

Helen H.

Age: 47 Years – 1 month

Diagnosis: Class II, Division 2 – Adult (subdivision with TMJ)

Background:

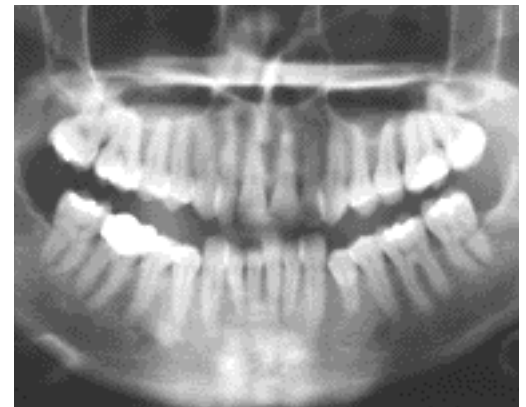
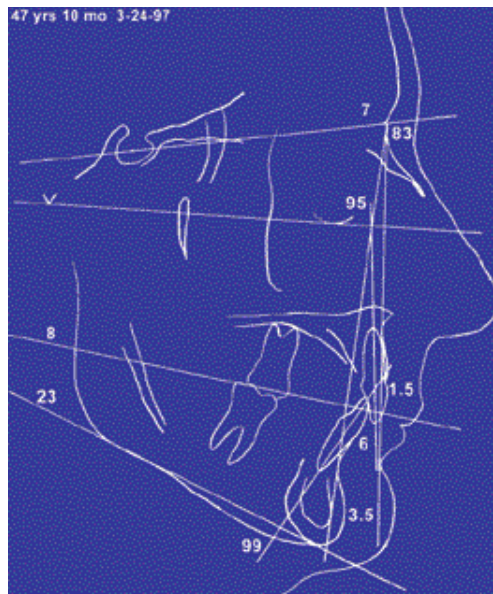
This patient came to my office in 1990 seeking orthodontic care. After carefully evaluating the extensive crowding, loss of bone and tissue, full Class II right side, and over-erupted lower incisors, it became very apparent that with conventional mechanics used at that time, four bicuspid needed to be extracted. I advised the patient not to go ahead with treatment due to the negative long-term impact on her face. I felt that treating with extractions would have further compromised her facial support. In 1997, after hearing about the new technology, this patient once again came to the office seeking orthodontic care. In the following photos, please evaluate the positive impact low-force orthodontics had on this case. To treat nonextraction while correcting the subdivision, leveling and crowding without adversely impacting lower incisor position is something that I did not feel could be accomplished with conventional, actively tied mechanics. This case was selected because retention records are available over three years after debonding. Evaluate how this case is holding up in retention and the impact of treatment on the periodontium.

Facial Evaluation:

1. Lack of lateral facial support.
2. Flat or straight facial profile.
3. Shallow nasolabial area.

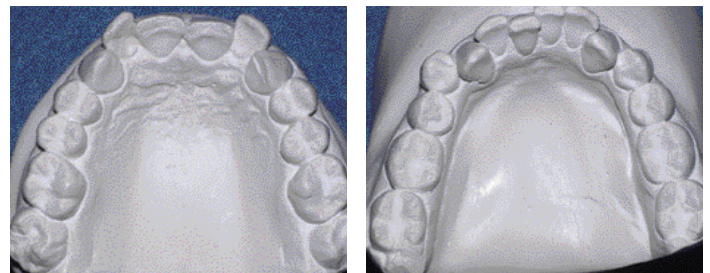


Pretreatment Radiographic Survey:



Dentition Evaluation:

1. Upper central incisors tipped back.
2. Significant wear of upper incisors.
3. Lingual coronal tipping of upper and lower cuspids.
4. Overeruption of lower anteriors.
5. Extensive crowding of lower arch.
6. Full Class II right side.
7. Flaring of upper lateral incisors.
8. Thin tissue and gingival recession in several areas – may need grafting.
9. Popping and TMJ discomfort in left joint.



Treatment Objectives:

Goal: Due to profile and lack of lateral facial support, I felt it was imperative to level and align the occlusion without extracting teeth.

1. Improve mid-face support to minimize depth of nasolabial fold.
2. Control torque and vertical (overbite) of upper and lower anterior teeth – could help TMJ.
3. Correct anteroposterior subdivision with Class II elastics.
4. Position upper central incisors in position for veneers due to extensive wear. (Patient elected not to do veneers after treatment completed).

