AADT 2020
C E B U

The 9th Conference of the Asian International Association of Dental Traumatology

March 7 – 8, 2020
City Sports Center Cebu / SEDA
Cebu City, Philippines

Message from the President

It is a great pleasure for me to hold the 9th Conference of the Asian International Association of Dental Traumatology (AADT) under the auspices of Prof. Rodivick Docor, Dean of the College of Dentistry, SWU PHINMA. This is the first event in the Philippines. There are three societies on dental traumatology: The International Association of Dental Traumatology (IADT) recognized in the world, the Japan Association of Dental Traumatology (JADT) recognized in Japan, and the Asian International Association of Dental Traumatology (AADT) recognized in Asia. They perform clinical evaluation based on basic sciences from education, research and a clinical viewpoint. As a specialized field in each university and a dental service organization, they play a key role and continue to develop towards the medical forefront.

This time, I hold the society meeting by the sponsorship of the College of Dentistry, SWU PHINMA in the splendid country of the Philippines. I extend my special thanks to the President, Dr. Chito Salazar, and Dr. Omar Rodis (Tokushima University Dental School, Japan).

From the situation of stomatology, it is very important for healthy life expectancy to prevent a tooth from occlusal trauma, in particular, traumatic occlusion based on fracture and dislocation disorders, as a basic oral health care. Therefore, needless to say, this society is deeply related with Pedodontics, Endodontics, Operative Dentistry, Biomaterials, Dental Radiology, Oral Surgery, Oral Pathology, Neuropathology, and Clinical Pathology.

Finally, I want to discuss the "SCIENCE" of Dental Traumatology with all of you in this conference.

Mitsutaka Kimura, DDS, PhD
President, Asian International Association of Dental Traumatology
President, Japan Association of Dental Traumatology

Message from the Dean

Held in partnership with the Japan Association of Dental Traumatology (JADT), this international conference encourages clinicians, educators, and researchers to meet and exchange ideas in a scientific meeting that stimulates learning, teaching, and dialogue, by bringing together people from Asia, and beyond. Held every two years, the Asian International Association of Dental Traumatology (AADT) has become a source of knowledge among young and expert researchers. This year, the 9th AADT will be held in Cebu City, the Philippines.

Cebu is considered to be the Philippine's oldest city and the first capital of the Philippines. It is also considered to be the birthplace of Christianity in the Far East. It holds a prominent place in the archipelago as the capital of the South and is considered to be the most dynamic island in the country with the most ethnically diverse population. It is also a convenient place for business and leisure. Cebu has the oldest street and school in the Philippines. Thus, it will be the best venue for our scientific meeting.

I am confident that this meeting will afford exceptional opportunities for renewing old acquaintances, making new contacts, networking, and facilitating partnerships across national, international, and disciplinary borders. I am also hopeful that it will encourage young Filipinos to have a research oriented mind side by side with their clinical skills.

Together with the JADT and local organizing committee at Southwestern University PHINMA, I have no doubt that the 9th AADT Conference will offer a remarkable opportunity for the sharing of research and best practice, especially in Dental Traumatology studies and its related fields. I expect the resultant professional and personal collaborations to endure for many years, and I look forward to seeing you in Cebu!

Rodivick Olofernes-Docor, DMD, PhD
Dean, College of Dentistry
Southwestern University PHINMA
Cebu City, Philippines

Contents

The Constitution of the Asian International Association of Dental Traumatology

Adopted on November 13, 2004

Partially revised on April 21, 2007

Name

This organization is named: Asian International Association of Dental Traumatology, herein referred to as the AADT or the Association

Objectives

The Association is established to further research into all aspects of dental traumatology, to encourage the development of preventive and therapeutic methods for dental trauma, to call public's attention to dental trauma, and to promote cooperation and information exchanges between investigators in Asian countries.

Basic Functions

1. Organize conferences
2. Facilitate communications among Asian countries
3. Issue newsletters
4. Others

Membership

People who accept and obey the constitution of the AADT will be accepted as a member of the association.

Tax

1. The tax of the association shall be decided by the council and the general assembly.
2. The tax should be paid at the conference.
3. The operation of the association is based on sponsorships and other incomes.

Organization

1. The positions in the committee are: consultants, one honorary chairperson of the conference, one president, three vice presidents, two secretary-generals, standing directors, directors, and two auditors.
2. The term of office will be three association years, and reappointment is allowed.
3. The president shall be selected by the council and approved by the general assembly.

4. The president shall appoint the vice presidents, directors, and executive committee.
5. The president, vice presidents, and executive committee are the directors.
6. Regents shall be nominated by the council and determined by the general assembly.
7. Inspectors are selected from regents and determined by the general assembly.
8. Counselors, honorary chairperson of the conference, and secretary-generals shall be selected by the council and determined by the general assembly.
9. The president is representative of the association and is responsible for its administration.

Scientific Conference

Scientific conferences will be held once every two years.

Constitution and Bylaws

1. The constitutions shall be amended by the committee and approved by the council.
2. The committee shall determine the bylaws.

Bylaws

The election of the president

The president will be nominated by the counselors and appointed by council.

The place of the general assembly and the conference should be:

1. Applied by local organizations
2. Determined by the council

Official meetings:

1. The meeting of the council and the regents will be held once a year, at least.
2. More than half of the members in the council are required to attend the meeting of the council and the regents.

Short course of dental traumatology in Asia

In compliance with the wishes of a short course of dental traumatology, the president should hold it with the cooperation of the country and/or district.

Celebration and Condolence

Celebration and condolence will be left entirely to the president of AADT.

Letter of Appreciation

A letter of appreciation will be given to the president who served out his term and is not reappointed.

Past Conferences and Photos

1st Conference

Peking University, CHINA

November 2004

2nd Conference

Okayama University, JAPAN

September 2005

3rd Conference

Taipei Medical University, TAIWAN

April 2007

4th Conference

Peking University, CHINA

November 2009

5th Conference

Aichi Gakuin University, JAPAN

September 2011

6th Conference

University of Indonesia, INDONESIA

September 2013

7th Conference

Kyushu Dental University, JAPAN

July 2015

8th Conference

Mahidol University, THAILAND

November 2017

The 9th Conference of Asian International Association of Dental Traumatology (AADT)

March 7 - 8, 2020 Cebu City, Philippines

March 7, 2020 at SEDA Ayala Center Cebu Hotel

17:00 – 18:00	Registration
18:00 – 18:30	Executive Meeting
19:00 – 21:00	Welcome Reception

March 8, 2020 at City Sports Club Cebu

08:30 – 08:50	Welcome Address: Dr. Chito Salazar, President SWU
08:50 – 09:30	Keynote Lecture: Prof. Mitsutaka Kimura, President AADT
09:30 – 10:00	Special Lecture 1: Dr. Melanie Karganilla, Philippines
10:00 – 10:20	Special Lecture 2: Dr. Takuya Shimada, Japan
10:20 – 10:40	Special Lecture 3: Dr. Kumiko Nozaka, Japan
10:40 – 10:50	Coffee Break
10:50 – 11:10	Special Lecture 4: Dr. Toshiaki Hashimoto, Japan
11:10 – 11:30	Special Lecture 5: Dr. Yasutaka Yawaka, Japan
11:30 – 12:00	Special Lecture 6: Dr. Stephen Almonte, Philippines
12:00 – 13:00	Lunch Break
13:00 – 13:20	Special Lecture 7: Dr. Norimasa Okafuji, Japan
13:20 – 13:40	Special Lecture 8: Dr. Kazuyo Yamamoto, Japan
13:40 – 14:00	Special Lecture 9: Dr. Hitoshi Kawanabe, Japan
14:00 – 14:30	Special Lecture 10: Dr. Jose Vicente Araneta, Philippines
14:30 – 16:30	Oral Presentations
16:30 – 17:30	Poster Presentations
17:30 – 18:00	Closing Remarks Dr. Rodivick Docor, Dean, College of Dentistry, SWU Dr. Omar Rodis, Coordinator, 2020 Organizing Committee Distribution of Giveaways

Keynote Lecture

08:50 – 09:30 Keynote Lecture: **Prof. Mitsutaka Kimura** (Japan)
Professor Emeritus, Kyushu Dental University
Clinical Significance of Peripheral Nerves from the Situation of Stomatology - The Mechanism of Neural Transmission from Periphery to Brain, from Birth through Adulthood

Special Lectures

09:30 – 10:00 Special Lecture 1: **Dr. Melanie Ruth Karganilla** (Philippines)
Oral Soft Tissues and Traumatic Injuries

10:00 – 10:20 Special Lecture 2: **Dr. Takuya Shimada** (Japan)
Oral soft tissue injury in children: Diagnosis, Treatment, Management, Current situation in Japan

10:20 – 10:40 Special Lecture 3: **Dr. Kumiko Nozaka** (Japan)
Clinical Study on the Abnormal Position of Maxillary Canines

