

Appliance Design Service



Diagnostic Member of The Appliance Therapy Group

RECORDS AND TREATMENT OBJECTIVES

Doctor: Dr. Travis Silveri

Patient: Jessica Holland

Age: 10 years 8 months

Treatment Objective:

- Close diastemas.
- Align the upper anteriors.
- Correct the dental deep bite.
- Improve esthetics.

Type of Appliance Design Preferred:

Removable

Model Evaluation:

1) Dentition: Mixed Dentition

2) Arch Analysis:

Schwarz Analysis:

+0.3mm. at the upper first bicuspid

+1.9mm. at the upper first molars

+1.3mm. at the lower first bicuspid

+2.1mm. at the lower first molars

Korkhaus Measurement:

+1.1mm.

Mixed Dentition Analysis:

+2.2mm. on upper right

+1.8mm. on upper left

0.3mm. on lower right

-0.8mm. on lower left

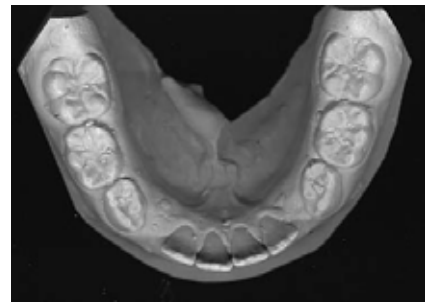
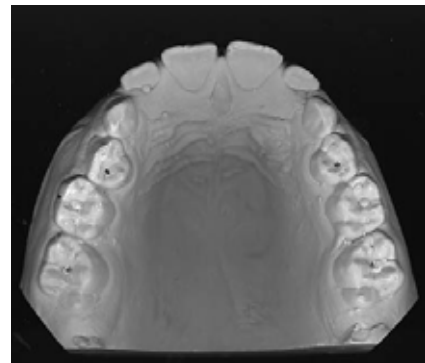
3) Dental Vertical: Deep Bite

4) Molar Classification:

Right molars: Class I

Left molars: Class I

5) Crossbites: None



NOTE: Model images are for visual evaluation only.
They are not actual size.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

RECORDS AND TREATMENT OBJECTIVES

NOTE: Since the Appliance Design Service was requested, the following treatment plan is based on stated treatment objectives, model and panorex evaluation only. In addition, we are assuming that this patient is a skeletal Class I, with a normal skeletal vertical pattern, and a normal growth direction.

NOTE: A cephalometric tracing and analysis is recommended on all patients to verify the skeletal classification, vertical pattern, growth direction, and maxillary/mandibular length and positions relative to the cranial base. This aids in determining the type of treatment required to correct the malocclusion while allowing us to verify and evaluate any potential red flags that may arise if a certain type of treatment is initiated.

OBSERVATIONS AND CONCERNS:

- Evaluation of the models indicates adequate arch width and length at this time. However, Jessica is in need of vertical improvements and closure of the interproximal spacing in the upper anterior region. We also suggest utilizing a lower appliance to maintain the arch width and length during the exfoliation/eruption sequence. A *fixed* lingual appliance could be used in place of the suggested removable design for the lower arch if desired.
- Based on your preference to treat this patient with removable appliances we have offered the following for your consideration:

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

SUGGESTED TREATMENT

NOTE: Since the Appliance Design Service was requested, the following treatment plan is based on stated treatment objectives, model and panorex evaluation only. In addition, we are assuming that this patient is a skeletal Class I, with a normal skeletal vertical pattern, and a normal growth direction.

PHASE 1: Objectives:

- Improve the vertical dimension.
- Close the interproximal spaces in the upper anterior segment.
- Maintain the arch width and length on the lower arch.

Proposed appliances:

Upper: Minor Tooth Guidance appliance

Lower: Hawley appliance

PHASE 2: Objectives: (after successful completion of Phase 1 objectives and evaluation of current progress models)

NOTE: The precise treatment plan to follow cannot be determined at this point. Further treatment modalities can only be determined based on response to Phase 1 treatment, the eruption sequence and position of the remaining permanent teeth.

Re-evaluate current records (models, panorex, photographs, cephalometric film, etc.) to determine further treatment options and appliance suggestions.

Proposed appliances:

To be determined...

PLEASE NOTE: *Current* working models (no more than 2-3 weeks old) will be required for appliance fabrication when you are ready to proceed as outlined.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ADJUSTMENTS AND SEQUENCING

This section of the report outlines in detail:

- 1) the various appliance Designs.**
- 2) the Components used in the suggested appliances.**
- 3) how to make the appropriate Adjustments of the components.**
- 4) and a recommended Sequence for treating your patient through the suggested phases.**

The “Appliance Adjustment Video”, produced by Space Maintainers Laboratory, very clearly demonstrates the most effective means for adjusting the various Components used in a wide variety of appliances. If you feel that you need assistance in this area, the Video can be obtained from *Success Essentials*, the product division of Space Maintainers Lab (1-888-423-3270).

IMPORTANT NOTE:

Success with removable appliance therapy requires a well made appliance that is properly adjusted, and well cared-for by the patient. It is important that the patient agrees to wear the appliance as directed, hopefully full time. **The greatest motivator to assure patient compliance is results.** Understanding the component designs, the proper adjustments to maintain maximum retention, and the proper adjustments of the active components of each appliance is essential. The following is a list of the components and their important adjustments for this case. Please feel free to call us if you have any specific questions after reviewing this material.

ALSO: When using Removable Appliance Therapy it is important that you explain the **10 Hour Force Theory** to your patient:

“To initiate tooth movement it is necessary that the appropriate force is placed on the tooth and that this force remains active for at least 10 continuous hours before the tooth begins to move. If this force is thereafter removed for in excess of one hour, the osteoclastic and osteoblastic changes that have begun to occur to allow for tooth movement return to zero. Therefore, ten more hours of continuous wear is needed to restart movement. The patient needs to know that virtually continuous appliance wear is necessary to progress smoothly through treatment. Appliances may be removed while eating, however, they should be placed back in the mouth within one hour so that treatment can continue uninterrupted.” Part-time wear will greatly increase treatment time and result in frustration for you and your patient.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

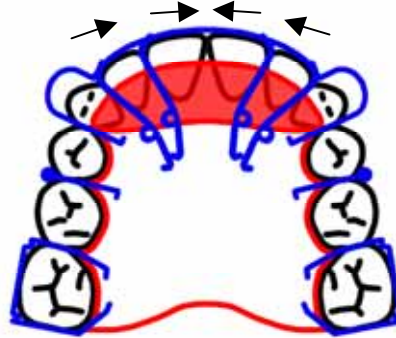
APPLIANCE DESIGNS AND LIST OF COMPONENTS

PHASE 1 Appliance: DESIGN

Upper: Minor Tooth Guidance (M.T.G.) Appliance with anterior bite plane and mesial kick springs

The appliance consists of the following:

1. Indicated clasp retention:
 - a) Adams clasps on #3 and #14.
 - b) Ball Clasps between the premolars.
2. Mesial push springs on the four incisors.
3. Upper lingual anterior bite plane to hold the bite open so that the vertical dimension can improve. Full time wear is recommended.



