

# A Simple Esthetic Alternative Using Eris Crowns



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**N**ow is a great time to practice esthetic restorative dentistry. Unlike ever before, clinicians and technicians have a variety of indirect restorative materials to choose from so they can quickly, easily, and predictably restore a patient's smile.

Traditionally, porcelain-fused-to-metal (PFM) restorations have been placed when strength and durability in the posterior region were required, and/or in the anterior region when complete isolation from moisture could not be achieved. This eliminated all-ceramic restorative possibilities. Esthetically, all-ceramic restorations have been this author's ideal choice for esthetics, but problems of sensitivity have developed when moisture or contamination was not strictly controlled or when bonding techniques were not completed properly.

However, currently metal-free restorations like Procera (Nobel Biocare USA), Wol-Ceram (Wolz Dental-Techik GmbH; US Distributor, Glidewell Laboratories), Lava (3M ESPE), and IPS Empress Eris (Ivoclar Vivadent, Inc) afford clinicians the opportunity to confidently place simple, esthetic alternatives that demonstrate exceptional strength, esthetics, color stability, and biocompatibility, even in the posterior region. Also, in those cases in which isolation of subgingival margins and the predictability of a dry field are compromised, the restorations can be cemented with traditional Type I glass ionomer cement, unlike their pressed ceramic counterparts, without compromising the overall strength and retention of the final restorations.<sup>1-4</sup>

IPS Empress Eris is a layering ceramic that is placed over the lithium disilicate frameworks of IPS Empress restorations and is a complementary part of the entire IPS Empress family of products.

Indicated for anterior and posterior full-coverage crowns and three-unit bridges, the IPS Empress Eris layering material appears to interact with light in much the same way as natural teeth. As a result, IPS Empress Eris restorations exhibit exceptional translucency, brightness, and light-scattering ability for a beautiful esthetic result.

## Case Presentation

A 39-year-old woman presented with a complaint that the existing crown and composite restorations

tissue symmetry was inadequate on tooth No. 8. Gingival contouring was achieved using an Odyssey Diode Laser (Ivoclar Vivadent, Inc). A comprehensive treatment plan was developed that consisted of restoring her dentition with 11 IPS Empress Eris crown restorations from teeth Nos. 3 through 13. The patient had selected a shade of B on the Vita Easyshade Guide (Vident). The lower dentition would be whitened using 16% Nite White Classic bleaching agent (Discus Dental, Inc).

**B**ecause of recurrent decay, multiple defective composite restorations, an unattractive crown, and endodontically treated teeth, the restoration choices were limited to full-crown restorations.

on her anterior teeth were "old and dingy looking." The patient was extremely dissatisfied with the entire appearance of her smile (Figure 1) and desired straighter, whiter teeth.

A clinical examination revealed multiple composite restorations with recurrent decay, an unesthetic PFM crown, and an endodontically treated tooth that exhibited severe discoloration and staining (Figure 2). Occlusal wear was evident on the canines and lateral incisors, resulting in very flat, square anterior teeth. She did not have temporomandibular joint symptoms at this time, but the ultimate treatment plan was to include the development of anterior protection of the posterior teeth with canine guidance and a maxillary acrylic occlusal splint.

Probing depths were within normal levels in the anterior region, and the patient's periodontal health was within acceptable limits. The soft

tissue symmetry was inadequate on tooth No. 8. Gingival contouring was achieved using an Odyssey Diode Laser (Ivoclar Vivadent, Inc). A comprehensive treatment plan was developed that consisted of restoring her dentition with 11 IPS Empress Eris crown restorations from teeth Nos. 3 through 13. The patient had selected a shade of B on the Vita Easyshade Guide (Vident). The lower dentition would be whitened using 16% Nite White Classic bleaching agent (Discus Dental, Inc).

dating the patient's esthetic and functional needs. However, in this case, subgingival margins were a concern, as well as the discoloration of the prepared teeth because of previous root canal therapy. In this particular case, the clinician felt confident with the esthetics of IPS Empress Eris material, and felt comfortable using this because it required nothing more exotic than conventional chamfer preparation and traditional cementation protocol.

Specifically, the preparation of the teeth required a chamfer finish, with soft rounded internal line angles. Simple facial and lingual reduction was approximately 1 mm, and occlusal reduction was 2 mm.