10:50 – 11:10 Special Lecture 4: **Dr. Toshiaki Hashimoto** (Japan)
Clinical approach to crown fracture due to the dental trauma in the period of growth and development

11:10 – 11:30 Special Lecture 5: **Dr. Yasutaka Yawaka** (Japan)
Approach to outer root resorption of traumatized teeth

11:30 – 12:00 Special Lecture 6: **Dr. Stephen Almonte** (Philippines)
Periodontal Consideration in Fixed and Partial Removable Prosthodontics Therapy

13:00 – 13:20 Special Lecture 7: **Dr. Norimasa Okafuji** (Japan)
HSPs as Functional Factor of the Recovering Periodontal Ligament in due to Traumatic Mechanical Stress

13:20 – 13:40 Special Lecture 8: **Dr. Kazuyo Yamamoto** (Japan)
The Restoration of Traumatized Teeth with the Latest Bonding Techniques

13:40 – 14:00 Special Lecture 9: **Dr. Hitoshi Kawanabe** (Japan)
Clinical evaluation of combination therapy of dental trauma and orthodontic treatments

14:00 – 14:30 Special Lecture 10: **Dr. Jose Vicente A. Araneta** (Philippines)
Why GP's should Include Temporary Anchoring Devices (TADS) in their Practice

Keynote Lecture

Mitsutaka Kimura
Professor Emeritus
Kyushu Dental University

Clinical Significance of Peripheral Nerves from the Situation of Stomatology

- The Mechanism of Neural Transmission from Periphery to Brain, from Birth through Adulthood -

The developmental process of the brain and neurons will be presented in terms of establishing stages of cerebral limbic system (feelings), prefrontal cortex (controlling) and hypothalamus of brain stem (decision making) from childhood through adulthood. The main themes will be focused on the neurons of the newly completed cerebral cortex, the dynamics of nerve fiber over the period of eruption to completion of tooth and the mechanism of neural transmission from the periphery to the completed cerebral cortex.

Brief CV

Educational Background

1966	DDS, Graduated from Kyushu Dental University, Japan
1966 – 1973	Assistant Professor, Kyushu Dental University, Japan
1973 – 1976	Lecturer, Kyushu Dental University, Japan
1979 – 2005	Professor and Chairman, Pediatric Dentistry Kyushu Dental University, Japan
1981	Visiting Professor, University of California San Francisco (UCSF), USA
1993 – 1997	Dean of Graduate School, Kyushu Dental University, Japan
2005 – present	Professor Emeritus, Kyushu Dental University, Japan

Professional Background

1998 – 2000	President, Japanese Society of Pediatric Dentistry
1997 – 2002	Director & Secretary General, Pediatric Dentistry Association of Asia (PDAA)
1998 – 2000	Editorial Board Director, Japanese Association for Dental Science
1999 – 2005	Director, Japanese Society of Pediatric and Oral Surgery
1996 – present	Visiting Professor, School of Stomatology, Beijing University
2001 – present	Guiding Professor, University of Indonesia
2001 – present	President, Japan Association of Dental Traumatology (JADT)
2004 – present	President, Asian International Association of Dental Traumatology (AADT)
2015 – present	Fellow, International Association of Dental Traumatology (IADT)

Special Lecture 1 09:30 – 10:00

Melanie Ruth Karganilla

Head, Oral Medicine Section
University of the Philippines
Philippines

Oral Soft Tissues and Traumatic Injuries

Background: Aside from infection and chronic inflammatory diseases, trauma-related lesions could affect the soft tissues of the oral cavity. It is not uncommon for dental practitioners to see patients with ulceration and erosions, cystic lesions, hyperkeratosis, soft-tissue growth, and even necrotic tissues. These lesions may actually be due to physical and mechanical, thermal, chemical, and even radiation injuries.

It is therefore important to recognize these lesions so that proper treatment and management could be instituted.

Brief CV

Educational Background

1994	DDM, University of the Philippines College of Dentistry, Philippines
2006 – 2008	International Summer School in Clinical Periodontology and Implantology, Ruprecht-Karl University of Heidelberg, Germany

Professional Background

1994	1st Place, December 1994 Board Exams for Dentists
2008	Head, Oral Medicine Section, which comprises Oral Surgery, Periodontics, Oral Diagnosis and Endodontics, of the Department of Clinical Dental Health Sciences.

Awards & Memberships

Fellow, Philippine Board of Periodontology
Certified Specialist, Periodontics
Fellow, Academy of Dentistry International

Special Lecture 2 **10:00 – 10:20**

Takuya Shimada
Faculty of Medicine and Health Sciences
Yamaguchi University
Japan
E-mail: v908eb@yamaguchi-u.ac.jp

Oral soft tissue injury in children: Diagnosis, Treatment, Management, Current situation in Japan

Background: Children who are in their growth and development stage, both mentally and physically, may consequently encounter injuries often caused by their inexperienced athletic and behavior judgment abilities. We will introduce the diagnosis, treatment, and management of oral soft tissue trauma in children that is primarily caused by toothbrush accidents.

Although various differences exist in the degree of damage, including the cases presented in the present study, many cases were followed up in terms of antibacterial drug administration and suturing, demonstrating efficient therapeutic outcomes; however, some patients had to be hospitalized. Furthermore, there have been registered accidents wherein the pharynx was pierced and this caused intracranial damage resulting in death. CT and MRI are promptly performed in cases where the wound is judged to be deep enough or when the vital signs exhibit abnormalities.

Brief CV

Educational Background

2009	DDS, Kagoshima University, School of Dentistry, Japan
2015 – present	Yamaguchi University, Faculty of Medicine and Health Sciences, Japan

Professional Background

2009 – 2010	Department of Oral and Maxillofacial Surgery, Kyoto University Hospital. Kyoto. Japan
2010	Department of Oral and Maxillofacial Surgery, Ijinkai Takeda General Hospital, Japan
2011 – 2013	Department of Oral and Maxillofacial Surgery, Japanese Red Cross Society Wakayama Medical Center, Wakayama, Japan
2013 – 2015	Department of Oral and Maxillofacial Surgery, Shizuoka General Hospital, Japan

Special Lecture 3 10:20 – 10:40

Kumiko Nozaka
Aoba Dental and Pediatric Dental Clinic
Japan
E-mail: kuminoza@eos.ocn.ne.jp

Clinical Study on the Abnormal Position of Maxillary Canines

Background: An ectopic position of an unerupted maxillary canine may cause abnormal root resorption of the lateral or/and central incisors. The purpose of this study was to review and examine treatment options for preventing such a result.
Materials & Methods: We reviewed panoramic radiographs of patients who visited the Aoba Dental Pediatric Clinic. The period of the dentitions examined was from the eruption of the bilateral maxillary central and lateral incisors to the completion of the eruption up to the first or second molars including bilateral maxillary canines. These cases were divided into the groups with and without denture guidance.
The locations of the canine tooth germs were classified into the following six types: ① apex of the primary canine, ② mesial to the apex of the primary canine, ③ between the apexes of the primary canine and the lateral incisor, ④ distal to the apex of the lateral incisor, ⑤ the apex of the lateral incisor, ⑥ the tooth germs located at locations other than these sites.
Results: If the canine tooth germ was located at ① or ② when the maxillary central and lateral incisors erupted, the eruption path of the canine was normal. However, when the canine tooth germ existed at ③, some types of denture guidance were conducted in one third of the cases. Denture guidance and fenestration were necessary when the canine tooth germ existed at ④ or ⑤. Recently, we have seen an increase of ectopic canine tooth germs in the site ⑥. Those germs were horizontally impacted on the palatal or labial sides, causing the root resorption of central incisors.
Conclusion: It is of importance in radiographic examination of the canine tooth germ at the eruption of maxillary central and lateral incisors for the establishment of the proper treatment plans.

Brief CV

Professional Background

1979 – 2001	Associate Professor, Department of Pediatric Dentistry, School of Dentistry, Iwate Medical University
2001 – 2002	Dentist, Department of Pediatric Dentistry, Morioka Children's Hospital
2002 – present	Dentist, Private Dental Office (Aoba Dental and Pediatric Dental Clinic)

Special Lecture 4 10:50 – 11:10

Toshiaki Hashimoto

Clinical Professor, Fukuoka Dental College
Japan
Email: toshikita24-41@yk2.so-net.ne.jp

Clinical approach to crown fracture due to the dental trauma in the period of growth and development

Background: During the period of development, trauma to tooth with immature root often occurs regardless of whether it is a deciduous tooth or permanent tooth, and it is necessary to take into consideration the growth of the tooth root. In the case of fracture fragment due to crown fracture, adhesion is attempted, and if not, repair is performed using CR crown, etc. In the case of pulp exposure, consideration of its size, time since injury, degree of infection, alignment status, etc. is made and treatment according to the situation such as direct pulp capping, partial pulpotomy (Cvek), pulpotomy, pulpectomy, infected root canal treatment is performed. In the case of tooth with immature root in which infection of only the dental pulp of the crown is suspected, apexogenesis is attempted. In the case of apical periodontitis due to central cusp fracture, etc., pulp revascularization or apexification is attempted. In any case, it is important to protect the Hertwig epithelial sheath involved in tooth root development as much as possible. It is important to perform examination from a comprehensive angle and take appropriate measures at the appropriate time with continuous observation.

