

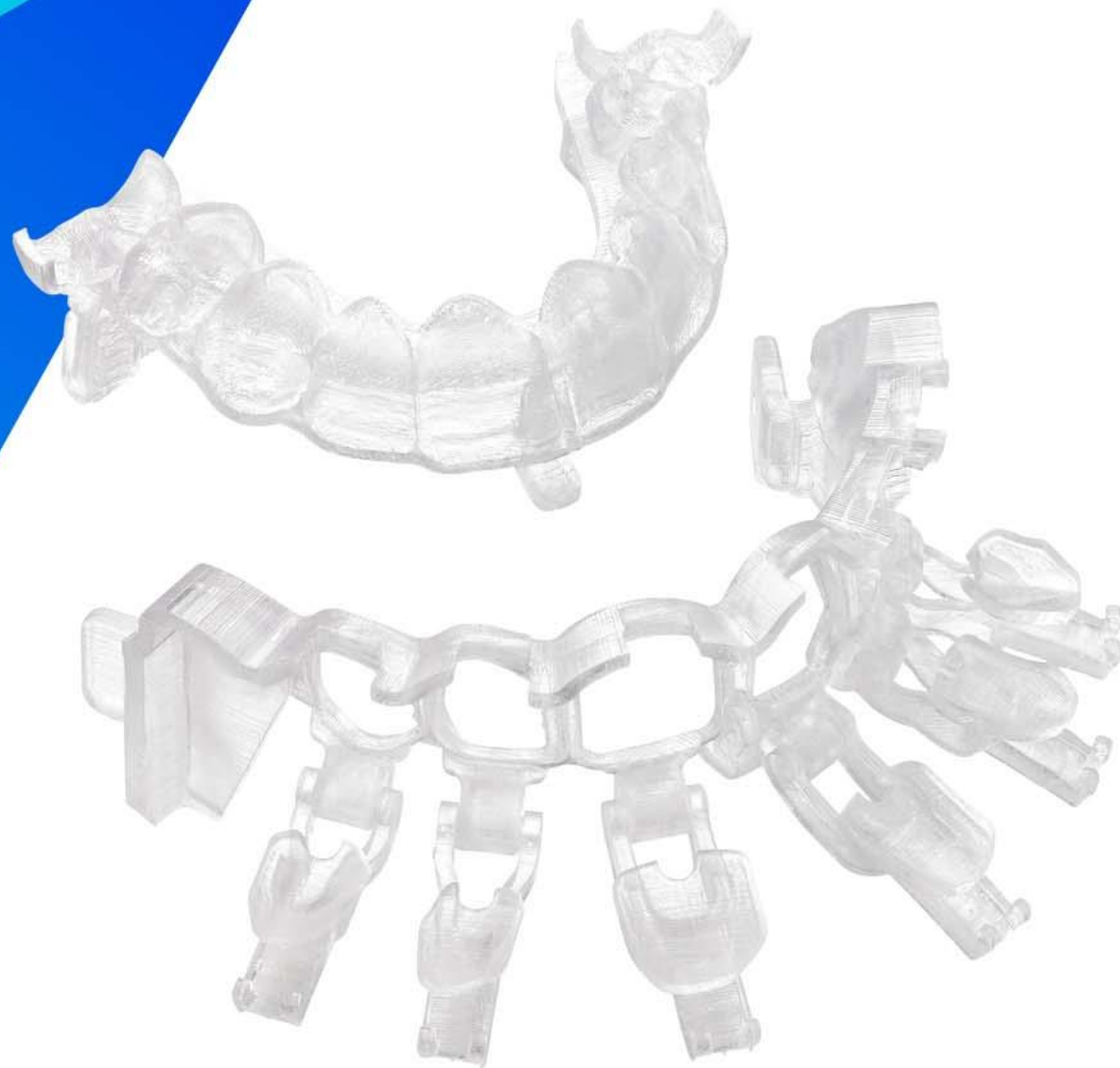
3M

Filtek™

Matrix

Clinical Case Booklet

September 2021



3M™ Filtek™ Matrix

Clinical Case Summaries

Conclusions:

The 3M™ Filtek™ Custom Matrix delivers conservative direct composite outcomes which are predictable, efficient and esthetic.

