When Will I Get My Braces Off?



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When Will I Get My Braces Off? Preface

When will I get my braces off? You will probably begin asking that question on your very next visit! The Information provided on this CD is designed to provide you with as much information as possible about our Practice, staff, and policies. We will answer common questions that our previous patients have asked, and Any that you may have during the course of treatment. Here are some things to remember:

•As orthodontists we make a good "guesstimate" of when you will be done with treatment. We take our prediction from a large number of patients similar to you. However, since you are unique and different than every other patient, some things may differ.

•Unfortunately we cannot give you an exact date of when your braces will be removed, but the good news is that we usually finish treatment a little ahead of, or right on schedule, for most of our patients.

•No matter how long your treatment takes, we hope that you will find orthodontics in our office to be a wonderful experience!

When Will I Get My Braces Off?

Braces are braces! Right? WRONG! There have been many advances in the past 20 to 25 years. The following is a summary of those advancements so you can see the difference in how patient's are treated now.

Bonding



Figure 1 – Old Fashioned Bands



Bonding is the process that enables the orthodontist to attach the braces to the teeth (fig 2). In the past, it was necessary to fit stainless steel bands (braces) around each tooth (fig 1). This was a very uncomfortable and time-consuming process. Sometimes three to four appointments of two hours each were necessary just to apply the braces!! Now in most cases, all brackets are applied in forty to sixty minutes.

Bonding Can Take Two Forms:

Direct Bonding – With Direct Bonding, each bracket is place individually on each tooth and then the bonding material, or glue, "sets" on its own or is activated by a high intensity light (fig. 3)



Figure 3 – Direct Bonding

Indirect Bonding – Indirect bonding requires that the doctor and/or technician place each bracket on a stone model. A special tray is then made (fig. 4), which enables the orthodontist to place all the brackets on the teeth at the same time (fig 5).



Figure 4 – Bracket Tray



Figure 5 – Indirect Bonding

Treatment Built Into Each Bracket

With the help of many orthodontists around the world, orthodontic manufacturers have been able to design braces with "tip" and "twist" already in them. This eliminates the large number of bends that the orthodontist must place in each wire (fig 6). It also decreases the length of time a patient must sit in the dental chair at each appointment and allows for a higher quality of treatment (fig. 7).



Figure 6 – Brackets Requiring Bends in Wire



Figure 7 – Brackets Requiring No Bends in Wire

Small Metal Brackets

Over the years bracket size has been reduced dramatically without sacrificing quality. Obviously, the smaller the size, the less obtrusive the braces appear (fig. 8).



Figure 8 – Small Metal Brackets

Ceramic (Clear) Braces

Because these braces are transparent or translucent, they are very esthetic (fig. 9). No "tin grin"! As with any bracket type, there are instances when ceramic braces are not the best

choice.



Figure 9 – Ceramic Braces

Self-Ligating Brackets

Self-ligating brackets do not require ties in order to hold the wire in place (fig. 10). In this way, they are somewhat "automatic". A little clip slides over the wire and activates it so that the tooth can be moved. The advantages of this type of braces are that appointments are quicker and teeth tend to move more easily, especially in the beginning stages of treatment.



Figure 10 – Self-Ligating Brackets

Lingual (Invisible) Braces

Lingual brackets are place on the inside (lingual or tongue side) of the tooth (figs. 11 and 12). This is by far the most esthetic bracket system since the brackets are completely hidden from view. However, it is not the treatment of choice for some patients. Additionally, treatment may take a little longer, and the cost is significantly more than other types of orthodontic treatment.



Figure 1I and 12 – Lingual (Invisible) Braces



Clear Removable Appliances (Invisilign® Type)

These tooth-moving devices are very esthetic (fig. 13) and are designed fore patients who already have all their permanent teeth. The clear retainers can only treat relatively minor problems and do not produce excellent results for most orthodontic cases.

Multicolored Ties

These tooth-moving devices are very esthetic (fig. 14) and are designed fore patients who already have all their permanent teeth. The clear retainers can only treat relatively minor problems and do not produce excellent results for most orthodontic cases.



Figure 13 – Clear Removable Appliance



Figure 14 – Multicolored Ties

Titanium Wires

Titanium wires have brought about the greatest improvement in orthodontics in the last ten to twelve years. The technology was adapted from airplane building and NASA. It is because of these wires that we have been able to increase the patient visit interval from four weeks to eight or even twelve weeks in many cases (figs. 15 and 16). The wires are more "biological" and "physiological" in the way they work. Because they apply constant, gentle pressure over long periods of time, there is less soreness of teeth, fewer interruptions in school and work schedules, and faster treatment time. The use of these wires has also been instrumental in keeping orthodontic fees from rising at the rate of most other medical and dental areas.





Figure 15 and 16 - Lingual (Invisible) Braces

Computerized Scheduling and Management System

Volumes could be written on this subject. However, because of the speed and accuracy of these systems, fewer mistakes are made, answers are faster, and diagnoses are more accurate. Chairside computers have photographs, models, and treatment plans (fig. 17). Facial imaging is also possible. This allows the orthodontist to visualize the final facial result to a much more accurate degree.



Figure 17- Computerized Systems

High Speed X-Ray Machines and Film

Instead of radiating patients for many seconds in order to obtain diagnostics, high-speed x-ray equipment allows us to obtain diagnostics in milliseconds or 1000ths of a second (fig. 18). This is not only safer for patients but also achieves better results.





Figure 18 - High Speed X-Rays

When Will I Get My Braces Off? Orthodontics and the Team Effort

THE ORTHODONTIST

oTraining

•Most orthodontists have undergone very rigorous training. This includes 4 years of college, four years of dental school, and two to three years of orthodontic specialty training.

OResponsibilities - the orthodontist has five basic duties:

- 1. The Examination Because each individual is unique, each examination is also unique. The orthodontist asks questions and observes the teeth, the bite, the face, and symmetry. Systems are reviewed, and clinical impressions are noted. Findings are explained, and a tentative treatment plan is made.
- 2. Interpreting Diagnostic Records After prescribing the appropriate diagnostic records, the orthodontist studies them and records the results.
- 3. Making the Diagnosis A combination of medical and dental history, patient interview, clinical examination, and diagnostic records allows the formation of the proper diagnosis.
- 4. Designing a Treatment plan A step-by-step plan is formed, which includes the type of braces, wires, treatment time, and retention.



5. Implementing Treatment — Braces are correctly placed, and treatment is instituted according to the plan. Each appointment plans for the next, taking into account tooth reaction, growth, and other factors.

Orthodontic Staff Members

Registered Dental Assistant (RDA)

Instead of being only orthodontist "helpers" who hand the doctor instruments and clean up, RDAs are true professionals who have become our trusted associates. Formal schooling, state and national examinations for licensure, and continuing education to retain licenses have all meant a higher quality of orthodontics at very reasonable fees.

Records and Laboratory Technicians

The records and laboratory technicians acquire and process all diagnostic records prescribed by the orthodontist. These include study models, x-rays, photographs, and imaging. Fabrication of retainers, expanders, positioners, and models is also the responsibility of these staff members.

Sterilization Technician

Ensuring the health and safety of each patient is of utmost importance. These team members ensure that safety.

Appointment Coordinators

These staff members are responsible for porper scheduling of your appointments. Appointments are scheduled using the following criteria:

- •Type of appointment (There are over thirteen types!!)
- •Length of appointment (Ten minutes to 1 1/2 Hours)
- •Special or unscheduled appointment
- •Patient Convenience

Patient Consultants

Patient consultants schedule new patients, conduct the office tour, assist n the examination, present the financial arrangements, prepare documents, and perform ongoing patient relations.

Insurance/Financial Coordinator

This staff member is responsible for collecting, researching, documenting, and processing all information necessary for proper reimbursement of funds from your insurance company





The Patient/Parent

Accepting Responsibility

Whether the patient is a child or an adult, there is an implied and moral responsibility to follow through on the oral and written contract. Orthodontic treatment cannot happen without the serious cooperation of the patient and/or parent.

Compliance With Instructions

During the course of treatment, various sets of instructions will be given to patients and/or their parents. Things such as proper diet methods of eating certain foods, how to use certain appliances, and rubber band wear are absolutely critical to excellent results, proper use of doctor, staff, and patient time, and the containment of fees.

Proper Oral Hygiene

Maintaining excellent oral hygiene cannot be overemphasized. It takes less than a total of six minutes per day to keep teeth and gum tissue healthy. Lack of proper oral hygiene leads to white marks and decay of teeth and also swollen, red, and infected gun tissue. It also slows down treatment progress significantly.

Keeping Appointments

Keeping appointments is part of the orthodontic contract. If appointments are not kept, it leads to difficulty in reappointing, angry patients and parents, upset dental staff, deteriorating relationships, and ultimately poor orthodontic results. This is one of the two main reasons why treatment takes longer than predicted in some cases.

Taking Proper Care of Braces

The second major reason why orthodontic treatment is not finished in a timely manner is loose or broken braces and wires. Thirty to forty percent of everything an orthodontic office does each day is unnecessary or of an unplanned nature. This causes orthodontic offices to be late and inconveniences those who participate properly in their treatment.

Financial Responsibility

Every time orthodontics is undertaken, there is a legal and moral contract. We are very fortunate that the vast majority of responsible parties are "responsible." There is nothing more harmful to the doctor/patient relationship than the mistrust and adversarial relationship that follows the breaking of a financial commitment.

When Will I Get My Braces Off? AGE OF TREATMENT

Our office recommends seeing children at six years of age in most instances. However, orthodontists can improve most malocclusions at any age. There is usually an optimum age in terms of the amount of improvement that can be achieved, the type of treatment employed, and cost incurred. That best age is different for every patient.