This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ADJUSTMENTS AND SEQUENCING

COMPONENTS

Upper: M.T.G. Appliance with anterior bite plane and mesial kick springs

Adams Clasps:

The Adams clasps should be checked for proper retention at the initial appliance delivery visit and routinely checked and adjusted at each subsequent visit. It is essential that the arrow points of the Adams clasps are in firm contact with the mesial and distal buccal undercut of the clasped teeth and the mesial and distal crossover wires are tightly contoured to the mesial and distal marginal ridges to reduce occlusal interferences. Any adjustments should be made with Universal Bird Beak Pliers, rather than Three-Prong Pliers, as illustrated in the Appliance Adjustment Video. NOTE: Remind the patient to be careful when removing the appliance by gently placing their fingers on the buccal bridge wire connecting the mesial and distal arrow points and carefully rocking the appliance loose. Aggressive appliance removal can compromise retention and lead to clasp failure.

Ball Clasps:

The Ball clasp gains retention by contacting the tooth at the buccal undercut similar to the Adams Clasp. When used interproximal between two teeth in tight contact, the clasps gains retention by being tucked into the buccal interproximal embrasure.

Mesial Push Springs:

Mesial push springs should be adjusted sequentially, usually no more than two springs at a time if multiple springs are being used. Adjustment can be made using finger pressure only if the springs are easily accessible. If not, use a Universal Bird Beak plier and grip the wire approximately half way between the helical coil and the free end of the spring. Gently activate the spring in the direction that you want the tooth to move so that it is advanced approximately 2mm when it returns to its rest position before being placed back on the arch (i.e. the patient should have to deflect the spring at least 2mm in order for the spring to rest against the distal of the tooth when inserting the appliance) This 2mm “load” should ideally be checked every two weeks.

Hawley Labial Archwire:

The Labial archwire can be used as a passive “guide” or as a means to retract the incisors. If you find it necessary to activate the labial archwire in order to slightly retract the anteriors, the recommended procedure is to place the round beak of the 139 Plier in the “U” loop portion of the Hawley wire and gently roll the loops closed. This will, of course, deflect the labial portion of the wire incisally requiring a compensating bend to move the archwire gingivally so that it is again positioned midpoint on the labial surface of the incisors.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ADJUSTMENTS AND SEQUENCING

COMPONENTS: (continued)

Anterior Bite Plane:

The anterior bite plane is used to open the vertical dimension, allow the posterior teeth to erupt, provide clearance to correct teeth in a locked lingual crossbite, and take pressure off of the anteriors in severely closed bite cases. When used to permit vertical development via passive eruptions it is essential that the appliance be worn 22 hours per day; it should only be removed during meals and for oral hygiene.

When an anterior bite plane is used on the appliance check to see that the lower cuspids, and/or the incisors, are in contact with the upper bite plane in a balanced fashion. This will add efficiency to the appliance function as it helps combat the phenomenon of the front edge of the appliance lifting away from the anteriors when the appliance is activated. This effect is experienced when an expansion screw is opened faster than the teeth or bones can keep up or if insufficient pressure is being applied by the anterior section of the plate to move the teeth. The same effect can occur if the patient turns the expansion screws at regular intervals but fails to wear the appliance for an adequate amount of time each day.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ADJUSTMENTS AND SEQUENCING

SEQUENCING

Upper: M.T.G. Appliance with anterior bite plane and mesial kick springs

1) Appliance Deliver Visit:

- a) Insert the appliance and check for fit, retention, and comfort.
 - b) Check to see that the anterior bite plane is in a balanced contact with the lower anteriors and that they hit the bite plane at a right angle.
 - c) If the patient is comfortable, begin adjustment of the mesial push springs, beginning first with the centrals, then follow with the laterals as retention permits.
- NOTE: If you wish, you may choose to have the patient wear the appliance for one week to get comfortable with it prior to beginning active treatment.

2) Second Visit: (one week after delivery)

- a) Check appliance for signs of improper or harsh care, i.e. bent clasps or acrylic fracture.
- b) Check the retention of the appliance and adjust as needed. A retentive appliance is essential for patient comfort and motivation. Patients are greatly motivated to continually wear their appliance if they see that movements are occurring on a timely basis.
- c) Continue activation of the mesial push springs.

3) Subsequent Visits: (at two to four week intervals as schedule allows)

- a) Check appliance condition and retention.
- b) Continue spring activation and check for vertical development progress.
- c) Continue treatment until you achieve your desired results with this phase of treatment, then have the patient continue to wear the appliance until a follow-up appliance is delivered, if necessary.

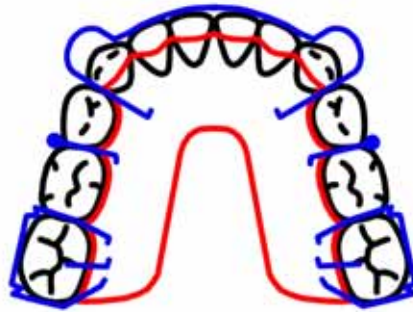
APPLIANCE DESIGNS AND LIST OF COMPONENTS

PHASE 1 Appliance: DESIGN

Lower: Hawley Appliance

The appliance consist of the following:

1. Indicated clasp retention:
 - a) Adams clasps on #19 and #30.
 - b) Ball clasps between the bicuspid.
2. Labial Arch Wires from cuspid to cuspid.



This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ADJUSTMENTS AND SEQUENCING

COMPONENTS

Lower: Hawley Appliance

Passive Hawley Labial Archwire:

The Labial archwire for retention typically runs from distal of cuspid to distal of cuspid. If you have any concerns about tight contacts in the cuspid region, the labial archwire can be soldered to clasps on the molars or it can be extended back to and around the distal of the last molar in the arch. Full length, or wrap-around, labial archwires are effective but require extra patient care as they can be easily bent out of position.

Adams Clasps:

The Adams clasps should be checked for proper retention at the initial appliance delivery visit and routinely checked and adjusted at each subsequent visit. It is essential that the arrow points of the Adams clasps are in firm contact with the mesial and distal buccal undercut of the clasped teeth and the mesial and distal crossover wires are tightly contoured to the mesial and distal marginal ridges to reduce occlusal interference's. Any adjustments should be made with Universal Bird Beak Pliers, rather than Three-Prong Pliers, as illustrated in the Appliance Adjustment Video. NOTE: Remind the patient to be careful when removing the appliance by gently placing their fingers on the buccal bridge wire connecting the mesial and distal arrow points and carefully rocking the appliance loose. Aggressive appliance removal can compromise retention and lead to clasp failure.