3M™ Filtek™ Matrix | Midline Diastema Closure



About the Case

- This adult patient previously had orthodontic treatment and wanted to improve the esthetics of her smile
- The diastema between her central incisors repeatedly opened post-ortho which had bothered her for quite some time
- **3M™ Filtek™ Supreme Ultra Universal Restorative (B1B)** was used to fill the restorative matrix



Matrix before addition of composite

Clinical Considerations

- When closing a diastema, it can be very challenging to confidently create symmetry
- Consideration must be given to width-to-length ratios and incisal edge position to ensure optimal esthetics



Adam Hodges,
DMD

Outcome:

The 3M™ Filtek™ Matrix was selected for this 4-unit case due to the esthetic goals of the patient and the conservative nature of this additive composite technique.

This is not a case I would have enjoyed treating with traditional direct composites due to the number of teeth involved along with a diastema closure.

Utilizing the matrix I feel confident that I can provide esthetic results in a predictable amount of time.

The patient could not have been happier with the esthetic and cost-effective outcome.

3M™ Filtek™ Matrix | Post-Orthodontic Smile Makeover



About the Case

- This teenage patient did not like her smile and wanted to lengthen her teeth after orthodontic treatment
- It was determined that lengthening would improve her tooth shape and smile esthetics
- **3M™ Filtek™ Supreme Ultra Universal Restorative (B1E)** was used to fill the restorative matrix



Matrix before addition of composite

Clinical Considerations

- To add over 2mm of vertical tooth length to provide lip support and esthetics consistent with the patient's age
- To provide a conservative option for a young patient which didn't require tooth reduction
- A 6-unit veneer case can be challenging and time consuming even for experienced dentists due to the freehand nature of direct composites



Adam Hodges,
DMD

Outcome:

Prior to this technique I found it very challenging to get symmetrical results efficiently.

Utilizing a digital design, the 3M™ Filtek™ Matrix allowed for symmetrical esthetic results in approximately 1.5 hours of chair time for 6 composite veneers.

This matrix affords me the flexibility to be artistic if I want to add anatomical features.

Our patient was incredibly pleased with the results and loved that anesthesia wasn't required.

3M™ Filtek™ Matrix | Trauma Retreatment



About the Case

- In 2005, the patient experienced blunt force trauma to the face resulting in 50% loss of coronal tooth structure and root canals on both maxillary central incisors
- The lateral incisors had fractured enamel but with minimal dentin exposure while the canines showed wear
- **3M™ Filtek™ Supreme Ultra Universal Restorative A1B was used to fill the restorative matrix**



Matrix before addition of composite

Clinical Considerations

- The patient presented to our clinic in 2020 to have new restorations made and was adamant about preserving as much tooth structure as possible
- Achieving both esthetics and function with a conservative direct composite technique



Augusto Robles,
DMD, MS

Outcome:

Controlling the occlusion to improve anterior guidance was challenging due to the extent of tooth structure loss.

The treatment and matrix design included anterior guidance, so it was rather easy to complete the case with proper function.

The esthetic outcome was supported by a solid and functional restoration.

3M™ Filtek™ Matrix | Smile Makeover



About the Case

- The patient presented with the chief complaint of not liking her smile which made her feel self-conscious
- **3M™ Filtek™ Supreme Ultra Universal Restorative (B1B) was used to fill the restorative matrix**



Matrix after addition of composite

Clinical Considerations

- The patient declined orthodontics leading to a discussion of a variety of restorative treatments
- Cost-effective composite veneers were preferred by the patient



Dr. Nicholas
Marongiu

Outcome:

Due to financial concerns, composite veneers were chosen over ceramic veneers.

3M™ Filtek™ Matrix | Restorative-Orthodontic Collaboration



About the Case

- This 18-year-old patient recently completed her orthodontic treatment
- At the request of referring general dentist, the orthodontist positioned the peg laterals centrally to facilitate the preservation of the gingival papilla and minimize the occurrence of post-restorative “black triangles”
- **3M™ Filtek™ Supreme Ultra Universal Restorative (B1B)** was used to fill the restorative matrix

Clinical Considerations

- Preserving the gingival papilla
- Avoidance of post-restorative “black triangles”
- Filling the peg lateral diastemas while achieving good contacts with the neighboring teeth



Stephen Shaw,
DDS

Outcome:

Achieving proper contour at the line angles would have been quite challenging with the traditional freehand technique.