At six years of age tremendous results can be achieved, including:

- 1) It is very possible to eliminate extraction of permanent teeth.
- 2) Excellent changes in facial esthetics are attainable.
- 3) Abnormal jaw growth can be corrected to a degree not possible at later age.

The objectives of treatment in this office are:

- 1) A sound, functional occlusion (bite).
- 2) Health TMJ (Jaw Joints) with relaxed muscles
- 3) Excellent smiles that complement facial features
- 4) Straight teeth
- 5) Facial beauty

AGE OF TREATMENT (CONT'D)

The earlier we see patients, the more options we have to correct problems. However, age is not a barrier. As long as the supporting structures (bone and soft tissue) are healthy, it is never too late to improve your orthodontics and/or cosmetic appearance. We have patients in our practice ranging in age from four to eighty.

WHY STRAIGHT TEETH?

•Correct alignment of teeth helps to prevent decay. When teeth are crowded, overlapping teeth tend to trap food and are extremely difficult to brush.

•Improper "meshing" of upper and lower teeth (even though they are straight) will tend to cause wear and shifting through the years.

•Digestive disturbances, speech impediments, and psychological problems can all be associated with misaligned, "buck," or crooked teeth.

•Recent studies have shown a direct relationship between straight, well cared for teeth and success in the business world. Those with straight teeth are routinely chosen for jobs over those who do not have straight teeth. This is unfair perhaps, but it is true.

CORRECT TIMING FOR TREATMENT

Just when is the right time for orthodontic treatment? This is the second most frequently asked question in our office. (The title of this book is obviously the most frequently asked question!) Perhaps the best answer to this question is to describe what is possible in various age groups.

Two Phase Treatment

If the world were an ideal place, all patients would be seen by an orthodontist by the age of five years old. This does not mean that all five-year-olds need to be treated, but it does give the orthodontist the ability to intercept very difficult growth problems and treat them if necessary. Most children, if seen by age six or seven, can benefit from all the advantages of early treatment. An example of these advantages is illustrated below:









Before Phase I



Before Phase II



Final

Two Phase Treatment (Cont'd)

1.) The ability to have the greatest degree of orthopedic control is the dingle greatest advantage of early treatment. Very simply this means that we, as an orthodontic team, can have the most effect on:

Changing abnormal growth patterns
 Increasing the size of the jaws to accommodate all the permanent teeth
 Correcting the front-to-back relationship of the upper and lower jaws
 Correcting the side-to-side relationship of both jaws
 Producing wonderful facial profiles and esthetics as well as assisting in the development of exquisite smiles.

Ideally we want to intercept problems while a large amount of facial development remains. By the age of twelve years, ninety percent of a child's facial development is completed. For many problems this is too late to achieve the very best results. However good results can still be achieved.

- 2. The second advantage is that in most cases, early orthodontic treatment eliminates the need to remove permanent teeth. As the jaws slowly expand, room for the permanent teeth are made.
- 3. The third advantage of two-phase treatment is to provide a good "airway." Mouth breathing can usually be eliminated with early orthodontics. This in turn can have a dramatic effect on lower jaw growth. Many mouth breathers develop a receding jaw.
- 4. The fourth advantage is the ability to place teeth and jaws in the most esthetic positions. We can eliminate, to a large degree, the unattractive "gummy" smile and the dark corners that appear at the sides of the mouth because the jaws are too narrow.
- 5. The fifth and last advantage that should be mentioned (though there are many more) is the wonderful degree of cooperation that young children exhibit. This cooperation factor should not be underestimated since successful orthodontic treatment depends in large measure on cooperation from the patient.

One this is certain, a child who has crowding at age seven, eight, or nine years of age will have crowding at age twelve, thirteen, or forty-two. Lack of space for permanent teeth does not improve on its own.

Adolescent Treatment

Over the years the larges segment of society to benefit from orthodontic treatment has been children in the twelve to fourteen age bracket. This has been true for a number of reasons. Primarily, orthodontists did not know what was possible earlier in the growth cycle. Most orthodontists have in fact been taught just the opposite. That is, early treatment could not be successful.





After

We have been able to do wonderful things given the many limitations presented to us in treating teenagers. Most parents are aware of the beautiful results possible even when their children are older than seven or eight years of age. Once all permanent teeth have erupted, there is a greater chance that tooth removal may be necessary if there is significant crowding.

Adult Treatment

There is much misunderstanding surrounding the treatment of adults. Many people believe that teeth move more slowly in adults or even that teeth don't move at all. These beliefs are certainly not true. What is true is that significant jaw problems cannot be corrected as easily as they can in adolescents or young children. Since there is no jaw growth left in adults, what is possible is, in large part, tooth movement. So you can see that straight teeth and great smiles are still possible.





Pre-Restorative Treatment

This type of orthodontics involves getting the patient's teeth in the proper position so that the general dentist can place crowns, bridges, bonding, veneers, or implants for the very best function and esthetics.



Sufficient Space Was Created Orthodontically For Placement Of I mplants



"Flipper"-type Retainer Was Worn While Waiting For Implant Crowns



Finished Result

Orthodontic Surgical Treatment

Some adults may develop severe jaw problems that were not corrected during the growing years. For many years we have been able to achieve wonderful results using a combination of braces and jaw surgery. The orthodontist aligns the teeth as perfectly as possible, and then the surgeon moves the jaws so that the teeth fit together. Facial beauty is also achieved with this team effort. Jaws do not have to be "wired together" as they were many years ago, and the recovery period is very short.





After

Before

When Will I Get My Braces Off? APPOINTMENT SCHEDULING

Patients are seen on an appointment basis only. We believe you will find scheduling appointments with our office is somewhat different than what you have been used to. We do schedule appointments precisely. Our procedures vary in length from a few minutes to two hours. In order to perform the finest orthodontics possible, appointments will be scheduled to be mutually beneficial to both you and our office.

Although we take into account work and school schedules, it will be necessary to schedule you during these periods at various times. We will make every attempt to keep these appointments to a minimum, but please understand that *all* children in our practice go to school and most of our adult patients work.

An appointment in this office is regarded as a contract of time reserved for your treatment. We respect our patients' valuable time and will make every effort to keep any waiting to a minimum. We request the same courtesy from our patients. Arriving late for an appointment leaves only three options for our office.

- 1. Reschedule your appointment
- 2. Do less than we had planned for your visit that day
- 3. Perform your entire treatment and be late for every other patient that follows you



Clearly, none of these options are ideal, so please be on time. If you find it impossible to keep an appointment, please notify us in advance so that we may schedule another patient in your place.

When WILLING CONT'D APPOINTMENT SCHEDULING CONT'D

Missed appointments may mean that you must wait several weeks for a new appointment, even if it is a "short" visit. Continued missed appointments can only lead to longer treatment time and possibly increased fees. Additionally, since after school and work appointments are scheduled far in advance because of their popularity, missed appointments may need to be scheduled during the middle of the day.

We schedule appointments in a precise manner. The same types of appointments are scheduled at the same time. This enables the office to run more efficiently and allows us to achieve a better quality of treatment.

We allocate a specific time during each day to see special appointments (i.e. loose bands, loose brackets, eliminating wire pokes, etc.). This time is set aside so as to not interfere with previously scheduled appointments. Please understand that seeing you for this special appointment does not mean we will fix the entire problem. The purpose of the special appointment is to make you comfortable.

While most of our patients would prefer to be seen between 3:00 and 5:00 P.M., we hope that you will understand that appointments must be divided between morning and afternoon throughout your treatment.

We schedule longer appointments during school and work hours and short appointments before and after school or work. This is done for the convenience of all patients. If we did not schedule in this manner, the entire afternoon would be reserved for only one or two patients.

Most orthodontic offices that are not "on time" find themselves in this position because they spend thirty to forty percent of their workday repairing braces. Unexpected special appointments lengthen treatment time and inconvenience other patients.

When Will I Get My Braces Off? APPOINTMENT SCHEDULING CONT'D

Over the years we have treated many staff members. Thus, we have found that it is an extremely rare occasion that braces come loose or wires break. Therefore, we know that most loose brackets are caused by lack of attention to instructions given by our office. We also know that this breakage is not done purposely or maliciously.

So that we can stay on time and so that your treatment will not be prolonged, we ask the following of you:

•Keep your appointment slip where you will see it often.

•Leave early enough to get to your appointment even if traffic is slower than normal.

•Follow instructions given by our office to avoid broken appliances.

•If you have a broken appliance, call us immediately so that we can schedule an appointment for you with adequate time for repair. It may only be necessary to add time to your next appointment.

One of the most disconcerting things that can happen to patients in the medical or dental environment is waiting... and waiting... and waiting for appointments. Because of the nature of these professions, there are times when emergencies must take precedence over timeliness. However, this orthodontic office attempts to run on time. To do this, several factors must come together.



When WILLI Get My Braces Off? APPOINTMENT SCHEDULING CONT'R

- 1. The orthodontic team must time each procedure so that we can precisely schedule the time it takes for various types of appointments.
- 2. The orthodontist and staff members must be trained to an incredibly high level of efficiency.
- 3. Communication between the patient, parent, and orthodontic staff has to be at a very high level.
- 4. There needs to be a high level of trust, not only that the orthodontic staff is providing the highest level of service possible but also that the patient and/or parent have a level of expectation that is realistic.
- 5. The patient must do everything possible to be on time for each appointment.
- 6. Lost and broken appliances (braces) must be kept at a minimum. This is absolutely critical.

Please call us to let us know if you have any broken or loose braces, even if you have an appointment the next day!

When Will I Get My Braces Off?

