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Direct Veneers using Aura Composite Material

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DIAGNOSIS & TREATMENT

A patient presented with discoloured teeth (white spots and yellowed composites), prominent upper left canine, inconsistent shapes and papilla and worn edges of teeth after orthodontic treatment **(FIG 1).**

Treatment Plan:

- Create a brighter substrate for bonding using Pola Night for slow and comfortable brightening of the tooth surfaces.
- Remove decay and bond when satisfied with brightness of teeth.
- Slightly contour gingival margins for aesthetic optimization.
- Create direct composite veneers with Aura composite to give bright and consistent colour throughout the smile.

The Aura system was chosen for this case due to its durability, natural selection of colours and its ability to allow underlying tooth structure to enhance the composite's appearance. The patient wanted a bright shade but also looked natural. The Aura E1 shade was selected because it was the most whitish/lightest, high opalescence with some degree of translucency. Aura E1 shade is designed to emulate young enamel for age 20 and under.

An Erbium laser, set to soft tissue mode of 2 watts, a better "gingival frame" is created prior to bonding **(FIG 2).** The surface discolorations and previous composites are conservatively removed with a flame shaped diamond maintaining outer enamel and creating room for the forthcoming layer of Aura **(FIG 3).** Suspicious decalcifications in the interproximal region of teeth #8 and #9 are checked with cavity detection dye **(FIG 4 & 5).** All "affected" enamel is removed using the Erbium laser **(FIG 6).** The enamel surfaces are conservatively prepared **(FIG 7 & 8).** Air particle abrasion with a small tip (27 micron Aluminium oxide; 40 psi) has been shown to greatly enhance the shear bond strength of materials to enamel and dentin **(FIG 9).**

The treatment sequence of bonding is begun with teeth #8 and #10; after outline form and gross contouring, #7 and #9 were treated in the same fashion. Teeth #5 and #6 were bonded; followed by #11 and #12. 37% Phosphoric acid was placed over the entire labial surface with a 30 second exposure time (since no dentine was involved) and thoroughly rinsed with water for 15 seconds on each tooth **(FIG 10).**

A universal bonding resin was placed carefully using a microbrush and thinned with a warm air dryer **(FIG 11).**

Each tooth being treated was cured for 20 seconds using SDI's Radii Plus light with its wide tip **(FIG 12).** Aura Enamel (Shade E1) was thinly applied and sculpted, placing the gingival half first and then blending the interproximal.

After a 40 second cure, the incisal portion is adapted to the tooth using the incisal edge and adjacent anatomy to guide initial contouring.

Gross finishing is achieved with a thin bur to clean the gingival margins and establish labial anatomy **(FIG13).** Interproximal surfaces were smoothed with plastic finishing strips.

Labial surfaces were polished using a series of polishing disks **(FIG 14)** and the final gloss look is achieved using a flexible felt disc and aluminium oxide paste (e.g. SDI polishing paste).

The finalised restoration shows uniformity of colour and contours, greater aesthetic brightness, occlusal harmony and gingival health **(FIG 15).** The patients' confidence was soaring after her conservative care **(FIG 16).**

Fig 1. Post orthodontic treatment.

Fig 2. Creating gingival frame.

Fig 3. Conservative removal of previous composites.

Fig 4. Application of cavity detection dye.

Fig 5. Suspicious decalcification.

Fig 6. Affected enamel removed.

Fig 7. Enamel conservatively prepared.

Fig 8. Enamel conservatively prepared.

Fig 9. Air particle abrasion.

Fig 10. Tooth bonding.

Fig 11. Bondin resin placed.

Fig 12. Each tooth is light cured.

Fig 13. Enamel conservatively prepared.

Fig 14. Post restoration polishing.

Fig 15. Restoration completed.

Fig 16. Post Restoration smile.

ABOUT THE AUTHOR

Dr. Hugh Flax, accredited cosmetic dentist, lecturer and Past President of the American Academy of Cosmetic Dentistry (AACD) blends modern aesthetic dentistry with overall health and wellness.

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