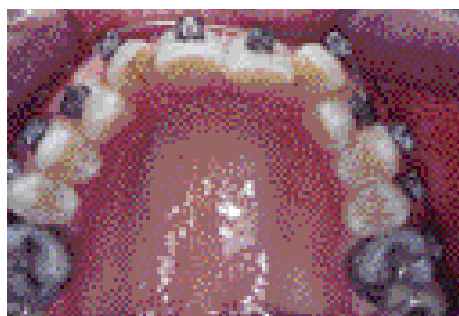
Treatment Sequence:

Special Torques Preferable

- Upper central incisors $+17^\circ$, cuspids $+7^\circ$ (high torque).
- Lower centrals and lateral incisors -6° (low torque).

Start:

- Banded maxillary first and second molars.
- Today this case would be started with bonding the upper arch only. Today only gold crowns are banded.
- Made a soft splint for the lower arch to be worn nightly for TMJ.
- Placed maxillary .014 NiTi SE.



Appt. 1
2 months – 2 weeks:



- Bonded rest of lower arch.
- Placed maxillary .016 NiTi SE. (Treating today I would have placed an upper .014 x .025 NiTi SE.)
- Placed mandibular .014 NiTi SE after bonding lower arch.

Appt. 2
5 months – 2 weeks:



- Placed maxillary .016 x .025 NiTi SE. (Today, I would have followed the .014 x .025 with .018 x .025 NiTi SE. I will not make the jump from .014 x .025 to .019 x .025 SS. Force is too high.)
- Placed mandibular .016 NiTi SE. A larger archwire could have been engaged but .016 was chosen to let alveolar process adapt, particularly in lower left first bicuspid area where bone and tissue is very thin.

Appt. 3
7 months – 3 weeks:

- Placed maxillary .019 x .025 preposted SS with tiebacks.
- Placed mandibular .014 x .025 NiTi SE.

Appt. 4

10 months:

- Placed mandibular .018 x .025 NiTi SE. Note: due to the thin bone and tissue, time was given to let high-technology archwires work and let the alveolar bone and tissue adapt to these lower forces.

Appt. 5

12 months – 2 weeks:

- Placed mandibular .019 x .025 preposted SS with tiebacks.
- Began Class II elastics, night only due to TMJ; if TMJ OK after 2 weeks – Full time
- Note mandibular archwire cut distal to first molar. Very important in correcting a Class II.

Appt. 6

14 months – 3 weeks:

- Continued full-time Class II elastics.
- Added light anterior trapezoid.
- Took Panorex to check root position.

Appt. 7

17 months – 2 weeks:

- Adjusted maxillary and mandibular archwire.
- Continued Class II elastics right side only, full time.

Appt. 8

18 months – 2 weeks:

- Adjusted maxillary archwire.
- Continued Class II elastics right side full time.
- Added left Class II elastics night only.

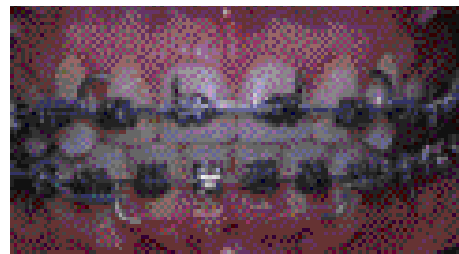
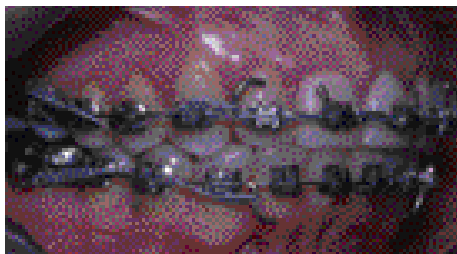
Appt. 9

19 months – 2 weeks:

- Adjusted maxillary archwire
- Placed mandibular .016 x .025 preposted SS with tiebacks to let case settle.
Note: Decreased rectangular wire size and lower arch as in T.B.-M. case to facilitate finishing.
- Night elastics only.

Appt. 10

20 months – 2 weeks



- Adjusted maxillary and mandibular archwires.
- Continued nighttime Class II elastics.



Finals

21 months – 2 weeks: Debonded upper and lower.



