

The best option to smile free!



eBrace customized
lingual bracket system
CLINICAL GUIDE



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Customized Invisible Comfortable



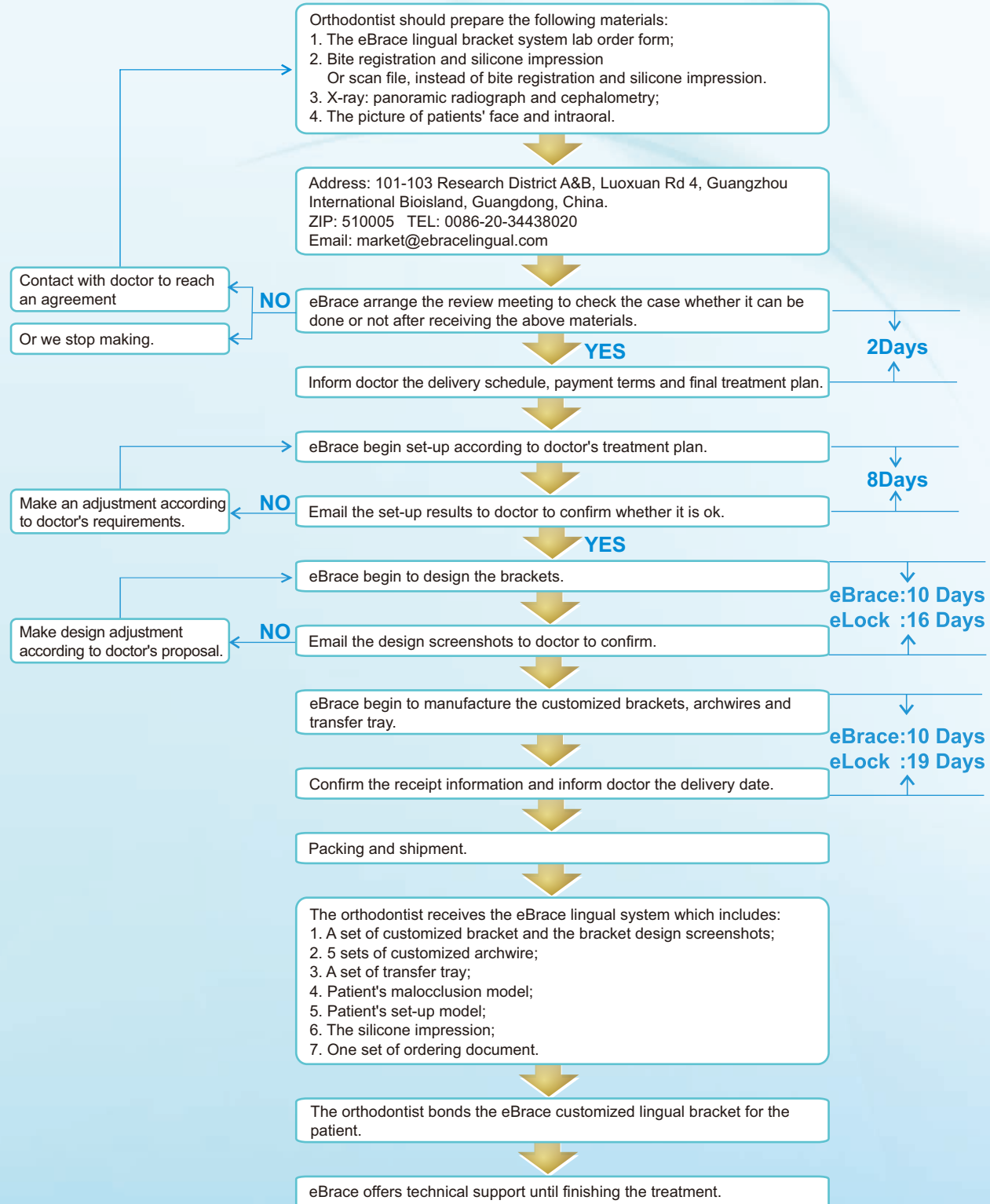
*CUSTOMIZED, INVISIBLE,
COMFORTABLE*



eBrace Clinical Guide
CATALOG

| | |
|---|----|
| Order Process | 01 |
| Lab Order Form | 02 |
| eBrace & eLock | 03 |
| Advantages of eBrace | 06 |
| eBrace Cases | 11 |
| Case Selection | 20 |
| Silicone Impression | 21 |
| Bonding and Debonding | 23 |
| Frequently-used Wire Ligation | 34 |
| Lingual Attachments | 37 |
| Common Clinical Problems & Solutions | 39 |
| Lingual Orthodontic Instruments & Consumables | 41 |
| eBrace TYP Practice | 43 |
| FAQs | 50 |
| Specialist Team | 53 |

eBrace Order Process



Notice:

- 1 The eBrace production time is normally 30 workdays and eLock is 45 workdays (the time of transportation and the national holidays are excluded).
- 2 Orthodontist should confirm the set-up results and the design screenshots within 3 days in the process of manufacture. If delayed as a result of confirmation, the orthodontist should inform the patient.

Lab Order Form

Orthodontist (Full name) _____ Patient (Full name) _____

Address _____

Contact (Tel) _____ (Fax) _____ (Email) _____

Date and time of bonding _____

Please fully complete the treatment plan

B=bracket T=tube
P=anterior occlusal plate I= implant

E^c = to be extracted and close the space
E^o = to be extracted and open the space

X^c = missing, close the space
X^o = missing, open the space

Bracket Material Selection:
 Ni-Cr Co-Cr Gold(only for eBrace)

Treated Arch:
 MAXILLARY (Select one)
 eBrace eLock Others No Treatment
 MANDIBULAR (Select one)
 eBrace eLock Others No Treatment

Set up:
 MAX MAN

Stripping / IPR:
 MAX No If necessary Yes ___mm
 MAN No If necessary Yes ___mm

Extraction will be done:
 Before bonding After bonding

Materials was offered by the doctor: (necessary)
 (1) Silicone Impression or scan file
