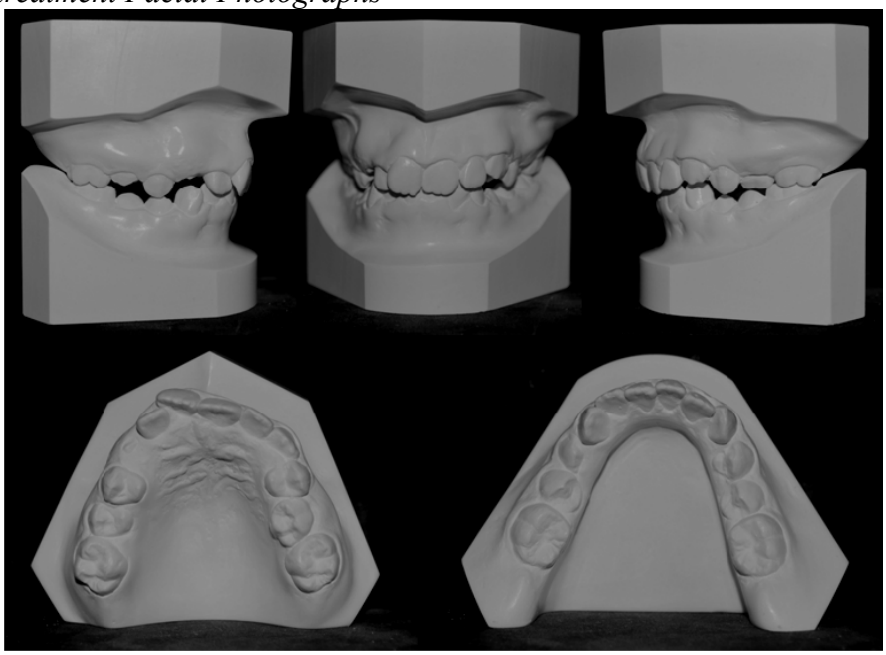
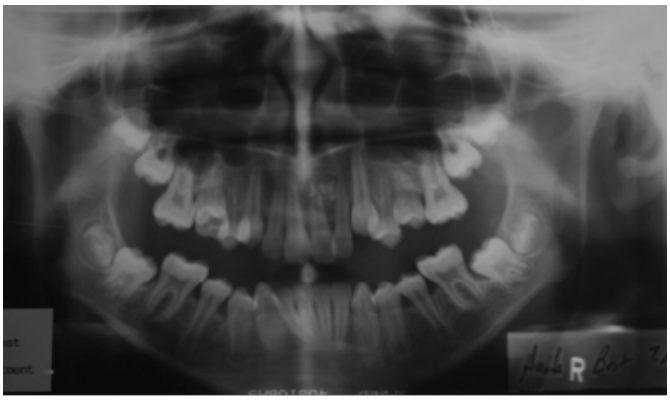
Case Report A

The patient needed and desired routine orthodontic treatment. The etiology of the malocclusion was heredity. She presented with a slightly convex face and minor eversion of the mandibular lip. The pretreatment casts reveal a deep vertical overbite, midline discrepancy, a Class I molar relationship and a Class II "end on" canine relationship. Arch asymmetry and three millimeters of mandibular anterior crowding were present. There was also three millimeters of crowding in the premolar area and the curve of Spee was three millimeters deep. The cephalogram and its tracing confirmed a relatively steep mandibular plane angle of 35°. Mandibular incisors were positioned in the mandible at 88°. There was a 7° ANB and a relatively steep occlusal plane to Frankfort angle of 11°.