Brief CV

Educational Background

1994	DDS, Fukuoka Dental College, Japan
1987	PhD, Kyushu Dental College, Japan

Professional Background

1979 – 1982	Assistant Professor, Pediatric Dentistry, Fukuoka Dental College, Japan
1982 – present	Hashimoto Clinic of Pedodontics & Orthodontics
2010 – present	Clinical Professor, Fukuoka Dental College

Awards & Memberships

Director of the Japan Association of Dental Traumatology
Standing Director in Asia of the International Association of Dental Traumatology
President of Kyushu Regional chapter of the Japanese Society of Pediatric Dentistry
Chairperson of Pediatric Oral Medical Society for the Study
Delegate of Public Interest Corporation Japanese Society of Pediatric Dentistry
Attending Physician of Japanese Trauma Dentistry Society

Special Lecture 5 11:10 – 11:30

Yasutaka Yawaka

Dentistry for Children and Disabled Persons
Department of Oral Functional Science
Faculty of Dental Medicine
Hokkaido University, Sapporo, Japan
Email: yawaka@den.hokudai.ac.jp

Approach to external root resorption of traumatized teeth

Background: External root resorption is observed in cases of replanted teeth with dental trauma. Root canal dressing containing calcium hydroxide (Ca(OH)2) is one recommended clinical approach for external root resorption. However, complete control of external resorption may not be possible due to certain factors such as the smear layer, which is formed by reaming and filing during root canal treatments. The smear layer plugs dentinal tubules and inhibits the effects of Ca(OH)2 as root canal dressing material.

Our studies showed root canal irrigation with ethylene-diamine-tetra-acetic-acid (EDTA) and sodium hypochlorite (NaOCl) with an ultrasonic device, is the most effective method to remove the smear layer. Additionally, an alkaline environment at the outer root surface due to ion diffusion from Ca(OH)2 was observed following this treatment.

Therefore, the combined use of EDTA and NaOCl with an ultrasonic device for root canal irrigation leads to good control of external root resorption.

Brief CV

Professional Background

1990 – 2003	Assistant Professor, Pediatric Dentistry, Hokkaido University Dental Hospital
2003 – 2005	Lecturer, Oral Rehabilitation, Hokkaido University Hospital
2005 – present	Professor, Dentistry for Children and Disabled Persons, Department of Oral Functional Science, Graduate School of Dental Medicine, Hokkaido University.

Special Lecture 6 11:30 – 12:00

Stephen Almonte

President, Philippine Dental Association
Philippines

Periodontal Considerations in Fixed and Partial Removable Prosthodontics Therapy

Background: The lecture will present various periodontal considerations for the success of prosthodontics both in fixed and removable partial dentures. The general practitioner needs to observe and be guided properly on the protocol of analyzing and having a closer look at the periodontal status of the remaining dentition prior to any prosthodontic procedures.

Brief CV

Educational Background

1999 Doctor of Dental Medicine, Centro Escolar University, Philippines
2006 Master of Science in Dentistry - Periodontics, Centro Escolar University, Philippines

Professional Background

2002 Advance Dental Education Program – Orthoontics, Philippines
2007 Implant and Surgery Training Program, Delos Santos Hospital, Philippines
2009 Implant and Surgery Training, Changgung Hospital, Taiwan.

Awards & Memberships

Fellow, Philippine Academy of Implant Dentistry
Fellow, Pierre Fauchard Academy
Member, Philippine Prosthodontic Society Incorporated
Board of Trustee, Philippine Dental Association Incorporated
Member, International Congress of Oral Implantologists

Special Lecture 7 13:00 – 13:20

Norimasa Okafuji

Professor and Chair, Department of Orthodontics
School of Dentistry, Matsumoto Dental University
Email: norimasa.okafuji@mdu.ac.jp

HSPs as Functional Factor of the Recovering Periodontal Ligament in due to Traumatic Mechanical Stress

Background: Dental traumatic injury is caused by sudden force to the mouth and teeth. To investigate the histopathological traumatic changes and repair, we examined the reactions of the mouse periodontal tissues after receiving the mechanical stress occurring upon clinical application. Histopathological changes as well as the expressions of HSP27 and p-HSP27 in the periodontal tissues were examined after removal of the mechanical stress.
Materials & Method: A total of 40 8-week-old male ddY mice were used in the examination. Application of mechanical stress was performed according to the insertion of separator was performed following Waldo's method. After 20 minutes (m), 1 hour (h), 3 h, 9 h, 24 h, 3 days (d) and 1 week (w), the periodontal tissues of the right maxillary molar region were removed.
Results: The increase in mechanical stress up to 3 hours led to pathological changes that caused a space in between stretched periodontal ligament fibrous bundles and fibroblasts as well as narrowing of the periodontal ligament space. Degenerative changes also occurred in the pressure side. Pathological changes did not only occur due to mechanical stress but also at the time of the release of mechanical stress exposure which increased over time. In the control group, both HSP27 and p-HSP27 were negative in the pressure side after mechanical stress was released 3 hours later. On the other hand, the tension side showed a strong positive reaction. The proteins were also expressed after 20 min, 1 hour, 3 hours and 9 hours. The strongest expression was observed at 24 hours. A decrease in the intensity of expression was observed 3 days and 1 week later
Conclusion: The results suggest that HSP27 plays an important role in the recovery of injured cells in the periodontal tissues.

Brief CV

Professional Background

1987 – 2002	Assistant Professor, Department of Orthodontics, Matsumoto Dental University, Japan
2002 – 2003	Visiting Scholar, Department of Orthodontics, University of Washington, USA
2007 – present	Professor, Department of Hard Tissue Research, Matsumoto Dental University, Japan
2018 – present	Professor and Chair, Department of Orthodontics, Matsumoto Dental University, Japan

Special Lecture 8 13:20 – 13:40

Kazuyo Yamamoto

Professor and Chair, Department of Operative Dentistry
Osaka Dental University
Email: yamamoto@cc.osaka-dent.ac.jp

The Restoration of Traumatized Teeth with the Latest Bonding Techniques

Background: Bonding systems are now essential for dental treatment. Composite resin restoration, resin cement, fissure sealant, and direct bonding for orthodontics. In the field of dental traumatology, bonding is also applied to various regions. Especially, bonding systems for teeth have recently progressed markedly from the first-generation system targeting only enamel to the latest system, 1 Bottle- 1Step (All in One) system. Resin bonding systems are now the leading part of restorative treatment based on Minimal Intervention Dentistry (MID) proposed by the FDI because, together with their esthetics, they are capable of minimizing the amount of cutting and conserving the healthy parts of teeth as much as possible, and there is no doubt that they will further develop in the future. Using adhesive resin, not only can the amount of tooth cutting be markedly decreased but also traumatized teeth previously requiring sacrifice, such as pulpectomy and tooth extraction, may be conserved by minimizing invasiveness depending on cases. Therefore, the use of adhesive resin promotes protection of the teeth. In this lecture, I would like to talk about the adhesion mechanism of bonding systems, proper use of different systems, and treatment methods of fractured tooth using bonding.

Brief CV

Educational Background

1991	PhD, Osaka Dental University, Japan

Professional Background

1992 – 1993	Guest Researcher of RWTH Aachen University, Germany
2005 – present	Professor and Chair, Department of Operative Dentistry, Osaka Dental University, Japan
2014 – present	Vice Director of Osaka Dental University Hospital

Special Lecture 9 13:40 – 14:00

Hitoshi Kawanabe

Ohu University School of Dentistry
Japan
E-mail: kawanabe@hotmail.co.jp

Clinical evaluation of combination therapy of dental trauma and orthodontic treatments

Background: Tooth dislocation is often encountered in dental clinics and generally involves concussion, subluxation, lateral luxation, invagination, extrusion, and complete dislocation.

Case: In this study, we report the case of a patient who presented with a dislocated tooth along with maxillary protraction owing to labial inclination of maxillary incisors and moderate crowding of the mandibular lateral incisors. Combination therapy comprising treatment of the dislocated tooth, whitening, and orthodontic treatment was performed. The patient had a history of trauma. Orthodontic treatment was done for the ankylosed teeth. The patient was advised that root resorption of the tooth was likely to occur. Nonetheless, orthodontic treatment was performed according to the patient's wishes.

Discussion and Conclusion: Kawai et al suggested that treating maxillary protraction at an early age is beneficial considering most injured patients show maxillary protrusion and injury to the maxillary incisors. They also suggested that examining the history of the injury at the initial visit is important because it will cause malocclusion. Combination therapy for a dislocated tooth owing to injury and orthodontic treatment is often required.