 (2) the face and intraoral pictures of patient
 (3) the X-ray pictures of the patient

Special Remark:
 Normally, Bracket slot is .018×.025 inch.
 Normally, Bracket is with leash hook.

Remarks:

Set of archwires (5 options available and free for each arch , extra will be charged)

| Type | size | MAX | MAN |
|-------------|-----------|-----|-----|
| SE Ni-Ti | .012Φ | | |
| | .014Φ | | |
| | .016Φ | | |
| | .016×.022 | | |
| | .017×.022 | | |
| SS | .016Φ | | |
| | .016×.016 | | |
| | .016×.022 | | |
| | .017×.025 | | |
| | .018×.025 | | |
| TMA | .016 | | |
| | .017×.025 | | |
| | .018×.018 | | |
| | .018×.025 | | |

Please Note: The delivery time is within 30 workdays for eBrace conventional and 45 workdays for eLock self-ligating when we receive the necessary materials.

eBrace

eBrace lingual bracket system is custom made. The precise brackets and arch wires are respectively made by the advance rapid prototyping machine and mechanical arm. eBrace enables the orthodontists to design each orthopedic scheme to meet various treatment goals of different cases. eBrace assembly including the base, bracket body and hook, that can be independently positioned even in the cases of clinical rotated teeth and short clinical crown.

With the assistance of the transfer tray, the bracket can be bonded all at once, thus boosting the clinical bonding efficiency. In addition the advanced CAD & CAM and the precise archwire bending technology simplify the clinical operation of lingual orthodontic.

Features(eBrace)

Customized design

Brackets are customized designed by state of the art CAD/CAM technology, following the contours of your teeth. Customized archwire is suited for your best occlusion.

Better Tip Control

The long slot design is conducive to the better tipping control of teeth.

Better Torque Control

Deepened slot is good for torque control of teeth.

Lower Friction

The improved twin bracket can reduce the friction force generated when teeth are moving.