The 3M™ Filtek™ Matrix made this case predictable, painless (both for the clinician and the patient) and fun!

From start to finish this case took about 20 minutes.

Most importantly, the patient was ecstatic!

3M™ Filtek™ Matrix | Post-Orthodontic Peg Laterals



About the Case

- This 28-year-old male patient wanted to improve the esthetics of his smile
- The patient was averse to any tooth alteration or aligner therapy and instead preferred “instant gratification”
- **3M™ Filtek™ Universal Restorative, A1** was used to fill the restorative matrix

Clinical Considerations

- The patient chose not to replicate the post orthodontic “white bracket halos” seen on his central incisors to his restored lateral incisors
- The lateral incisors had significant apical resorption due to adolescent orthodontia which necessitated the creation of proper emergence profiles and more ideal contours and shape
- Meeting the high expectations of this patient was a challenge because I had also treated his mother with 10 maxillary porcelain veneers



Dan Poticny,
DDS, PA

Outcome:

It takes time to achieve ideal contours with a free-hand composite technique. With a virtual design and 3D-printed custom matrix, cases are ready to place efficiently and successfully straight out the box.

The 3M™ Filtek™ Matrix offers a great alternative to laboratory fabricated porcelain veneers.

I was able to achieve these esthetic results in about an hour with minimal effort and high predictability.

3M™ Filtek™ Matrix | Post-Orthodontic Composite Veneers



About the Case

- This patient had completed orthodontic treatment and wanted to improve the esthetics of both their central and lateral incisors
- **3M™ Filtek™ Supreme Ultra Universal Restorative (A1B)** was used to fill the restorative matrix



Matrix before addition of composite

Clinical Considerations

- Patients in need of orthodontic treatment often have worn or chipped teeth due to malocclusion
- From an esthetic perspective, the asymmetry of the incisal edge wear needed correction
- While the gingival margins have been aligned through orthodontic treatment, there's a slight cant in the midline of the central incisors



John "Cappy"
Sinclair, DDS,
AACD

Outcome:

The digital design of the smile, which is completed prior to the fabrication of the composite matrix, facilitates communication with the orthodontist to help determine what tooth movement is required to accommodate the final size and shape of the restored teeth.

The 3M™ Filtek™ Matrix provided a predictable method for creating tooth symmetry while conserving tooth structure by using an additive direct composite technique.

3M™ Filtek™ Matrix | Simplified Smile Makeover



About the Case

- The patient presented with the chief complaint of wanting a more ideal smile
- For improved esthetics, the maxillary lateral incisors were lengthened along with diastema closures and tooth reshaping
- **3M™ Filtek™ Universal Restorative (A1B)** was used to fill the restorative matrix



Matrix before addition of composite

Clinical Considerations

- A conservative treatment option was requested by the patient which included minimal removal of healthy tooth structure
- It was also important to achieve an esthetic outcome without orthodontic treatment or porcelain veneers - which the patient viewed as too time consuming and/or expensive



Lois Duerst,
DDS

Outcome:

The 3M™ Filtek™ Matrix provided a template to deliver ideal contours and tooth shape while reducing the time needed to achieve ideal results.

Having no porcelain lab fees was an additional benefit for the patient. Also, working with composite allowed room for creative design during the finishing and polishing procedure.

The patient was very excited with his new smile!

3M™ Filtek™ Matrix

Step-by-Step Clinical Case

Conclusions:

The 3M™ Filtek™ Matrix helps deliver conservative direct composite outcomes which are predictable, efficient and esthetic.