Brief CV

Professional Background

2005 – 2007 Associate Professor, Fukuoka Dental College, Japan
2007 – 2014 Assistant Director, Itoh Dental Hospital, Kumamoto, Japan
2014 – present Associate Professor, Ohu University School of Dentistry, Japan

Special Lecture 10 14:00 – 14:30

Jose Vicente A. Araneta
Southwestern University-Phinma
Urgello St. Cebu City, Philippines
E-mail: jjaraneta@swu.phinma.edu.ph

Why GP's should Include Temporary Anchoring Devices (TADS) in their Practice

Background: There is no doubt that the emergence of the use of temporary anchoring devices (TADs) in Orthodontics the past few years has eliminated the need for the traditional anchorages like the Transpalatal Arch (TPA), Nance Holding Arch, headgears, etc., and most traditional anchorages and had made treatment mechanics a little less complicated and in general, shortened treatment time. However, there are still a lot of dentists who still are not getting the advantages of TADs in their practice.

My presentation is about two cases that hopefully in my own small way, will convince my colleagues about the misconception of the use of TADs, what its true benefits are and how they will greatly benefit by its incorporation to their clinical practice.

Brief CV

Educational Background

1987 Doctor of Dental Medicine, Southwestern University, Cebu City, Philippines

Professional Background

1987 - present Faculty, Orthodontics, College of Dentistry, Southwestern University-Phinma
1993 - present Dentist, Araneta Dental Clinic, Philippines.
2019 - present Orthodontic Intern, Cebu Doctors University, Cebu City, Philippines

Oral Presentations

Session 1 **14:30 – 15:30 (8 min presentation and 2 min Q&A)**

OP 01	14:30 – 14:40	**Dr. Arief Waskitho** (Indonesia) *Botulinum toxin and cytokine therapy of orofacial neuropathic pain by trauma*
OP 02	14:40 – 14:50	**Dr. Makoto Saito** (Japan) *A case of preserving teeth with root fractures by replantation in an interdisciplinary approach*
OP 03	14:50 – 15:00	**Dr. Nitesh Tewari** (India) *Long-term effects of traumatic dental injuries of primary dentition on permanent successors*
OP 04	15:00 – 15:10	**Dr. Rosette Pagpaguitan** (Philippines) *Ameloblastoma: Rare yet common*
OP 05	15:10 – 15:20	**Dr. Tsendsuren Khurel-Ochir** (Mongolia) *p21 deficiency is susceptible to TMJ-Osteoarthritis with mechanical stress*
OP 06	15:20 – 15:30	**Dr. Ayako Yoshida-Yoshimitsu** (Japan) *Safety education for elementary schools based on the occurrence of dental trauma in Japan*

Session 2 **15:30 – 16:30 (8 min presentation and 2 min Q&A)**

OP 07	15:30 – 15:40	**Dr. Resmi Raju** (India) *A composite cell sheet fabrication and its usage in periodontal tissue regeneration*
OP 08	15:40 – 15:50	**Dr. Shuhei Kubo** (Japan) *Replantation of Avulsed Immature Mandibular Permanent Central and Lateral Incisors: A Case Report*
OP 09	15:50 – 16:00	**Dr. Thaw Dar Oo** (Myanmar) *Systemic circulatory influence on pulpal circulation in young adult human teeth*
OP 10	16:00 – 16:10	**Dr. Pornpoj Fuangtharnthip** (Thailand) *Clinical consequences after dental trauma treatment*
OP 11	16:10 – 16:20	**Dr. Hirofumi Tsuji** (Japan) *A follow-up case for 19 years in the maxillary central incisor with tooth crown fracture by dental trauma*
OP 12	16:20 – 16:30	**Dr. Ann Patrice Perolino** (Philippines) *Consequences of Incompetent Root Canal Treatment*

OP 01: **Botulinum toxin and cytokine therapy of orofacial neuropathic pain by trauma**

Arief Waskitho[1,2], Takuma Iwasa[1], Yoshizo Matsuka[1]
[1]Department of Stomatognathic Function and Occlusal Reconstruction, Graduate School of Biomedical Sciences, Tokushima University, Japan
[2]Department of Prosthodontics, School of Dentistry, Faculty of Medical and Health Sciences, Universitas Muhammadiyah Yogyakarta, Indonesia
email: arief.waskitho.85@gmail.com

Background: In Indonesia, 31.4 % of accident is on the road, and 11.9 % of accident is related to head injury. The number of maxillofacial injuries, which is the main etiological factor in maxillofacial fractures, is continuously increasing due to the rise in traffic congestion. In the facial area, zygomatic-orbital fracture is one of the results of road traffic accident, characterized by sensory neuropathy in the area of innervation of the infraorbital nerve. Here, we conducted an animal study mimicking the infraorbital nerve damage by trauma and whether Botulinum toxin (BoNT) and cytokine therapy could reduce orofacial neuropathic pain.
Materials & Methods: Male Sprague-Dawley rats were used in this study. We induced trigeminal neuropathic pain by infraorbital nerve constriction (IONC), measured as a decrease in the head withdrawal threshold. BoNT (100 pg in 0.1 ml of saline) or saline was intracutaneously administered at the center of the IONC side whisker pad three days after surgery. Cytokine therapy of recombinant IL-10 (0.4 μg/100 g) in PBS, anti-CXCL2 (66 μg/100 g) in PBS, or only PBS (control) was injected into IONC side trigeminal ganglion (total volume was 18 μl).
Results: BoNT peripheral side injection attenuated neuropathic pain. Recombinant IL-10 or anti-CXCL2 injection into trigeminal ganglia decreased pain behavior.
Conclusions: Our results show that BoNT, IL-10, or anti-CXCL2 are therapy options for neuropathic pain.

Brief CV

Educational Background

2002 – 2009 DDS, Universitas Gadjah Mada, Indonesia
2010 – 2014 MS, Universitas Gadjah Mada, Indonesia
2018 – present PhD Course, Tokushima University, Japan

Professional Background

2015 – present Lecturer, School of Dentistry Universitas Muhammadiyah Yogyakarta, Indonesia
2010 – present Private practice

Awards & Memberships

2019 Tokushima University, Research Award of Oral Sciences: Bronze Prize
2019 Member, Japanese Society of Stomatognathic Function

OP 02: **A case of preserving teeth with root fractures by replantation in an interdisciplinary approach**

Makoto Saito
Saito Dental Clinic
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Background: A 56-year-old man. Initial visit: April 2014. Present history: In February 2014, he fell and fractured roots of teeth #12, #21 and #22. He was referred from the hospital departments of emergency and oral & maxillofacial surgery and presented to our clinic. The patient was a farmer who chewed vegetables by his front teeth to evaluate the quality. Therefore, he requested to preserve his front teeth.
Treatment outcome: We treated tooth #12 by tooth extraction and replantation, #21 by adhesion of broken pieces and #22 by extrusion. For all these teeth, ferrules were secured with crown prostheses were made. Prior to the crownwork, an orthotist had performed orthodontic treatment to improve excess overjet that increased the risk of the fractures.
Discussion: This treatment followed the desire of the patient. It may have been impossible to achieve the favorable result if any sole dentist was engaged in the patient. We collaborated with a dental surgeon and an orthotist in addition to a primary physician certified by the Japan Association of Dental Traumatology. The interdisciplinary approach was considered effective.

Brief CV

Educational Background

1982	DDS, Aichi Gakuin University School of Dentistry

Professional Background

1982 – 1985	Medical Doctor, Shimane Medical University Department of Oral and Maxillofacial Surgery
1985 – present	Director, Saito Dental Clinic, Izumo-shi

Awards & Memberships

Authorized Dentist and Instructor, Japan Association of Dental Traumatology
Authorized Dentist, Japan Academy of Esthetic Dentistry
Authorized Dentist, Society of Japan Clinical Dentistry

OP 03: **Long-term effects of traumatic dental injuries of primary dentition on permanent successors**

Nitesh Tewari
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Centre for Dental Education & Research
All India Institute of Medical Sciences, India
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Objective: Traumatic dental injuries of the primary dentition (TDI-p) have a global prevalence of approximately 11%-47%. They have immediate and long-term effects. Original research analyzing the long-term sequelae of TDI-p on permanent dentition (LSP) are few in number. The aim of this study was to explore the correlation between age of TDI-p, type of TDI-p and LSP. **Material and Methods**: Retrospective analysis of patient data from 2008-2017, reporting with LSP due to TDI-p, was performed. Uniform protocols and complete radiographic-photographic records were analyzed. There were 638 LSP reported with 596 teeth having complete records. **Results**: There were 286 children with 153 males (53.5%) and 133 females (46.5%). Mean age of TDI-p causing LSP was 36.57 ± 11.51 months, with severity increasing in the younger age group. The highest number of LSP was associated with avulsion injuries (218, 36.58%), and the odds ratio of the type of TDI-p affect the severity of LSP was 2.0163. Mean age of reporting was 8.54 ± 2.19 years and was lowest for enamel discolorations. Most LSP were not associated with any associated feature (AF), although impaction was highest among all AF (63, 10.57%). **Conclusion**: Age and type of TDI-p affect LSP, with the former being the stronger determinant of its severity. Mean age of reporting of LSP is dependent upon both type of LSP and AF. LSP due to TDI-p can further be graded in terms of severity.