Precise bonding

The design of mesh pad enables the bracket to be bonded to the teeth in a more precise and close way.

Time-saving

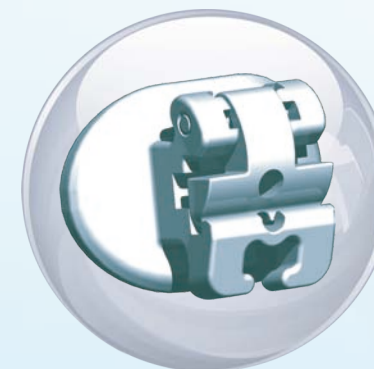
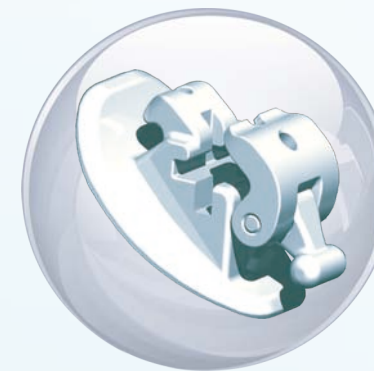
eBrace simplifies doctor's operation and no lab procedure is needed. Brackets can be bonded in one time with the help of transfer tray.

Minimal Discomfort

Smoother small bracket body greatly makes patients more comfortable.

eLock

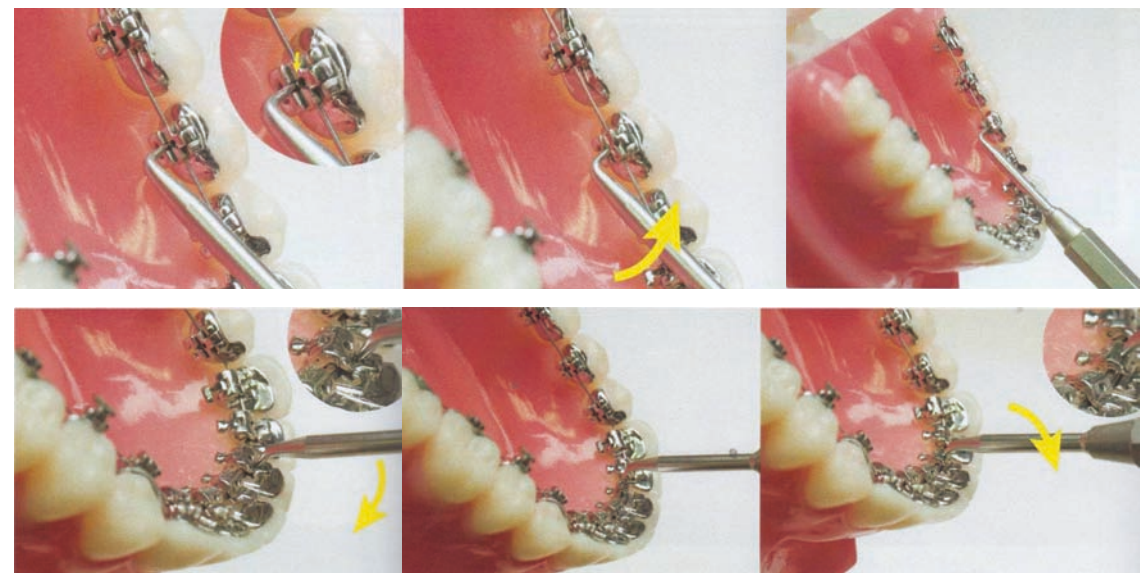