3M™ Filtek™ Matrix | Simplified Smile Make-Over



Diagnosis

- The patient presented with the chief complaint of wanting a more ideal smile
- For improved esthetics, the maxillary lateral incisors were lengthened along with diastema closures and tooth reshaping
- **3M™ Filtek™ Universal Restorative (A1)** was used to fill the restorative matrix

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3M™ Filtek™ Matrix | Try-In of Single Unit Matrices

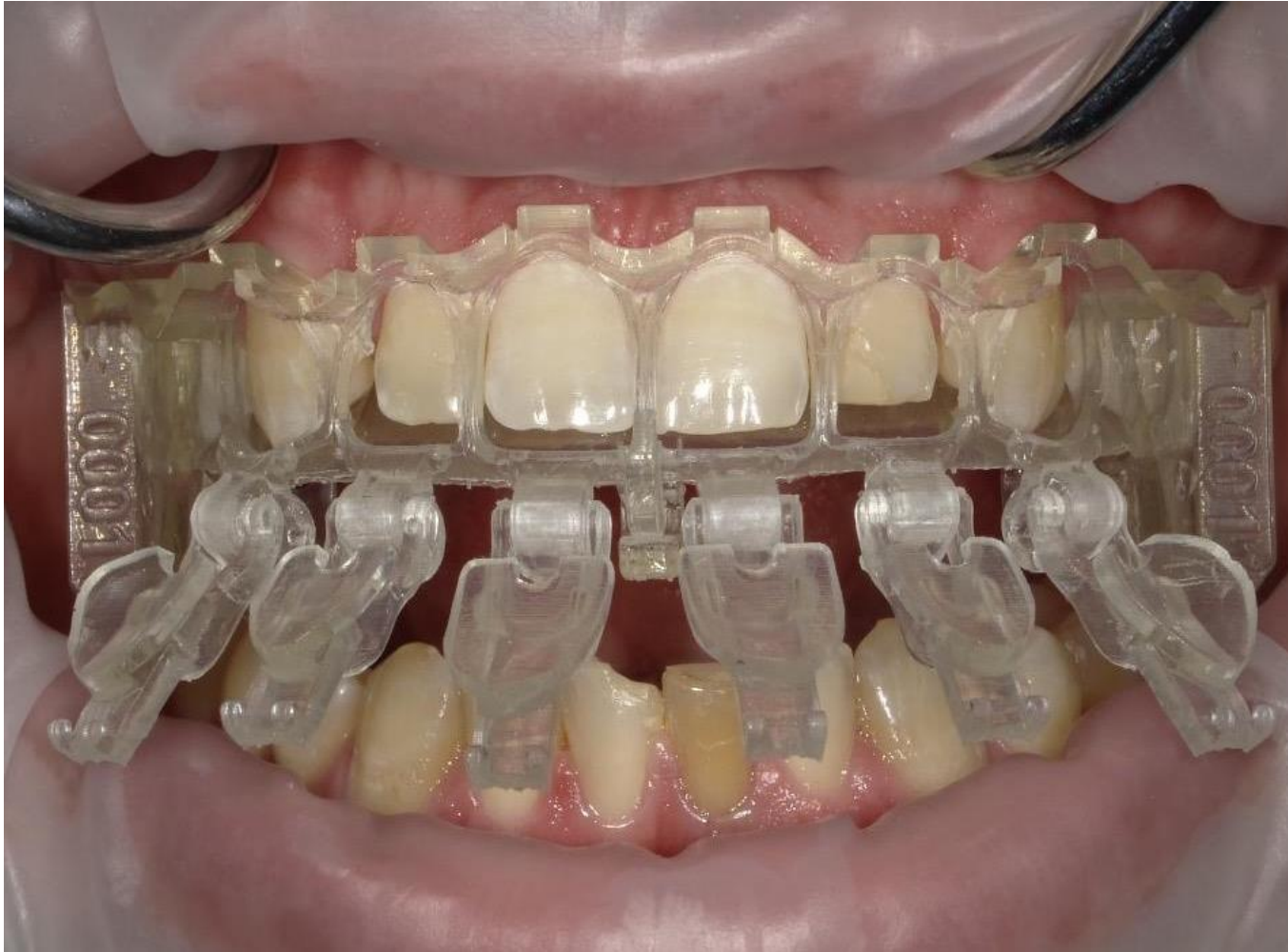


Try-in of single-unit matrices on the distal of the lateral incisor, mesial of the central incisor, and mesial of the cuspid to check for fit and stability.