DIAGNOSTIC RECORDS

Patients and parents frequently ask, "Do I really need all those x-rays and models?" Additionally people want to know if the x-rays their family dentist took are adequate and why progress x-rays are necessary. Most of all they want to know why we need final x-rays after treatment is completed. I hope the following summary will add to your understanding. Typical full diagnostic records include:

PANORAMIC VIEW

This provides us with a view of the upper and lower jaws (fig. 20), all the teeth and supporting bone, sinuses, and a non-detailed look at the jaw. It enables us to see abscesses, cysts, and tumors of the jaw, the number of teeth, the angles at which they come in, and the general health of the bone.

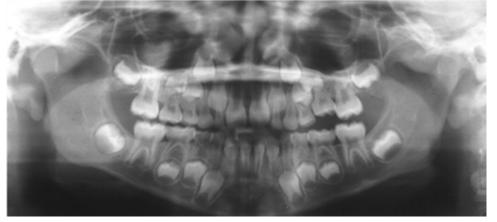


Figure 20 – Panoramic X-ray

CEPHALOMETRIC VIEW This is an x-ray of the entire head (fig. 21) taken from two views. The frontal or full-face view allows us to see any asymmetries of the jaws, the skull, nasal septal deviations, and some diseases of the bone. The profile skull view enables us to measure approximately fifty different areas by which we can construct a growth analysis (child), classify facial type, and make accurate predictions as to what will happen without treatment and what can happen with various alternative treatments.



Figure 21 - Cephalometric X-ray



L MOUTH X-RAYS

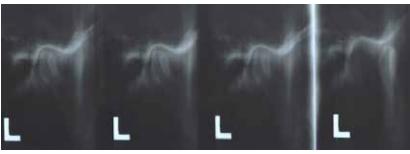
These views of individual teeth (fig. 22) enable a much more detailed study of each individual tooth for evidence of decay, trauma, and periodontal (gum) disease.



Figure 22 - Full Mouth X-rays

TMJTOMOGRAMS

These are very specialized views of the jaw joint (fig. 23), which are routinely taken on patients who have or are suspected of having jaw joint disease. The tomograms allow us to check for correct joint position, anatomical problems, various types of arthritis, and degenerative diseases and malignancies.



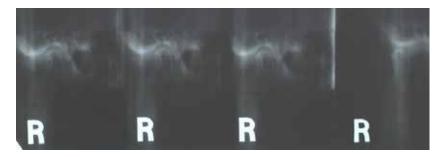


Figure 23 – Tomograms

PHOTOGRAPHS

Facial photographs (fig. 24) help us analyze asymmetries of the face, smile lines, lip competence, and certain facial muscle habits. The smile line is crucial to a truly excellent result. Photographs of the mouth assist us in studying the texture of the lips, cheeks, and tongue as well as documenting various types of stains or discoloration of teeth. They also allow us to see the malpositions of teeth from various angles.





27

MOUNTED STUDY MODELS

Plaster models of teeth (fig. 25) are placed on an instrument (articulator), which can exactly duplicate the position and movements of the jaw joint. This is perhaps the most critical diagnostic aid we have. It gives us a true picture of your bite.



Figure 25 - Mounted Study Models

INITIAL DIAGNOSTIC RECORDS

Initial diagnostic records are taken before treatment for diagnosis and planning purposes. All of the above are typical except the tomograms, which are used on a case-by-case basis in children and on a majority of adults.

PROGRESS RECORDS

Progress records are taken after Phase I treatment begins. These records allow us to check the eruption of teeth. They may be necessary in cases of trauma or injury to the face, teeth, or joints. They may also be taken to check jaw joint position and bony changes in T.M.J. patients. These records are routine during adolescent and adult treatment to check root length and angulation as well as bone height and growth trends where appropriate. Progress records may include one, several, or all procedures. They are taken based on the needs of the individual patient.



These are a duplicate of the diagnostic records taken before treatment and enable us to study:

- •Differences in growth and jaw positions
- •Differences in position and angles of nose, lips, chin, and teeth
- •Differences in smile lines, profiles, and symmetries
- •Angulations of teeth
- •Presence or absence of wisdom teeth so that appropriate measures can be taken to deal with them.
- •Presence of abscesses, cysts, tumors
- •Presence of root damage

Many other factors are evaluated with these final records, but in general they allow us to prepare for any future problems (such as impacted wisdom teeth) and to plan the length and type of retention period after braces have been removed. Final records also help us to determine how long retention appliances must be worn in terms of hours per day and also in terms of months or years.

COMPUTER GENERATED DIAGNOSTICS

These enable us to have immediate diagnostics. Within minutes we can obtain a growth analysis (figs. 26 and 27) and growth predictions for children. We can predict the results of a jaw surgery even before orthodontic treatment is undertaken. Digital imaging enables us to get a perfect picture almost every time. If the picture isn't everything we want it to be we simply retake it right away. In the coming years, this technology will allow us to achieve better diagnostics with less effort and less x-ray exposure for our patients.



Figure 26 - Growth Prediction Tracing



Figure 27 – Computerized Tooth Size Compatibility Measurement

When WILLI Get My Braces Off? SEPARATOR APPOINTMENTS

Separators or "spacers" may be either donut shaped elastics, brass wire, or springs (fig. 28). The purpose of each of these is to make space so that the metal bands can be placed around your back teeth (fig. 29).

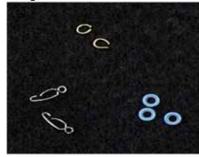
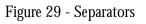


Figure 28 - Separators



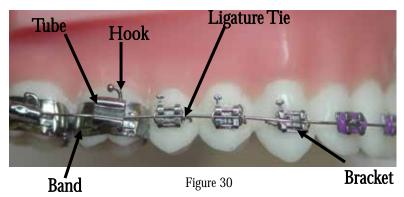


Here's What to Expect From Your Separators:

- 1. Generalized Soreness or tenderness of your teeth. This should only last 2 or 3 days.
- 2. Your "bite" may appear to change. This is caused by your teeth moving apart very slightly.
- 3. If a separator comes out, please call our office immediately so we can determine if it needs replacing. Please do not remove them as this could prevent us from putting braces on your teeth.
- 4. Do not eat chewy or sticky foods because they can pull separators out.
- 5. Brush normally, but do not floss while separators are in place.
- 6. Check each day to be sure the separators are still in place.

When Will I Get My Braces Off? HOW DO MY TEETH MOYE?

Teeth move by using a variety of devices, which together are called the "appliance." The following diagrams are of orthodontic appliances (figs. 30, 31, and 32). They are provided to aid you in learning the names of the parts of your braces and to better understand their design and function.



The most important parts of our usual appliance are:

- 1. **Bands:** These are thin bands of stainless steel carefully fitted around the tooth and then cemented in place. Brackets, tubes, or hooks may be welded to these bands, allowing the orthodontist to move each tooth in every direction (Fig. 30).
- Brackets: A bracket can be attached to a band or bonded directly to the teeth. They are cemented to the tooth with basically the same white tooth colored material used for fillings. The bonding of brackets has dramatically reduced the time it takes to apply braces. Additionally, it has made the job of keeping teeth clean much easier for our patients. The brackets can be made of several types of materials (fig. 30), including stainless steel, gold plated stainless steel, and clear ceramic.

When Will I Get My Braces Off? HOW DO MY TEETH MOYE?

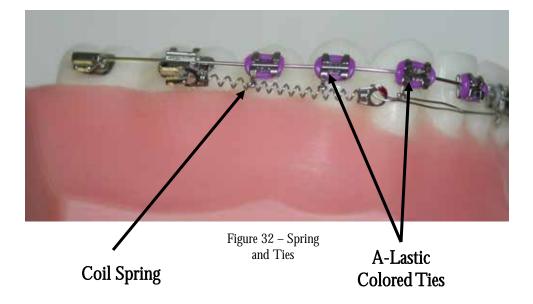
- **3**. **Arch Wires**: These wires traditionally were made only of stainless steel. We now have at our disposal arch wires made from various types of titanium. The development of these wires has allowed orthodontists to increase the amount of time between visits. This in turn has benefited the patient in that their busy schedules are not interrupted with orthodontic appointments nearly as much as they were in the past (fig. 31).
- **4. Rubber Bands**: These provide a force that helps teeth move, usually employing one arch or a group of teeth against the other (fig. 31).



Figure 31

Arch Wires

- 5. **Springs**: These devices may be made of stainless steel or titanium (fig. 32) and can be used in a "push" or "pull" fashion in order to open or close space between teeth.
- 6. Loops or Attachments to Arch Wires: The orthodontist is able to close space between teeth or move teeth up or down with loops or hooks (fig. 33).



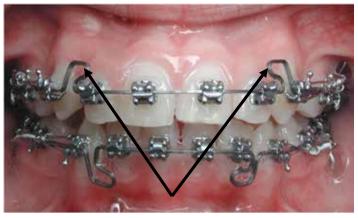


Figure 33 – Loops or Attachments to Arch Wires

When WILLI Get My Braces Off? HOW IMPORTANT IS GOOD ORAL HYGIENE?

When do you want to get your braces off? The better your oral hygiene, the sooner you will get your braces off! Low-grade infections and swollen gums create an environment that slows down tooth movement and causes multiple irritations that make orthodontics uncomfortable.

Because of the many types of bacteria in your mouth, it is always important to keep your teeth and mouth clean. It is critical to do so when braces are on your teeth. The braces, wires, springs, and ties all act as food traps. If the food is not completely removed, large overgrowths of bacteria result. This in turn causes swollen gums and unpleasant breath.

However, keeping teeth clean is only one part of good oral hygiene. Two other areas must be considered—the gums and the tongue.