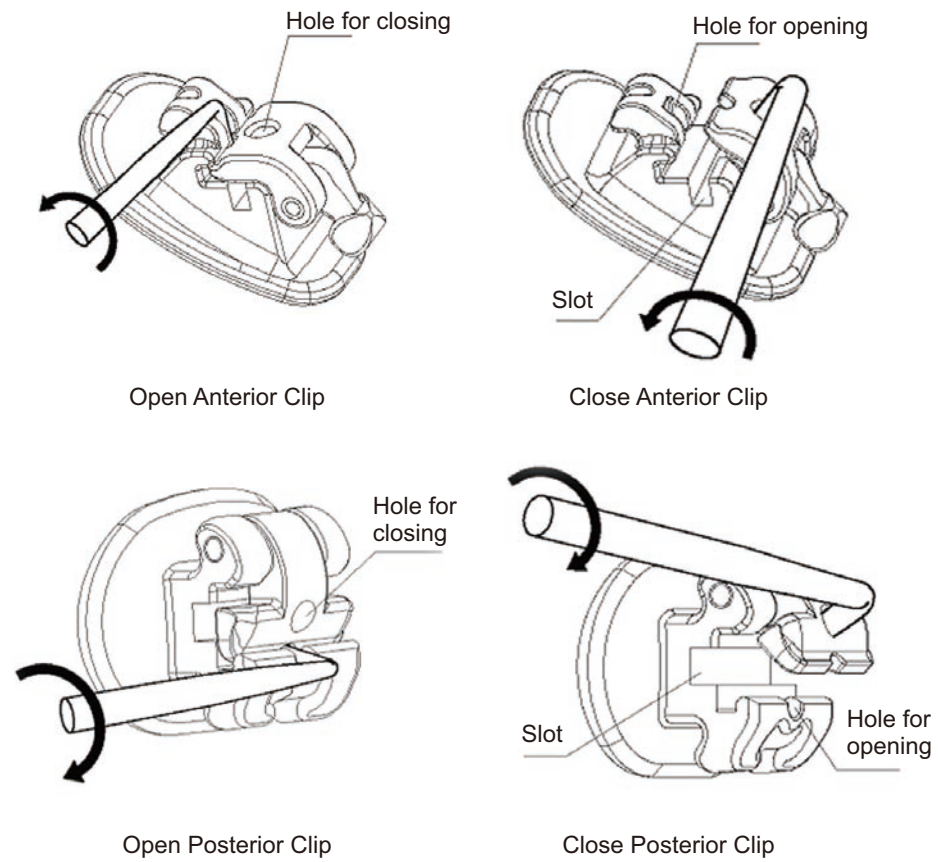
eLock customized lingual self-ligating system is the perfect combination of eBrace customized lingual system & self-ligating system. It retains the eBrace characters that anterior vertical slot, posterior horizontal slot and the wing & hook that can be used as assisted ligature or elastics. It is one-piece casted, accurate & reliable. The simple & roundish eLock structure is very easy to operate for doctors, and comfortable for patient.