Single-unit matrices are used to create ideal interproximal tooth shape and aid in separation of interproximal contacts after veneer matrix removal.

OptraGate (Ivoclar Vivadent) was placed to assist with retraction and moisture control.

3M™ Filtek™ Matrix | Try-In of Veneer Matrix



Trial fit of the veneer matrix to verify fit.

When placing the veneer matrix, the lingual portion is placed first, followed by the facial, which should align with the central incisors. Doors of the matrix should remain open when seating.

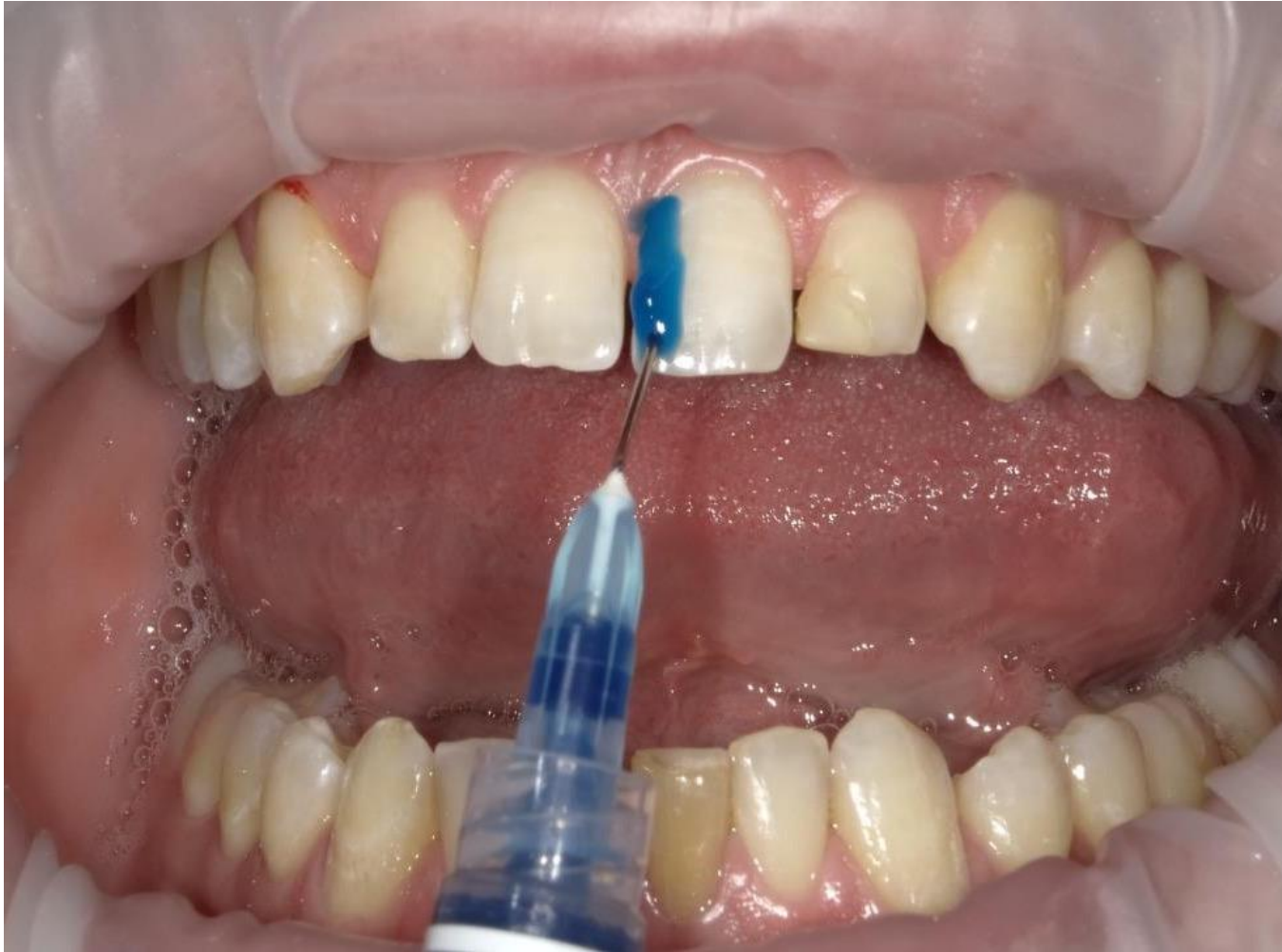
Snap the posterior clamps in place when both the facial and lingual pieces of the matrix are in position.