Pretreatment



Posttreatment



Pretreatment



Posttreatment



Final



Final



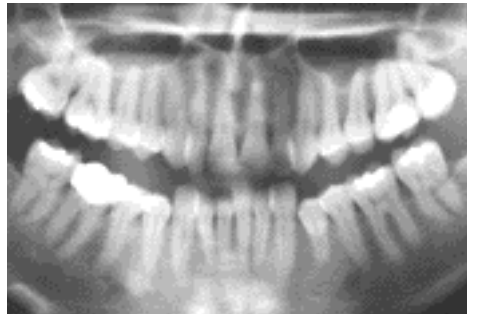
Final



Pretreatment



Pretreatment



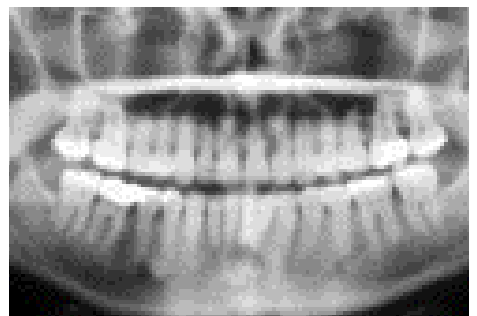
Initial



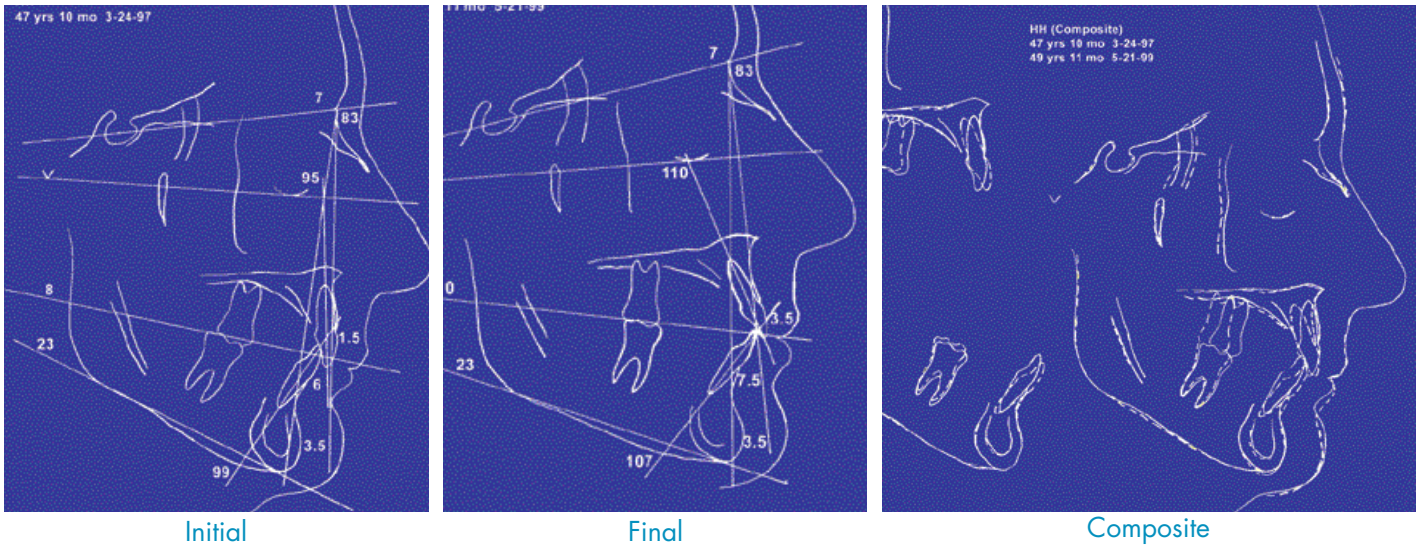
Posttreatment



Posttreatment



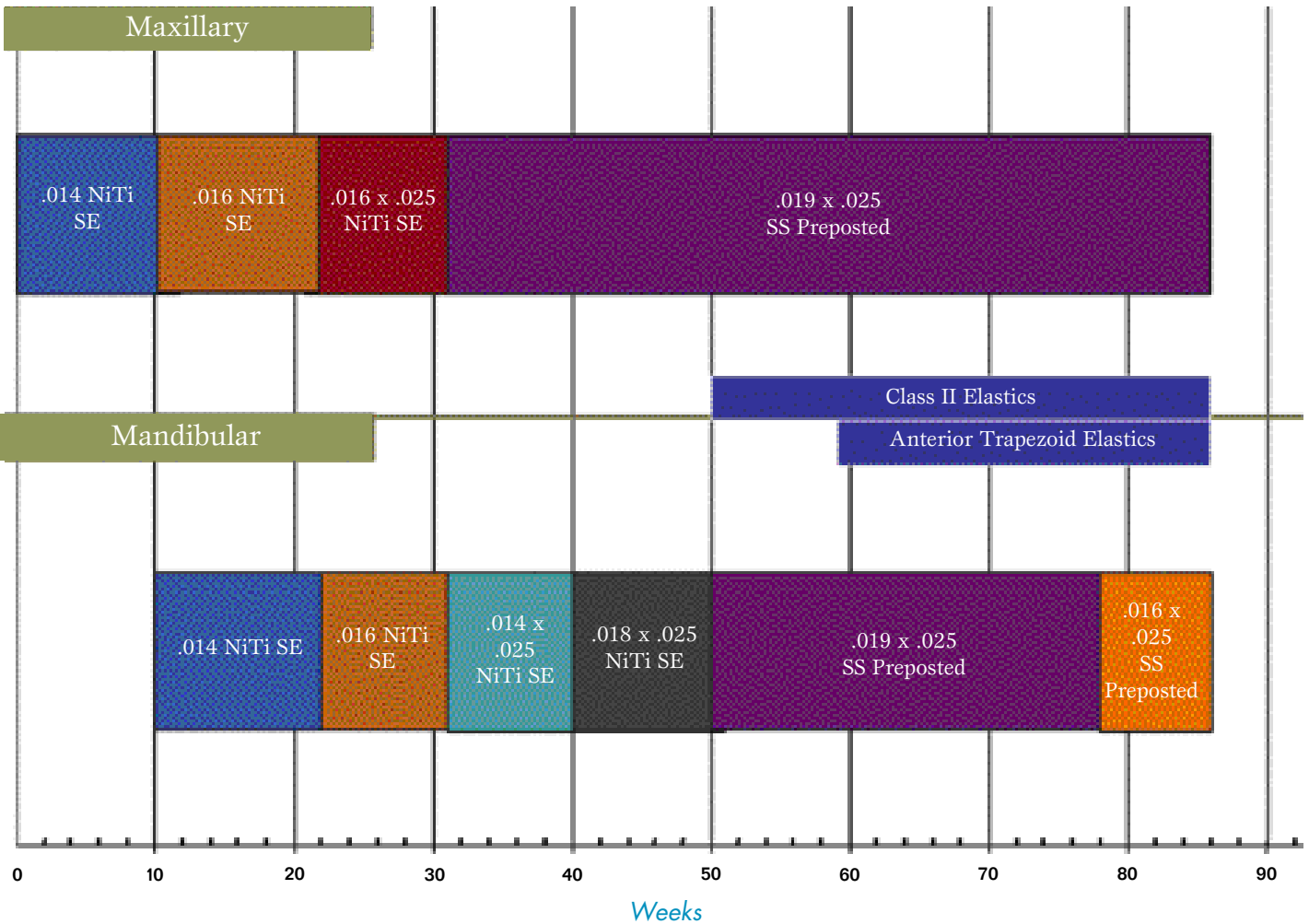
Final



Retention:

- Bonded maxillary .016 x .025 braided Hilgers wire lateral to lateral.
- Bonded mandibular .026 round SS wire bonded cuspid to cuspid – all teeth bonded.
- Made upper and lower slip-cover retainers.
- Made Damon Splint for night wear only to maintain subdivision correction – very important!

Helen H. Case Summary



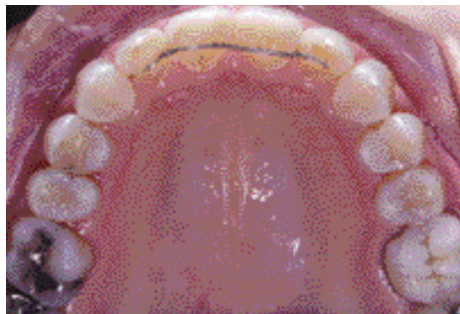
H. H.



Initial



Final



3 years – 2 months in retention

After one year of wearing splint, gradually changed to slip-cover retainers. Note minimal change of lower incisor position after leveling and aligning with considerable Class II elastic wear. Evaluated positive impact on periodontium.