Gums (gingiva)

Without braces, food easily moves over teeth and provides some natural stimulation to the gum tissue. When braces are attached, they trap food and there is no natural stimulation of gum tissue. It is critical that time be spent stimulating gums with a toothbrush.

Tongue

Lack of proper tooth and gum brushing can lead to a much higher amount of bacteria. Bacteria grows very easily on the top surface of the tongue, causing offensive odors and bad breath.

Our registered dental assistants (fig. 34) will spend a great deal of time instructing and assisting you so that you can develop the high level of oral hygiene required. We will never embarrass or preach to you. We will always teach and remind you of what you may have forgotten. At each appointment you will be graded on your hygiene.



Figure 34

THE ORAL HYGIENE GRADING SYSTEM

This is a one to five (1-5) system with 5 the highest and 1 the lowest grades.

The meaning of the grades:

5— The Best! Perfect healthy, pink gums and perfectly clean braces and teeth.

4— Good. There are some areas of swelling or redness of the gums and/or one or two areas of plaque or food on braces or teeth.

3— Below Acceptable. There are more than just a few areas of swollen or red gums and/or plaque or food on braces or teeth.

2— Well Below Acceptable. There are many areas of swollen or red gum areas and/or plaque or food on braces or teeth.

1— Totally Unacceptable. There are no redeeming qualities and the patient almost shows a willful neglect of hygiene.

As mentioned earlier, there are those patients who exhibit mouth breathing due to allergies, enlarged adenoids, etc. There are also some medications that cause red or swollen gum tissue. If you are one of these patients, please understand that we will offer you even more help. Our staff will also take these factors into account when grading your hygiene.

Always remember:

Our staff is not grading you as a person. We are grading only your efforts in this area.

ORAL HYGIENE KIT

Each patient will be given an individualized oral hygiene program and kit (fig. 35), which will include some or all of the following:

- •An orthodontic toothbrush
 - This brush is specially designed to clean braces and wires.
- •A gingival (gum) stimulating brush
 - This is a softer brush made specifically for gentle massaging of gum tissue.
- "Superfloss" dental floss threaders
- •Plaque staining drops or tablets
- •Special fluoride rinses
- •Wax packet
- •Intra-oral medication for irritations

One of our staff members will thoroughly instruct you in each of the above areas.



WHY IS ORAL HYGIENE IMPORTANT DURING BRACES?

As teeth move, the shape or contour of the gum tissue surrounding the tooth changes also (fig 36). This occurs slowly as you grow from childhood to adolescence. The gum tissue can adjust itself and usually doesn't need extra attention.

So what can happen during orthodontic tooth movement?

- 1. The gum tissue may not adapt as quickly as teeth move.
- 2. Food is not completely brushed off the teeth and braces.
- 3. Gum tissue is not stimulated properly.
- 4. The braces and wires sometimes act as irritants.

This may lead to:

- Misshapen gingiva (gum disease)
- Red and/or swollen gingiva
- Bleeding of gingiva when brushing
- @ "Bunching" of gingiva where spaces exist
- Slower than normal tooth movement
- Plaque formation on teeth
- @ Possible decalcification (white areas) on teeth where food was not properly removed

The gingiva should always be pink in color, firm in texture, and symmetrical in shape. They should not be red, puffy, or irregular in shape.

Problems usually occur in areas of the mouth that are hard to reach and see. This usually means on the back teeth (molars and premolars) and behind loops in wires. However, lack of proper brushing will be evident by red and swollen gingiva anywhere in the mouth.



Food and plaque must not be left on the teeth for any length of time. If food and plaque are not removed promptly, the gingiva will quickly become irritated, red, swollen, and "bleedy." This quickly leads to painful gums, slow tooth movement (which means longer treatment time), and bad breath. This bad breath cannot be masked by mouthwash.

What Can You Do To Keep Gums Healthy?

- 1. Precisely follow the instructions that have been given to you.
- 2. Brush your teeth and stimulate your gums regularly after each meal. It takes only about two minutes to adequately brush teeth and gums.
 - a. Try timing yourself:
 - i. Thirty seconds on the outside of the upper teeth
 - ii. Thirty seconds on the inside of the upper teeth
 - iii. Thirty seconds on the outside of the lower teeth
 - iv. Thirty seconds on the inside of the lower teeth
- 3. Floss your teeth once daily (at night) using the floss threaders that have been given to you.
- 4. Use a fluoride rinse once daily after brushing, being sure to "swish" very well in areas that are hard to clean.
- 5. Use a "proxy brush" to clean in between the teeth and stimulate the gums at least once a day.
- 6. If for some reason you cannot brush after a meal, swish with water to loosen any food still left on your teeth.
- 7. Regular use of a WaterPik or any other oral irrigation appliance can be very helpful but must be used AFTER thorough brushing. It is not a substitute for brushing but can remove food particles that the brush cannot reach.
- 8. Warm salt water rinses twice daily (eight-ounce glass of warm water with one teaspoon salt).

About Electric Toothbrushes

We have many inquiries about electric toothbrushes. Sonicare and Braun toothbrushes are particularly good for orthodontic patients, but special care must still be taken to brush the part of the tooth nearest the gum tissue as well as the entire tooth surface. The most important thing to remember is that the type of brush is not as important as how well and consistently you use it.

If you have any questions about how to use an electric toothbrush or any oral hygiene appliance that you have, please bring it with you on your next appointment. We will be happy to coach you on its most effective use.

Brushing Your Teeth

You have been given several toothbrushes: one for home and a collapsible one for school or work. You should brush after every meal and snack. Please be sure that you carry the toothbrush to school or work. Remember that severe damage can result if the braces and the teeth are not always shiny bright. When your bristles show wear, ask us for another brush.



Where to Brush

One of the common fears about orthodontics is that the bands may cause decay. Actually, the parts of your teeth that are covered by your orthodontic bands are protected from decay just as long as the cement under the bands is holding properly.

The bands and brackets, however, do make certain places on your teeth harder to clean. The brackets, tubes, and wires tend to make a little shelf around the outside of the teeth, and this shelf makes it harder for your toothbrush to clean the spaces between the gums and bands.

If you fail to get the teeth clean and to stimulate your gums, then they will swell and make it more difficult to clean.

CONTINUED NEGLECT WILL RESULT IN PERMANENT WHITE MARKS, DECAY, AND SWOLLEN, IRRITATED, AND INFECTED GUMS.



When to Brush

Ideally you should brush within five minutes after you eat. This can sometimes be hard to do. When you're away from home you should carry a travel or folding toothbrush. Toothpaste is not necessary when away from home.

How to Brush

1. First brush back and forth across and between the wires and gums to loosen the food particles. Brush behind the wire from above and below the wire. Take enough time (one to three minutes) and press hard enough to remove the sticky plaque. Be sure to brush under any loops in the arch wires or hooks on the brackets (fig 38).



Figure 38-Brushing

Next, brush correctly as if you had no braces on.

- a. Start on the outside of the uppers with bristles at a forty-five degree angle toward the gum. Move the handle back and forth while the bristles "flex" over several teeth. Move over and repeat for several more teeth until the outside of the upper teeth is completed.
- b. Do the same for the inner surfaces of the upper teeth.
- c. Scrub the chewing surfaces last.

2.

- d. Start on the outside of the lower teeth and repeat this process. Remember to direct the brush at an angle toward the gum.
- 3. Rinse your mouth very well, and then rinse off your toothbrush. Look into a mirror to inspect if any areas have been missed. Check the little half moon spaces between the bands, brackets, and gums and the space between the molar tubes and gums. If you see any areas you have missed, clean them now.
- 4. When you have finished, the bands, brackets, and wires should
- 5. be free of all food particles and the soft white coating (called plaque). The bands should look clean and shiny.

A WaterPik can be very helpful, but it is to be used AFTER thorough brushing. It is not a substitute for brushing and can remove food particles that the brush cannot reach.

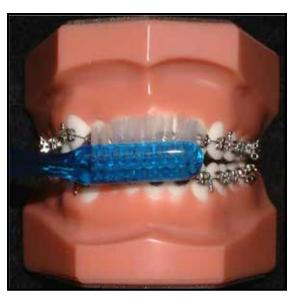


Figure 39 - Brushing

Flossing Directions

Only three out of five tooth surfaces can be adequately cleaned with a toothbrush. Dental floss must be used to clean the other tooth surfaces. Flossing should be performed at least once a day, preferably before going to bed.

- 1. Tear off a piece of floss about eight to ten inches long.
- 2. Stick the floss through the floss threader (or use "Superfloss") and place the threader between the gums and arch wire.
- 3. Pull the floss half way through (fig 40).
- 4. Holding the floss on either end, gently "work" it up and down the sides of the teeth and under the gum line (fig. 41).

Repeat the procedures between each tooth, and rinse thoroughly. Flossing while wearing braces is extremely

important!

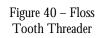






Figure 41 – Flossing

WaterPik

This device squirts a pulsating jet of water under variable pressure through a small nozzle into the mouth. It is amazingly effective at removing debris, even after the most thorough brushing. It provides that extra certainty that your mouth and breath are as fresh as can be when you are wearing braces.

Fluoride Rinse

This is a prescription item that may be recommended. Rinsing once per day reduces the risk of decay as well as maintaining healthy gums. We suggest that each evening, after brushing, you swish with a fluoride rinse for one minute. This will help protect any areas not completely cleaned as well as protect teeth under any undetected loose bands.

Toothpaste

We recommend any fluoride toothpaste but only a small quantity (like ¼ inch). It freshens the taste in your mouth and protects against decay, but the foam tends to interfere with inspecting the teeth and braces for shininess. Please be sure to rinse with water and inspect your teeth after brushing.