Ball Clasps:

The Ball clasp gains retention by contacting the tooth at the buccal undercut similar to the Adams Clasp. When used interproximal between two teeth in tight contact, the clasps gains retention by being tucked into the buccal interproximal embrasure.

ADJUSTMENTS AND SEQUENCING

SEQUENCING

Lower: Hawley Appliance

1) Appliance Delivery Visit: (after Phase 1 alignments achieved)

- a) Insert the appliances and check for fit, retention, and comfort.
- b) Remind the patient of the need for full time wear until all remaining permanent teeth, including the second molars, are completely erupted.

2) Subsequent Visits: (at two to four week intervals as schedule allows)

- a) Check the appliance condition and retention.
- b) Monitor the eruption of the permanent teeth and intervene if necessary to guide the teeth into position.
- c) Once all teeth are fully erupted, transition to the Retention of choice.

APPLIANCE DESIGNS AND LIST OF COMPONENTS

RETENTION:

Retention Options: depending upon the degree of fine-tuning required. They would be as follows:

- 1) Upper and Lower Spring Retainer Hawleys - (if slight anterior corrections are needed)**
 - See appliance #1065 and #1333 on page 11-7 in the textbook, *Principles of Appliance Therapy for Adults and Children*
 - See appliance #1065 and #1331 on pages 11-2 and 11-3 in the *Manual of Appliance Therapy*
- 2) Upper and Lower Standard Hawley Retainers**
 - See appliance #1161 and #1162 in the textbook, *Principles of Appliance Therapy for Adults and Children*
 - See appliance #1161 and #1162 on page 11-1 in the *Manual of Appliance Therapy*
NOTE: The “Open Palate” design is also found on page 11-1
- 3) Upper and Lower EZ Bond Lingual Retainers - (if a fixed approach is preferred)**
 - See appliance #2212 on page 11-11 in the textbook, *Principles of Appliance Therapy for Adults and Children*
 - See appliance #2212 on page 11-5 in the *Manual of Appliance Therapy*
- 4) Upper and Lower Invisible Retainers**
 - See appliance #1116 on page 11-9 in the textbook, *Principles of Appliance Therapy for Adults and Children*
 - See appliance #1116 on page 11-4 in the *Manual of Appliance Therapy*
- 5) Upper and Lower Wrap Around Retainers with Labial Acrylic Support**
 - See appliance #1169A on page 11-6 in the textbook, *Principles of Appliance Therapy for Adults and Children*

IMPORTANT NOTE: It is a good idea, and a wonderful service to your patient, to ask if they are involved in any sports activities, including jogging, skating, or bicycling. If so, suggest that they obtain a custom Mouthguard to protect their teeth, their jaw, and your work. The benefits of a quality custom Mouthguard cannot be overemphasized. Refer to our [Manual of Intact Mouthguards](#) for further information regarding the benefits of this service to your patient and your practice.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ADJUSTMENTS AND SEQUENCING

COMPONENTS

Retention - Options:

Spring Retainer Hawley:

The Spring Retainer Hawley is used in correcting minor rotations of the anterior teeth. Before fabrication of the Spring Retainer, it is essential that space is available to accommodate the teeth needing correction. This appliance is NOT designed to gain any arch width or length, or move teeth mesially or distally, but some space can be gained by doing some light interproximal recontouring cuspid to cuspid if enamel thickness and integrity allows. Adequate vertical dimension is also required. Be certain that these conditions are met before beginning this phase of treatment. In fabricating this appliance, the rotated teeth are set up on the model in the corrected alignment. When worn, the spring action of the labial and lingual wire and acrylic components gently align the teeth. No adjustments are necessary except to check that the labial and lingual acrylic on the incisors are in close proximity to one another. They should be separated only by the labial/lingual width of the incisors when the appliance is out of the mouth for inspection. A well cared for Spring Retainer can be used as a final retainer if desired.

Hawley Retainers:

Standard Hawley Retainers typically utilize a labial wire from cuspid to cuspid with posterior clasps, and/or, rests. Occlusal clearances present at the completion of treatment may require slight design modifications as regards wire placement and clasp design. If you have a preferred design be sure to indicate your desires when ordering the appliances.

The “Open Palate” Modification:

The Open Palate Hawley Retainer utilizes a standard labial wire from cuspid to cuspid with posterior clasps; however, the area over the hard palate is left free of acrylic. This allows for natural proprioception of the tongue against the rugae, thereby leaving speech unaffected. Also, there is no danger of the patient developing a deviate swallowing pattern as the tongue never loses contact with the hard palate. The ribbon of acrylic that is contacting the lingual of the anteriors is re-enforced with Kevlar in order to reduce the possibility of fracture. See page 11-1 in the *Manual of Appliance Therapy for Adults and Children*. **Note:** If you prefer this design, please be sure to indicate your preference clearly on your Rx.

EZ Bond Lingual Retainers:

EZ Bond Lingual Retainers are preferred if:

- a) significant anterior rotations were required to complete treatment.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ADJUSTMENTS AND SEQUENCING

COMPONENTS: (continued)

- b) your patient does not wish to wear removable appliances due to difficulty in speaking.
- c) your patient does not wish to deal with the degree of care required to maintain removable retainers.
- d) compliance in wearing removable retainers is doubtful.

Description: This is a lingual bonded multi-strand wire retainer with standardized “spots” of bonding material. Due to a custom-made transfer tray with “escape channels”, excess bonding material is allowed to escape instead of flowing interdentially or over the complete lingual surface of the teeth.

Retainers consisting of multi-strand wire can play a valuable role following active orthodontic treatment and have clear advantages over removable retainers. Until advent of the EZ Bond Retainer no completely satisfactory or standardized method for bonding a wire to the lingual surfaces of the anterior teeth existed. The most usual method was to position the retainer wire on the etched and dried tooth surface and apply an arbitrary quantity of composite. Neither the position nor the quantity of bonding material could be accurately controlled, so prolonged finishing procedures were often necessary to remove excess composite or to add extra material to deficient areas. The chair-time required to place such a retainer was, therefore, rather unpredictable and appearance of the finished result was compromised.

The following “Sequencing” section of this report includes a description of the technique for bonding of the EZ Bond Retainer so that you can be assured of consistent results, giving precise control over the quantity and position of the bonding material.

