



DENTAVANTGART

labline

VOLUME V ISSUE 03 AUTUMN 2015



EDWARD A. MCLAREN

AESTHETICS, BIOLOGY
AND FUNCTIONALITY
IN CONCERT FOR A
WINNING SMILE

**DDS, MS, PHD. MILKO VILLARROEL &
DT. JUVENAL DE SOUSA NETO**

PROSTHETIC GINGIVAL RECONSTRUCTION BASED ON ANATOMICAL PLANNING

PART 1

DT. PARK CHUL HAN

WONDERFUL LIFE

DR. ARTURO GODOY

CAD/CAM PRECISION AND CRAFTSMANSHIP

labline #19 (Autumn 2015)



CASE





DDS. **Larry Grillo** | DT. **Rafael Santrich**

Jonah

How do you treat a teenaged boy who is socially shy and refuses to smile in pictures due to an unattractive smile with spaces between all the anterior teeth?

A seventeen year old boy presents “post-orthodontic correction” with:

- Class III tendencies and a slightly underdeveloped, narrow maxillary arch and a wide, well developed mandibular arch with teeth that have been lingually inclined to minimize arch radius in an attempt to match maxillary arch radius.
- Deep anterior bite with 60% vertical overlap of lower anterior teeth and zero horizontal overjet.
- A “Tooth vs. Arch” discrepancy with two to three millimeter diastemas between the maxillary anterior teeth.
- A discrepancy in the proportions of Maxillary Central incisors to lateral incisors, having small, “screwdriver” shaped lateral incisors. This was compounded by delayed passive eruption with the gingival portion of the enamel still covered by soft tissue.
- Maxillary central incisors with irregular, asymmetric incisal edges.
- The absence of any temporomandibular joint symptoms.

The patient with his parents discussed multiple orthodontic and orthognathic options including mandibular bicuspid extractions with consolidation of the lower arch to improve the relationships and guidance of the anterior teeth.

This boy had a history of childhood sleep apnea, which had dramatically improved with the growth of his mandible so any option of decreasing lower arch size and tongue space was eliminated.

In the absence of functional, TMJ or airway symptoms, the decision was made to create minimal to no-preparation veneers using Refractory technique with e.max Ceram extending from: maxillary first bicuspid to first bicuspid.

This would provide the opportunity to create an esthetically pleasing, proportioned smile while closing the diastemas and conserving all of the native enamel.

Spot bonded, composite Mock-Ups were performed to evaluate the esthetics and were left in place for three weeks to test the envelope of function and stability of the proposed restorations. After a couple of revisions, a successful trial period without delamination of the provisionals was accomplished “proving” the stability of the incisal scheme and esthetic preview. With this information, impressions of the trial Mock-Ups were made, along with the counter model and bite registration. Then the composite Mock-Ups were carefully removed and a single retraction cord placed. Only enough enamel was removed from the incisal edge of the central incisors, to create a smooth even finish-line for the e.max veneers, then final impressions were recorded.



[1]
The original situation of the patient where the overjet and diastemas can be seen.



[2]
Recontouring of incisal edges to make everything smoother to have control of the path of insertion and avoid retentions in the preparations.



[3]
Digital impression is taken using iTero system and later the original dies are duplicated with Zermack duplicating silicone and cured with Noritake refractory material using the one that has the coefficient of Zirconia.



[4, 5, 6]
Different views of the perfect and smooth refractory dies that we need to have to make nice restorations.





[7,8]

The bonding layer using Deep Dentine and Dentine color A1 mixed together 50% and extended a little bit over the incisal edge to create the interincisal transition. Baking is done at 780 °C using Dekema D4 oven. At the same time we see some internal stains creating some periquematis effects using Essence stain (White) from Ivoclar.



[9]

This is our first and last bake using Dentines, opals and enamels (Dentine A1, Opal 1-4-5, mamelon Yellow orange, interincisal white blue, incisal 1 and cervical Yellow). The bake is done at 780°C for one minute.



[10]

We can see the result of the first bake.



[11]

The restoration is already finished. With this picture we confirm the vitality, integrity and value of e.max ceram using the right powders and bakes. Veneers are treated with hydrofluoric acid (Ivoclar) for one minute before being sent to the doctor.





[12]
Left side try-in, showing the integrity and naturality of the restoration in the mouth.



[13]
Full mouth try-in with black contrast to see the balance and the harmony.



