increasing. The number of head and neck cancer survivors is also certainly on the rise. These two factors have influenced the increasing number of patients with head and neck defects requiring maxillofacial prosthetic rehabilitation, presenting a significant problem that requires immediate and comprehensive intervention. In this presentation, I will explore three key perspectives on maxillofacial prosthetics in Japan: Shall we strive to create a society where people can truly cherish the gift of life—where they can be grateful for having been born, for having had their lives saved, and for having survived illness, accidents, and wars?

9 Stem cell/nanotechnology -based strategies in regenerative dentistry-

Chair
Prof. Keiji Moriyama
Institute of Science Tokyo

Lecturer
Prof. Hiroshi Egusa
Tohoku University

Abstract: Regenerative dentistry initially relied on biomaterials, but they are not always effective, particularly for complex dental tissue defects. Stem cell-based regenerative medicine offers a promising alternative to overcome these limitations. To develop a method for fabricating 3-D cell constructs for effective cell transplantation therapy, we examined the influence of environmental factors, such as microculture space and mechanical stimuli, on stem cell differentiation. We successfully created osteoinductive bioengineered bone grafts using stem cells in vitro, which possess high bone regeneration capacity even as a freeze-dried material. We also found that titanium implants with nano-modified surfaces, mimicking the properties of tooth cementum, generated periodontal ligaments around the implant, which could provide a future alternative to current osseointegrated implants. This presentation will highlight our innovative approach to next-generation regenerative dentistry, focusing on advanced research using stem cells and nanotechnologies.

10 A novel periodontal regeneration approach by FGF-2 and stem cell transplantation

Chair
Dr. Hiroyuki Hirano
Hirano Dental Clinic

Lecturer
Prof. Shinya Murakami
The University of Osaka

Abstract: It is clinically possible to enhance the biological activities of mesenchymal stem cells within the periodontal ligament and stimulate periodontal regeneration. Basic Fibroblast Growth Factor (FGF-2) is well known to stimulate the proliferation, migration and differentiation of various cell types and induce angiogenesis. Through a series of clinical trials, we demonstrated that topical application of 0.3% FGF-2 into intraosseous alveolar bone defects stimulated significant periodontal regeneration and have finally established the world's first periodontal regenerative medicine in Japan. Another important approach for periodontal regeneration is stem cell transplantation therapy. We have been working on the auto-transplantation therapy using adipose-tissue derived multilineage progenitor cells (ADMPC). Preclinical and clinical studies confirmed that auto-transplantation of ADMPC into intraosseous alveolar bone defects stimulated periodontal regeneration in the application site. In my presentation, action mechanism, efficacy and safety of these therapies are explained, and future prospect of regenerative dentistry using these therapies is discussed.

Appendix

1. "Innovation roadmap for 2040" by JADS
2. "Dental innovation for the future" presented at the Expo 2025 Osaka, Kansai, Japan

JADS (Japanese Association for Dental Science)	URL: https://www.jads.jp/english/greeting.html
JDA (Japan Dental Association)	URL: https://www.jda.or.jp/en/