Features(eLock)

- **Customized and CAD Design**
Customized-designed bracket and mesh pad closely fits every tooth with CAD-CAM technology.
- **Smaller bracket**
Bracket body and mesh pad molded in one piece, not welding.
- **Easy operation**
Simply open with a probe and close with a finger.
- **Better performance**
Passive self-ligation, less friction and better control of the teeth movement in 3 dimensions.
- **More flexibility**
Upper wing and hook are designed to offer more flexibility with elastomers and other attachments.

Open/close Instructions



Advantages of eBrace

Transfer tray can be divided into 2 or 3 pieces according to customer's request.



Transfer tray in one piece (overall bonding)

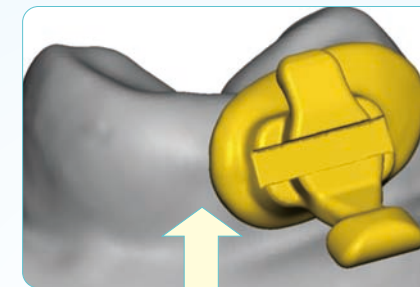


Transfer tray in three pieces



Tooth number on transfer tray

Designed 2 brackets for the Seriously crowded or rotated tooth.

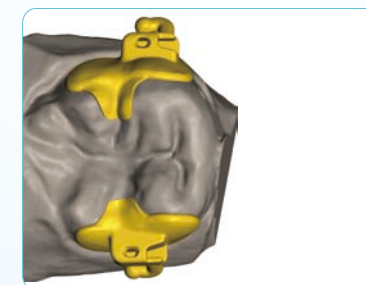


The 1st bracket was bonded at initial stage

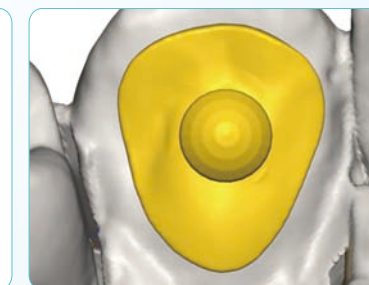


The 2nd bracket was bonded at later stage

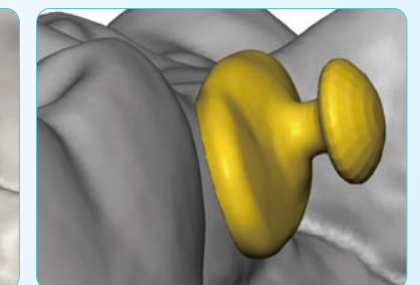
Both eBrace and eLock can be able to provide attachment like TPA or lingual button according to customer's request.