Invisible Retainers:

The Invisible Retainer is formed from a thin sheet of clear acrylic that is vacuum formed to the occlusal and incisal surfaces of the entire arch. The completed appliance typically extends over buccal and lingual surfaces and is finished just short of the gingival margins on the buccal and labial surface. The lingual is finished at least 5mm up onto the tissue from the gingival margins. If you have a preferred finish line please mark it clearly on the working model. Due to the thinness of the acrylic material used for this appliance it is rather fragile. Explain this to the patient to be certain that they treat their appliance with extreme care. It is not to be worn while eating and must be kept in its retainer box when not in the mouth.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ADJUSTMENTS AND SEQUENCING

COMPONENTS: (continued)

Wrap Around Retainers with Labial Acrylic Support:

This design consists of lingual acrylic and a Wrap Around labial wire that is attached to the lingual acrylic at the distal of the posterior-most tooth in the arch. This design eliminates any wire crossing the occlusion and therefore allows for comfortable interdigitation. The original design has been modified by the addition of a band of clear acrylic that tightly conforms to the labial and interproximal surfaces of the incisors. This prohibits movement, and particularly rotation, of the incisors and most importantly adds stability to the labial wire.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ADJUSTMENTS AND SEQUENCING

SEQUENCING

Retention - Options:

Spring Retainer Hawleys:

1) Retainer Delivery Visit:

- a) Do not remove the previous phase appliances until the Spring Retainers are ready for delivery. This will guard against any relapse that may adversely affect initial seating of the Spring Retainers.
- b) If any interproximal reductions are needed between the incisors it should be done at this time. Do not perform any anticipated interproximal reductions before the appliance delivery as you may experience some unwanted space closures before you can seat the appliance.
- c) Check the appliance for proper fit and comfort. Show the patient how the lingual and labial clear acrylic components are initially separated and remind them of the need for full-time wear so that the incisors will settle into the desired alignment.

2) Subsequent Visits: (at four-week intervals)

- a) Check for appliance fit, comfort, and condition
- b) Continue until teeth are adequately aligned and retained in final position for two to four months.

Approximate treatment time:

4 to 6 months

Hawley Retainers:

1) Retainer Delivery Visit:

- a) Keep the previous Phase appliances in place until the Retainers are ready for delivery.
- b) Instruct the patient of the need for full time wear initially after completion of their orthodontic therapy. The recommended duration of Retainer wear in an adult dentition case after orthodontic therapy varies. Some recommend up to three years of virtually full-time wear. * Transition from full time wear to nighttime wear can be undertaken when the appliance fits comfortably, and is not excessively tight, after being out of the mouth during the daytime.
- c) In cases of adult therapy, inform the patient that they essentially may need to wear the retainers as long as they want their teeth to remain straight.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ADJUSTMENTS AND SEQUENCING

SEQUENCING: (continued)

2) Subsequent Visits: (initially after four weeks, then as desired or necessary)

- a) Check the appliance fit, comfort, and condition.
- b) Reinforce the need for full time wear as discussed during delivery visit.

* The only way that retention can be successful is for the patient to have been treated first to a normally balanced occlusion. To expect little or no post-treatment relapse, the orthodontic result must include:

1. Teeth kept within the alveolar trough.
2. The mandibular arch leveled.
3. Proper interincisal angle.
4. Balanced occlusal stops.
5. Wisdom teeth or second molars resolved.

A comprehensive retention program can make all the difference in the world to the final result the patient can receive.

EZ Bond Lingual Retainers:

Prior to the “Retainer Delivery Visit.”

- a) Take an “accurate” impression of the arch(es) needing the appliance. This requires:
 - 1) thoroughly clean the teeth with an appropriate prophy paste.
 - 2) if the anteriors are still bracketed, carefully block out any excessive undercuts gingival to the archwire with soft wax in order to prevent distortion of the impression when it is withdrawn.
 - 3) although the retainer will only be placed on the lingual surface of the anterior teeth, be certain that the impression includes the incisal edges as well as a portion of the labial surfaces (2mm to 3mm).
 - 4) pour the impression immediately in stone and check for accuracy after the stone sets.

PLEASE NOTE THE FOLLOWING CAUTION: VERY IMPORTANT!!

The completed EZ Bond wire and transfer tray is purposely returned to your office on the model. Be certain to handle the transfer tray very carefully so as not to flex it excessively. If the tray is flexed too much the wire can come loose from the tray and it may prove time consuming to re-insert the wire properly. If you have any problems in this area please give us a call at any time.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ADJUSTMENTS AND SEQUENCING

SEQUENCING: (continued)

1) Retainer Delivery Visit

- a) Keep the previous Phase appliance(s) in place until the EZ Bond Retainers are ready for delivery.*
- b) Prepare the lingual surfaces of the teeth to be bonded in the usual manner using non-flavored pumice.
- c) Bonding material is then mixed, and using a composite syringe, injected into the transfer tray perforations. Over or underfilling must be avoided. You should find that it is quite easy to fill the perforations with the appropriate amount of composite due to their standardized size.
- d) The transfer tray should then be placed on the teeth and gentle pressure applied until the material is set. The transfer tray perforations permit any excess bonding material to harmlessly escape rather than being squeezed interproximally or gingivally. It is very important that this overflow of bonding material be removed with a large round bur before peeling off the transfer tray.
- e) Remove the transfer tray by placing the thumb and index finger of one hand over the transfer tray covering all the teeth except two (1 cuspid and 1 lateral). Then, with the other hand carefully peel off the transfer tray one tooth at a time. Removal of the transfer tray reveals a perfectly adapted lingual retainer attached to the teeth by highly effective studs of bonding material of uniform thickness and shape at the predetermined locations.
- f) The overflow of excess material can be rounded off using a round bur or any other suitable finishing stone.
- g) Inform patient of the need for good hygiene. Learning to use a floss threader properly will be essential for their long-term oral health. An Oxycare 3000 WaterPik or similar device is also recommended for patients with any fixed retainer.

2) Subsequent Visits: (initially after four weeks, then as desired or necessary)

- a) Check the appliance retention, comfort, and condition.
- b) Reinforce the need for good oral hygiene.
- c) Remind the patient to contact the office immediately if any bonding comes loose.

* A detailed technique sheet for proper placement of the EZ Bond Retainer is available if needed. Just call the lab at 1-800-423-3270 if you wish to have a copy.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ADJUSTMENTS AND SEQUENCING

SEQUENCING: (continued)

Invisible Retainers:

NOTE - The Invisible Retainer is extremely esthetic, however, it is relatively fragile. Remakes are generally needed every six months.

1) Retainer Delivery Visit:

- a) Keep the previous Phase appliances in place until the Retainers are ready for delivery.
- b) Instruct the patient of the need for full time wear initially after completion of their orthodontic therapy. The recommended duration of Retainer wear in an adult dentition case after orthodontic therapy varies. Some recommend up to three years of virtually full-time wear. * Transition from full time wear to nighttime wear can be undertaken when the appliance fits comfortably, and is not excessively tight, after being out of the mouth during the daytime.
- c) Inform the adult patient that they essentially may need to wear the retainers as long as they want their teeth to remain straight.