Pretreatment Facial Photographs



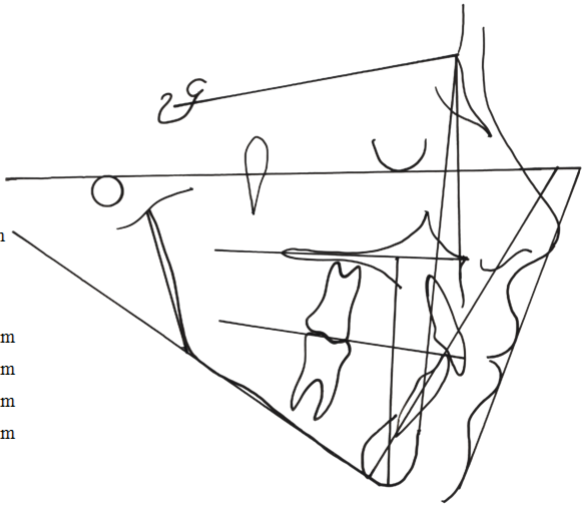
Pretreatment Casts



Pretreatment Panoramic Radiograph

Pretreatment Cephalogram

FMIA	57
FMA	35
IMPA	88
SNA	81
SNB	74
ANB	7
AO BO	4mm
OCC	11
Z	69
UL	16mm
TC	14mm
PFH	39mm
AFH	61mm
INDEX	.63



Pretreatment Cephalogram Tracing

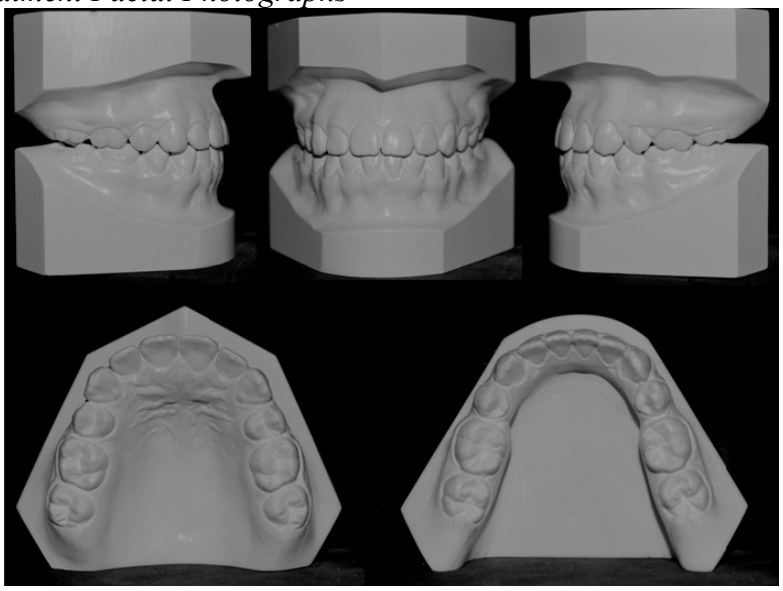
Treatment Plan and Treatment

How can you treat the patient, work the teeth into the arch and yet maintain the relatively nice face? If the mandibular teeth are pushed forward to gain alignment and to level the curve of Spee, the lower lip will become more proclined and facial esthetics will be compromised. In order to preserve facial esthetics, ensure that the curve of Spee could be leveled and that the crowding could be alleviated, the maxillary and mandibular second premolars were removed. Treatment took approximately 22 months. The patient wore a maxillary J-hook headgear to help with canine retraction. Mandibular spaces were closed with closing loops in the extraction site after the arches were level. Second molars were leveled into the arch as they erupted.

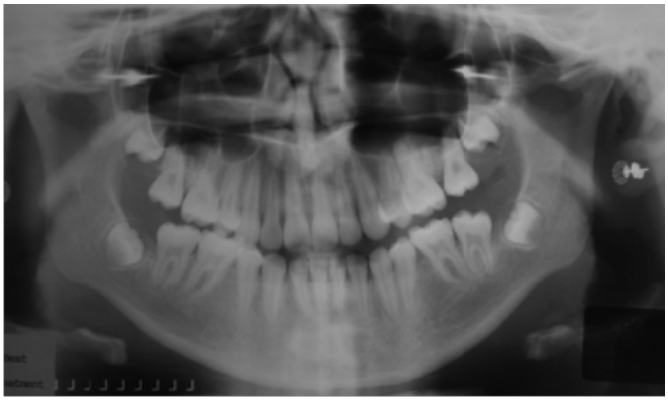
Posttreatment

The posttreatment facial photographs exhibit more chin projection and a much more pleasing lip to chin relationship. The mandibular lip eversion has been eliminated. Facial esthetics are balanced and harmonious. The posttreatment casts exhibit correction of the vertical overbite and the midline discrepancy. The canines have a good relationship with each other. The posttreatment panoramic radiograph confirms uprighting of the teeth into the extraction sites and the mild amount of mandibular anchorage that was prepared. The fate of the third molars will be determined at a later date. The posttreatment cephalogram confirms even more uprighting of the mandibular incisors and space closure of the extraction sites. The tracings of the cephalograms illlustrate vertical control. The mandibular plane angle decreased from 35° to 33°. ANB has been reduced from 7° to 2°. The pretreatment/posttreatment superimpositions confirm a downward and forward change in the mandible as it relates to the maxilla and vertical control of the maxillary molars. Maxillary incisors were moved up and back with proper third order.

