

National Speaker from Japan

Rena Takahashi

DDS

PhD



Title of Lecture

A Direct Injection Technique with Flowable Composites

AREAS OF EXPERTISE

Operative Dentistry | Adhesive Dentistry | Esthetic Dentistry

EDUCATION

Doctor of Philosophy in Dental Science (Ph.D.) | Tokyo Medical and Dental University | 2011

Doctor of Dental Surgery (D.D.S.) | Tokyo Medical and Dental University | 2006

PROFESSIONAL EXPERIENCE

Senior Lecturer

Apr 2023 - Present Tokyo Medical and Dental University Hospital

Assistant Professor

Oct 2021 - Mar 2023 Tokyo Medical and Dental University Hospital

Apr 2013 - Sep 2021 Dental Hospital, Tokyo Medical and Dental University

Clinical staff

Nov 2012 - Mar 2013 Dental Hospital, Tokyo Medical and Dental University

Apr 2011 - Sep 2012

Visiting researcher

Sep 2012 - Nov 2012 Ludwig Maximilian University of Munich

Jan 2010 - Mar 2011

Resident

Apr 2006 - Mar 2008 Dental Hospital, Tokyo Medical and Dental University

LICENSURE and CERTIFICATION

Board Certified Membership | Japan Academy of Esthetic Dentistry | 15 Sep 2021 – Present

Senior Fellow | The Japanese Society of Conservative Dentistry | 27 Oct 2021 – Present

Board Certified Membership | The Japanese Society of Conservative Dentistry | 8 Jun 2016 – Present

Board Certified Membership | Japan Society for Adhesive Dentistry | 18 Mar 2021 – Present

Dentist's License | Ministry of Health, Labour and Welfare, Japan | 21 Apr 2006 – Present

ORGANIZATIONS

Committee Member | Japan Academy of Esthetic Dentistry | 2021 – Present

Manager | Japan Academy of Esthetic Dentistry | 2021 – 2023

Member | Japan Academy of Esthetic Dentistry | 2016 – Present

Committee Member | The Japanese Society of Conservative Dentistry | 2013 – Present

Member | The Japanese Society of Conservative Dentistry | 2007 – Present

Committee Member | Japan Society for Adhesive Dentistry | 2022 – Present

Delegation | Japan Society for Adhesive Dentistry | 2018 – Present

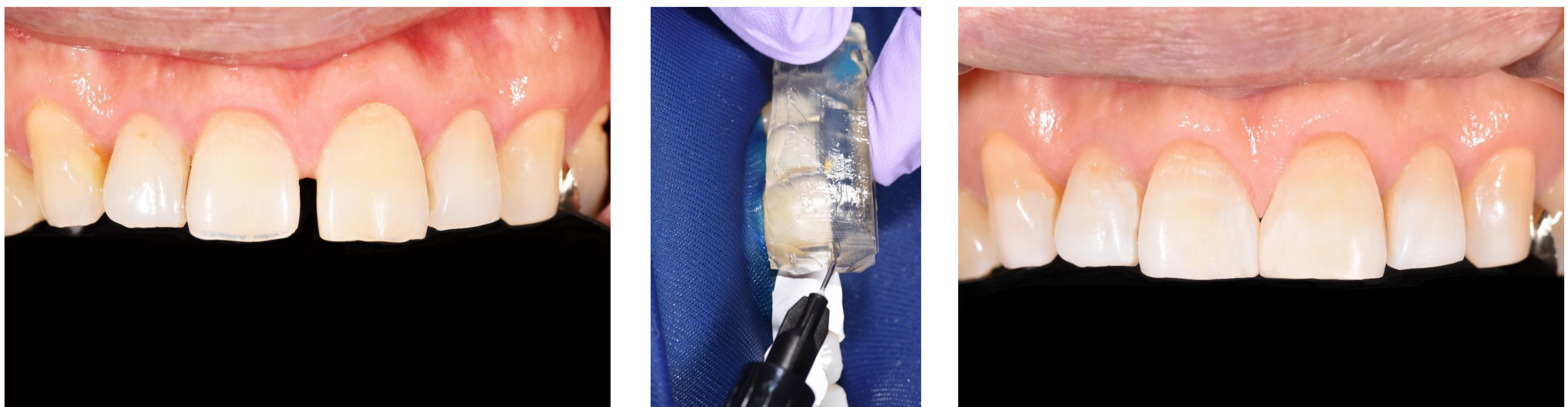
Member | Japan Society for Adhesive Dentistry | 2007 – Present

Member | The Japanese Society for Dental Materials and Devices | 2017 – Present

Abstract

Resin composite restorations have gained widespread use as a minimally invasive dental treatment method. They are employed not only for restoring a small number of missing teeth and full mouth reconstructions but also for extensive restorations and cases involving multiple tooth restorations. However, in cases requiring restoration of many teeth or a wide range, the treatment becomes more difficult, leading to increased technical errors, prolonged treatment times, and variations in the results. The direct injection technique with flowable composites using a transparent silicone index is a hybrid indirect/direct method that accurately transfers the simulated shape to the final resin composite restoration form.