2) Subsequent Visits: (initially after four weeks, then as desired or necessary)

- a) Check the appliance fit, comfort, and condition.
- b) Reinforce the need for full time wear as discussed during delivery visit.
- c) Remind your patient of the relatively fragile nature of this appliance. It is the most esthetic removable appliance available and yet the most prone to fracture if handled roughly. The Retainers should ALWAYS be in their retainer box when not being worn during meals, etc.

Wrap Around Retainers with Labial Acrylic Support:

1) Retainer Delivery Visit:

- a) Keep the previous Phase appliances in place until the Retainers are ready for delivery.
- b) Instruct the patient of the need for full time wear initially after completion of their orthodontic therapy. The recommended duration of Retainer wear in an adult dentition case after orthodontic therapy varies. Some recommend up to three years of virtually full-time wear. * Transition from full time wear to nighttime wear can be undertaken when the appliance fits comfortably, and is not excessively tight, after being out of the mouth during the daytime.
- c) Many feel that in cases of adult therapy, it is best to inform the patient that they essentially may need to wear the retainers as long as they want their teeth to remain straight.
- d) Insert the Retainer carefully, stressing to the patient the need to be especially careful when handling the appliance. Although the clear acrylic on the labial of the incisors adds stability to the overall appliance, the labial wire can be distorted if handled roughly.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ADJUSTMENTS AND SEQUENCING

SEQUENCING: (continued)

2) Subsequent Visits: (initially after four weeks, then as desired or necessary)

- a) Check the appliance fit, comfort, and condition.
- b) Reinforce the need for full time wear as discussed during delivery visit.
- c) Verify that the patient is handling the appliance carefully. Any minor distortions of the archwire can be easily corrected chairside. If the labial acrylic has been bent away from the incisors it can be tightened by carefully closing the adjustment loops in the cuspid region.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

RETURN PRESCRIPTION TO: **SPACE MAINTAINERS**™
LABORATORY

MEMBER OF THE APPLIANCE THERAPY GROUP

Account #XXXXXX
Doctor: Dr. Travis Silveri
1652 Baywood
North Ranch, CA 92555

9129 Lurline Ave.
Chatsworth, CA 91311
P.O. Box 4184
Van Nuys, CA 91409-4184
800-423-3270
818-998-7460

CHECK LIST ACCT# _____

PLEASE SEND MORE INFORMATION:

- MAILING MATERIALS
- SUCCESS ESSENTIALS PRODUCTS / SUPPLIES
- SECOND OPINION DIAGNOSTIC SERVICES
- S.M.I.L.E. FOUNDATION FOR CONTINUING EDUCATIONAL COURSES

* PLEASE INDICATE ADDRESS CHANGES

Jessica Holland	AGE	OFFICE, AREA CODE & PHONE NO.
-----------------	-----	-------------------------------

IMPORTANT - PLEASE COMPLETE

DATE SENT _____

PATIENTS NEXT APPOINTMENT IS AT:

_____ ON _____ DATE

PLEASE ALLOW TWO WEEKS -

PATIENT WILL BE APPOINTED AFTER APPLIANCE ARRIVES

ADDITIONAL SERVICES:

EMERGENCY SERVICE FOR APPLIANCES
24 Hour Processing - fees apply

Please call for Phone Consultation -
fees apply

Return Duplicate set of models -
fees apply

DIAGNOSTIC SERVICES:



BOARD QUALITY STUDY MODELS*

CONSULTATION STUDY MODELS*

CEPH TRACING SERVICE*

PHONE CONSULTATION*

APPLIANCE THERAPY TREATMENT PLANNING SERVICE*

ORTHO DIAGNOSTIC SERVICE*

(*fees apply)

A DESIGN WORKSHEET IS AVAILABLE ON REVERSE SIDE OF THIS FORM

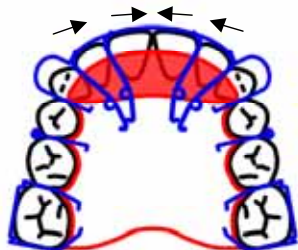
FIXED REMOVABLE

FIXED REMOVABLE

Upper: Minor Tooth Guidance (M.T.G.) Appliance with anterior bite plane and mesial kick springs

The appliance consists of the following:

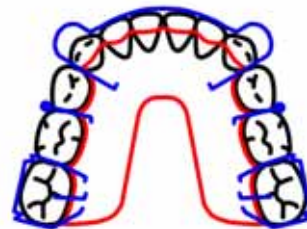
1. Indicated clasp retention:
 - a) Adams clasps on #3 and #14.
 - b) Ball Clasps between the premolars.
2. Mesial push springs on the four incisors.
3. Upper lingual anterior bite plane to hold the bite open so that the vertical dimension can improve. Full time wear is recommended.



Lower: Hawley Appliance

The appliance consist of the following:

1. Indicated clasp retention:
 - a) Adams clasps on #19 and #30.
 - b) Ball clasps between the bicuspids.
2. Labial Arch Wires from cuspid to cuspid.



LAB COPY



OFFICE USE ONLY (FOR BARCODES):



ECONOMIC CONSIDERATIONS

Appliance Therapy Treatment Planning Service Fee: \$ 99.50

LAB FEES:

PHASE 1:

Upper: Minor Tooth Guidance appliance \$ 98.20
Lower: Hawley appliance \$ 58.35

PHASE 2:

To be determined...

Intact™ Mouthguard ** \$ 62.25 – \$176.00

**** IMPORTANT NOTE:** It is a good idea, and a wonderful service to your patient, to ask if they are involved in any sports activities, including jogging, skating, tennis, or bicycling. If so, suggest that they obtain a custom Mouthguard to protect their teeth, their jaw, and your work. The importance and benefits of a custom Mouthguard cannot be overemphasized. Their purpose, in order of importance, is:

1. To protect against Concussion.
2. To protect against Neck Injury.
3. To protect the teeth from Fracture.

Refer to our *Manual of Intact Mouthguards* for further information regarding the benefits of this service to your patient and your practice.

PLEASE NOTE: Current working models (no more than 2-3 weeks old) will be required for appliance fabrication when you are ready to proceed as outlined.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ECONOMIC CONSIDERATIONS

GENERAL FORMULA FOR DETERMINING FEES TO YOUR PATIENT:

Setting all of the fees associated with orthodontic therapy is not always easy. Certainly your fees should be determined by you, and only you! However, because many doctors have asked us for help, we recommend the following guidelines.

Records and Diagnostic Fees:

This fee should include taking of diagnostic casts, necessary x-rays, utilization of an outside consultation service and the time spent to evaluate the case thoroughly until you have created a comprehensive treatment plan.