FLUORIDE

Cavities used to be a fact of life. But over the past few decades, tooth decay has been reduced dramatically. The key reason: fluoride. Research has shown that fluoride reduces cavities in both children and adults. It also helps repair the early stages of tooth decay even before the decay becomes visible. With braces fluoride is even more important because it can get in the nooks and crannies that may be missed while brushing or flossing. Dr. Elliott would like every patient to use the fluoride EVERY night before bedtime.

<u>PHOS – FLUR</u> <u>RINSE</u>

DIRECTIONS

<u>GEL – KAM PASTE</u>

This can be found overthe-counter at most drug stores.



Use <u>EVERY</u> night before bed in addition to brushing with toothpaste and flossing. Follow the instructions on the product for more details This can be found at the Pharmacy. Just ask the pharmacist for the product. You do not need a prescription.



When WILLI Get My Braces Off? THE CARE AND FEEDING OF YOUR BRACES

Orthodontics and Food

Yes, you may eat during orthodontic treatment! It may surprise you that most foods can still be eaten after braces are placed on your teeth. The wrong types of food or eating the right kinds of food improperly can cause food to get caught in your braces, stick to braces, loosen braces, or bend wires.

Refrain from eating *hard, chewy,* or *sticky* foods. The following is a list of the most common foods to <u>avoid</u>:

ルIce

- ≁Corn on the cob
- ✤Biting meat off ribs (cut meat off the bone)
- ✤Biting chicken off the bone (cut chicken off the bone)
- ✤Any type of nut (other than thinly sliced)
- ✤Popcorn (because unpopped kernels and husks stick in gums)

- Any whole hard fruit (apples, pears, peaches, etc.)
- ✤Large pieces of any meat (cut into small slices)
- ✤Pizza, especially hard ends or crust
- ✤Most cookies
- **ル**Ice
- Chewing on pencils

ルIce



▲ Taffy
▲ Ice
▲ "Nutty" peanut butter
▲ Ice

We don't want your orthodontic treatment to be a series of "don'ts", but in general, don't put anything (food or object) in your mouth that is HARD, CHEWY, or STICKY, no matter how small!

Use a blender to prepare milkshakes, protein drinks, fresh fruits, etc.

"Soft" sandwiches such as egg or tuna salad, peanut butter (smooth), and deviled ham are nutritious and easy on tender teeth. "Hamburger Helper" type foods, omelets, and any kind of eggs are excellent. Take a multi-vitamin daily.

Don't forget about these soft foods as well:

Applesauce
Pudding
Jell-O
Deviled Eggs
Canned Pears, Peaches, Apples, Oranges
Bananas
Ice Cream
Soft Cheeses
Soup



Really Simple Sloppy Joe's

•1 lb. ground round

•1 bottle of Heinz chili sauce

•¹/₂ small onion (finely diced)

•Mustard



Thoroughly brown the ground round and diced onions over medium heat in a medium pan, stirring occasionally to make sure the meat breaks up. When thoroughly browned, add 1 bottle of Heinz Chili Sauce. Then fill empty bottle 1/3 to 1/2 way with water. Shake to mix remaining sauce, and pour into mixture. Reduce heat and simmer 10 to 15 minutes. Spoon mixture on to hamburger buns and spread a dab of mustard.

Doc's Corn Pudding

•1 can cream-style corn

- •2 eggs, well beaten
- •1 Tbsp either bacon drippings or melted butter
- •1 ¹/₂ Tbsp sugar (or Splenda)

Preheat oven to 375 degrees. Spray a 1-quart glass dish. In a bowl combine the corn, eggs, butter or drippings, and sugar, and pour into the greased dish. Bake for 35 to 40 minutes until a toothpick comes out clean.

Red Beans, Rice, and Sausage

- •1 pkg red beans and rice mix (recommend Zatarain's)
- •1/2 lb. smoked or Polish sausage
- •1 Tbsp butter or oil
- •¹/₂ small onion, diced

In a medium saucepan, add butter or oil and onions. Sauté until tender. Add water and the red beans and rice mix to pan. Bring to boil, stirring occasionally. Reduce heat, cover, and simmer for 25 minutes, stirring occasionally. Slice sausage into thin slices and add to the mixture for the last 10 minutes of the simmering. Remove from heat, let stand for 2-3 minutes before serving. This tastes GREAT and is easy to chew and swallow!

Easy Noodles Romanoff

Combine one medium onion (chopped), one half pound of cooked noodles, one cup sour cream, one cup cottage cheese, and a half cup of grated cheddar cheese in a baking dish. Bake for about a half hour at 325 degrees.

<u>Tuna Pasta</u>

•1 box of macaroni and cheese

- $\bullet ^{1\!\!/_{\!\!2}}$ cup of milk
- •1 can of tuna
- •1 can of condensed cream of mushroom soup

Prepare macaroni and cheese per box instructions. Stir in mushroom soup, milk, and tuna. Heat to serving temperature. Makes 3 servings.

Potato Pancakes

- •1 egg
- •½ tsp salt
- •¹/₂ diced small onion
- •1 ¹/₂ Tbsp flour
- •1/8 tsp baking powder
- •1/8 cup of milk
- •1 ½ cups of cubed raw potatoes

Blend egg, onion, salt, flour, baking powder, and milk in blender until smooth. Pour into a greased frying pan to form pancakes. Cook until brown on both sides. Season with salt and pepper to taste. Makes 6 servings.

Mixed Fruit Smoothies

Quick, colorful, and delicious, these four-ingredient fruity shakes are as good-looking as they are good for you.

- •2 bananas chilled
- •2/3 cup strawberries or mango slices
- •1-12-ounce can grape juice or mango, apricot, strawberry, or other fruit nectar, chilled
- •1-8-ounce carton fat-free yogurt
- •1 Tbsp honey (optional)

Combine bananas; strawberries or mango slices; grape juice or fruit nectar; yogurt; and, if desired, honey in a blende

blend until smooth. Pour into six tall, chilled glasses. If desired, sprinkle with ground pistachio nuts. Makes 6 smoothies.

Note: For two-tone smoothies, make mango smoothies and strawberry smoothies. Transfer to separate pitchers or glass measuring cups. Taking

a pitcher or cup in each hand, slowly pour both smoothies at the same time into opposite sides of the glass.



Frosty Fruit Smoothie

- •1 medium banana, peeled and cut into chunks
- •1 cup orange, pineapple, grape, or apple juice or low-calorie cranberry juice, chilled
- •1/2 cup fat free milk
- •1 teaspoon vanilla
- •3 ice cubes

In a blender, combine the banana chunks, chilled fruit juice, milk, vanilla, and ice cubes. Cover and blend until frothy. Pour mixture into glasses. Serve immediately.

Critter Shake

Place 2 scoops ice cream, 1 tablespoon chocolate syrup, and 2 jelly snakes in a blender and process on medium for 30 seconds. Add 2 strawberries, 2 crushed chocolate biscuits, and 1/2 cup milk and process on medium for another 30 seconds. Add 1/2 cup crushed ice.

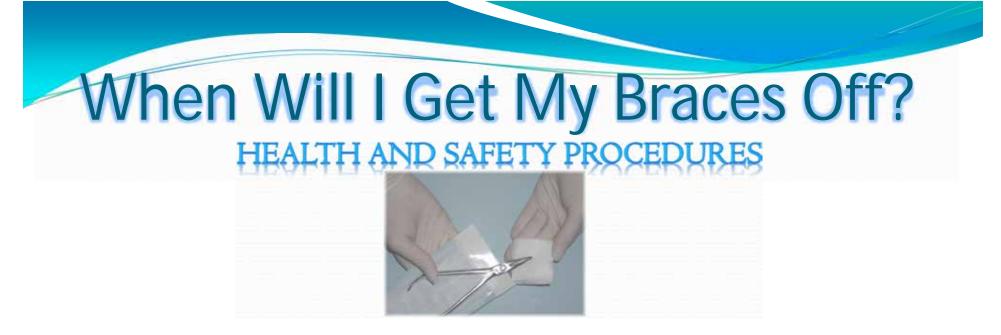
Tangy Cherry Milkshake (sugar free)

- •¾ cup (approximately 12) cherries, rinsed and halved
- •¹/₂ cup fruit-sweetened cherry yogurt
- •1/3 cup 1% milk

Sweetener as sweet as 2 teaspoons sugar, such as 1 packet Equal[®] or NutraSweet[®] (caution: some people have concerns about aspartame, the primary ingredient)

Fully freeze the cherries. Freeze the yogurt for an hour. Thoroughly purée all ingredients in a blender or food processor. Serve immediately. Makes one portion.





Over the past several decades, as some potentially serious diseases have been introduced to our society, health and safety procedures have become important factors in your visits to hospitals, physicians, dentists, and orthodontists. We have the same concerns not only for the safety of the doctor and staff but even more importantly for our patients. We are continually working to provide you with the safest possible environment.

The following is a list of the various procedures we follow in order to ensure your health and safety.

1. Any instrument or device that can be considered disposable is discarded. We do not consider attempting to clean or disinfect such things in order to be cost effective.

Examples: plastic saliva ejectors, paper products, headrest covers, and rubber polishing tips

We do NOT recycle wires, bands, or brackets. This means that braces and wires, which have been used in other 2. patients' mouths, are not sterilized and re-used to straighten your teeth! Even though such a procedure would save an enormous amount of money, we would not want such appliances in our mouths and therefore would not think about placing them in yours.

Instruments such as hand pieces, pliers, tooth scalers, and explorers are sterilized using the same techniques used in hospitals.