3M™ Filtek™ Matrix | Cleaning



After fit of the matrix was confirmed, the teeth were air polished to remove plaque and biofilm (Blaster with Aluminum Trihydroxide Powder, Bioclear™).

3M™ Filtek™ Matrix | Single Unit Matrix Adhesive Application



In preparation for use of the single-unit matrices, the enamel surfaces associated with the diastema closures were acid etched (3M™ Scotchbond™ Universal Etchant) and adhesive (3M™ Scotchbond™ Universal Plus Adhesive) was applied, and light cured.

3M™ Filtek™ Matrix | Diastema Closures with Single Unit Matrices



Matrix loaded and seated with warmed composite.



Composite extended slightly onto incisal, facial and lingual tooth surfaces and excess is removed.



After light curing the composite and matrix removal.

The single unit matrixes were loaded with warmed composite (3M™ Filtek™ Universal Restorative, A1) and seated into position.

Composite was extended slightly onto the incisal, facial and lingual surfaces and excess composite was removed before light curing.

When removing the single unit matrix, care should be taken as the matrix may fracture on removal.

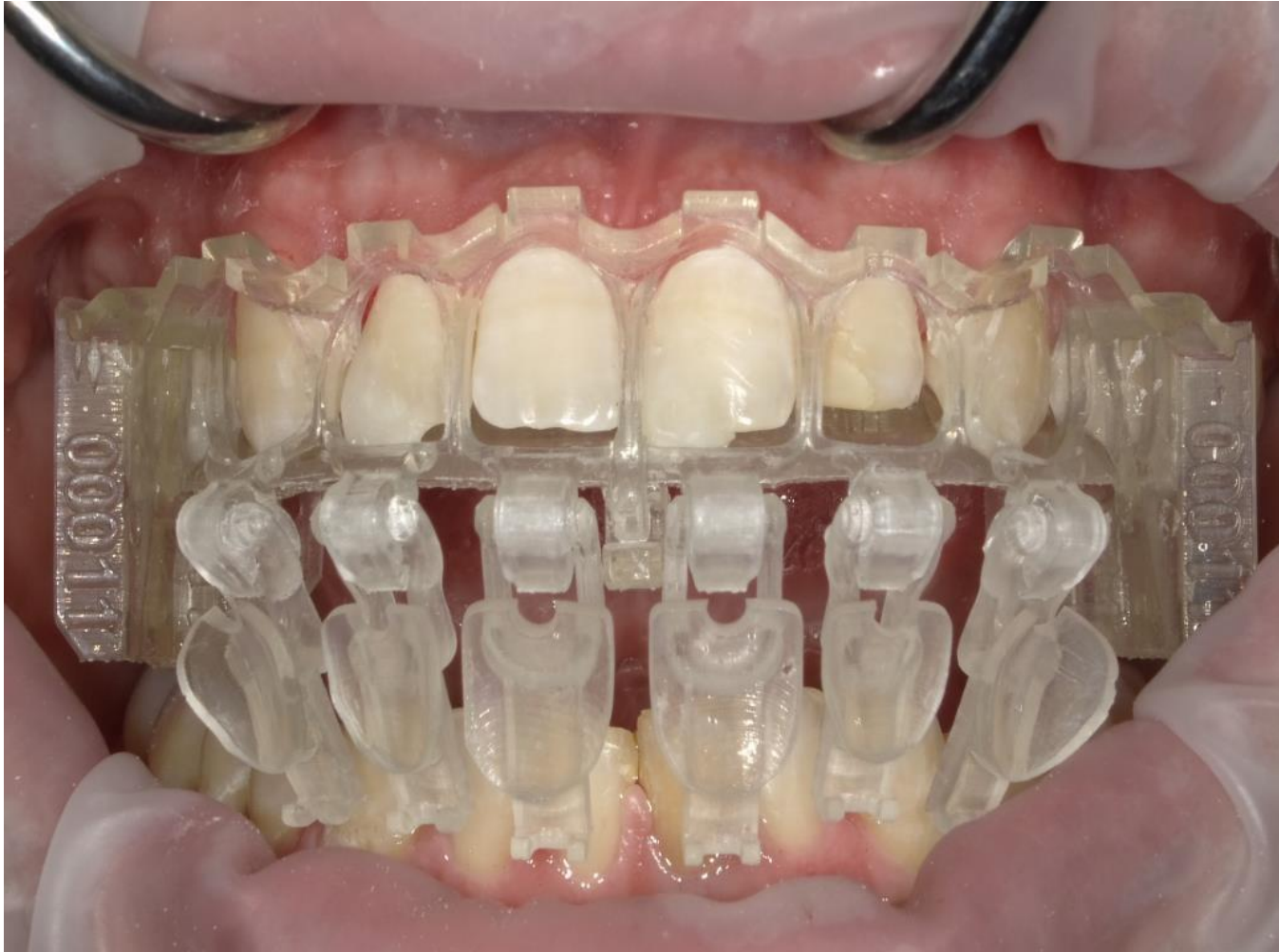
3M™ Filtek™ Matrix | Polishing Interproximal Contacts



