

CLINICAL BONDING PROTOCOLS (DETAILED)

BONDING SUPPLIES

TRAY MATERIALS

Pumice & applicator
Primer
Etch
Adhesive
Schure Scaler & Band Pusher
Cotton Tip Pliers
Microbrushes
Cotton Rolls
Driangles
Cheek Retractors
High volume suction
Curing light
Cheek retractors



REQUIRED & RECOMMENDED PRODUCTS

REQUIRED

CURING LIGHT –

Light intensity/Power Irradiance 1800(minimum) - 2400(recommended) milliwatts/cm

The light intensity is typically decreased by at least half when utilizing IDB trays.

Radiometers, to test light intensity, are typically built into the curing light base but can also be purchased separately.

RECOMMENDED

CHEEK RETRACTORS - NOLA cheek retractor, suction system

ETCH - Phosphoric acid 35-37%

PRIMER - Assure Plus (Reliance)

ADHESIVE

- Brace Paste (AO)
- Transbond XT (3M)
- Connect (GC)
- LCR (Reliance)
- GoTo (Reliance)

TRAY REMOVAL INSTRUMENT - Schuler scaler

ADDITIONAL RECOMMENDED PRODUCTS

- Driangles for additional cheek retraction & moisture control for maxillary 7's
- Cotton rolls - moisture control for sublingual & lip retraction

PRIOR TO BONDING APPOINTMENT

INSPECT DIBS TRAYS UPON ARRIVAL

Open the patient's IDB Tray Image

- Does the physical tray match the IDB Tray Image?

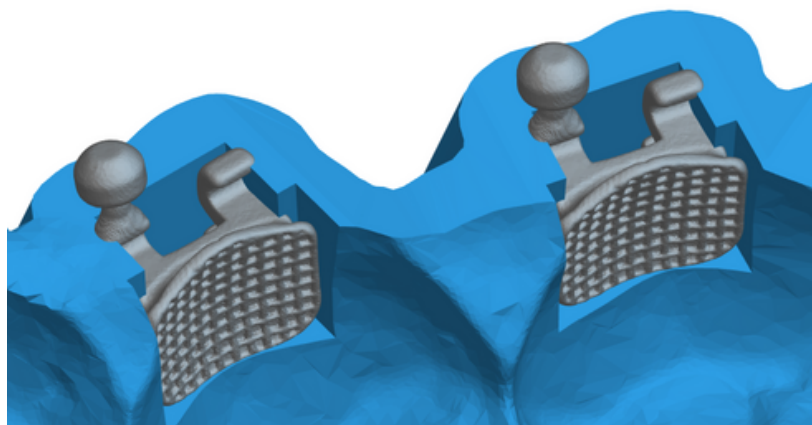
Brackets

- Are there any loose brackets?
- The bottom of the bracket should line up with the bracket box
- The box should lock around the bracket completely (below)

Trays

- Do trays match the patient's name?
- Are all location sextants present?

Contact customer support immediately with any concerns



PASTE BRACKETS UP TO 24 HOURS BEFORE BONDING

- Butter adhesive mesial to distal pressing into the bracket pad in all four corners (incisal to gingival may dislodge bracket)
- For thicker adhesives, use a microbrush dipped in primer to spread
- Avoid getting adhesive on the tray. Wipe the tray immediately if this occurs.
- To avoid flash, do not use an excessive amount of adhesive.
- Molars may require more adhesive due to anatomy (below)
- Add extra adhesive based on IDB tray images or patient's anatomy
- Store pasted brackets immediately back into DIBS AI box to avoid premature curing.



BONDING APPOINTMENT

SUMMARY

1. Prepare for patient's arrival
2. Inform patient & parent
3. Inspect patient's mouth
4. Clean enamel (pumice)
5. Place cheek retractors
6. Mechanical bond (etch)
7. NOLA (if applicable)
8. Chemical bond (primer)
9. Place/seat DIBS AI tray
10. Light cure
11. Tray section removal
12. Check for flash
13. Ensure brackets are bonded
14. Check bite
15. Place arch wire
16. Patient/parent instruction

PLEASE NOTE

DIBS AI trays are temperature-sensitive! Cold temperatures cause the trays to become more rigid causing them to be more difficult to remove. Temperatures may fluctuate and occur with seasonal changes during shipping, office temperatures, as well as the office storage location.

The trays become warmer and more flexible during the routine light-curing process during bonding.

