

# 3 CAPD Awards Helped Generate 2 National Presentations and 5 Publications

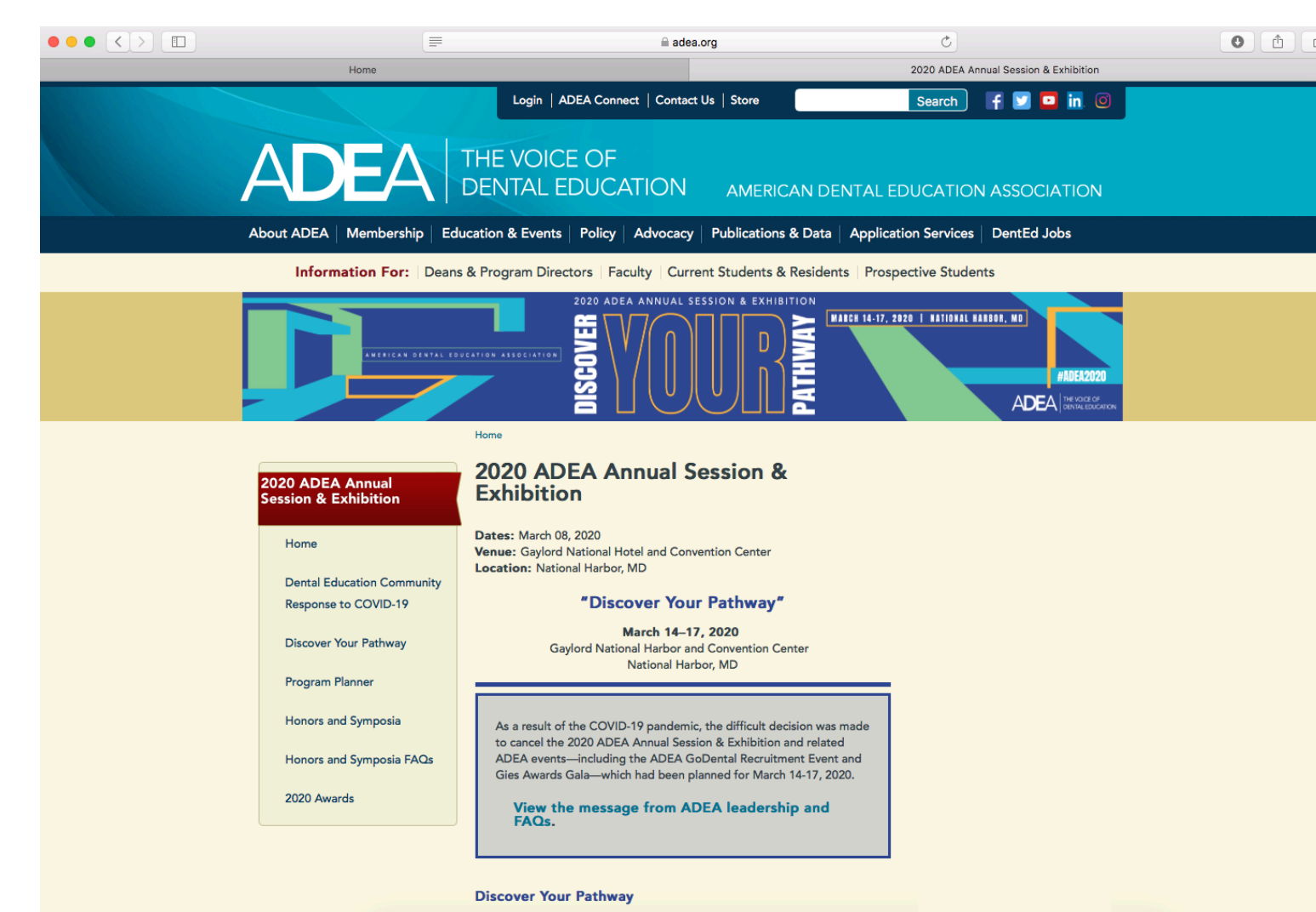
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Three CAPD awards resulted in two presentations at the American Dental Education Association Meeting. They also helped in the publication of five articles in peer reviewed professional dental journals. 15 faculty, 4 predoctoral and 2 postdoctoral students participated.