- Ultrasonic wash removes any debris attached to the instrument.
- The instruments are then washed and dried.
- From this point they may be placed in paper/plastic pouches, on racks, or in special cassettes before being placed in one of several types of sterilizers (dry heat, steam heat chemical, or steam heat).
- These sterilizers are capable of producing heat that will kill any virus, bacteria, or spore.
- 4. Our sterilizers are tested weekly to ensure that they are working properly.
- 5. On a weekly basis, our sterilizers are tested by a professional outside laboratory.
- 6. Chairs and countertops are regularly disinfected or covered and changed between patients for your protection.
- 7. Only vinyl gloves are used due to potential latex allergies. Please inform us of any known allergies.
- 8. Fresh water is installed at each dental chair so that there is no contamination of the water supply. This filtered water is changed every day to ensure "freshness." The air and water lines are disinfected regularly to meet infection control standards.
- 9. All of our x-ray equipment meets the highest standards of safety available.
- 10. Special aprons are used to limit radiation to only those areas of the head and neck that must be studied.
- 11. The amount of radiation is also monitored by an outside service to ensure that absolute safety is met.
- 12. Safety glasses are worn by patients during all procedures to protect eyes.

We appreciate your questions and comments on our Health and Safety Program and also ask that you inform our office if you have any infectious diseases such as the flu, cold sores, hepatitis, etc.



Tongue Thrusting

When WILLI Get My Braces Off? COMPLICATIONS TO ORTHODONTIC TREATMENT

Tongue Thrusting

What Is A Tongue Thrust?

A tongue thrust is an abnormal placement of the tongue or a deviant swallowing pattern that causes the tongue to push against or between the teeth. Other facial muscles also function incorrectly during a tongue thrust.

Infants utilize tongue thrust actions for feeding purposes. However, by the time a child reaches the stage of mixed dentition (both permanent and baby teeth), tongue thrust actions should disappear.



What Are the Results of A Tongue Thrust?

Abnormal placement of the tongue or an incorrect swallowing pattern can result in malocclusion of the teeth. Therapy can help to retrain the muscles involved in swallowing and aid in correcting resting posture of the tongue and lips and in creating and maintaining a healthy oral environment. Because the orthodontic process can be hindered by the tongue thrust action, we recommend that our patients who need braces seek an evaluation when we believe it is

What Can Be Done To Help?

An intense myofunctional therapy program may be recommended to eliminate tongue thrust behaviors, improve tongue and lip resting posture, and alleviate related oral habits (thumb sucking, etc.). A professional who specializes in this area usually carries out the program. In less severe instances these therapy sessions will be held in our office.

Tongue Retraining

Various "reminders" can be used to help re-train the tongue.

A "basket" or "crib" can be placed behind the upper front teeth to catch the tongue before it can be placed between the teeth. Little metal spurs can be placed behind the lower front teeth to restrain the tongue before it passes over the lower front teeth.

These types of reminders can be quite irritating for several days after placement. Please be assured that everything will become comfortable within a few days. You may use any form of non-prescription pain reliever that you would normally use during this period.

A very simple type of reminder may be used in a retainer type of device. A "bump" or "hole" can be placed in the plastic behind the upper front teeth. This form of reminder is not uncomfortable at all, but may be necessary on a long-term basis. A sugarless lifesaver can be placed on the roof of the mouth behind the upper front teeth. The tip of the tongue is then placed in the "hole" of the lifesaver while swallowing. This can be done at various times throughout the day when speech is not necessary.

Thumb and Finger Sucking

We all know that thumb sucking can cause very serious dental and orthodontic problems. If this habit is stopped at an early age (two to three years), in most cases no long-term ill effects are likely. However, if continued beyond this age, permanent changes will usually occur. If thumb sucking is discontinued, orthodontic treatment alone is almost always successful in a child who is still growing. Even orthodontics, however, cannot overcome the continued effects of this habit. There are various ways to overcome this problem. We have had a high degree of success in assisting our patients in solving this problem.

Mouth Breathing

(Due to allergies, nasal obstruction, enlarged adenoids, etc.)

We place great emphasis on the airway. The way a child breathes can definitely affect the development of the jaws. Normal breathing occurs with the lips together, inhaling through the nose. Narrow nasal openings are a sign that breathing is occurring mainly through the mouth. Another sign of mouth breathing is red, swollen gums. There are several causes of mouth breathing.

- e Enlarged adenoids
- @Allergies that can cause nasal blockage
- @Under-developed nasal passages

@Malocclusions (bad bites) that are characterized by the upper teeth and jaws being so far forward that the lips cannot easily close

- @Deviated nasal septum
- e Enlarged nasal turbinates

These conditions cause the lower jaw to grow downward, which then causes an "open bite." This condition is exhibited when the front teeth do not meet.

How can you tell when there is an airway problem? Below is a list of symptoms and signs:

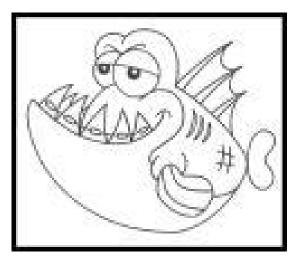
Chronic open mouth positionGummy smile

Swollen gums

- @Chronic dark circles under the eyes
- @ "Pouting" lower lip

Short upper lip

- Narrow "V" shaped upper jaw
- Opper teeth in "bucked" position
- @Chronic chapped or cracked lips
- @Excessive snoring



Missing Teeth

Whether teeth are missing congenitally (permanent teeth never developed) or because they have been removed (either accidentally or by a dentist), they almost always should be replaced. If they are not replaced by bridges or implants, many serious problems can result.

Teeth may tip into spaces where the tooth or teeth are missing, causing bite problems and consequent gum disease and bone loss. Also, teeth above or below a missing tooth may "super-erupt" again causing bite problems and as an additional side effect may require a root canal and crown or even extraction. Orthodontics in these cases can upright tipped teeth or intrude the tooth.

Periodontal Problems

Patients who exhibit periodontal (gum and bone) problems are certainly more difficult to treat with braces than those who don't have such problems. However, most of these patients can be treated successfully. It is usually necessary for such patients to see their periodontist (gum and bone specialist) more often than they normally would, usually every three months.

Restorations

Restoration, such as large fillings, crowns, and bridges, can make orthodontics more difficult. Sometimes the fillings and bridges may need to be redone after braces.

When WILLI Get My Braces Off? AVOIDING PROBLEMS AND CONVENIENT SOLUTIONS

Since each of us is different, our reactions to problems that can occur during orthodontic treatment are different. Some of us could be poked with one of the orthodontic arch wires to the point where a blister or hole may form in the cheek and not be at all concerned, while others react to the loss of a little elastic tie or a small space opening between teeth. Neither of these reactions is wrong... just different.

Here are some tips to help you follow the most appropriate action during your treatment:

Broken Wire

If a wire breaks, remove the long end from the back and place wax or sugarless gum over the "pokey" end if necessary.

"Pokey" Arch Wire

Attempt to tuck the wire out of the way with a pencil eraser or a spoon handle. If this fails, place wax over the affected area. Sometimes this also will not correct the problem. If you cannot get yourself comfortable, please call the office.



Loose Band

If the band comes off the tooth, place it in an envelope and bring it with you to your next appointment. If the loose band is causing no discomfort and your next appointment with our office is within a few days, you don't need to remove the band. Keep the area clean by "swishing" with water after each meal.

Loose Bracket

If you discover a loose bracket and it is giving you no discomfort, leave it alone. The bracket may slide along the wire but this will cause no harm.

Puffy or Swollen Gums

Rinsing with warm salt water at least three times daily will be very helpful. Products available commercially from your local pharmacy may also bring you relief. These items include Orabase, Glyoxide rinse, and Peroxyl.

In all cases, please call our office so that we can determine if we need to schedule a special appointment. Most often this is not necessary and we can add time to your next appointment. Therefore, it is vital that you call even if your next appointment is within a day or two.

These tips are given to you because we truly understand and value your time. We don't want to use your valuable time doing things that are unnecessary and will delay removal of braces. 58

Cold Sore/Canker Sores

These may be called fever blisters, cold sores, oral herpes, or canker sores. They are caused by the herpes virus, which infects the soft tissue of the lip, tongue, or cheek. Some people seem to be very susceptible to recurring bouts. Once you have had them, the virus is always present in your body, although usually in a dormant state. There is no cure for these sores, but certain precautions can be taken to lessen the severity and the frequency of the infections.

- 1. Keep your mouth sparkling clean. Brush properly after every meal and rinse thoroughly.
- 2. Avoid very hot or very cold foods. Also if you plan on spending any time in the sun, use a lip balm with a sunscreen of 15 SPF or higher and re-apply it often. This will help reduce the chances of having an outbreak.
- 3. Eliminate these foods: chocolate, nuts, soybeans, and brown rice. These foods contain the amino acid arginine, which seems to stimulate herpes virus growth.

The following nutritional regimen can make the episode less severe and shorter, often clearing up the sores within 24-72 hours.

Lysine	
Vitamin C	
Acidophilus yogurt Water	

500 mg every three hours 500 mg every three hours Once per day At least 6 glasses per day

Lysine is a natural protein and can be purchased in any health food or drug store. Acidophilus yogurt is also available in tablet form.

Problems & Emergencies

Lost Separators

If a separator falls out and you know where it came out, use dental floss in that space. If floss passes easily between the teeth and only a couple of days remain before the banding, it is okay. If the space is tight, call for an appointment for us to replace the separator.

Teeth Soreness

Separators and new wires cause the teeth to be sensitive to pressure. Chewing on the Thera-Bite (rubber wafer) for fifteen minutes immediately after placement helps minimize tenderness. Ibuprofen, aspirin, or Tylenol are also useful. The tenderness should end in two or three days. Warm salt water (one teaspoon of table salt in a half a glass of hot water) "swished" in the mouth also helps.