Buccal tube



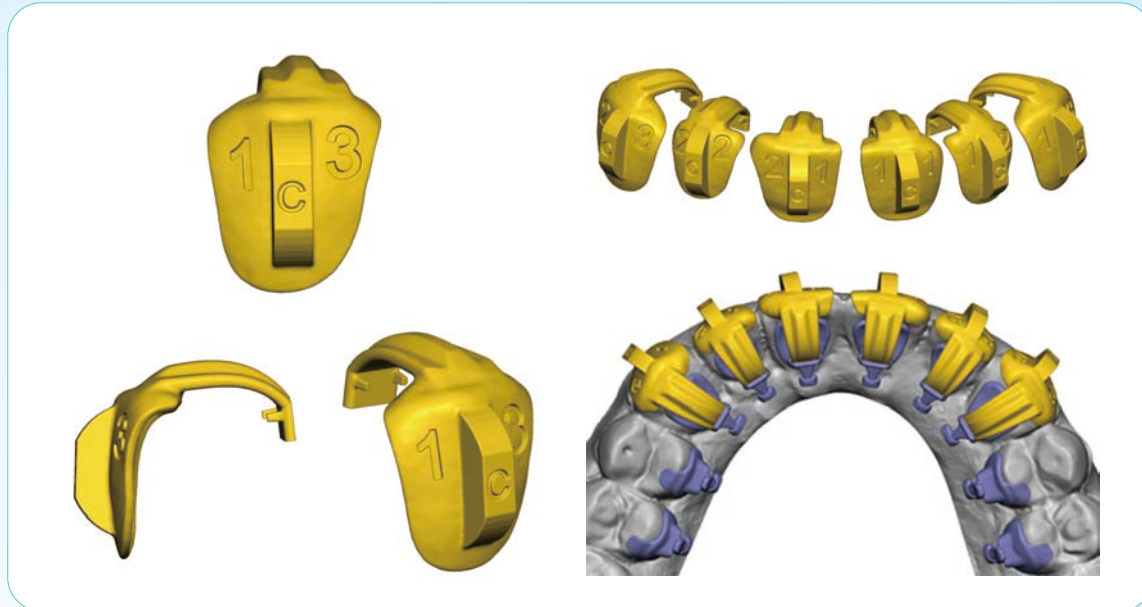
Lingual button



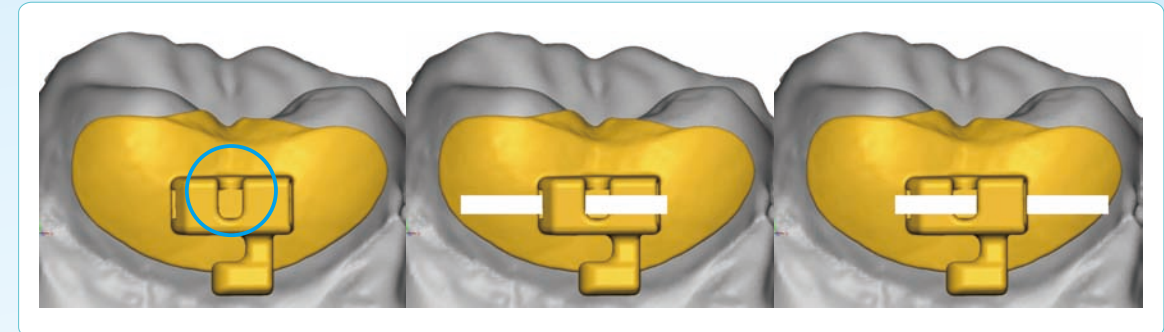
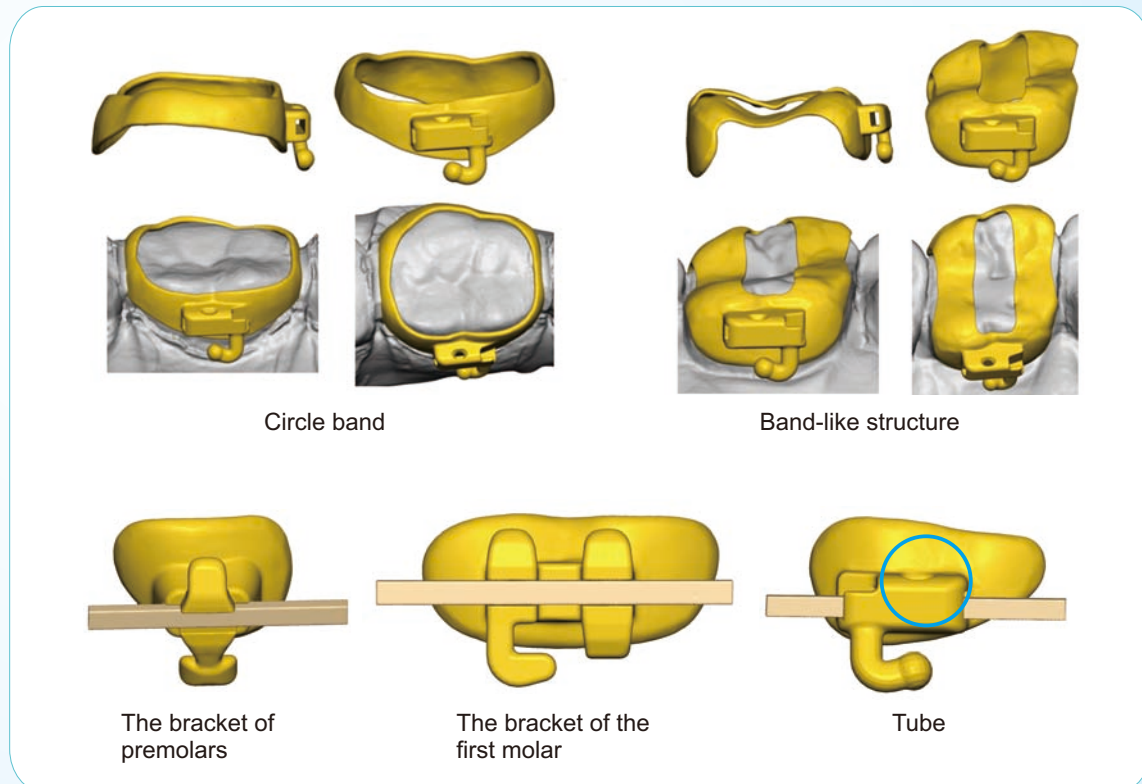
Buccal button