Brief CV

Professional Background

2018 – present	Associate Professor: AIIMS, New Delhi, India
2015 – 2018	Assistant Professor, AIIMS, New Delhi, India
2014 – 2015	Reader: BBD University, Lucknow, Uttar Pradesh, India
2010	Senior Lecturer, BBD University, Lucknow, Uttar Pradesh, India
2010	Senior Lecturer, Chandra Dental College, Barabanki, India

Awards & Memberships

Author, 26 international publications
Editorial Board Member in two international journals and reviewer in several acclaimed ones
Director, Japanese Association of Yo-go Teacher Education
Fellow, International Association of Dental Traumatology and Japan Dental Association.
Founding Joint Secretary, Indian Society of Dental Traumatology

OP 04: **Ameloblastoma: Rare yet common**

Rosette Pagpaguitan
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Background: Ameloblastoma has long been recognized as a rare, benign odontogenic tumor. Although rare, it is considered as one of the most common odontogenic tumor to date. Because of its characteristic persistent growth and its ability to produce marked facial deformity, ameloblastoma tends to be easily recognized even with a general practitioner.

Having the knowledge on the nature, progression and possible complications of ameloblastoma will lead to the creation of a more comprehensive treatment plan that would render the best long-term prognosis and management for the patient.

Brief CV

Educational Background

2015 DMD, Southwestern University PHINMA, Philippines

Professional Background

2018 Externship Program in Hospital Dentistry and Oral Surgery, Philippine General Hospital

2018 Faculty, Southwestern University PHINMA College of Dentistry, Philippines

Awards & Memberships

2016 First Place, Philippine Dental Licensure Examination

OP 05: **p21 deficiency is susceptible to TMJ-Osteoarthritis with mechanical stress**

Tsendsuren Khurel-Ochir[1], Takashi Izawa[2], Takuma Sakamaki [1], Hiroki Mori[2], Akihiko Iwasa[2], and Eiji Tanaka[2]

[1] Department of Orthodontics and Dentofacial Orthopedics, Tokushima University Graduate School of Oral Sciences

[2] Department of Orthodontics and Dentofacial Orthopedics, Institute of Biomedical Sciences, Tokushima University Graduate School

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Background: The temporomandibular joint (TMJ) plays a critical role in speech, mastication, and swallowing. This bilateral, diarthrodial, and ginglymoid joint is not exempt to injury. Late complications of traumatic TMJ injuries include facial asymmetry, malocclusion, growth disturbance, osteoarthritis, and ankylosis. The cyclin-dependent kinase inhibitor p21 is identified as a potent inhibitor of cell cycle progression. Recently, it has been proposed that p21 is a regulator of transcription factor activity. Furthermore, p21 regulated the expression of MMP13 and aggrecan (ACAN). These molecules are believed to be the onset of TMJ-OA in mandibular cartilage. In this study, we evaluated the role of p21 in response to mechanical stress. **Materials and Methods**: In in vivo study, eight-week-old p21+/+ and p21-/- mice were used. The TMJs were overloaded during a period of 10 days by application of a sliding plate on incisors to keep the mandibular position posterior by biting and upward. After the experimental period, all mice were sacrificed and the TMJs were dissected for histological, immunohistochemical and micro CT analyses. **Result and Discussion**: HE staining and micro-CT analysis, p21-/- mice showed subchondral bone destruction and also p21-/- mice had thinner cartilage and smaller areas of proteoglycans than WT mice. Immunohistochemical analysis indicated that MMP-9 and MMP-13 positive cell numbers were significantly larger in WT mice with mechanical stress compared to control mice while ACAN positive cell numbers were lower in WT mice with mechanical stress compared to p21-/- mice with sliding plates. **Conclusion**: Our results suggest that p21 in chondrocytes functions to maintain matrix synthesis by regulation of ACAN and MMP-13 expression. It is concluded that cell cycle related molecule p21 might regulate TMJ-OA pathogenesis in mice.

Brief CV

Educational Background

2008 – 2014	DDS, School of Dentistry, Mongolian National University of Medical Sciences Ulaanbaatar, Mongolia
2015	Orthodontic Internship, Yonsei University School of Dentistry, South Korea

Professional Background

2014 – 2016	Dentist, Gandent Dental Clinic
2018 – present	PhD Course, Tokushima University, Japan

Awards & Memberships

2019	Tokushima University, Research Award of Oral Sciences: Silver Prize
2018	HIRAKU 3MT Competition 2018, Hiroshima University, Hiroshima. “Runner-up Award”. Role of cell-building protein (p21) on osteoarthritis of the Jaw Joints.

OP 06: **Safety education for elementary schools based on the occurrence of dental trauma in Japan**

Ayako Yoshida (Yoshimitsu)
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Objective: The purpose of this study was to conduct safety education based on the prevention and countermeasures of children's trauma status, especially dental trauma in elementary schools.
Methods: The latest data from the Japan Sports council were used. We analyzed the actual conditions of children's trauma in schools, especially oral teeth, and behavioral characteristics and educational situations in children's school life, classes, break between classes time, lunch break, after school.
Results: The situation of the children's dental trauma was as follows. (When, where, and what were they doing) (1) The diagnosis results of the children's dental trauma were dislocation, tooth fracture, etc. (2) The children's dental trauma were occurred by fall, collision, etc. (3) The children's dental trauma were occurred during break time, class, etc.
Conclusion: The characteristics of the children's dental trauma were revealed. Among the face injury, the dental trauma is the second highest after the eye injury. Abarticulation and Tooth Fracture consist mostly of the children's dental trauma. The case study of dental trauma leads some findings about agenda and consideration for the effective health education in school to enhance taking preventive measures for dental trauma.

Brief CV

Educational Background

1975	B.Ed., Kumamoto University, Japan
1997	M.Ed. in Graduate School of Education, Fukuoka University of Education, Japan

Professional Background

1997 – 2008	Lecturer, Faculty of Health Sciences and Welfare, Seinan Jo Gakuin University, Japan
2008 - 2017	Associate Professor, Faculty of Health Sciences and Welfare, Seinan Jo Gakuin University, Japan

Awards & Memberships

Executive Director, The Japanese Society for Education of Children
Director, Japan Association of Dental Traumatology
Executive Director, Kitakyushu Children's Oral Health Association
The Japanese Association of School Health
Director, Japanese Association of Yo-go Teacher Education

OP 07: **A composite cell sheet fabrication and its usage in periodontal tissue regeneration**

Resmi Raju[1], Masamitsu Oshima[1], Tsuyoshi Morita[1], Yan Huijiao[1], Miho Inoue[1], Arief Waskitho[1], Otto Baba[1], Masahisa Inoue[2], Yoshizo Matsuka[1]

[1] Tokushima University, Japan.

[2]Tokushima Bunri University, Japan

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Background: Various studies have reported that the prevalence of periodontal disease in India is 45%. Periodontal tissue regeneration requires simultaneous regeneration of 3 different tissues: cementum, periodontal ligament (PDL) and alveolar bone. Here, we developed a new periodontal tissue regeneration technique using cell sheet engineering.

Materials and Methods: By cell sheet engineering technology, 3 types of cell sheets were fabricated. Single cell sheets were made by either PDL cells or MC3T3-E1 cells. And a complex cell sheet was fabricated by layering PDL cells over MC3T3-E1 cells. Following ectopic and orthotopic transplantation of cell sheets, transplants were analyzed by histology, immunohistochemistry and micro-CT.

Results: Micro-CT, histology and immunohistochemistry revealed the presence of bone-like tissue and PDL-like fibers in ectopic and orthotopic transplants of complex cell sheet.

Conclusion: These results demonstrates the fabrication of a complex cell sheet and regeneration the PDL and bone tissue simultaneously in a periodontal tissue defect model.