## Temporization

Using a Sil-Tech matrix (Ivoclar Vivadent, Inc) of a composite mock-up, the provisional restorations were fabricated using an integrated family of products specifically designed to enable simple and predictable temporization when crowns—among other restorations—are indicated (Systemp crown, Ivoclar Vivadent, Inc). The final trimming of the temporaries was accomplished using small composite polishing diamonds, and the provisionals were seated. The patient returned the next day for review of the length of the anteriors and her overall smile. The patient was very pleased with the services she had received thus far, and commented that she had received many compliments on her temporaries. Phoetics was verified to confirm the position, size, and length of the teeth. An alginate impression was taken of the temporaries and forwarded to the laboratory for guidance of positioning, length, and contour. It was not necessary to take any stump shades because the copings of IPS Empress Eris restorations masked the underlying tooth structure.

## Diagnosis and Treatment Planning

The Smile Guide (Discus Dental, Inc) was used to complete the smile analysis that was necessary for predesigning the case.<sup>5-8</sup> From an esthetic perspective, the patient's maxillary anterior teeth lacked vitality and depth, giving her a very "hard" appearance. Facially, the teeth were very flat with only one plane, and too rectangular (Figure 3). The final crowns would be designed to soften the patient's look. Tapering the teeth toward the neck in a gingival direction would be one method to accomplish this esthetic objective.

Because of recurrent decay, multiple defective composite restorations, an unattractive crown, and endodontically treated teeth, the restoration choices were limited to full-crown restorations. An all-porcelain crown system seemed to be the logical choice for accommo-



**Figure 1**—Preoperative view of patient's smile.



**Figure 2**—Preoperative retracted view showing discolored, unesthetic teeth.



**Figure 3**—Preoperative close-up of anterior maxillary teeth.



**Figure 4**—Completed IPS Empress Eris restorations.



**Figure 5**—Excess cement is easily cleaned up when in its "doughy" stage.



**Figure 6**—Postoperative view of the patient's natural smile.



**Figure 7**—Postoperative retracted view of the patient's dentition.



**Figure 8**—Postoperative 1:1 view of the maxillary restorations.

## Cementation

After the provisional restorations were removed, the preparations were cleansed with plain pumice (Pumice Preppies, Whip Mix Corporation) and then cleansed with chlorhexidine. The preparations were then desensitized (Systemp desensitizer, Ivoclar Vivadent, Inc), and the final IPS Empress Eris restorations (Figure 4) were tried-in to verify marginal fit, contour, contacts, shade, and accuracy. The patient was very satisfied with the appearance of her new restorations, which she approved for final cementation. The IPS Empress Eris restorations were seated using a self-curing, Type-I glass ionomer cement (VivaGlass Cem, Ivoclar Vivadent, Inc). Excess cement was easily

removed from the margins and accomplished quickly because of the "doughy" consistency of this cement (Figure 5). The finishing of the cement was not necessary along the margins.

## Conclusion

IPS Empress Eris crowns represent an alternative restorative material that enhances the dentist's and technician's ability to provide durable, esthetic, and functional restorations in the anterior or posterior region of the mouth, especially when metal-free restorations are a primary desire of the patient (Figures 6 through 8). The IPS Empress Eris restorations and similar products introduce yet another method of meeting the demands of today's society. ■

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## Product References

**Product:** Procera  
**Manufacturer:** Nobel Biocare USA  
**Location:** Yorba Linda, California  
**Phone:** 800.993.8100  
**Web site:** www.nobelbiocareusa.com

**Product:** Wol-Ceram  
**Manufacturer:** Wolz Dental-Techik GmbH  
**US distributor:** Glidewell Laboratories  
**Location:** Newport Beach, California  
**Phone:** 800.854.7256  
**Web site:** www.glidewell-lab.com

**Product:** Lava All-Ceramic System  
**Manufacturer:** 3M ESPE  
**Location:** Maplewood, Minnesota  
**Phone:** 800.216.9502  
**Web site:** www.3MESPE.com

**Products:** IPS Empress Eris, Odyssey Diode Laser, Sil-Tech, Systemp crown, Systemp desensitizer, VivaGlass Cem  
**Manufacturer:** Ivoclar Vivadent, Inc  
**Location:** Amherst, New York  
**Phone:** 800.533.6825  
**Web site:** www.ivoclarvivadent.us.com

**Products:** Nite White Classic, Smile Guide  
**Manufacturer:** Discus Dental, Inc  
**Location:** Culver City, California  
**Phone:** 800.422.9448  
**Web site:** www.discusdental.com

**Product:** Pumice Preppies  
**Manufacturer:** Whip Mix Corporation  
**Location:** Louisville, Kentucky  
**Phone:** 800.626.5651  
**Web site:** www.whipmix.com

**Products:** Vita Easyshade, Vita Bleached Shades  
**Manufacturer:** Vident  
**Location:** Brea, California  
**Phone:** 800.828.3839  
**Web site:** www.vident.com

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