

## APPENDIX-A:

### Your Tx Mechanotherapy Systems

Your Tx mechanotherapy is the sequence of appliances and visits you use to treat your patients. You have one or many Comprehensive fixed braces Tx mechanotherapies (see examples below), and typically many fixed braces Ph-I and Limited Tx mechanotherapies, along with removable appliance mechanotherapies.

#### **Example Tx Mechanotherapy: (Typical Non-Extraction Full Start)**

##### **Initial and Appliance Appointments:**

Exam, Records Case Presentation

Pt. Orientation, U&L IMP for IDB

IDB U&L 6-5-4-3-2-1's (+ 7's =25%), U&L 015 NiTi AW's

**OR**

Pt. Orientation, Separate U&L 6's

Band U&L 6's, Bond U&L 5-4-3-2-1's, U&L 015 NiTi AW's

**OR**

Pt. Orientation, Separate U 6's

Fit & IMP for U MEA, Reseparate

Band U MEA & L 6's, Bond U&L 5-4-3-2-1's, U&L 015 NiTi AW's

##### **Active Tx, Archwire Change Sequence:**

Change from: U 014 NiTi AW                      to U 018 NiTi AW

Change from: L 014 NiTi AW to                      L 018 NiTi AW

Change from: U 018 NiTi AW                      to U 17x25 NiTi AW

Change from: L 018 NiTi AW to                      L 17x25 NiTi AW

ReBOND 1 to 4 Brackets, Bond U&L 7's, Replace AW's

Change from: U&L 17x25 NiTi AW to U&L 19x25 NiTi AW

Remove, Reshape and Replace U Ideal AW 2 Times

Remove, Reshape and Replace L Ideal AW 1 Time

Remove, Coordinate and Replace U&L Ideal AW's 1 Time

50% of AW's inserted U or L; 50% of AW's inserted U&L

##### **Appliance Removal & Retention Tx Sequence:**

Pre-DeBand Acct Check, L IMP for Bonded 3x3

DeBand/DeBond All, Bond L 3x3 Retainer, IMP for U Hawley

Insert U Hawley, Retention Records

4 Retention Checks in: 1-mo, 3-mo, 6 mo, 6mo = 14 months of retention

#### **The success of your Tx mechanotherapies depends on your abilities to:**

- Set your appointment intervals so as to maximize the forces of your braces
- Use various Bracket and Anchorage systems that provide speedy successful results
- Use Bonding/Banding Techniques that are accurate and structurally sound
- Use your wire-bending Skills to quicken your detailing and avoid re-bondings
- Retention Tx: Debond your case with little or no loss in ideal teeth positions

**Appointment intervals:**

Your intervals between appointments vary, depending on the bracketing system you use and its *philosophy* of appointment intervals. Over the years it has become popular to have long (10-12 weeks) between appointments because of the new heat-activated archwires that work for a long period of time. It is appealing because there are fewer appointments and thus, fewer reasons to mess up your schedule and inconvenience your patient/families. Unfortunately, much can and does happen between those long intervals (breakage, cooperation, etc.) that can shift your ECD (Estimated Completion Date) months into the future, frustrating you and your patients. Is it worth creating difficult-to-complete (patient motivation, etc.) run-on cases, just to save a 15-minute quick check to make sure all is going well? After working with hundreds of doctor's Tx mechanotherapies, the most effective (fewest appointments with fewest run-on cases) appointment interval sequence seems to be:

- 7-9 weeks for the initial unraveling of teeth
- 6-8 weeks for leveling, space closure, etc.
- 4-6 weeks for final detailing

**Bracket Systems and Anchorage techniques:**

Whatever bracketing system you use from whichever company is your choice. Unfortunately you must try various techniques until you find one that works for *you*. There is no good or bad bracket or anchorage system, whatever works, works, whatever doesn't, doesn't...for you.

**Bonding/Banding Techniques:**

In the past, "Progressive Banding/Bondings" were popular, adding chairtime and appointments. The bands are used on the lower 6-5's since the bonds get knocked off; although, using a bite plane or placing acrylic on these teeth at the initial bonding helps to keep the brackets from being knocked off. In general, whatever you do, it is best to do as much as you can in as few appointments as possible, such as:

- If you bond all the teeth, try to do it indirectly, using your own lab or outside service. This also helps to reduce the wasteful remove, reshape & re-insert (RR&R) archwire appointments during the detailing phase of treatment.
- If you band and bond all of the teeth, do it all in one initial appointment.
- If you use lab-constructed auxiliary appliances, do a Fit & IMP and then insert it at the banding/bonding appointment (unless you want to expand a few months before the full band/bond appointment).
- If you band or bond the U &/or L 7's, do them together in one appointment or combine it in a "reconstruction" appointment.

Today most practices are getting away from bands and use only bonds, usually fully bonding all available teeth in one appointment. Indirect bonding trays have come a long way and many practices use them; they either take impressions or do a scanning of the teeth. The more accurate the bonding trays, the fewer re-bondings and wire-bending appointments are needed.

**Wire-Bending Skills:**

In the past, orthodontists were called "wire-benders" because that's how they produced tooth movement. Today, with "programmed" bracketing systems and non-bendable heat-activated archwires, this art is being lost. Many schools don't even teach wire-bending any more. Instead they use the "re-bracketing" philosophy of repositioning brackets instead of bending the archwire. While this technique (used once) is helpful in the early to mid stages of treatment to clean up any difficult

to place brackets (rotations, eruptions, etc.), it is not a substitute for wire-bending in the detailing stages of treatment. In the past, a doctor averaged about 10 to 12 archwires per full start. Today's doctors average six to eight archwires per full start, mainly due to the properties of heat-activated archwires and appointment intervals.

There are ways to make archwires changes productive other than improving your wire-bending skills:

- Change U&L archwires in one visit instead of just U or L.
- When banding or bonding the 7's, use a "piggyback" sectional archwire over the present archwire to the 7's. This way, you don't have to step down a wire and then step up again, saving yourself two extra visits and months of treatment time.
- If you do a "reconstruction" appointment, rebond/reband when you band/bond the 7's and change to lighter archwires.
- Be more precise when banding and bonding so that you do *less* reshaping appointments with second- and third-order bends, although, second- and third-order bends are preferable to re-bracketing.

## Retention Tx

The main concern when debanding is to make sure that no ground is lost between the debanding and the retainer insertion. Here are some ways orthodontists deal with it:

- If **DeBanding**, it's usually done in two appointments to close spaces. The simplest way is to DeBand at one visit and DeBond at the next, taking U&L IMP and making instant occlusal retainers. *If done*, also take U&L IMP for retainers to insert at the next visit.
- If **only DeBonding** and using a L fixed retainer, take an IMP for the L fixed retainer at the Pre-Debond appointment. Then insert it at the De-Bond appointment, taking an U IMP for instant occlusal retainers and if done, for a Hawley to be inserted at the next appointment.
- Take Retention Records at the deband or retainer insertion, unless you want the hypertrophy reduced first; but at least take IO Photos or Impressions, just in case they don't show up after retainer insertion.

In the past, retention Tx was anywhere from two to three years (and forever for some doctors). Today paid (part of the Tx fee) retention Tx lasts from 6 months to two years, with 18 months being the most popular.