Brief CV

Educational Background

2002 – 2008	BDS, SRM Dental College, India
2010 – 2013	MDS, SRM Dental College, India
2016 – present	PhD Course, Tokushima University, Japan

Awards & Memberships

2013	First rank holder and gold medalist in MDS, SRM University, India
2013	Dr Udaya Raghav Reddy Memorial Award, SRM University, India
2018 – 2020	Otsuka Toshimi Scholarship Scholar
2019	Research Award of Oral Sciences 2019, Tokushima University
2019	Young Researcher Award, Tokushima University
2019	Hosoi Kazuo Award, Tokushima University
2019	Koraku Award 2019, Tokushima University

OP 08: **Replantation of Avulsed Immature Mandibular Permanent Central and Lateral Incisors: A Case Report**

Shuhei Kubo[1], Shohei Kubo[2]
[1] Machida Oral Health Center, Special Needs Dental Clinic, Tokyo, Japan
[2] Department of Oral and Maxillofacial Surgery
Tokai Central Hospital, Gifu, Japan
email: pxx05533@nifty.com

Background Tooth avulsion is one of the most serious of all dental injuries. In case of complete dislocation, replantation is possible when the local oral conditions are good. The most commonly affected teeth are the maxillary central incisors.
Case Report: This case report is regarding the replantation of the mandibular central and lateral incisors in an eight-year-old girl with hearing impairment who fell at school and visited our clinic approximately one hour after injury. The dislocated teeth were found and immersed in a preservative solution and brought with the patient. We immediately replanted those incisors and applied fixation for 3 weeks. Follow-up examinations were performed every 1 to 3 months. Three months after the injury, both the central and lateral incisors showed a positive reaction in dental pulp electro diagnosis findings. The patient was followed up until 12 months after injury, although no complications, such as crown discoloration, dental pulp cavity stenosis, or external root resorption, were observed. In addition, there were no suspicious findings in areas around the roots of the affected teeth. In the present case. We considered that the course might be clinically favorable without root canal treatment, as the condition from injury to replantation was good.

Brief CV

Educational Background

1986	PhD, Clinical Oral Pathology (Pediatric Dentistry), Tokyo Dental College

Professional Background

1986 – 1997	Assistant Professor, Department of Pediatric Dentistry, Tokyo Dental College
1997 – 2008	Senior Assistant Professor, Department of Pediatric Dentistry, Tokyo Dental College
2006	Visiting Scholar, Department of Pediatric Dentistry, School of Dentistry, University of California Los Angeles, USA
2008 – 2013	Senior Assistant Professor, Division of Pediatric Dentistry, Department of Clinical Oral Health Science, Tokyo Dental College
2013 – present	Machida Oral Health Center, Special Needs Dental Clinic

OP 09: **Systemic circulatory influence on pulpal circulation in young adult human teeth**

Thaw Dar Oo* [1], S. Kakino [2], M. Kusano [1], H. Ikeda [1], M. Miyashin [2], T. Okiji [1]

[1] Department of Pulp Biology and Endodontics, Division of Oral Health Science, Graduate School, Tokyo Medical and Dental University, Japan

[2] Department of Pediatric Dentistry/Dentistry for Persons with Special Needs, Division of Oral Restitution, Tokyo Medical and Dental University, Japan

email: thawendo@tmd.ac.jp

Objective: The aim of this experiment was to investigate the condition of pulpal circulation of sound permanent teeth using Transmitted-light Plethysmography (TLP) under the systemic influence of passive circulatory stimulation with foot bath using warm water.

Materials and Methods: Thirty intact permanent maxillary central incisors in 30 volunteers (aged 25-35 years) with no history of cardiac disease and long-term medication were examined (approved by the Ethical Committee of the Graduate School of TMDU, No. D2017-033). An individual acrylic resin cap was fitted to each experimental tooth, and the photodiode and LED were fixed through a hole made on the labial and palatal side, respectively, of the cap. TLP with 525 nm LED and finger photoplethysmography were simultaneously recorded. All the subjects underwent foot bath (43°C warm water) for 30 minutes and TLP of the examined tooth, body temperature, blood pressure, heart rate, and skin blood flow were monitored. Values at -5 to 0 min (baseline), 25 to 30 min (foot warming), 30 to 35 min (just after foot warming) and 40 to 45 min (after removal of foot warming) were statistically analyzed using a repeated measures one-way ANOVA followed by Bonferroni post hoc test.

Results: The TLP amplitudes were gradually decreased along with the duration of foot warming, increased again just after removing the foot warming, and decreased significantly ($P < 0.05$) at the end of the experiment to the level similar to the baseline. The body temperature, heart rate and skin blood flow were increased during foot bath ($P < 0.05$) and gradually decreased after foot bath but mean arterial pressure did not change significantly.

Conclusion: Passive circulatory stimulus with foot warming caused a transient increase in pulpal blood flow followed by returning to its normal level, in healthy young adult human teeth.

Brief CV

Educational Background

2001 – 2006 BDS, University of Dental Medicine, Yangon, Myanmar

2016 – present PhD candidate, Tokyo Medical and Dental University, Graduate School of Dentistry, Japan

OP 10: **Clinical consequences after dental trauma treatment**

Pornpoj Fuangtharnthip
Department of Advanced General Dentistry,
Mahidol University, Faculty of Dentistry, Bangkok, Thailand
email: pornpoj.fun@mahidol.ac.th

Background: It is widely accepted that various types of dental trauma can lead to a wide range of clinical consequences, even with or without immediate treatment. Unexpected injury brings out the different degree of damage and complications to oral tissues, most likely depending on site, severity, and teeth/tissues involved. Moreover, clinical consequences after the trauma depend on appropriateness of first aid, elapsed time, type of dentition and post-treatment care. These factors cause the management of dental trauma to become less straightforward and inevitably unpredictable. Therefore, it is worth learning the real clinical response of dental trauma cases in many aspects. The presentation will focus on the clinical consequences after long-term follow-up of those teeth experiencing trauma. Cases with tooth avulsion, as well as other cases with root fracture of deciduous and permanent teeth will be reported comparatively in order to find out any difference of their consequences.

Brief CV

Educational Background

1986-1994	Doctor of Dental Surgery (DDS), Mahidol University, Faculty of Dentistry, Thailand
1995-2000	Certificate of Training in Pediatric Dentistry, Tokyo Medical and Dental University, Japan
1995-2000	Ph.D. (Dental Science), Tokyo Medical and Dental University, Japan

Professional Background

1994-2004	Lecturer, Department of Advanced General Dentistry, Mahidol University, Faculty of Dentistry, Bangkok, Thailand
2005-present	Assistant Professor, Department of Advanced General Dentistry, Mahidol University, Faculty of Dentistry,
2011-2012	Vice-chair, Thai Society of Pediatric Dentistry
2019-present	Vice-president, Japan Dental Alumni Thailand (JDAT),
2019-present	Chair of Department of Advanced General Dentistry, Mahidol University, Faculty of Dentistry, Bangkok, Thailand

OP 11: **A follow-up case for 19 years in the maxillary central incisor with tooth crown fracture by dental trauma**

Hirofumi Tsuji
Department of Oral and Maxillofacial Radiology
Kyushu Dental University, Japan
email: mogumogu@trust.ocn.ne.jp

Background: We introduce a follow-up case for 19 years in the maxillary central incisor with tooth crown fracture by dental trauma.
When he was an eleven-year-old boy, a left maxillary central incisor with tooth crown fracture by dental trauma was injured at school. The dentist had treated to the crown restoration by resin after a pulp capping for the traumatic tooth.
At 1 week after a treatment of the tooth, the patient visited our dental office. Occlusal and spontaneous pain occurred. I did pulpectomy. At one week later, the canal was filled with lateral pressurized roots with sealer and gutta percha points.
No particular abnormality was observed in the X-ray image without subjective symptoms until 8 years and 4 months after the injury. Although subjective symptoms were not observed at 16 years and 3 months after the injury at all, radiolucent area was detected in root apex at X-ray examination. The root canal treatment was performed after then. However, two years later, root resection was performed because swelling was observed on the palate side of the apical part.
In the case of traumatic teeth, it was suggested that a follow-up examination should be important for a long period of time even after normal treatment.

Brief CV

Educational Background

1984	DDS, Kyushu Dental University, Japan
1988	PhD, Pediatric Dentistry, Kyushu Dental University, Japan

OP 12: **Consequences of Incompetent Root Canal Treatment**

Ann Patrice Perolino
Southwestern University PHINMA
Urgello St., Cebu City, Philippines
email: aeperolino@swu.edu.ph

Background: A root canal fails when a tooth that has been previously treated becomes infected. If this infection is allowed to continue to develop without proper treatment, it can potentially spread to other teeth in the area and cause illness in other parts of the body. Experience and extra training plays a vital role in treatment outcome.