Newly formed proximal contacts were polished (3M™ Sof-Lex™ Contouring and Polishing Disc – Fine Grit) to aid in contact separation.

Excess composite was removed from the facial, lingual and incisal surfaces.

3M™ Filtek™ Matrix | Veneer Matrix Try-In



The veneer matrix is tried-in to verify fit and seating before composite placement.

It's important to verify complete seating of the veneer matrix after interproximal polishing. If the veneer matrix doesn't seat completely, additional composite removal may be required.

3M™ Filtek™ Matrix | Veneer Adhesive Application



Etchant (3M™ Scotchbond™ Universal Etchant) and adhesive (3M™ Scotchbond™ Universal Plus Adhesive) were applied to all the teeth in advance of composite placement.

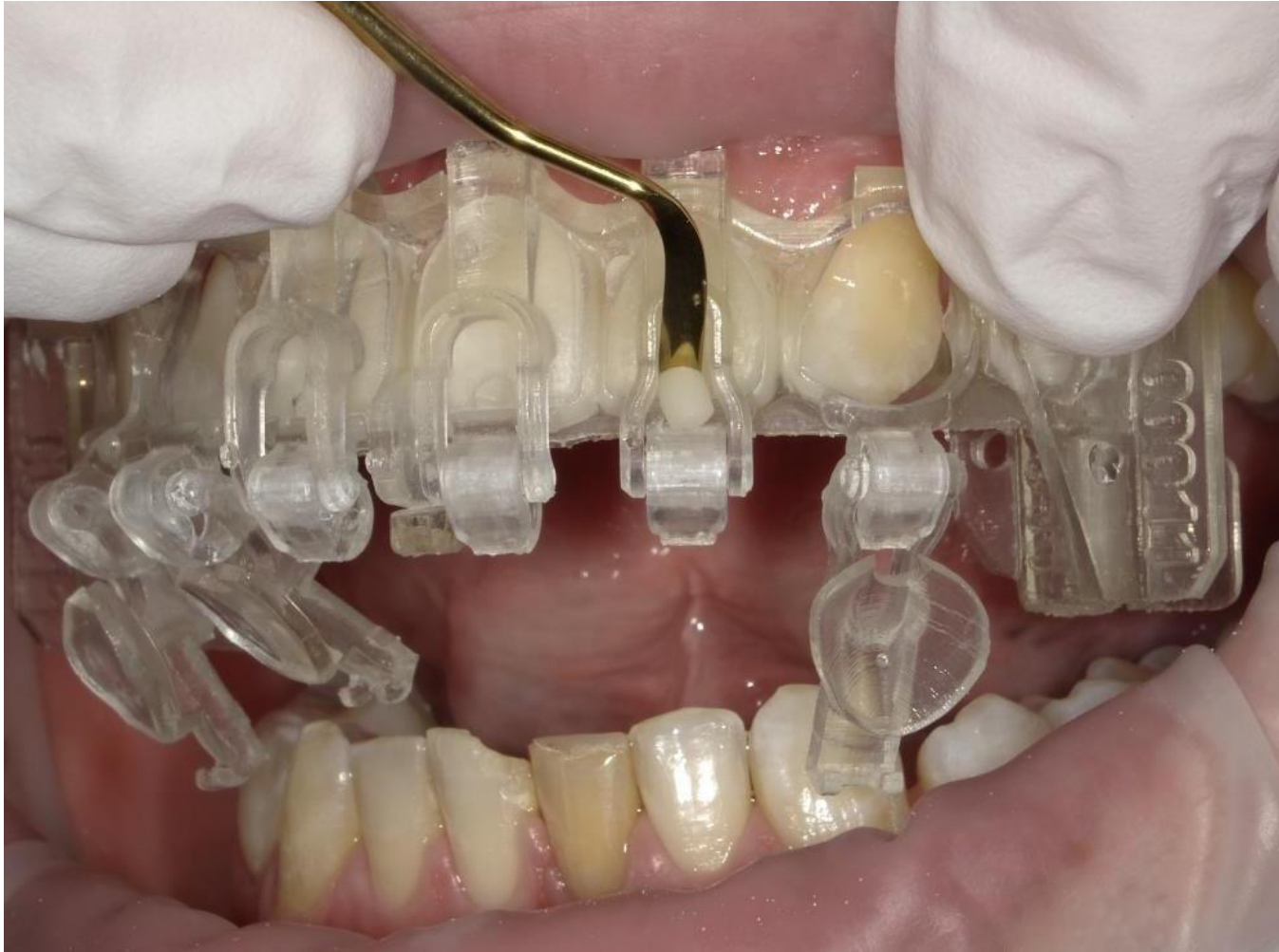
3M™ Filtek™ Matrix | Composite Placement



