**Introduction**

Dentists today are spoilt for choice with a variety of direct and indirect treatment options for aesthetic restorations in the anterior zone. We are often challenged to create restorations that mimic natural teeth or enhance smiles to meet patient desires and expectations. I have recently adopted the Minimal Invasive Cosmetic Dentistry (MiCD) concept introduced by Dr. Sushil Koirala which is based on a holistic patient-centric treatment approach that integrates minimally invasive treatment techniques with aesthetic dentistry to enhance the smile while taking into consideration the psychology, health, function and aesthetics of the patient.

Diastema or space between the teeth is a common dental condition that can create cosmetic issues in adults and often corrected with orthodontic treatment or indirect veneers. The clinical case below highlights a different approach where direct aesthetic restorations were selected after assessing the treatment approach where direct aesthetic restorations were selected after assessing the following 5 factors which we take into consideration when treatment planning in my practice: 1. Treatment longevity; 2. Cost estimation; 3. Viability of the tooth; 4. Biological cost; 5. Expectation of the patient.

**Materials Used**

After careful examination the following materials and composite shades were selected:

- **Tooth preparation**
  - Fine Diamond points (Red band on the shank) and Super-Snap Violet Disk
  - Etching and Bonding – 37% Phosphoric acid and FL-Bond II
- **Composite materials**
  - Palatal shell - Beautifil II Enamel shade T
  - First Dentin layer - Beautifil II LS opaque shade A2O
  - Second Dentin layer - Beautifil II LS shade A2
  - Enamel layer - Beautifil II Enamel shade HVT (High Value Translucent)
- **Finishing & Polishing**
  - Fine Diamond Points, Super-Snap X-treme Kit
  - Super Polishing for high gloss – DirectDia polishing paste with Buff disk

**Restorative Approach**

Direct Mock-up and Shade Selection

Composite mock-up can be used as an aid in both diagnostic and aesthetic evaluation. In this instance, a ‘paperless direct mock-up technique was selected with the aim of maintaining the patient’s desire for direct restorative treatment. Direct mock-up allows the patient to see the proposed changes before any invasive procedures are completed with digital photography.

**Clinical Tip:** It is important to check occlusion and identify the high points using articulating paper to ensure that an accurate silicone index can be created for the palatal shell.

There are many different methods used for shade selection to achieve an accurate shade match with the natural tooth. In my practice, we prefer to use the direct technique for shade selection, where the enamel and dentin shades of composite materials are placed directly on the tooth surface and compared with the shade of the natural tooth. Shade selection procedure is completed with digital photography taking into consideration the 3 dimensions of color with ‘Hue, Value and Chroma’ (Fig. 6). A composite recipe is identified for build-up of each restoration.

---

Dr. Hussein Naama
Alghadeer Center, Iraq

**Figures:**

- **Fig 1a & 1b.** Before and after smile rejuvenation with Biosmart restorative materials
- **Fig 2.** Pre-operative diastema between upper central incisors
- **Fig 3.** After prepless direct mock-up
- **Fig 4.** Patient smile after direct mock-up
- **Fig 5.** Occlusion and high points checked with articulating paper
- **Fig 6.** Direct shade selection with Beautifil II LS enamel and dentin shades
- **Fig 7.** Preparation of enamel surface with Super-Snap Violet disk
- **Fig 8.** Selective etching of the enamel surface with Phosphoric Acid
- **Fig 9.** Application of FL-Bond II bonding agent
- **Fig 10.** Palatal shell coated with Beautifil II Enamel shade T and incisal edge with Beautifil II LS opaque shade A2O
- **Fig 11.** Diastema closure with Beautifil II LS shade A2 and Beautifil II Enamel shade HVT
- **Fig 12.** Build-up of incisal area of central incisors with Beautifil II LS shade A2 and Beautifil II Enamel shade HVT
- **Fig 13.** Restored central incisors before finishing and polishing
- **Fig 14.** Grass finishing with Fine Diamond Point (Red Band on the shank) at very low speed with no water
- **Fig 15.** Marking of mental line angle and macro anatomy
Tooth Preparation -
Rubber dam was placed from premolar to pre-molar to help isolate the teeth to enhance vis-
ibility and eliminate contamination with sul-
cular fluid. The labial enamel surface of both central incisors were minimally prepared us-
ing Super Snap Violet disk to seamlessly blend the restoration margins on both labial and pal-
atal sides. (Fig. 7). Before proceeding with the adhesive step, it was important to protect the
adjacent lateral incisor teeth with Teflon tape.

Composite Build-up
After adhesive etching of the restorative enamel surface with Phosphoric acid (Fig. 8), FL-Bond
II, a 6th generation 2-step adhesive system was selected. First the Primer was applied, left for 10
seconds and air dried, followed by the applica-
tion of bonding agent which was light cured for 10 seconds. (Fig. 9). The palatal shell was
created with the silicone index using Beautifil II Enamel shade T. Beautifil II LS opaque shade
A2O was placed on the incisal edge to achieve a natural halo effect for enhanced aesthetics. (Fig. 10)

Clinical Tip:
Spend time to achieve the accurate shade match and tooth anatomy during the composite build-up phase to save chair time.

Finishing and Polishing Protocol
Selection of the right tools for finishing and polishing of direct composite restorations to a high
gloss, still remain a challenge for many clinicians. It is always helpful to identify a predict-
able finishing and polishing protocol for your composite material, that would help to achieve the desired final surface lustre while saving valuable chair time. For this case, after final light-cure and rubber dam removal, the gross finishing was done using a Fine Dia-
mond point (Red band on the shank) at very low speed with no water to smoothen the rest-
orative surface. (Fig. 14). The mesial line an-
gles and macro anatomy was marked using a lead pencil. (Fig. 15) The anatomical contouring of line angles and labial grooves were com-
pleted using a tapered fissure Fine Diamond Point (Red band on the shank) with intermit-
tent water spray (Fig. 16, 17). Dura Green stone was used to smoothen the labial grooves. (Fig. 16) Polishing of the restoration was completed using Super-Snap X-Treme Green and then Red Disks. The restoration was super-polished to high gloss natural enamel-like lustre with DirecTlua diamond polishing paste and a buff disk. (Fig. 18)

Clinical Tip:
- Higher bmp (bone morphogenetic protein)
- Better healing of soft tissue mucoperiostal flaps, especially in patients with compro-
   mised health status
- Higher bmp (bone morphogenetic protein) release after preparation compared to con-
   ventional preparation with a raspatory

Conclusion
The above clinical case illustrates that optimal life-like restorations can be achieved using Bi-
ofintm composite material with predictable aesthetics and function. By adopting the Mini-
...