Brief CV

Educational Background

1985 Doctor of Dental Medicine, Southwestern University, Philippines
2010 Master of Arts in Teaching Science Major in Special Education, Philippines

Professional Background

1994 – 1996 Professor, Centro Escolar University, Philippines
1997 – present Faculty, Southwestern University PHINMA, Philippines

Awards & Memberships

Dean's List, Master of Arts in Teaching Science Major in Special Education
Member, Philippine Dental Association (PDA)
Member, Endodontic Society of the Philippines (ESP)
Member, Cebu Dental Society (CDS)
Member, Asia Pacific University Grant in Endodontics (Dentsply Sirone)
Member, KOL (Key Opinion Leader) Dentsply Sirone

Poster Presentations

PP 01 **Dr. Masao Irie (Japan)**
Highly-viscous glass-ionomer cement for filling: Interfacial Gap-formation in Class I restoration and Mechanical properties

PP 02 **Dr. Daisen Soga (Japan)**
Clinical response to outpatient dentistry due to trauma

PP 03 **Dr. Takeshi Kawai (Japan)**
A case of compound odontoma which developed inferior alveolar nerve palsy

PP 04 **Dr. Fujio Mizutani (Japan)**
Development and effectiveness of high-absorption fine calcium (NANO-UNICAL)

PP 05 **Dr. Yuriko Suruga (Japan)**
Two cases of crown fractures due to trauma

PP 06 **Dr. Yuta Inoue (Japan)**
Dental treatment for tooth dislocation due to injury

PP 07 **Dr. Sho Odawara (Japan)**
Clinical response to outpatient dentistry due to trauma

PP 08 **Dr. Tadashi Yoshida (Japan)**
A Case of the tooth loss due to the severe injury (permanent tooth)

PP 09 **Dr. Miyako Noda (Japan)**
Injury caused by slipping

PP 01: **Highly-viscous glass-ionomer cement for filling: Interfacial Gap-formation in Class I restoration and Mechanical properties**

Masao Irie
Department of Biomaterials, Okayama University
Graduate School of Medicine, Dentistry and Pharmaceutical Sciences
e-mail: mirie@md.okayama-u.ac.jp

Objective: One of the major concerns with highly-viscous glass ionomer cements (HV-GICs) is their ability to achieve effective initial interfacial gap-formation in restorative cavities. This *in vitro* study examined the initial stage (after one-day storage) of interfacial gap-formation in Class I restoration together with determination of associated mechanical properties (compressive strength and flexural strength).
Materials & Methods: Cavity preparation was made in occlusal surface of premolar teeth. Five HV-GICs were studied (Ketac Universal Aplicap, Ketac Molar Aplicap: 3M, Fuji IX GP, Fuji IX EXTRA, EQUIA Forte: GC, and two conventional glass-ionomer cements (C-GICs, Ketac Silver Aplicap: 3M, Fuji II: GC, as controls), with specimen sub-groups (n = 10 / group) for each property measured. After one-day storage and polishing, the restored teeth were sectioned in a mesio-distal direction through the center of the model Class I restorations. The presence or absence of interfacial-gaps was measured at x 1000 magnification at 14 points (each 0.5-mm apart) along the cavity restoration interface; (n=10; total points measured per group=140). Compressive & flexural strengths were measured (n=10/group).
Results: For HV-GICs and C-GICs, significant differences ($p<0.05$) in gap-incidence were observed. In the former case, 4-14 gaps were found. In the latter case, 21-24 gaps were observed. The compressive and flexural strengths of HV-GICs significantly increased compared to C-GICs.
After one-day storage, a HV-GIC performed significantly better than its corresponding a C-GIC. Increasing the powder-liquid ratio is the primary reason for improving these results. This improvement is achieved by a reduction in the size of the glass particle. A number of variations led to a HV-GIC with improved sealing and mechanical properties.
Conclusion: It is thought that a HV-GIC is the useful and significant restorative material for some pediatric or geriatric patients.

Brief CV

Educational Background

1976	DDS, Josai Dental University
1976 – 1982	Instructor, Department of Dental Material, Josai Dental University
1981	PhD, Josai Dental University

Professional Background

1982 – 2001	Assistant Professor, Department of Dental Materials, Okayama University Dental School.
1984 – 1985	Visiting Researcher, Department of Dental Technology, Royal Dental College Copenhagen
2001 – present	Assistant Professor, Department of Biomaterials, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Science

PP 02: **Clinical response to outpatient dentistry due to trauma**

Daisen Soga[1], Fumio Soga[2]
[1] Soga Dental Clinic
[2] Department of Radiology, Kyushu Dental University
email: 4nb3cf@bma.biglobe.ne.jp

Background: Pediatric trauma occurs suddenly and most often make no complaints about pain and fear of dental care at the visit. Then first of all, you should check if your patient's consciousness and brain condition are normal. If there is a suspicion of disturbance of consciousness, immediately introduce the patient to a doctor. If there is no disturbance of consciousness, it is necessary to listen exactly to when, where, and how the trauma has occurred, and to make a diagnosis of the oral cavity by checking that there is no abnormality in the whole body. For that end, it is necessary to carefully talk, behave, and explain how treatment will be performed, and remove as much as possible, the patient's anxiety about treatment.

The clinical response to infant children is changing due to the trend of the times, especially because younger patients are not able to cooperate with treatment for crying just by visiting a dental clinic. Further care must be taken in the clinical setting. To solve this situation, create a family clinic, have a regular visit to a dental clinic from a three-month checkup, and have the child practice dental treatment using the behavioral change method. It is important for a family to get used to a dental clinic and prepare for sudden accidents.

Based on the above, I would like to introduce how to deal with trauma at our clinic and explanations to patients and parents.

Brief CV

Educational Background
2016 DDS, Asahi University School of Dentistry
2016 – 2017 Clinical Resident, Kyushu Dental University
Professional Background
1982 – 2001 Deputy Director, Soga Dental Clinic
Awards & Memberships
Member, Kitakyushu Children's Oral Health Society
Member, Japan Oral Implant Society
Member, Japan Society for Trauma Dentistry

PP 03: **A case of compound odontoma which developed inferior alveolar nerve palsy**

Takeshi Kawai
Department of Oral and Maxillofacial Surgery,
Kanagawa Rehabilitation Hospital, Kannai-bashamichi Dental Office
email: kbdental2016@gmail.com

Background: Odontoma is an odontogenic tumor which proliferates in a similar way to hamartoma. It is known that odontoma has unique x-ray image and tissue characteristics. On the other hand, inferior alveolar nerve palsy primarily occurs from the inferior alveolar block injection or from nerve damage during minor surgical intervention of the oral cavity. Therefore, it is very rare for a nerve palsy caused by the odontoma. Here, we reported a case of the compound odontoma which developed inferior alveolar nerve palsy. The case was a 27-year-old female who visited a nearby clinic in May 2016 due to paralysis of near the right corner of the mouth. Her dental X-ray revealed an impacted lower right 5th teeth and an odontoma-like radiopaque tumor. She was referred to our department in June 2016. Medical history revealed that she started experiencing discomfort near the apical area of the lower right first bicuspid from January of 2016, and by April 2016, she started experiencing paralysis in the aforementioned area. Although her face was symmetrical, obtundation from the right corner of the mouth to the lower lip was acknowledged. From palpation of the oral cavity, a small bone-like lump was felt at the apical area of the lower right first bicuspid, thought to be the crown of the lower right second bicuspid. We did not find any abnormalities in the surrounding areas of the mucosa. From x-ray, we found lower right second bicuspid impacted in the apical area of the lower right first bicuspid. We also acknowledged an unclear region, which size was approximately 10×10mm in diameter, at right above the mandibular foramen near the lower right first bicuspid. After diagnosis of the complete impact of the lower right second bicuspid and the surrounding odontoma she underwent surgical intervention to remove the odontoma and extract the impacted lower right second bicuspid under local anesthesia with intravenous sedation on July 12th 2016. Since then, we have closely followed-up the patient on a regular basis. Histopathological diagnosis was compound odontoma.

Brief CV

Educational Background

2003 DDS, Tokyo Dental College
2017 PhD, Department of Oral Medicine, Oral and Maxillofacial Surgery, Tokyo Dental College

Professional Background

2016 Director, Kannai Bashamichi Dental Office
2018 Department of Oral and Maxillofacial Surgery, Kanagawa, Rehabilitation Hospital

Awards & Memberships

Visiting Implant Lecturer, Indiana University School of Dentistry
Board Certified Trainer and Fellow, Japanese Society for Advanced Implant Medicine
Board Certified Trainer and Member, Japan Association of Dental Traumatology
Board Certified Fellow of the Bio-Integration Society

PP 04: **Development and effectiveness of high-absorption fine calcium (NANO-UNICAL)**

Fujio Mizutani
Universal Calcium Food Co., Ltd.
email: mizutani@unical.co.jp

Background: Universal Calcium Food Co., Ltd. has actively conducted research on calcium and produced calcium supplements we call "UNICAL" for 25 years. Our UNICAL is unique with its high ionization and high absorption rate in the human body. Regarding the mixture to allow UNICAL to be included in many food products, we discovered that we needed a more micronized form UNICAL. As a result, we started to develop "NANO-UNICAL". We tried two methods to develop NANO-UNICAL. At first, we tried a wet grinding method using a bead mill. The size of the products was satisfactory. However, we abandoned this method as it proved to be costly and inorganic substances contaminated the calcium.
As a second way, we tested another method to discover if we could control the particle size safely without any contamination. We tested the production of calcium slurry in various conditions and made adjustments to determine the optimum particle size. We were able to successfully control the particle size to about 200 nm. Thereafter, we dried the calcium slurry with a spray dryer and obtained calcium powder. The size of the powder was 10 to 20 μm. With this production method, we can achieve a calcium powder that has stable dispersibility and little variation between lots. As a result, we decided to adopt this method.
NANO-UNICAL has 3 key features in addition to UNICAL's features. First, it does not precipitate when added to beverages. Second, it doesn't affect the color or taste of foods and doesn't disrupt other food ingredients and has a smooth texture when it's mixed into food items. Finally, it isn't adversely affected by the dietary fiber in the intestinal absorption. We have acquired two patents for this development in Japan.
We developed various kinds of food products including NANO-UNICAL such as candies, beverages and so on. We believe these items will help people to take calcium more efficiently. Currently, we're conducting further research.