[14]
Case already cemented using Relyx veneers cement, translucent color from 3M.



[15]
Day 1. Lateral view to observe contours, incisal distribution, individuality of each veneer and the naturality of the restoration.



[16]
Day 1. Removing excess of cement, adjusting bite, and checking lateral and protrusive movements.

[17]

Check-up after one month. Some irritation in the gums can still be seen but patient is really happy with his new teeth.



[18]

The occlusal picture was taken to illustrate the ideal fit of the cementation and the way the restoration meets and is incorporated to the teeth.



[19, 20, 21]

Check-up after four months. Everything is perfect, tissue is healthy texture, luster anatomy is perfect compared with his natural dentition. Value control is right there, incisal position, incisal embrasures and gingival contours give the restoration an ideal and natural appearance.





A Latex lip retractor (Opra-gate) was utilized to retract the lips during the bonding procedures. Try-in paste was used to preview the effect of subtle shade differences in the veneer cement and verify the passive interproximal fit of the veneers. Then the veneers were removed and the water soluble, try-in paste was removed from the preparations with lots of water spray and vacuum. The veneers were cleaned utilizing high pressure steam cleaner then dried. Silane ceramic primer was applied to the previously etched surface of the veneers then carefully dried with a stream of air. Next, bond resin was applied. The primed surface and the excess bond resin were removed with a stream of air for 30 seconds on each veneer. This ensures that no pooling of the bond resin is present prior to curing. Excess bonded resin can prevent the veneers from obtaining an intimate fit and result in poorly approximated margins. The teeth were etched with orthophosphoric acid for 10 seconds and rinsed with copious water. Primer and resin were applied to seal and bond all enamel and any root surface, utilizing the same technique for air-thinning excess bond resin prior to curing the preparations 10 seconds each. At this time the selected shade of veneer cement was syringed into each veneer and they were placed onto the preparations beginning with the two central incisors, carefully brushing away the excess cement and working laterally until the veneers were cured in position. A 12-C Bard-Parker razor blade was used to clear any resin from the veneer margins along with rotary instruments and final polishing was accomplished with rubber polishing wheels.



DR. RAFAEL SANTRICH

Born in Cali, Colombia.

Owner of his dental laboratory in Aventura, Florida.

Specialized in fixed restorations and custom cosmetics, expert in CAD/CAM

ACHIEVEMENTS:

- Ivoclar at the LVI Institute and Nobel Rondo by Nobel Biocare Press Technology: Ivoclar Certification e.max and Empress at LVI. Nobel Rondo by Nobel Biocare.
- 2005–2006: GC America: Key Opinion Leader
- 2007: Nobel Rondo (Nobel Biocare): Instructor with Ernst Hegenbarth, MDT.
- 2010: First lecture in Spanish.
- 2010: Florida Dental Laboratory Association: E-max lecture in Spanish, USA
- 2011: Florida Dental Laboratory Association: IPS Inline lecture
- 2012: He was the instructor of the first Latin-American course. He is a member Honorarium of the Colombian Academy of the asseintegration.
- Pikos Institute: Technical Instructor in two programs given by Dr. Michael A. Pikos of "CT Diagnosis and Treatment Planning with Interactive CT Software"
- Currently: consultant for Sirona and the only Latin offering certified courses in Spanish for Ivoclar Vivadent in U.S.
- Completed Several Digital photography courses organized by Dr. Ed McLaren, Claude Sieber MDT, Felix Pages CDT.
- 2012: Ivoclar USA: Course on The Implant Esthetics Center Of Excellence, Sarasota, Florida

Currently he is a member of American College of Prosthodontics and a member of the Colombian Academy Honorary of Osseointegration.

PUBLICATIONS:

- Book: Case publication "Soft Tissue and Esthetic Consideration in Implant Therapy" written by Dr. Anthony Sclar. 2009:
- Realities Implants Volume 1, 2009 of ITI.
- 2011: IDT (Inside Dental Technology) in January and April editions LMT (Lab Management Today) in November edition
- 2012: "Scoop technique" in the JDT (Journal Dental Technology) and Oral Health in Canada for First Edition. June/July: "The Finesse Of The Pink & The Power Of IPS e.max" in the JDT USA
- 2013: "The Finesse Of The Pink & The Power Of IPS e.max" in Germany
- 2013: Labline-Autumn
- 2014: Labline-Autumn