



TECHNICAL GUIDE

Mandibular 3 x 3 Bonded Retainer



Description:

This is probably the most commonly used retainer to stabilize the mandibular anteriors following the completion of fixed straightwire therapy. It consists of a well-contoured wire fitted against the lingual of the anteriors, canine to canine (hence the name 3 x 3 retainer) and is delivered in a putty tray that is custom made to the patient's model.

It can be ordered with meshed pads on the cuspids only, or with pads on each tooth to be retained. It can also be ordered in various lengths. For example, 1 x 1 (central to central), 2 x 2 (lateral to lateral), or 4 x 4 (bicuspid to bicuspid). It is usually bonded with one of the new glass ionomer cements, the same type that would be used to bond brackets.

When placing an *upper* 3 x 3 retainer the depth of bite must be considered. If the patient's bite is deep it may be that an upper 3 x 3 retainer cannot be placed without the incisal edges of the lower teeth interfering with the retainer. When sending your case to the lab for an upper 3 x 3 retainer always include a lower model as well.

Advantages of Indirect Bonded Retainers:

1. The retainer will be placed in a more ideal position.
2. Minimal patient cooperation is required.
3. Less adverse tooth movement after treatment.
4. Indirect bonding is much **easier** and **faster** than direct bonding of lingual retainers, therefore, **less stress** on the **doctor** and **staff**.

Length of treatment time, and results expected:

A well-formed bonded 3 x 3 retainer will be able to remain in place, protecting the anterior teeth against relapse, from 3 to 6 years. Following this time, it probably needs to be removed or replaced with a new one.

Hard tissues and soft tissue responses:

The tissues are very tolerant of this bonded retainer when fitted correctly. There can be a problem when the patient does not attend to flossing as well as he/she has promised, and the gingiva can become edematous and sore due to calculus formation. The patient needs to have a prophylaxis by a Dental Hygienist every 12 months, at a minimum.

Precautions:

The patient should be told how long he/she is going to be required to wear this type of retainer. If it will be removed within 1 to 3 years, the original dentist who rendered the orthodontic care is obligated to remove it. However, any dentist can remove it easily if Howe pliers or curved Weingart pliers are available. Then the lingual surfaces of the two lower canines should be polished carefully so no tags of cement remain.

Checklist for indirect bonding success:**AT MODEL TAKING APPOINTMENT:**

1. Take the impression while the patient is still wearing the braces.
2. Use rigid, well fitting trays.
3. Pour the impressions immediately, to avoid alginate shrinkage.
4. Use a high quality stone to pour models.
5. Restorative work should be delayed until the retainer has been placed.

AT BONDING APPOINTMENT:

1. **Do not trial fit the indirect trays onto the models or the patient's teeth, as the backing is cleaned and prepared for bonding at the laboratory.**
2. Have patient brush teeth clean and rinse. Do not use pumice with fluoride to clean the teeth.
3. Etch each tooth, to be bonded, for 15-60 seconds, using 38% phosphoric acid dental etching gel.
4. Any etching over two minutes will weaken the bond.
5. With vacuum suction, remove the gel from the teeth.
6. Then rinse each tooth thoroughly and dry with clean air. (A tooth dryer works excellently for this.) **TEETH MUST REMAIN ABSOLUTELY DRY FROM THIS POINT.**
7. If the tongue or saliva contacts the tooth any time after the etch gel is placed, the tooth should be re-etched for 15 seconds.
8. When bonding to the lingual of porcelain crowns, use a porcelain primer according the manufacturer's direction.
9. Place primer or sealant on the acid etched area of the teeth. Cure as needed according to the manufacturer's directions.
10. Mix resin A & resin B of the chemical-cure bonding adhesive or resin modified glass ionomer cement. Place a small amount of the bonding material on the bonding bases of each pad*.
11. Insert the tray by rolling onto the lower anterior teeth in a lingual to labial direction and apply firm even pressure. Note: Whoever seats the tray should be the one to hold it. The pressure should be applied in a labial slightly gingival direction.
12. After sufficient chemical cure time is allotted for adhesive (see manufacturers suggestions) remove the tray by peeling from the labial toward the lingual.
13. Using dental floss and a floss threader, thread the floss between the wire and the gingival tissue, to be sure no bonding material has cured at the gingival margin. This is an excellent time to exhibit to the patient how to floss with their new bonded retainer.

*Chemical Cure Adhesive Material or Resin Modified Glass Ionomer Cement may be purchased from any orthodontic supply house or specifically from:

eop™ (800-328-8021)

-Excel® Regular

-Phase II® Paste-Paste Adhesive System

3M Unitek (800-423-4588)

-Concise Orthodontic Adhesive

-Unite™ Bonding Adhesive

For Additional Information Call **ORTHODONTIC TECHNOLOGIES, INC.** 1-800-346-5133

Email: techassist@orthodontictechnologies.com