**CAPD (2020): “Advanced Biomedical Camera: Dental Education Focus,”** award to Brady, Booth, Tran

Tran C, Kosturos M, Booth M, Gallagher D, Brady M, Greene S, Ellerhorst T, Buchanan P, Gupta S, Savage R. Early prementation, electronic instruction occlusal milled guard, predoctoral clinic Accepted for presentation American Dental Education Association. March 2020 Washington DC

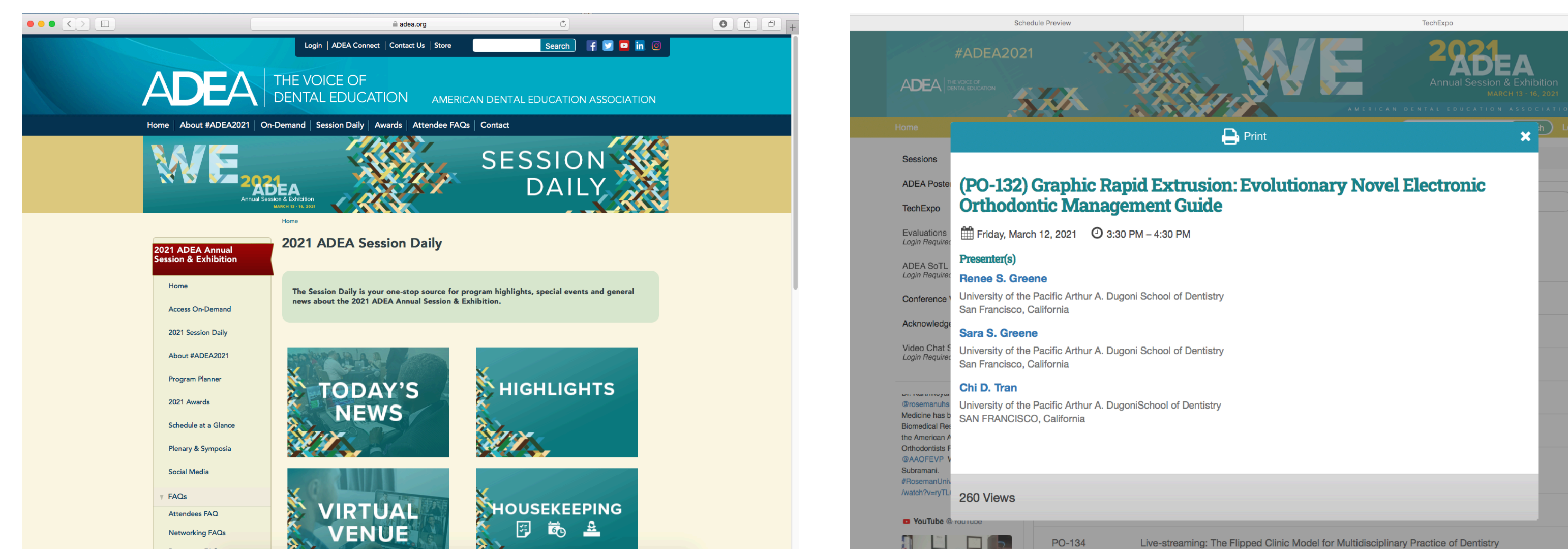
Tran C, Kosturos M, Booth M, Gallagher D, Brady M, Greene S, Ellerhorst T, Buchanan P, Gupta S, Savage R. Early implementation, electronic instruction occlusal milled guard, predoctoral clinic. *Journal of Dental Education*. Volume 84, Number 2, page 268, Feb 2020