By incorporating a digital workflow into resin composite restorations, standardization and efficiency of treatment and laboratory procedures can be achieved, leading to safe and reliable dental care. With the assistance of digital technology, resin composite restorations enable a minimally invasive approach while benefiting from the adhesive reliability of direct restorations and providing a functional and aesthetic final shape similar to indirect restorations. In other words, this method combines the clinical effectiveness of both direct and indirect restoration approaches.



PUBLICATIONS

Major papers published in the last 3 years

Motoi Takahashi, Rena Takahashi, Yasushi Shimada (2023). "Direct composite restoration for esthetic and functional disorder of anterior teeth with a digital workflow: a case report". *The Japanese Journal of Conservative Dentistry*; 6(4): 224-232, doi: 10.11471/shikahozon.66.224

Yutaro Oda, Rena Takahashi, Toru Nikaido, Junji Tagami (2022). "Influence of the resin-coating technique on the bonding performance of self-adhesive resin cements in single-visit computer-aided design/computer-aided manufacturing resin restorations". *Journal of Esthetic and Restorative Dentistry*; 34(4): 721-728. <https://doi.org/10.1111/jerd.12818>

Watcharapong Tonprasong, Masanao Inokoshi, Muneaki Tamura, Motohiro Uo, Takahiro Wada, Rena Takahashi, Keita Hatano, Makoto Shimizubata, Shunsuke Minakuchi (2021). "Tissue conditioner incorporating a nano-sized surface pre-reacted glass-ionomer (S-PRG) filler". *Materials (Basel)*; 14(21): 6648. <https://doi.org/10.3390/ma14216648>

Nanako Ueda, Tomohiro Takagaki, Toru Nikaido, Rena Takahashi, Masaomi Ikeda, Junji Tagami (2021). "The effect of different ceramic surface treatments on the repair bond strength of resin composite to lithium disilicate ceramic". *Dental Materials Journal*; 40(5): 1073-1079. <https://doi.org/10.4012/dmj.2020-362>

Saki Uchiyama, Rena Takahashi, Takaaki Sato, Shin Rozan, Masaomi Ikeda, Masanao Inokoshi, Toru Nikaido, Junji Tagami (2021). "Effect of a temporary sealing material on the bond strength of CAD/CAM inlay restorations with resin-coating technique". *Dental Materials Journal*; 40(5): 1122-1128. <https://doi.org/10.4012/dmj.2020-355>

Mao Yamamoto, Masanao Inokoshi, Muneaki Tamura, Makoto Shimizubata, Kosuke Nozaki, Rena Takahashi, Kumiko Yoshihara, Shunsuke Minakuchi (2021). "Development of 4-META/MMA-TBB resin with added benzalkonium chloride or cetylpyridinium chloride as antimicrobial restorative materials for root caries". *Journal of the Mechanical Behavior of Biomedical Materials*; 104838. doi: 10.1016/j.jmbbm.2021.104838.

Yu-Jung Lai, Rena Takahashi, Po-Yen Lin, Ling Kuo, Yuan Zhou, Khairul Matin, Yu-Chih Chiang, Yasushi Shimada, Junji Tagami (2021). "Anti-Demineralization Effects of Dental Adhesive-Composites on Enamel-Root Dentin Junction". *Polymers*; 13 (19): 3327. doi: 10.3390/polym13193327

Ahmed Abdou, Rena Takahashi, Amr Saad, Kosuke Nozaki, Toru Nikaido, Junji Tagami (2021). "Influence of resin-coating on bond strength of resin cements to dentin and CAD/CAM resin block in single-visit and multiple-visit treatment". *Dental Materials Journal*; 40 (3): 674-682. doi: <https://doi.org/10.4012/dmj.2020-160>

Takaaki Sato, Rena Takahashi, Shin Rozan, Saki Uchiyama, Yuta Baba, Martina Vicheva, Ayaka Sato, Masaomi Ikeda, Tomohiro Takagaki, Toru Nikaido, Junji Tagami (2021). "The effect of temporary sealing materials and cleaning protocols on the bond strength of resin cement applied to dentin using the resin-coating technique". *Dental Materials Journal*; 40 (3): 719-726. doi: <https://doi.org/10.4012/dmj.2020-234>

Keita Hatano, Masanao Inokoshi, Muneaki Tamura, Motohiro Uo, Makoto Shimizubata, Watcharapong Tonprasong, Takahiro Wada, Rena Takahashi, Kenichi Imai, Shunsuke Minakuchi (2021). "Novel antimicrobial denture adhesive containing S-PRG filler". *Dental Materials Journal*; 40(6):1365-1372. doi: 10.4012/dmj.2020-443