For example:

Why should you charge to diagnose a case? Experience has found that charging for a patient's initial diagnostic workup is entirely appropriate. First, when a patient is willing to pay for your time, he or she is demonstrating their commitment to the treatment plan you spend time developing. Second, if you charge for the time you have personally taken to evaluate and diagnose the patient's case, you will not feel rushed to produce a treatment plan for a patient who has no obligation to follow through. Third, if the patient decided to proceed with treatment, the costs associated with the initial diagnostic workup can be applied (credited) to the overall treatment plan. Simply put, your time is valuable. A patient deserves a thorough diagnosis, and you deserve his or her commitment. By charging for the initial diagnosis, both you and your patient benefit.

Appliance and Office Visit Fees:

First determine the number and cost of the appliances that will be necessary to complete the active treatment phase. Multiply this number by 3 to 5 times to establish a base line fee. Then determine the approximate treatment time and multiply this number by \$50 to \$100 per month. Next add the cost of one (1) extra appliance. Inevitably, your patient may lose an appliance or you will need to re-make the appliance with a small change in design at least once. The last step is to add on the cost for final retainers. Some doctors multiply this fee by 2 to 3 times. We recommend just adding on the cost of the appliances.

For example:

Phase 1 treatment only consisting of Upper and Lower Schwarz appliances is \$185.80 (lab fee). Multiply this by four (4), which would equal \$743.20. Then add approximately \$75 per month for six (6) months, which would equal \$450.00. Next add the cost of one (1) extra appliance, which would cost \$92.90. Lastly, add the cost of final retainers, which would cost approximately \$53.50 each. Therefore, the total cost of treatment in this example would be \$1393.10.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ECONOMIC CONSIDERATIONS

TREATMENT TIME CALCULATIONS:

Below are listed the **generally accepted treatment times** for the various appliances and techniques currently in use, assuming ideal patient cooperation. Treatment time, especially with removable appliance therapy, can vary greatly depending upon the cooperation level of the patient. Obviously, full time wear will greatly expedite treatment, as indicated by the following *10 Hour Force Theory*. In fact, when using Removable Appliance Therapy, it is important that you explain the following **10 Hour Force Theory** to your patient:

“To initiate tooth movement it is necessary that the appropriate force is placed on the tooth and that this force remains active for at least 10 continuous hours before the tooth begins to move. If this force is thereafter removed for in excess of one hour, the osteoclastic and osteoblastic changes that have begun to occur to allow for tooth movement return to zero. Therefore, ten more hours of continuous wear is necessary in order to restart movement. The patient needs to know that virtually continuous appliance wear is necessary to progress smoothly through treatment. Appliances may be removed while eating, however, they should be placed back in the mouth within one hour so that treatment can continue uninterrupted. Part-time wear will greatly increase treatment time and result in frustration for you and your patient.”

1) Minor Tooth Guidance Appliances - i.e., Modified Hawleys with finger springs:

You can conservatively expect 1mm movement per month on individual teeth being repositioned with finger springs or expansion screws, assuming that adequate space is available. When multiple springs are placed on a removable appliance it is suggested that no more than two springs be adjusted at any one time, otherwise appliance retention may be compromised. Therefore, as an example, if you have two teeth needing to be moved a total of 3mm distance, treatment time should take approximately 3 months, since both teeth can be moved simultaneously. If, on the other hand, you have three or more teeth needing movement, calculate the total amount of movement needed in millimeters, and base your calculations on moving only two teeth at a time. Once the first two teeth are positioned, maintain them by deactivating the springs or by relining the appliance around these teeth, and continue with movement on the remaining teeth.

2) Schwarz Appliances - for lateral arch development:

Typically, you can expect to achieve a minimum of 1mm per month of lateral arch development on any given removable appliance using midline expansion screws. The recommended adjustment of the midline expansion screw is 1/4 turn every five to seven days. The General Rule is: adjust

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ECONOMIC CONSIDERATIONS

TREATMENT TIME CALCULATIONS: (continued)

the expansion screw once every five days in the mixed dentition, or once every seven days in the permanent dentition. (a 1/4 turn of the expansion screw turnbuckle provides 1/4mm of expansion).

If your case needs lateral development in order to provide room for subsequent anterior alignments with finger springs, first calculate how many weeks or months you will need to gain the necessary arch width, and then add in the number of weeks or months needed to align the anteriors with finger springs as outlined above.

3) Sagittal Appliances - for arch length gain:

For Sagittal I Appliances - (to distalize the buccal segments / with second molars removed): Typically, the adjustment sequence is one 90-degree (i.e. 1/4) turn of the expansion screws every four days, therefore in little over a month, you can expect 2mm of expansion. Multiply this by the number of millimeters of movement needed to gain the required space that you have determined by your arch length analysis.

For Sagittal II Appliances - (to develop the anteriors labially - for correction of crowding or lingual inclination of the anteriors, or to open the premaxillary sutures):

Typically, the adjustment sequence is one 90-degree turn of the expansion screws every four days, with average treatment times running approximately 6 to 7 months, depending upon the severity of the correction needed. Generally speaking, response is slower with a Sagittal II appliance when compared to a Sagittal I appliance where the second molars have been removed.

4) Functional Appliances: such as the Twin Block Appliance, Bionators, or Orthopedic Correctors:

Average Treatment Times:

Active Phase: average time is 6 to 9 months to achieve full reduction of the overjet to a normal incisor relationship, and to correct the molar relationship

Support Phase: average time is 3 to 6 months for the bicuspids to erupt into occlusion while supporting the corrected mandibular position.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ECONOMIC CONSIDERATIONS

TREATMENT TIME CALCULATIONS: (continued)

5) Final Retainers: (post-ortho)

The projected wear time for final retainers can vary greatly depending on a number of factors. Ideally, in order to expect little or no post-treatment relapse, the final orthodontic result must include, at minimum:

1. Teeth kept within the alveolar trough.
2. The mandibular arch leveled.
3. Proper interincisal angle.
4. Balanced occlusal stops.
5. Wisdom teeth or second molars resolved.

Typically, Retainers should be worn full time for at least 4 to 6 months after completion of active therapy. After 6 months, the patient can be instructed to wear the Retainer only at night. Many Practitioners who monitor their patients indefinitely will thereafter instruct their patients to wear their Retainers at least one night a week (say on Sunday nights) from then on. This will insure that the beautiful results achieved will remain stable.