Irritated Cheeks, Lips, Tongue, and Gums

The brackets and bands are rough at first and may cause the soft tissues to become sore. Usually the tissues toughen, but in the meanwhile, soft wax placed over the offending hardware will smooth it out. Also, warm salt water helps. Over-the-counter ointments like Zilactin help healing.

Sometimes archwires bow out into the cheeks and irritate the soft tissue. A ball of cotton over the wire, at least during sleep, relieves the cheek from this pressure.

Occasionally loops in the archwire irritate the lips or gums, and this requires us to adjust the wire. Salt water will help until you can get in to see us.

Injuries

We are happy to provide a mouth guard to protect against sport injuries. They are also useful to wear during sleep to prevent damage from tooth grinding.

If you have an accident, your lips may be cut and the braces may be partly loosened. If you are concerned, please call the office during business hours or page the doctor after office hours.

Loosening of Teeth

Loosening of the teeth is common throughout treatment. This is normal and should not upset you. The teeth will again become rigidly fixed following removal of the appliances. Teeth must loosen first so they can move to their new positions.

Special Appointments

We have special appointment times available at specific times each day. Each day at our morning meeting, a specific time is allocated for special appointments. If you feel you have a need for this type of appointment, you will be asked to come during this time only. As a general rule, a special appointment may be made when there is pain, a loose band, a broken archwire, or something sticking out that you can't take care of. It's important to learn the names of the parts of the appliances. It will help when you call the office to be able to identify what is broken or out of place.

ELASTIC (RUBBER BAND) WEAR

There continues to be much confusion concerning the need for and use of elastics. Many patients and/or parents believe that they are a replacement for headgear or some other device. They are not!

Elastics are used for several purposes:

- 1. To move lower teeth forward and upper teeth backward (or the reverse) simultaneously
- 2. To close small spaces
- 3. To help "fit" upper and lower teeth together
- 4. To assist in correcting upper and lower midline (front tooth discrepancies)
- 5. To correct cross bites
- 6. Other minor, individualized uses

Please wear your elastics exactly as directed. Remember each one of you is different. How and when you wear your elastics may be different than other patients. So please don't compare yourself with others. Participation in this phase of your treatment is not only necessary to finish treatment on schedule but also to achieve an excellent result. Thank you in advance for your full participation.

E







Class III Elastics

Class II Elastics

Box Elastics

Short Class II Elastics

Sling Elastics

Anterior Diagonal Elastics









This appliance is used to widen the upper arch. We use it to develop bony expansion—not just tooth movement (tipping out). It is usually activated one turn every day over a three to four week period. There are occasions when the activation schedule is more or less than what is usual. If expansion is the only reason for use of the Hyrax (fig. 43), it is left in place as a holding device as new bone grows in along the midline suture for a minimum of 6 months.

If the Hyrax expander is to be used additionally to move molar teeth backward (instead of using headgear), it may be left in place for most or all of treatment time.

At times a space may appear between the two upper front teeth during expansion. This space will close within a very short period of time.



Figure 43 -Hyrax Expander



LOWER SAGITTAL APPLIANCE (SCHWARTZ RETAINER)

This appliance (fig. 44) achieves the best results when worn twenty-four hours per day. However, since experience has shown that when removed at school or when eating, there is the chance that it can be broken or lost, we recommend that this device be worn after school and throughout sleeping (a minimum of sixteen hours per day). This avoids problems and the additional expense to replace it.

It is very important not to play with the appliance with your tongue. It must be fully seated to work and stay fitting properly. Directions for activation of this lower expander will be given as necessary. Compared to upper expanders, progress occurs at a much slower pace. Directions will be given to you to handle any "sore spots" that may occasionally develop. Please do not go for any lengthy period of time without wearing it! If two days pass without wearing it, you may not be able to get it to fit again.



Figure 44 – Lower Sagittal Retainer



RETAINERS

These are very important devices. Braces move teeth by making them loose in a very controlled and safe manner. Since your teeth are still loose when braces are removed, they must be held or retained until bone slowly fills in around them.

As teeth are moved by braces, there are changes that occur in the bone and fibers attached to the teeth. These changes cause teeth to become slightly loose. When braces are removed this "looseness" still exists. This creates an unstable condition in which teeth can move slightly in all directions.

Over a period of months, bone begins to "fill in" around the roots of the teeth causing their positions to solidify. Retainers (or other retention devices) are necessary to hold teeth perfectly straight while this filling in of bone is occurring. If retainers are not worn during this period, teeth may be out of alignment and become "set" while they are not straight.

If this occurs, it may become necessary to retreat the misaligned teeth causing additional time and costs to be incurred.

In general the retainer-wearing schedule is as follows (unless otherwise indicated):

Ten to twelve hours per day for two years or until wisdom teeth are removed

© Six nights per week for two months

Five nights per week for two months

Four nights per week for two months

@Three nights per week for two months

Two nights per week for two months

@One night per week indefinitely

During this period of reduced wear, if the retainer feels very tight, it is usually an indication that there is some tooth movement. If this occurs, wear the retainers more frequently and then attempt to reduce the wearing time once again.



This type of retainer (fig. 45) may be used for upper or lower teeth. It has two basic parts:

- Wires that wrap around the outside surface of teeth
- Acrylic (plastic) that covers the roof of the mouth and the inside surface of the lower teeth

It can be used to hold or even move teeth slightly. If this type of retainer is used, the wearing schedule can be of two types:

- 1. If any additional tooth movement is necessary, you will need to wear your retainer at ALL TIMES except for eating, swimming, and while playing sports.
- 2. If no movement is desired, your retainer may be worn ten to twelve hours per day (6 P.M. to 6 A.M. for example).



Figure 45-Hawley Retainer





These retainers are worn when no additional tooth movement is desired. They are lightweight, somewhat flexible, and comfortable. It is very difficult to see these retainers in your mouth and therefore very esthetic.

Clear retainers (fig. 46) are normally worn for ten to twelve hours per day. Depending on work and school schedules you may wear them at your convenience. Most patients wear them after dinner and while sleeping and remove them in the morning. This time schedule allows freedom during school, sports, and work hours. It also drastically decreases the likelihood of losing or breaking the retainer.



Figure 46-Clear Retainers



There are some patients who, after having braces removed, still have some teeth (usually lower front or upper front) that are so unstable that the likelihood of movement is great. In these instances a fixed, bonded retainer (fig. 47) is placed on the inside surfaces of the front teeth.

This type of retainer is also indicated for patients who are not disciplined enough to wear a removable retainer.

This is done to be absolutely sure that your teeth stay healthy and decay free.

If you have a bonded retainer, there are three additional points you must remember.

- a) There are some limitations on the foods you are allowed to eat. Biting into hard, chewy, or sticky foods must be eliminated. Examples are apples, taffy, hard pizza crusts, frozen candy, ice, hard bagels, gummy bears, and whole raw vegetables.
- b) Flossing your teeth will be similar to flossing when you had your braces on. You cannot snap the floss between your teeth. You must thread the floss under the lingual wire.
- c) Please remind your dentist and/or hygienist that you have this type of retainer and that they should take extra care when cleaning your teeth.



Figure 47-Bonded Lower Retainer



- 1. Please wear your retainer(s) (figs. 48 and 49) a minimum of twelve hours per day. This includes time spent sleeping. As an example, if you remove your retainer when you wake up at 6 A.M., you need to have your retainer in your mouth by 6 P.M.
- 2. Placing and removing retainers properly is very important. You will be (or have been) shown exactly how. Gently place your retainer in your mouth with your fingers. Do not "bite" the retainer into place.
- 3. Also when removing your retainer, please use your fingers NOT your tongue. Removing or placing retainers improperly can cause the wires to break. Continual improper placement causes a "heat hardening" to occur in the wires, much like bending a wire over and over will cause it to snap. This snapping can occur while the retainer is in the mouth and being worn properly! It is the accumulation of improper placement and removal that causes breakage.
- 4. Clean your retainers daily. You may gently brush it using a toothbrush, soap, and water. You may also use a baking soda/water mixture to soak the retainer and then gently brush. Lastly there are commercial products available, such as Retainer Brite and Efferdent for orthodontic appliances that can be purchased at most local pharmacies. The key words are "gentle brushing."
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GUIDELINES FOR WEARING YOUR RETAINER CONT'D

- 5. Never place your retainers in the hottest tap water and NEVER place them in boiling water. They will definitely warp or melt and will necessitate the purchase of new retainers.
- 6. If you choose to wear retainers to school or work:
 - a. Never place your retainers in a napkin during eating.
 - b. Never place retainers in a front or back pocket. They can easily fall out and break or you might sit on them.
 - c. Please wear them all the time.
- 7. Always keep your retainers in the case provided to you.
- 8. Do not leave your retainers where they may be exposed to sunlight, even if they are in their protective case or are inside the car, house, or office.
- 9. If there are small children or pets in your household, please keep the retainer case in an inaccessible area.
- 10. If a problem develops with your retainers such as a wire poke or sore spot on your lips or gums, please call immediately. Do not go for any extended period of time (one to two days at most) without wearing your retainers. Teeth may move enough so that the retainer may not fit. This is true even though you may not be able to see any movement.
- 11. Since it is always possible that teeth may move slightly, you must continue to wear your retainers to keep your teeth straight.

You can be certain that teeth cannot move if your retainer is being worn as instructed!

GUIDELINES FOR WEARING YOUR RETAINER CONT'D

What can cause teeth to relapse or become crooked after they have been straightened?