However, If additional heat is needed, utilize the tray warmer provided in your Clinical Training Kit, the curing light or the warming pad. You will not cause any harm to the tray by utilizing these additional warming techniques.

PROTOCOLS

1. PREPARE FOR PATIENT'S ARRIVAL

- Open patient's IDB images on operatory computer

This helps to visualize & understand the bracket location on your patient for each step in the DIBS AI bonding process

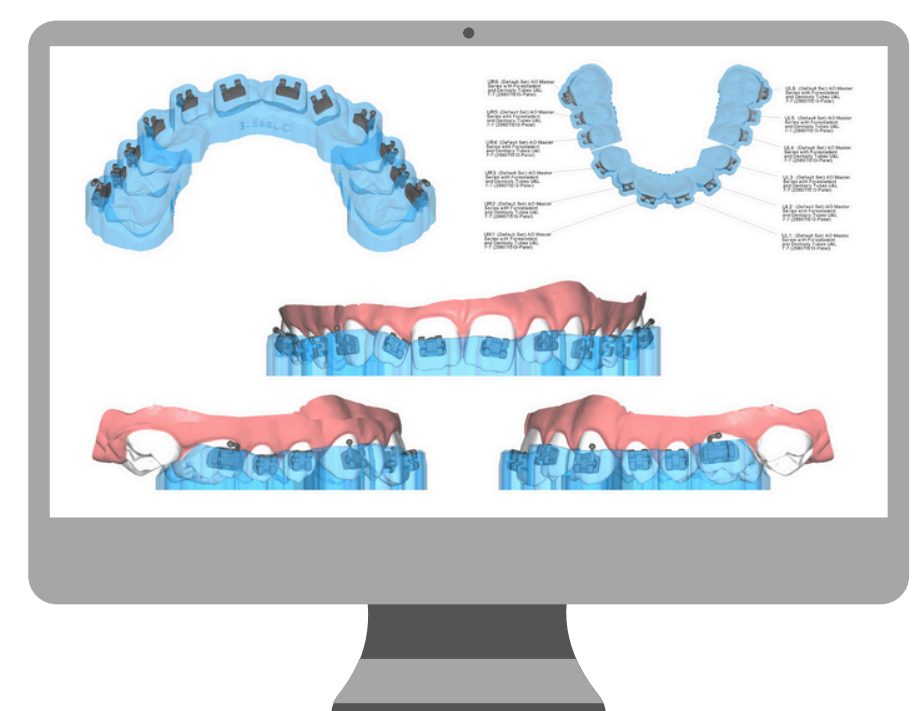
- Check light cure settings (Ex: Ledex on Turbo for 4 seconds)
- Set-up [tray materials](#)
- Optional: Place trays on warming pad (see 'Please Note')

2. INFORM PATIENT & PARENT

- Dr _____ has already determined digitally where your braces will go. I'll be using these trays to place them exactly where (he/she) placed them.

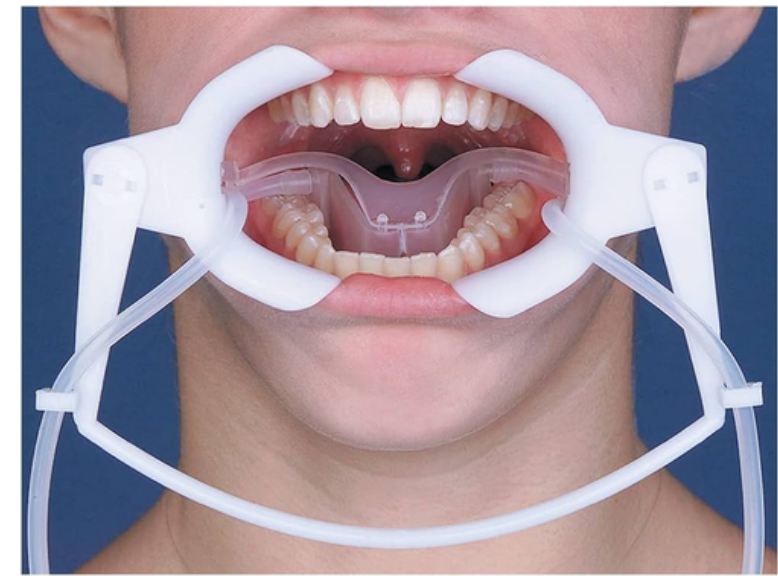
3. INSPECT PATIENT'S MOUTH

- Additional adhesive? Due to anatomy or custom bases
- Prep exceptions? Crowns, fillings, etc. present
- Poor Oral Hygiene? Calculus removal may be needed



