Cosmetic

Solving the Unfortunate Problem of Missing Laterals

Author:

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Introduction

The 25 year old female patient was not only missing her permanent laterals but her primary teeth as well. She was extremely shy and self-conscious in social situations because of her appearance and seldom smiled.

At the age of 8 she was given a palate expander and, later full orthodontics twice. The orthodontist attached false teeth to the wires, but they did not match in color or size. Her excess tissue had to be trimmed on several occasions. The brackets on the braces caused staining on her teeth which made her very self-conscious. At the age of 19, in 2006, implants were surgically placed and tissue re-contouring was performed four times. Infection occurred on the tooth number 7 implant which led to more delays.

Finally, in April of 2011, anterior restorations were to be placed. This was what the patient had been anticipating for many years. After all the suffering with social embarrassment, she was more than ready to move forward and complete her smile.

Case Study

In the clinical setting, the dentist performed a Global Analysis Diagnosis, noting the following:

Face Height: 66 ½ mm/66 ½ mm 1:1
Lip Length: 20 mm Lip Mobility: 8 mm
Dental / Facial Midline: 22 L
Central Exposed in Repose: 12 mm
Gingival Line to Upper Lip in Full Smile: #5-3 mm, #6-2 mm, #7-2 mm
+/-. mm: #8-1 mm #10-3 #12-3 #9-1mm #11-3
Distal Extent of Smile (tooth #): 4 R 13 L
Incisal Edges to Lower Lip (Follows Smile Line, Covered by Lip, Reverse, Irregular) #6= 1mm #7=3mm #8/#9 .2mm
Buccal Corridors – Negative Spaces Y/N No negative spaces

Pathologic tooth wear was noted on tooth #13, as well as CEJ location on numbers 5, 6, 8/9, 11 and 12, posterior occlusal plane and tooth alignment (open bite noted in the anterior). Tooth #8 was lengthened to about 10.8 mm. Straumann tissue level implants had been placed at bone level which led to later struggles because the original two-piece abutments did not properly fit. However, Atlantis custom zirconia abutments provided the proper fit and were easier to work with for this particular case.

The treatment plan involved tissue re-contouring in height on teeth numbers 6, 8 and 9, as well as crowns to be placed over the implants. All recommendations were accepted by the patient and her mother.

Preparation design included full coverage on teeth numbers 6-11, as well as onlays on numbers 5 and 12. Final impressions were taken using GC Exaflex Putty/Discus Precision Light Body material. Provisionals were fabricated using Exatemp Temporary B1 Shade material by Exacta Dental.

Laboratory Procedures

Preoperatively, the patient was in the laboratory for a custom shade (Fig. 1), with the temporaries for numbers 7 and 10 in place. Color was noted, as well as incisal edge staining and heavily opacious enamel content. Overall, the patient was
unhappy with the color, size and shape of her teeth. She wanted to change her smile. Using four cosmetically colored Seasons of Life shade tabs, the technician was able to correctly match the patient’s dentition, noting the 020 base color and 030 gingival shade. Her color overall had an orange tone, with bright white at the incisal edge. Translucency was also noted at that time.

The patient preferred a feminine Square/Round, Round-Round/Point shape to her teeth (Fig. 2) which the technician noted after giving the patient the available choices within the smile selection guide communication tool. On the cast model, he noted length of teeth (Fig. 3) as well as which areas of the teeth to prep.

A surgical stent was created for the tissue re-contouring process (Fig. 4) that was later completed by the dentist. An occlusal view of the patient’s model verified (Fig. 5) prep design. The wax-up followed the prep design (Fig. 6), created

![Fig. 3: Teeth length, areas to prep noted](image3)

![Fig. 4: Surgical stent for tissue re-contouring](image4)

![Fig. 5: Occlusal view of the patient’s model](image5)

![Fig. 6: Provisionals were fabricated based on the wax-up design](image6)

![Fig. 7: Final contouring](image7)

![Fig. 8: Surgical stent for provisionals](image8)
for the temporary fabrication. Final contouring followed, with the colored wax-up as a demonstration tool for the patient (Fig. 7). Immediate temporization was possible using the surgical stent (Fig. 8) as a guide. Prep design shows alignment of the implants (Fig. 9) from the GC Milling Center. Gold titanium CAD/CAM design blocked out any dark color the technician needed to mask. Zirconia copings from the GC Milling Center were tried on the model for a fit check (Fig. 10). GC Initial Body B ZR porcelain provided the technician one of the tools with which he will be working (Fig. 11).

Dentin and enamel porcelain build-up was applied to the copings (Fig. 12) as a first layer. After first bake at 810°C,
they had this appearance (Fig. 13). Translucency application followed (Fig. 14) with second build-up. Final contour with surface texture, lobe and design was drawn on the restorations by the technician (Fig. 15). After glazing, the technician checked for interproximal contact and marginal adaptation on the model (Fig. 16).

Trying the restorations in the mouth, the technician noted color and size of teeth (Fig. 17). Two or three months after cementation, an immediate smile view notes excellent adaptation (Fig. 18).

Conclusion

Today, after all that she has gone through, the patient is happy, more outgoing, laughs and smiles all the time. Her confidence in her appearance is 100% improved and she is a changed young lady. To say that she is pleased is an understatement. Her attitude has totally changed and her social experiences are much improved since this transformation has taken place. She and her mother are very grateful for all the doors this has opened for the patient. It's a success story with an extremely happy ending – always our goal but unfortunately, not always achieved.