- 1. Not wearing your retainers
- 2. A tongue thrust that has not been corrected
- 3. Thumb sucking that has not been stopped
- 4. New fillings or crowns being placed without checking if retainers or positioners still fit properly

We have done everything possible to give you long-term stability for your teeth. It is now up to you to keep them straight.

Please be sure to obtain recommendations and removal of your wisdom teeth from your dentist if we have not done so or if you are no longer visiting our office on a regular basis.

As the years go by you will notice facial changes occurring which have been genetically predetermined. These changes sometimes have an effect on the stability of your teeth. If you notice any changes, please call us so that corrections can be made while they are still minor. The longer you wait to contact our office, the more difficult the adjustments will be.

USE OF THE TOOTH POSITIONER

Positioners

A positioner (figs. 50 and 51) is a different type of finishing or retention appliance. Although it looks simple and somewhat like an athletic mouth guard, it is very sophisticated. When indicated and properly worn, it helps to achieve a wonderful result. Tooth positioners can be made of several different types of materials (rubber, silicone, or thermo plastic that is hard and clear at room temperature). They also come in a variety of colors, except for thermoplastic, which is always clear. If you have a thermoplastic type of positioner, you will see that at room temperature it is clear and hard. It will be necessary for you to place the positioner in warm water to soften it so that it can be easily placed over your teeth. Very hot tap water is all that should be necessary. Never boil the positioner! It will distort and become useless, requiring another positioner to be made at an additional cost.

The size of the tooth positioner may be relatively large, covering all of your upper and lower teeth as well as extending four to five millimeters beyond your gums. The positioner may also be relatively small, covering half of your upper teeth and three-quarters of your lower teeth. The size is totally dependent on each individual patient's needs and will be decided by the doctor when your braces are removed. Rest assured that the smallest, most comfortable positioner will be chosen that coincides with achieving the very best results.

Figure 50 -Positioner





Figure 51 -Positioner

INSTRUCTIONS FOR WEARING YOUR POSITIONER

- 1. Wear the positioner for four hours each day plus sleep time for six weeks. It does not have to be worn for four hours straight, but you must wear it for at least twenty minutes at a time until the required four hours is achieved. Nighttime wear is not enough. In fact, nighttime wear is equal to only one hour of daytime wear.
- 2. Exercise into the positioner by clenching your teeth for ten seconds and then relaxing for about twenty seconds. Clench... relax... clench... relax. It is this clenching action that enables the teeth to move into the very best position possible.
- 3. Your teeth and jaw muscles will become somewhat sore for the first few days. This is very normal. If your jaw joint becomes painful or should you experience clicking or popping noises in your jaw joint that you did not feel before you were given your positioner, please call our office so that we can update your wearing instructions.
- 4. After the first six weeks you will normally decrease wear to about two hours per day plus sleep time. After another six weeks, wearing time will be reduced to one hour per day and/or during sleep.
- 5. Please understand that every patient is different and your specific wearing instructions may differ. You will be given precise instructions at the time you are seen in our office.
- 6. Clean your positioner with soap, water, and a toothbrush at least once daily. This will keep food and plaque from adhering to the positioner as well as keeping it smelling fresh. Always clean your positioner before it is stored in its case.
- 7. When not wearing your positioner, keep it in the protective plastic case.
- 8. Do not keep the positioner in your car. Excessive heat or direct sunlight can cause your positioner to become distorted.
- 9. Always keep your tooth positioner away from family pets. They love to chew on most orthodontic appliances.
- 10. Your positioner may be your only retention appliance, but in some cases, retainers may be used after a four to six month period of time.

When Will I Get My Braces Off? T.M.J (TEMPOMANDIBULAR JOINT) PROBLEMS

Over the past thirty years and especially since the mid-1980s, T.M.J. problems have made their way into public consciousness. Because symptoms associated with this problem mimic other diseases, they can be easily misdiagnosed or overlooked.

While a full discussion of T.M.J. dysfunction cannot be presented here, a very simplified outline follows. Even though many classifications of T.M.D. (temporomandibular dysfunction) exist, they can be distilled into two areas: Things that occur inside the jaw joint complex such as clicking, popping, locking (open or closed), pain, and swelling. MPD (myofascial pain dysfunction) or muscular issues

These two general problems may occur separately or in combination.

WHAT ARE SOME OF THE SIGNS AND SYMPTONS OF T.M.D?

oHeadaches

oNeckaches or stiff necks

oEar problems, such as earaches, fullness in the ears, and noises

oDizziness or lightheadedness

oVisual disturbances

Shoulder tightness, soreness, or pain
Numbness or tingling in the fingers
Clenching or grinding of teeth
Inability to open the mouth properly



oClicking noises in the joint when opening or closing the mouth or when chewing

TREATMENT OF T.M.D?

Treatment of T.M.D. may involve several health practitioners or be limited to one person. Realizing that only an accurate examination, diagnostic records, and diagnosis can enable an orthodontist to make treatment decisions, a summary of typical treatment follows.

1. Splint Therapy (Orthotic)

This is a hard, clear plastic device that may be worn over the upper (usually) or lower teeth. Except in rare circumstances, it must be worn twenty-four hours per day. In many circumstances this will include eating with the splint. Every two to three weeks, adjustments are made to the biting surface. These adjustments may include removal of some plastic or a full removal of plastic followed by addition of new plastic.

2. Physical Therapy or Physical Therapy Modalities In many cases both splint therapy and physical therapy are necessary. We administer physical therapy modalities (ultrasound, electrical stimulation, and cool sprays) in our office and sometimes refer to qualified physical therapists for this phase of treatment.

TREATMENT OF T.M.D?

Once symptoms have been alleviated and the jaw joint is properly hinged, additional phases of treatment may be necessary. This treatment may include:

- a) Occlusal Equilibration (reshaping of the biting surfaces of the teeth)
- b) Orthodontics (braces)
- c) Jaw joint surgery
- d) Jaw surgery
- e) Tooth restoration (fillings and crowns)
- f) Combinations of the above

It is usually not possible to determine what type of treatment will be necessary until after the splint phase of treatment.

INSTRUCTIONS FOR WEARING A SPLINT

- 1) Your splint will have a slight plastic taste. This will disappear within a few days.
- 2) If you are wearing an upper splint, you will feel that there is a space between the roof of your mouth and the splint. After a few days the roof of your mouth will adapt and the space will disappear.
- 3) You may find that you produce extra saliva and in some cases "bubbles" may be produced between your front teeth. This also is temporary.
- 4) As you close your mouth, you probably will feel an uneven bite. All teeth may not feel as if they are hitting the splint at the same time. As adjustments are made this bite will become more and more comfortable.
- 5) When you remove the splint to clean it, your upper and lower teeth will not meet as they did before. YOUR TEETH ARE NOT MOVING! Your lower jaw is moving because the muscles are beginning to relax. Since your lower teeth are connected to your lower jaw, they move with it.
- 6) The splint must be worn all the time. Remove it only to clean it. During the initial phase of treatment, you may also remove it for meals. You will be instructed when to begin eating with it.
- 7) Speech may be affected for the first few days. If you are wearing your splint as instructed, speech will return to normal within a week. Do not remove it when talking on the phone, during speeches, etc. Speech will only return to normal if you wear your splint all the time.
- 8) Symptoms will change throughout your treatment. A small percent of patients "feel" significantly better within days. This does not mean that they "are" better. It only means that symptoms are being reduced. A small percent of patients will "feel" worse—sometimes significantly worse. This does not mean that something has gone wrong. It only means that your muscles are becoming more tense in response to the changes being made. The vast majority of patients will find a gradual reduction in symptoms and pain.
- 9) "Getting better" takes time. This is not magic. Please hang in there.
- 10) If you are in the very small minority that does not attain improvement, we will make additional recommendations or referrals to other health professionals.



DYSFUNCTION

We have begun to treat your temporomandibular joint/muscle dysfunction. Our success will depend in large part upon the way you treat these injured areas. The following instructions will greatly enhance the correction and healing of this area.

- 1) For the next few months, be sure to cut all foods into small, bite-size pieces and try to avoid opening your mouth any wider than the thickness of your thumb.
- 2) Do not eat hard crusts of bread, tough meat, raw vegetables, or any other food that will require prolonged chewing.
- 3) Avoid chewing gum during this period of treatment.
- 4) Be sure not to protrude your jaw, as you might do when biting off a piece of thread.
- 5) Do not bite any food with your front teeth.
- 6) If you wear lipstick, do not bring your jaw forward when applying it.
- 7) Avoid protruding your jaw during any other activities: for example, smoking, conversation, etc.
- 8) Make every effort not to strain your joint ligaments unnecessarily.
- 9) Should you find yourself clenching your teeth together, try to remember to keep your "lips together and teeth apart."
- 10) Try to sleep on your back. Avoid sleeping on your jaw.

These simple rules can allow you to avoid jaw movements that might re-injure your joints, muscles, or ligaments.

When Will I Get My Braces Off?

One of the most important steps in breaking the habit of clenching and grinding the teeth is to become conscious of when it occurs and, of course, to stop doing it. One excellent way to avoid clenching is to learn to keep the lips together and the teeth apart. This simple step will not only make it impossible to clench the teeth, but even more important, it will relax the muscles that become tense and taut. It also permits normal positioning of the various components of the temporomandibular joints.

The more conscious you become about this basic procedure of relaxing the muscles of the jaw, the faster you will master this new and beneficial way of overcoming a harmful habit. Gradually you will find that you are awakening in the morning without having your teeth clenched. But you must persevere. Remember that you have had this habit for a long time, and it won't vanish overnight. You must make a conscious effort to separate the teeth at the same time that you keep the lips closed. Repeat to yourself several times a day: "Lips together and teeth apart." An extra dividend: You'll find that this will improve your expression and appearance!