4. CLEAN ENAMEL - ENTIRE MOUTH

- Pumice the entire facial aspect of each tooth receiving a bracket.
- Rinse well.
- 6 & 7's may require facial calculus removal

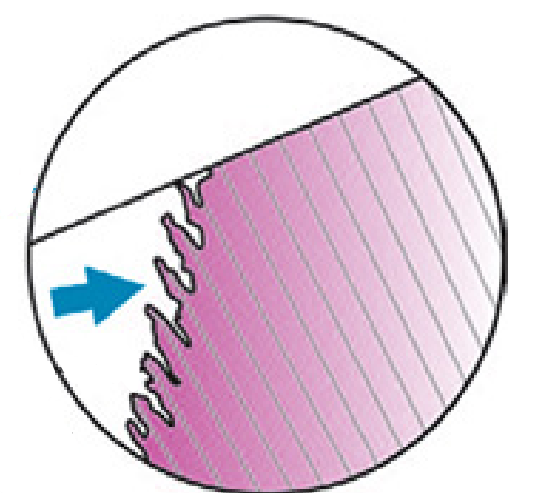


5. PLACE CHEEK RETRACTORS

- Ensure lips & cheeks are not touching the teeth.
- Use Driangles for posterior cheek retraction and/or cotton roll(s) in the vestibule if additional lip retraction is needed.
- NOLA: Use the low-volume suction attachment for saliva removal
- The high-volume saliva ejector will be used for etch removal

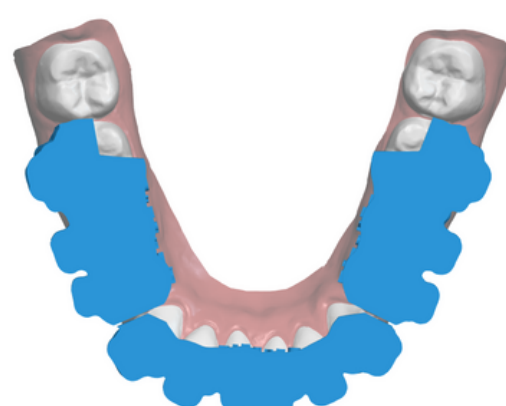
6. MECHANICAL BOND - ONE ARCH AT A TIME

- Place the etch in the general area where the bracket pad will be located.
- Dry facials of all upper & lower teeth completely, suction saliva.
- Etch an entire Arch; lower 1st, rinse then upper arch, then rinse.
- Begin with the mandibular furthest most posterior region
- Place the etch in sequential order
- Do not touch the etch tip directly on the tooth - will cause damage to enamel rods.
- The etch remains on the tooth for a minimum of **30 seconds** but **no longer than 60 seconds**
- Etch that remains on a tooth longer than 60 seconds will destroy enamel rods resulting in loss of mechanical bond & the increased likelihood of a debond
- Rinse in the same order the etch was placed
- Use high-speed suction to remove the etch
- Rinse each tooth for 5 seconds each to remove etch and expose enamel rods
- An entire arch will take 1 minute 20 seconds if 14 teeth are present



7. NOLA (If applicable)

- Change the suction attachment from low-volume suction to high-volume for the remainder of the bonding process
- Moisture contamination is a significant contributing factor for debonds especially on 7's to prevent this
- Use low-volume suction with saliva ejector, especially in the mandibular distal buccal region.
- Use rolled cotton rolls under the tongue and/or dry angles for cheek areas
- NOTE: DIBS AI Trays are altered in the mandibular 6-7 area to allow for the NOLA tongue guard use. (See photo)



8. CHEMICAL BOND - One sextant at a time

- Ensure your curing light is at its appropriate setting; 1800-2400 mW
- Mandibular posterior sections first to avoid moisture
- (If applicable) Place single DIBS AI tray of 1st location on warming pad
- Dry entire mouth until teeth are "Frosty white," suction saliva
- Apply a thin layer of primer to the approximate location where the etch was placed
- NOTE: The frosty white area of the tooth shows where the etch was placed
- Lightly dry primed teeth
- NOTE: Too much air will result in loss of primer from the tooth.
- Light cure for 5 passes; slowly proceed back and forth over teeth where the primer was placed
- Over-cure rather than under-cure for increased bond strength