Posttreatment Facial Photographs

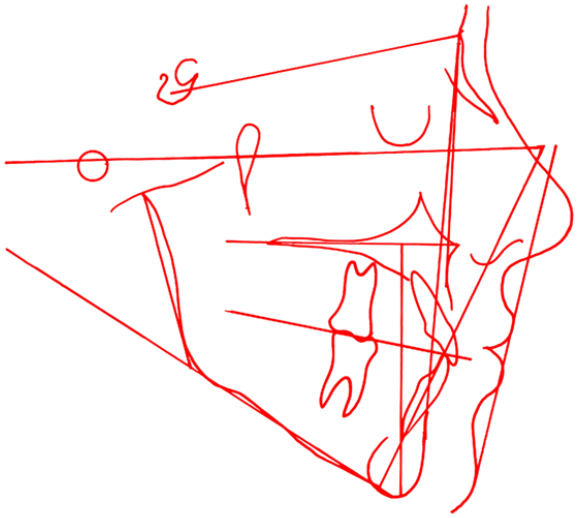


Posttreatment Casts



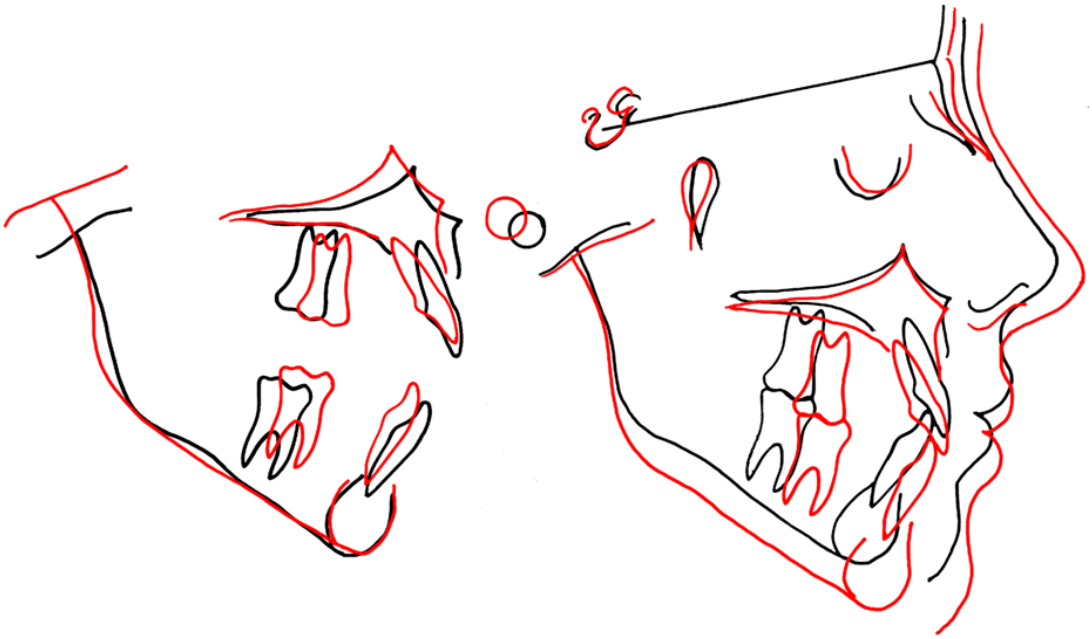
Posttreatment Panoramic Radiograph

FMIA	64
FMA	33
IMPA	83
SNA	77
SNB	75
ANB	2
AO BO	-1mm
OCC	11
Z	75
UL	16mm
TC	14mm
PFH	48mm
AFH	68mm
INDEX	.65



Posttreatment Cephalogram

Posttreatment Cephalogram Tracing



Pretreatment/Posttreatment Superimpositions

This patient, because of the high mandibular plane angle, had to have careful control of mandibular incisors in order to have good facial esthetics at the end of treatment. To try to treat her without removal of any dental units would have given one the opportunity to align the teeth, but facial esthetics would have been harmed irreparably.