**CAPD.(2020) “Presentation at American Dental Education Association Meeting,”** award to Booth, Tran

Greene RS, Greene SS, Tran CD. Graphic rapid extrusion: evolutionary novel electronic orthodontic management guide. Accepted for presentation American Dental Education Association. March 12, 2021 Boston, MA (Virtual)

Greene RS, Greene SS, Tran CD. Graphic rapid extrusion: evolutionary novel electronic orthodontic management guide. *Journal of Dental Education*. Volume 85, Number 2, page 275–277, Feb 2021



Brady M, Tran C, Booth M, Radke R. Esthetic clasp design for removable partial dentures on anterior teeth: Decisions in Dentistry. Volume 6 Number 4: page 22-25 April 2020

Schulze K, Smutko O, Tang T, Kenyon BJ, Peterson E, Tran C, Buchanan P. 10 year follow up on resin modified glass ionomer restorations. Decisions in Dentistry; Volume 6 Number 10: page 22-25 October 2020

**CAPD (2021). “Overlay Model Graphic Augmented Reality Technique: Enhanced Implant Evaluation Instruction Outcome,** award to Gonzalez, Tran

Publication

Trivedi H, Gonzalez Espinoza E, Gupta S, Tran C, Yadav S. Fixed treatment options for single incisor replacement. Decisions in Dentistry; Volume 7 Number 4: page 8-12, April 2021

**Fixed Treatment Options for Single Incisor Replacement**

AN EXAMINATION OF THREE TOOTH REPLACEMENT OPTIONS FOR A SINGLE INCISOR

By Hetal Trivedi, BDS, DDS, Eduardo Gonzalez Espinoza, DDS, MSc, Shikha Gupta, DDS, MSc, Chi Tran, DDS, MSc, and Shikha Yadav, BDS, DDS

The replacement of a single incisor presents unique challenges in clinical practice. There are many fixed dental prosthesis options to restore esthetics and function. It is important upon decision to design and plan each case individually based on the patient's needs. A rubric can be used to guide thoughtful consideration of clinical findings, radiographic information, the patient's wishes, esthetic considerations, and best practice based on evidence. The three clinical cases presented include: a full coverage all-ceramic conventional fixed dental prosthesis (FDI), single-tooth hybrid (STH) restoration, and an all-ceramic, casted resin bonded fixed dental prosthesis (RBFDP).

A missing incisor is a challenge due to esthetics. If there is a need to enhance beyond esthetics to function, then evidence and design are needed. Restoration of adjacent teeth may also be required. Among fixed restoration options, choosing between an FDI, STH or RBFDP will depend on multiple factors. Each option is listed in the table. The table column side is a question, and the answer will determine which option is logical and appropriate. The level of evidence for each option is also presented, observations by experienced clinicians to the highest level of evidence-based sources, such as Cochrane.<sup>1,2</sup>

**PATIENT 1: FIXED DENTAL PROSTHESIS**

A 24-year-old male presented to the dental clinic at the University of the Pacific adjacent to the gold crown on the front tooth. The patient's medical history was noncontributory. A comprehensive review of the patient's dental history revealed an anterior open bite. A maxillary incisor in position #8 (Figure 1) had a gold crown when an opening maintenance and over-hung (Figure 2).

For correction of open bite in adults, a combination of orthodontics, surgery and growth surgery is necessary.<sup>3-5</sup> The patient declined orthodontics and surgery. He wanted to avoid surgery and growth surgery. The options of an STH, FDI or RBFDP were considered. Several pros and cons were drawn to compare the three restoration options (Figure 3, Table 1 and Figure 3). An FDI would allow for shaping and contouring the abutment teeth to reduce the anterior open bite and also provide for the long-term aesthetic appearance of the patient's teeth.

The patient chose a lithium disilicate (LDI) FDI. This is a glass ceramic in the class of partially fused glass-ceramics with high translucency and a white appearance. A diagnosis was made of the anterior tooth was made, diagnosed a dental issue, and then a plan was generated for the provisional restoration. It was a 24-year-old male presented to the dental clinic at the University of the Pacific adjacent to the gold crown on the front tooth. The patient's medical history was noncontributory. A comprehensive review of the patient's dental history revealed an anterior open bite. A maxillary incisor in position #8 (Figure 1) had a gold crown when an opening maintenance and over-hung (Figure 2).