9. PLACE/SEAT DIBS AI TRAY - One sextant at a time

- Ensure you have the appropriate tray for the location you are working in
 - Look at DIBS AI Tray for location (Ex: UR for Upper Right)
- Fully seat tray
 - Press lightly on the occlusal surface of the tray to ensure it is fully seated
 - There is no need to apply continuous pressure to hold the tray in place
 - NOTE: Any brackets in the gingiva will require continuous pressure to fully seat brackets in the appropriate location.
- Press the facial portion of the bracket lightly to the tooth once the tray is fully seated
 - Do not skip this step!
 - This will eliminate any gaps that exist between the tooth and the bracket.
 - Lightly press the facial aspect of the bracket to the tooth with either the tip of an instrument, such as a band pusher, or your finger.
 - NOTE: Pressing too firmly will cause the adhesive to be compressed out of the bracket pad area to surrounding teeth resulting in a debond
- Excessive Adhesive?
 - Remove any gingival adhesive with a microbrush before light curing
 - Adjust the quantity of adhesive on the remaining IDB trays if excess flash is present

10. LIGHT CURE - One sextant at a time

- Ensure the DIBS AI tray is fully seated
- Cure the facial of each tooth in the sextant for 4-5 seconds each.
- Then alternate curing the gingival & incisal on each tooth for 4-5 seconds each
 - NOTE: Be careful not to cure the gingival of every tooth at the same time as the heat may be too uncomfortable for the patient.
- Each tooth receives a total of 12-15 seconds of curing time
- Remember to over-cure rather than under-cure.



11. IMMEDIATELY REMOVE THE TRAY AFTER LIGHT CURING - One sextant at a time

- Use an instrument such as a Schure scaler to remove the IDB tray
- Remove each sextant immediately after light curing and before moving on to the next section
- Separate the tray from the teeth
- Begin separating the tray from the teeth on the mesial buccal portion of the tray. Use a scaler (see photo) to separate the tray from the interproximals and brackets of each tooth
- Use your fingers to peel the tray away from the teeth



REPEAT STEPS 8-11 FOR EACH SEXTANT

12. CHECK FOR FLASH

- Use a black light to view excess flash
- Remove excess with white stone

13. ENSURE BRACKETS ARE BONDED

- Use cotton tip pliers or your fingers to hold the bracket and move back and forth to ensure complete adherence
- Verify bond strength

14. CHECK BITE

- Are there any bracket collisions?
- Determine necessity of bite turbos
- See the "Bite Turbo" section for bonding bite turbos with DIBS AI trays

15. PLACE ARCHWIRE AND LIGATURES (if applicable)

16. PATIENT/PARENT INSTRUCTION

- Review & have the patient demo elastics
- Review oral hygiene instruction; brushing, flossing, wax, broken brackets, and food list
- Inform parents

ADDITIONAL INFORMATION

DEBONDS OR DIFFICULTY BONDING 7's

- Section the tray to a specific tooth using an Exacto knife or pin cutter
- Insert the bracket into the tray
- Self-ligating brackets? Ensure the bracket gate is closed prior to insertion.
- Remove cement from the bracket and tooth.
- Bond - following processes above
- NOTE: Alter the occlusal surface of the jig if bite turbos are present

BONDING TO PORCELAIN, COMPOSITE, METAL SURFACES

Composite, Stainless Steel Crowns, Acrylic Temporaries

- Pumice
- Sandblast the approximate area where the bracket will be placed
- Primer: Same protocol as enamel

Porcelain, Zirconia, Lithium Disilicate

- Prophyl
- Sandblast approximate area where the bracket will be placed
- 1 coat of porcelain conditioner
- Dry 2 minutes
- Use the Tray Warmer provided by OrthoSelect for enhanced drying
- Primer: same protocol as enamel

BITE TURBOS

- Inspect trays for tears
- Apply a thin layer of Vaseline/mineral oil in turbo wells
- Prepare the tooth for a bite turbos with your standard protocols
- Add resin/composite to the turbo location in the DIBS AI tray
- Slightly overfill the turbo area in the tray to account for any occlusal concavity
- Seat the tray on the teeth, and light cure the resin to the teeth through the tray
- Light cure 12-15 seconds total per turbo
- Carefully remove the tray
- Check for any holes where the turbo meets the occlusal surface.
- Fill any small gaps or holes with a flowable composite
- Light cure again
- Check the bite and make sure the turbos are the proper size to avoid bracket collisions