Brief CV

Professional Background

2008 – 2010	Department of Industrial Chemistry, Graduate School of Engineering, Tokyo Polytechnic University
2010 – 2013	Oil stuff Inspectors' Corporation
2013 – 2014	AGC Polymer Material Co., Ltd.
2014 – present	Universal Calcium Food Co., Ltd.

PP 05: **Two cases of crown fractures due to trauma**

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Background: We herein report two cases of reattachment of coronally-fractured teeth in challenging conditions for adhesive bonding.
Case 1: Age at injury: 14 years and nine months
Chief Complaint: Coronal fracture of the left maxillary central incisor
Present condition: The upper lip was significantly swollen with bleeding.
Intraoral findings: A horizontal fracture line that runs across the middle of the left maxillary central incisor crown and dental pulp exposure were found.
Treatment and follow-up: After cleaning the exposed pulp tissue, calcium hydroxide was applied for direct pulp capping, then polycarboxylate cement was applied. After splinting the tooth due to the discoloration of the traumatized tooth, the fractured fragment was removed, and endodontic therapy was conducted. The patient showed up our office after one year and five months due to the fracture of the same left maxillary central incisor. After the tooth was restored with a resin jacket crown, the tooth is presenting satisfactory progress.
Case 2: Age at injury: 8 years
Chief complaint: Subluxation of the bilateral maxillary central incisors and a coronal fracture of the right central incisor
History of present condition: The patient fell from the face to the floor and broke the crown of the tooth
Present condition: The left maxillary central incisor was partially erupted, exposing half of the crown, and the two-thirds of the right central incisor crown was fractured with a punctiform pulp exposure.
Treatment and follow-up: Direct pulp capping was conducted on the fractured surface using calcium hydroxide, and HY-Bond™ Polycarboxylate Cement was applied on the entire surface. Then, the teeth were splinted. The fragment was placed in saline and stored in a refrigerator. After about one year and two months, confirming the apex formation was complete, the fragment was bonded to the fractured surface. The tooth was vital.

Brief CV

Professional Background

1990 – 2000	Teaching Associate Department of Pediatric Dentistry, School of Dentistry, Iwate Medical University, Japan
2006 – present	Private Dental Office, Sukoyaka Dental and Pediatric Dental Clinic

PP 06: **Dental treatment for tooth dislocation due to injury**

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Background: The patient is a 52-year-old male. His four maxillary anterior teeth were dislocated by injury (hit directly on the face by a ball while playing baseball) when he was about 30 years old, and since then he was using a conus denture. He visited our clinic on 22th of January in 2002. Requesting implant treatment and to restore the contour of the gingiva to its original shape. According to a panorama radiograph and CT scans, bone defect was extensive. The treatment plan was to conduct bone grafting in the region with extensive bone defect, and placing implants after the bone volume has been augmented.

March 27, 2002: The implant was placed at the portion of upper right central and side incisor. The implant was covered with covering screw after placement, and Bio-oss was applied. Since left maxillary alveolar ridge showed extensive bone resorption in every direction, we removed a bone graft from the mandibular corpus and fixed it to the maxillary bone by the pins. About 6 months after the operation, the survival of the bone graft was confirmed by clinical and radiological examinations. The pins were removed and one implant was placed into the grafted bone area.

May 17, 2004: The patient received treatment for the preparation of the attachments of screw-on type prosthesis and gingival contouring.

February 2019: The prognosis has been favorable without any trouble for about 14 years 9 month up to date. The patient is satisfied functionally aesthetically

The combined therapy of bone graft and implant treatments was effective for improvement in dentition and esthetics for the defect due to trauma.

Brief CV

Educational Background

2009 DDS, Matsumoto Dental University, Japan

Professional Background

2009 – 2010 Kyushu Dental University Hospital

2010 – 2019 Inoue Hideto Dental Implant Clinic

PP 07: **Clinical response to outpatient dentistry due to trauma**

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Background: Patient is 48 years old and female. I visited our emergency department because of a trauma caused by a fall. The patient was admitted to the hospital because of complete dislocation of the maxillary left central incisor, fracture of the maxillary right central incisor tooth, bilateral temporomandibular joint fracture, etc.

Since the maxillary bilateral central incisors could not be replanted, the root fractures were removed under local anesthesia. The dislocated and extracted teeth were stored and processed into Autogenous tooth bone graft material. Bone was constructed using autogenous tooth bone graft material, and then she implanted dental implant. Although 5 years have passed since the last prosthesis finished, the progress is good.

Brief CV

Professional Background

2010 – 2012	Medical staff, Department of Dental Materials, Rakuwakai Otowa Hospital Kyoto Oral Health Center, Kyoto, Japan.
2013 – 2017	Medical staff, Division of Oral and Maxillofacial Surgery, Matsue City Hospital
2018 – 2019	Assistant manager, Division of Oral and Maxillofacial Surgery, Matsue City Hospital

PP 08: **A Case of the tooth loss due to the severe Injury (permanent tooth)**

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Background: Some fractures of the anterior teeth happen due to unexpected contact or accident. However, it is very rare for 4 maxillary front teeth to fall off, all at once. With good progress, after following-up for four years and four months, I report the summary.

Case: The patient is male, born in 2002, and 9 years old. He fell down and got a blow on the face in playground equipment at the school at 11:00 AM on February 10, 2012.The teeth which fell off at once by the injury were four but one of four teeth was lost, so I replanted the remaining three of them.

Convalescence of luxated tooth are key for periodontal cell membrane. This patient came for treatment after 80 minutes have passed from the time of injury. But fortunately, as for the progress, it was good because there was no infection of the alveolar bone. Because the patient is a 14-year-old child, I need to wait for a while until 18 years of age that is for the last time prosthetic measures age.

Examination: Most tooth injuries affect the 4 maxillary front teeth. This goes down due to anatomy properties of the oral cavity. As it projects as hard tissue, it easily receives external force. To reduce the loss of teeth due to the tooth injury, schools should have stock solutions for tooth storage and careful observation following the tooth injury.

Brief CV

Educational Background

1993 DDS, Osaka Dental University
2016 PhD, Kyushu Dental University

Professional Background

1993 – present Director, Yoshida Dental Clinic, Sakai City, Osaka, Japan.

Awards & Memberships

Authorized Dentist and Instructor, Japan Association of Dental Traumatology
Specialist, Japanese Society of Oral Implantology
Authorized Dentist, International Congress of Oral Implantologists

PP 09: **Injury caused by slipping**

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Background: Oral trauma occurring during sports has increased in recent decades, especially among young students in Japan. The number of students interested in football has hiked since the launch of the Japanese professional football league in 1990s. Since then, the number of oral injuries has surged among young soccer players. Despite this situation, countermeasures against safety have been delayed. This is a report of a treatment of lip laceration, alveolar bone fracture and tooth complete dislocation case that occurred due to lack of wearing a mouth guard.

Patient: A16-year-old male, and made first visit on October 1, 2013.

History of the present complaint: While playing football during a club activity, the ball hit the mouth with LR1.LR2. LL1 alveolar bone fracture and UR1 tooth complete dislocation.

Treatment outcome: Promptly rectified UR2 UR1 UL1, reduced and fixed with dental adhesive cement using NITI white coated wire. The alveolar bone fracture of the LR2 LR1 LL1 part was invasively fixed. Three days later, root canal treatment was performed. After three months, the wire was removed as the prognosis was good. Currently, it is still stable after four years.

Discussion: Other treatment methods were examined, but there was no applicable option. As a result, the treatment that was applied promoted healed the injury.

Brief CV

Educational Background
1993 DDS, Osaka Dental University, Japan
Professional Background
2004 Vice Director, Noda Dental Clinic, Komatsu City, Ishikawa, Japan
2016 Internship, Kyushu Dental University, Japan
Awards & Memberships
Member, Japan Association of Dental Traumatology
Member, Japanese Society of Oral Implantology
Member, Japanese Society of Oral and Maxillofacial Surgeons

President of Asian International Association of Dental Traumatology (AADT):
Professor Emeritus Dr. Mitsutaka Kimura

Chair of Organizing Committee in Philippine:
Dr. Omar Rodis

Organizing Committee in Japan:
Dr. Masao Irie, Dr. Takashi Asano, Dr. Norihiro Sonoi