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**TABLE 1. Rubric Comparing Fixed Denture Prosthesis, Single-Tooth Implant, and Resin Bonded Fixed Denture Prosthesis**

	Fixed Denture Prosthesis	Single Tooth Implant	Resin Bonded Prosthesis
Enhance Intraoral Esthetic in Clinician?	Yes	No	No
Save of repair for the patient?	Yes	No	Minimal
Reduce risk for the fixed restoration?	Yes	No	No
Reduce risk for the fixed restoration?	Yes	No	Minimal
Reduce risk for the fixed restoration?	Yes	No	Minimal
Reduce risk for the fixed restoration?	Yes	No	Minimal
Reduce risk for the fixed restoration?	Yes	No	Minimal
Reduce risk for the fixed restoration?	Yes	No	Minimal
Reduce risk for the fixed restoration?	Yes	No	Minimal

**FIGURE 1.** Radiograph of anterior tooth and gold crown on the front tooth.

**FIGURE 2.** Patient presented with anterior open bite and a gold crown on the front tooth.

**FIGURE 3.** Simulated single-tooth restoration of the anterior tooth.

**FIGURE 4.** Simulated single-tooth restoration of the anterior tooth with enhanced lip effect in esthetics.

**FIGURE 1A and 1B.** Radiographs of the maxillary incisor (A) and the maxillary incisor (B).

**FIGURE 2A and 2B.** Clinical photographs showing the anterior open bite and the gold crown on the maxillary incisor.

**FIGURE 3A and 3B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor.

**FIGURE 4A and 4B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

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**FIGURE 2A and 2B.** Clinical photographs showing the anterior open bite and the gold crown on the maxillary incisor.

**FIGURE 3A and 3B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor.

**FIGURE 4A and 4B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 5A and 5B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 6A and 6B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 7A and 7B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 8A and 8B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 9A and 9B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 10A and 10B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 11A and 11B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 12A and 12B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 13A and 13B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 14A and 14B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 15A and 15B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 16A and 16B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 17A and 17B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 18A and 18B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 19A and 19B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 20A and 20B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 21A and 21B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 22A and 22B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 23A and 23B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 24A and 24B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 25A and 25B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 26A and 26B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 27A and 27B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 28A and 28B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 29A and 29B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 30A and 30B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 31A and 31B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 32A and 32B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 33A and 33B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 34A and 34B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 35A and 35B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 36A and 36B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 37A and 37B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 38A and 38B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 39A and 39B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 40A and 40B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 41A and 41B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 42A and 42B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 43A and 43B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 44A and 44B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 45A and 45B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 46A and 46B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 47A and 47B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 48A and 48B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 49A and 49B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 50A and 50B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 51A and 51B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 52A and 52B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 53A and 53B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 54A and 54B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 55A and 55B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 56A and 56B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 57A and 57B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 58A and 58B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 59A and 59B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 60A and 60B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 61A and 61B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 62A and 62B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 63A and 63B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 64A and 64B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 65A and 65B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 66A and 66B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 67A and 67B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 68A and 68B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 69A and 69B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 70A and 70B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 71A and 71B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 72A and 72B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 73A and 73B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 74A and 74B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 75A and 75B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 76A and 76B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 77A and 77B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 78A and 78B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 79A and 79B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 80A and 80B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 81A and 81B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 82A and 82B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 83A and 83B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 84A and 84B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 85A and 85B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 86A and 86B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 87A and 87B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 88A and 88B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 89A and 89B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 90A and 90B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 91A and 91B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 92A and 92B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 93A and 93B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 94A and 94B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

**FIGURE 95A and 95B.** Clinical photographs showing the simulated single-tooth restoration of the maxillary incisor with enhanced lip effect.

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