This information is suggestive only. Any diagnosis and prescription should be the decision and sole responsibility of the doctor using this material

ECONOMIC CONSIDERATIONS

BASIC SUPPLY LIST

For your convenience the following supplies are available through *Success Essentials*, the products division of Space Maintainers Laboratory. Simply check the items that you wish to obtain and call or fax -in your order. If you would like to receive a copy of our latest full color catalog with all our useful tools and supplies, call 800.423.3270 to speak to a *Success Essentials* product specialist

To order: Phone 800.423.3270 Fax 818.407.5445

ITEM:	Order #:	Price:
For Accurate Working Models:		
<input type="checkbox"/> SML Brand Alginate – 1 lb.	100-099	\$ 5.49
<input type="checkbox"/> Mixing bowl	100-120	\$ 2.95
<input type="checkbox"/> Spatula	100-110	\$ 3.95
<input type="checkbox"/> Impression Trays, Sizes 1– 6, 60 trays 5 of each size	550-540	\$ 48.50
<input type="checkbox"/> Impression Tray Tree	100-100	\$ 49.95
<input type="checkbox"/> Dental Stone		
Removable Appliances:		
<input type="checkbox"/> Acrylic Burs (set of four (4) below):	490-200	\$ 32.50
Flame Shaped Carbide Barrel Shaped Carbide		
Fissure Carbide Round Head Carbide		
<input type="checkbox"/> Stiff Brush Wheels – box of 12	490-311	\$ 8.50
– for removing occlusal bite planes		
<input type="checkbox"/> 139 Bird Beak Pliers	210-139	\$ 59.95
– for spring and clasp adjustment		
<input type="checkbox"/> Three Prong Pliers	210-200	\$ 59.95
– for labial arch wire adjustment		
<input type="checkbox"/> Wire Cutting Pliers	210-380	\$ 35.95
<input type="checkbox"/> Expansion Screw Adjustment Key (bag of 10)	410-010	\$ 4.50
• Acrylic Repair Kits		
<input type="checkbox"/> Acrylic Curing Pressure Pot	110-200	\$ 169.00
<input type="checkbox"/> Pink Acrylic	600-100	\$ 24.50
<input type="checkbox"/> Clear Acrylic	600-200	\$ 24.50
<input type="checkbox"/> Boley gauge or diagnostic caliper	200-457	\$ 39.95
<input type="checkbox"/> Articulating Paper – for Bite Plane adjustments		
• Bite Registration (Construction Bite) Devices		
<input type="checkbox"/> Perfect Bites 2mm (12 each)	330-022	\$ 17.50
<input type="checkbox"/> Perfect Bites 4mm (12 each)	330-023	\$ 17.50
<input type="checkbox"/> Base Plate Wax		
<input type="checkbox"/> Aqua-Form – 1 lb.	340-010	\$ 29.50

To order: Phone 800.423.3270 Fax 818.407.5445

ITEM:	Order #:	Price:
Fixed Appliances:		
<input type="checkbox"/> Upper Set of Brackets with DB buccal tubes and set of 5 arch wires	420-309	\$ 69.75
<input type="checkbox"/> Lower Set of Brackets with BD buccal tubes and set of 5 arch wires	420-310	\$ 69.75
• Cheek Retractors & Tongue Blocks		
<input type="checkbox"/> Adult – 2 per pack	800-801	\$ 15.50
<input type="checkbox"/> Pedo – 2 per pack	800-802	\$ 15.50
<input type="checkbox"/> 1 Adult, 1 pedo	800-803	\$ 15.50
<input type="checkbox"/> Pedo, 25 ea.	800-810	\$ 17.50
<input type="checkbox"/> Adult, 25 ea.	800-811	\$ 17.50
• Adhesives, Cements & Etch		
<input type="checkbox"/> Etchant – 12 gram kit, with 25 disposable tips	320-400	\$ 13.00
<input type="checkbox"/> Glass Ionomer 15 grams powder/15cc liquid	320-600	\$ 24.50
<input type="checkbox"/> Glass Ionomer 50 grams powder/55cc liquid	320-630	\$ 49.50
<input type="checkbox"/> 1-Step Bracket Adhesive, 700 Bonds	320-701	\$ 69.50
<input type="checkbox"/> 1-Step Bracket Adhesive, 40 Bonds	320-500	\$ 24.50
• Hand Tools and Instruments		
<input type="checkbox"/> Interproximal Stripping Tool with 10 blades	230-201	\$ 36.50
<input type="checkbox"/> Bracket Placement Tool	220-319	\$ 17.50
<input type="checkbox"/> Direct Bond Bracket Removing Pliers	220-312	\$ 59.95
<input type="checkbox"/> Band Seater with Scaler	220-309	\$ 16.90
<input type="checkbox"/> Band Seating Tool	220-308	\$ 15.50
<input type="checkbox"/> Molar Band Removing Pliers	220-105	\$ 59.95
<input type="checkbox"/> Ligature Tie Placement Forceps	230-219	\$ 34.95
<input type="checkbox"/> Distal End Cutter	220-205	\$ 65.95
<input type="checkbox"/> Pin and Ligature Cutter	220-106	\$ 59.95
• Elastomerics		
<input type="checkbox"/> Donut Separating Plier	220-407	\$ 45.95
<input type="checkbox"/> Donut Separators – 160 pieces	320-352	\$ 6.50
<input type="checkbox"/> Brass separators – .020, 100 pieces	320-370	\$ 18.50
<input type="checkbox"/> Elastomeric Arch Ties 1008 pieces (call for colors)		\$ 17.50
<input type="checkbox"/> Chain Elastics – 15’ roll (call for colors)		\$ 17.95
• Patient Convenience and Comfort		
<input type="checkbox"/> Brace Relief – Patient Pack – 12 kits	800-610	\$ 23.50
<input type="checkbox"/> Clean N Fresh Appliance Cleanser	800-550	\$ 4.95

PATIENT INSTRUCTIONS

CARE OF YOUR *REMOVABLE* APPLIANCE:

Your appliance has been custom made, and like a precision instrument it requires special care.

Wearing of the appliance:

If your Doctor instructs you to wear the appliance(s) at all times, i.e., 24 hours a day even when eating, be sure to clean and brush the appliance gently after every meal.

If you are instructed to wear your appliance(s) full time - except when eating, be sure to place the appliance(s) in the retainer box provided and keep it in a safe place.

Cleaning:

If you are wearing your appliance(s) full time, brush the appliance(s) each time you brush your teeth as well as after every meal and before sleep at night. Soak the appliance daily in "Clean N Fresh" Retainer Cleaner for at least 15 minutes. You may use your toothbrush and toothpaste to carefully scrub the plastic while holding it in the palm of your hand. Be careful not to bend any wires. Rinse the appliance in warm, **NOT hot, water.**

Speaking with your Appliance in place:

Speaking clearly with your appliance in place may seem difficult when your appliance is new. After a bit of practice, you will soon overcome this and will hardly know the appliance is in place. Practice and wearing the appliance exactly as prescribed will speed up this process. The increased saliva flow that you initially experience will subside within a couple of days.

Eating with your Appliance in place:

If you have been instructed to eat with your appliance in place, it would be a good idea to stick to soft foods such as eggs, cereals, and soups for the first few days. Avoid chewy meat, gum, candy, or anything hard such as crusty bread, hard candy, or ice.

