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CASE STUDY

Class III Management Part II: A Clinical Case

By Bernardo "Coco" Garcia, DDS, MSD, IBO

This patient was treated in our teaching center in Gronau, Germany under director Dr. Bart Alink and myself. The treatment plan for this 42 year old patient was a combined approach including orthodontics and orthognatic surgery but we were hoping to treat him without surgery if possible.

The patient is brachycephalic with deficient maxilla, based on Porion to Ptm (norm should be 40-42, below 36 it would be a prognatic mandible). The patient presents a 5 millimeters class III problem and a Wits is -14. The Wits is that large due to a very small

anterior lower face height (ALFH), plus a missing lower right second molar. (Exhibit 1, Figures A to F).

The treatment plan was as follows:

1. Hyrax splint to expand the maxilla and loosen the sutures
2. A Petit face mask using with one 16 oz elastic per side (Exhibit 2)
3. Brackets on the lower teeth at the start of treatment
4. When on heavy lower SS wire, use short Class III elastics from the molar region of the Hyrax splint to hooks on the lower cuspids (Exhibit 3).

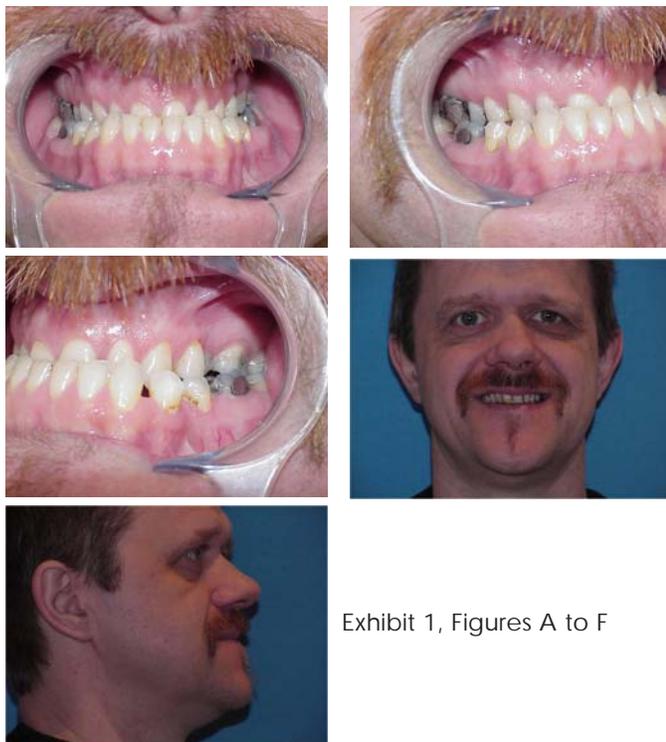


Exhibit 1, Figures A to F



Exhibit 2, Figures A, B



Exhibit 3, Figures A, B

On the lower arch, the wire sequence went from a 0.018 NiTi wire with lace backs to the first molars, followed by a 0.017 x 0.025 NiTi wire. We then went to a posted SS 0.019 x 0.025 with labial root torque and a reverse curve for posterior segment control. At the removal of the face mask, the Hyrax Appliance was also removed and replaced with a # 2 NiTi expander for molar buccal root torque and expansion control (Exhibit 4). The short Class III elastics during the day and long Class III elastics at night were preferred to avoid compression of the joints (Exhibit 5). A Frankel III Appliance was used for retention to maintain expansion and stabilize the AP position of the maxilla. It is our opinion that the Frankel III Appliance is one of the best appliance to balance the musculature in a Class III patient (Exhibit 6).



Exhibit 4



Exhibit 5

We are aware that Dr. McNamara uses a mandibular retractor as a retainer for some cases. We do not have any experience with the mandibular retractor but it may be of some interest in future cases even if the Frankel appliance works very well.

Teaching is a challenge due to high expectations of dentists and their patients. The successful treatment of a patient such as this one is very rewarding when you see the results that were achieved without any surgery. Every case should be treated to the high standards of the IAO. I hope you appreciated this case and learned from it. I would like to recognize the work of the R&S Ortho Lab from Oshawa Ontario Canada and also special thanks to Dr. Bart Alink from Germany for his assistance in the treatment of the patient.



Exhibit 6



Dr. Garcia is Director of Centro de Ortodoncia in Tijuana, Mexico and International Straight Wire and Orthopedics Seminars, Inc. in Waukesha, Wisconsin. He has been involved in teaching orthodontics for the last 25 years throughout Canada, the United States, Chile, Mexico, Puerto Rico, Poland, Spain, Italy, Pakistan, the Phillippines, Holland, Portugal, Germany and Australia. He received both dental and orthodontics degrees from the University of Latin America in Mexico City. As of October 2006, Dr. Garcia became Associate Professor at the University of Barcelone under Dr. Jan Duran Von Arx.

Dr. Garcia gives special thanks to Ortho Organizers past and new owners for their work in developing innovations in orthodontics. The splint used has been developed by R&S Orthodontic lab in Oshawa, ON Canada.