After securing the clamps on the veneer matrix, warmed composite (3M™ Filtek™ Universal Restorative, A1) was slowly injected, to minimize voids, while completely filling the spaces inside the doors of each matrix.

The doors of the matrix were closed with enough force to feel the snap of the latch. Door closure can also be verified visually.

3M™ Filtek™ Matrix | Excess Removal and Light Curing



Excess composite will be extruded through the facial vents. The pressure applied by the door closure helps to minimize composite voids, adapt the composite to the tooth, and ensure the composite fills the anatomical tooth form created by the matrix.

Excess composite was removed from the vent hole and from the areas around the doors of the matrix.

The composite on each tooth was cured from both facial and lingual surfaces for 20 seconds.

3M™ Filtek™ Matrix | Matrix Removal



Each door of the matrix was carefully opened by lifting up on the gingival latch or by wedging the door open with an instrument.

Once all of the doors were opened, the posterior clamps were released and the matrix parts were removed (first facial, then lingual).

3M™ Filtek™ Matrix | Excess Composite Removal



Restored teeth after matrix removal and before finishing and polishing.

Excess composite is removed from around the matrix doors, vent holes, and gingival margins.

3M™ Filtek™ Matrix | Excess Composite Removal



Excess composite was removed along the gingival areas and also on the facial and lingual surfaces.

Composite removal can be achieved with a wide variety of burs and discs.

3M™ Filtek™ Matrix | Interproximal Contacts



The proximal contacts were inspected when gross finishing of the composite was completed.

Bonded contacts can often be quickly and easily opened with a gentle wedging action of a composite placement instrument or similar instrument.

Proximal Saws (Jiffy, Ultradent) and strips (Qwik Strips, Creative Dental Concepts) were used to open tight or bonded contacts.

Finishing strips (3M™ Sof-Lex™ Finishing and Contouring Strips) were used to smooth the contacts after opening.

3M™ Filtek™ Matrix | Interproximal Contacts



Floss should slide easily through the contacts once they have opened and finished.

3M™ Filtek™ Matrix | Polishing



Final polishing (HiLuster Polishing System, Kerr) and glaze (Goat Brush, and Diamond Polish, Ultradent).

There are many available composite polishing systems that work well.

3M™ Filtek™ Matrix | Final Result



The patient loves
his new smile!

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