Soreness:

You may experience some soreness during the first few days of wearing a new appliance. This is normal and should go away within the first week. If it should persist or if soreness develops later in your treatment, call the Doctor for an immediate appointment.

Breakage and Lost Appliances:

If your appliance breaks, or if you lose it, call the office immediately. Do not attempt to fix or wear a broken appliance. Save all the pieces and bring them with you to your appointment. It is important that your appliance be repaired or replaced as quickly as possible so that your treatment proceeds smoothly.

PATIENT INSTRUCTIONS

CARE OF YOUR *FIXED* APPLIANCE:

In order to help achieve the most successful results, please note the following:

Keep regularly scheduled appointments:

Periodic, regularly scheduled, monitoring of progress is essential when being treated with fixed appliances. If for some reason you are unable to make a scheduled appointment, please notify the office as soon as possible, and be sure to reschedule immediately.

Cleanliness:

Good oral hygiene is absolutely essential! Be sure to follow cleaning instructions very carefully. Orthodontic appliance do not cause cavities or swollen gums, but because of their presence, food particles and dental plaque are retained and the potential for problems increases. Cavities, swollen gums, and white spots on your teeth can result from lack of brushing and flossing. Sugary foods and between meal snacks should be avoided.

Speaking with your Appliance in place:

Speaking clearly with your appliance in place may seem difficult when your appliance is first placed. However, this problem should subside very quickly. Also, you may experience increased saliva flow for a short period of time. If any of the brackets or wires tend to irritate your tongue, cheeks, or lips, notify the Doctor immediately so that this can be remedied.

Eating with your Appliance in place:

After initial appliance placement, and possibly after periodic adjustments, you may experience tenderness around your teeth. It would be a good idea to stick to soft foods such as eggs, cereals, and soups for the first few days until the discomfort subsides.. Avoid chewy meat, gum, candy, or anything hard such as crusty bread, hard candy, or ice.

Soreness:

You may experience some soreness during the first few days of wearing a new appliance. This is normal and should go away within the first week. If it should persist or if soreness develops later in your treatment, call the Doctor for an immediate appointment.

Loose Appliances:

If your appliance becomes loose, or if a bracket comes off of any tooth, call the office immediately. It is important that your appliance be recemented as quickly as possible so that your treatment proceeds smoothly.

REFERENCES

- Witzig, Spahl: The Clinical Management of Basic Orthopedic Appliances Vol I, Chicago, Year Book Medical Publishers, Inc., 1987
- Witzig, Spahl: The Clinical Management of Basic Orthopedic Appliances Vol III, Chicago, Year Book Medical Publishers, Inc., 1991
- Moyers, Robert: Handbook of Orthodontics, Year Book Medical Publishers, Inc., 1980
- Veis, Christian: Principles of Appliance Therapy for Adults and Children, L.A., Space Maintainers Laboratory, Appliance Therapy Group, 2002
- Veis, Salzer, Christian: The Manual of Appliance Therapy for Adults and Children., L.A., Space Maintainers Laboratory, 1995
- Profit, W.: Contemporary Orthodontics, St. Louis, C.V. Mosby, 1986
- Veis, Rob: The Mixed Dentition Analysis: Practice Building Bulletin, Vol. II Number 7, Chatsworth, Space Maintainers Laboratory, 1995
- Veis, Rob: The Schwarz Model Analysis: Practice Building Bulletin, Vol. II, Number 8, Chatsworth, Space Maintainers Laboratory, 1996
- Nanda & Burstone: Retention and Stability in Orthodontics, Philadelphia, W.B. Saunders Co. 1993
- Viazis, Anthony D.: Atlas of Orthodontics, Principles and Clinical Applications, Philadelphia, W.B. Saunders Company, 1993
- Viazis, Anthony D.: Atlas of Advanced Orthodontics, A Guide to Clinical Efficiency, Philadelphia, W.B. Saunders Company, 1998
- Gerber, Jay: The Functional Orthodontist, Banded Block, October/November/December 1999 pgs 16-20
- Clark, William J.: Twin Block Functional Therapy, London, Mosby-Wolfe, 1995
- Sheridan, Jack: Air-Rotor Stripping, Raintree Essix, Inc., Metairie, LA 1988
- Sheridan, Jack: Air-Rotor Stripping with the Essix Anterior Anchor, J. Clin. Orthod. 30:381,82, 1996
- Rondeau, Brock: The Rick-A-Nator Appliance, The Functional Orthodontist, Vol 7, Number 4, pgs 4-12, 1990

REFERENCES

- Olmos, Steve: Institute for Advanced TMJ Studies, Mini-Residency Diagnosis and Treatment TM Disorder, pages 37-77
- Philippe, Julien: Treatment of Deep Bite with Bonded Biteplanes, J. Clin. Orthod. 30:396,97, 1996
- Brehm, Waldemar: The Fixed Functional Jaw Orthopedics in the Mixed Dentition, Straight Wire Seminars, Inc. Notebook, pages 170-172, 1993
- McNamara, James: Orthodontic and Orthopedic Treatment in the Mixed Dentition, Ann Arbor, Needham Press, 1993
- McNamara, James and Brudon William: Orthodontics and Dentofacial Orthopedics, Needham Press, Inc, 2001
- Bennett, J.C. and McLaughlin, R.P.: Orthodontic Treatment Mechanics and the Preadjusted Appliance, London, Wolfe Publishing, 1993
- Wilson, Robert C. and William L.: Enhanced Orthodontics (Wilson 3D Mechanotherapy Manual) Denver, Co., 1987
- Williams, J.I., and Sim, J.M.: A New Fixed Mandibular Expansion Appliance..., Journal of General Orthodontics, Volume 4, Number 3: 18-23, 1993
- Sheridan, J.J., McFall, J., and Layfield, L.L.: Force-Amplified Retention for Corrected Anterior Open Bites, Journal of Clinical Orthodontics, Volume XXXI, Number 12: 817-820, 1997
- Gerber, Jay W: TMD Warning Sign: Cephalometrics, The Functional Orthodontist, Vol 11, Number 2, pgs 13-19, 1994
- Spahl, Terrance: The Han Appliance, The Functional Orthodontist, Vol 12, Number 5, pgs 12-18, 1995
- Sim, Joseph, and Gallela, Steve: Part I - The Controlled Arch System: A New Method of Straightwire Mechanics, Journal of General Orthodontics, Vol 10, Number 4, 1999
- Sim, Joseph, and Gallela, Steve: Part II - The Controlled Arch System: A New Method of Straightwire Mechanics, Journal of General Orthodontics, Vol 11, Number 1, 2000
- Graber, Rakosi, Petrovic: Dentofacial Orthopedics with Functional Appliances, The C.V. Mosby Company, 1985