Advantages of eBrace

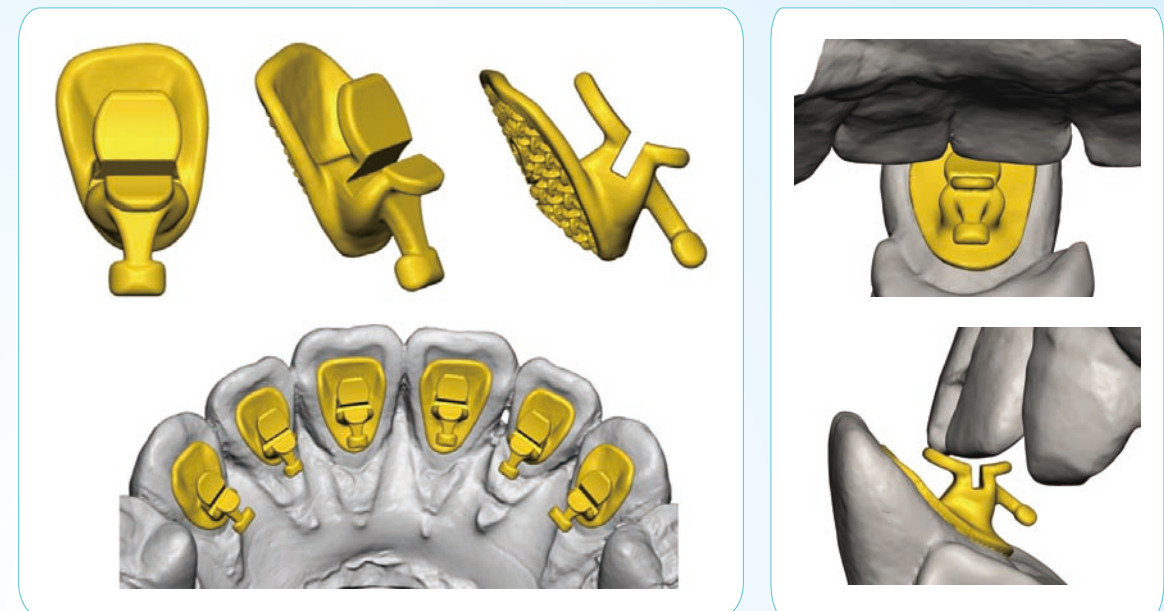
Precise jigs can be provided for the single anterior tooth positioning.



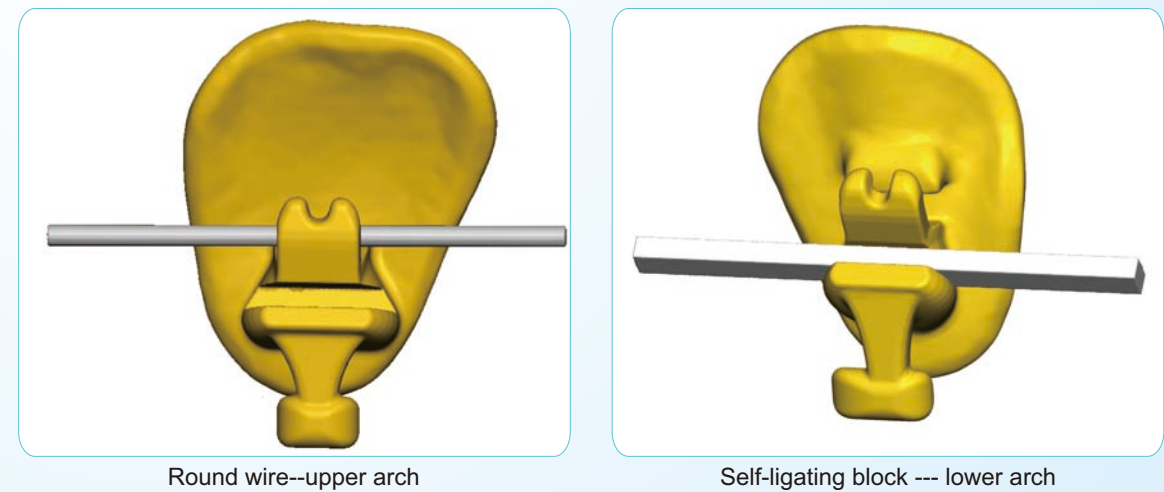
eBrace offers 2 options of circle band (need separation) and band-like structure (no separation).



Anterior bite plane.



Double slots for anterior teeth----achieved self-ligating of round wire.

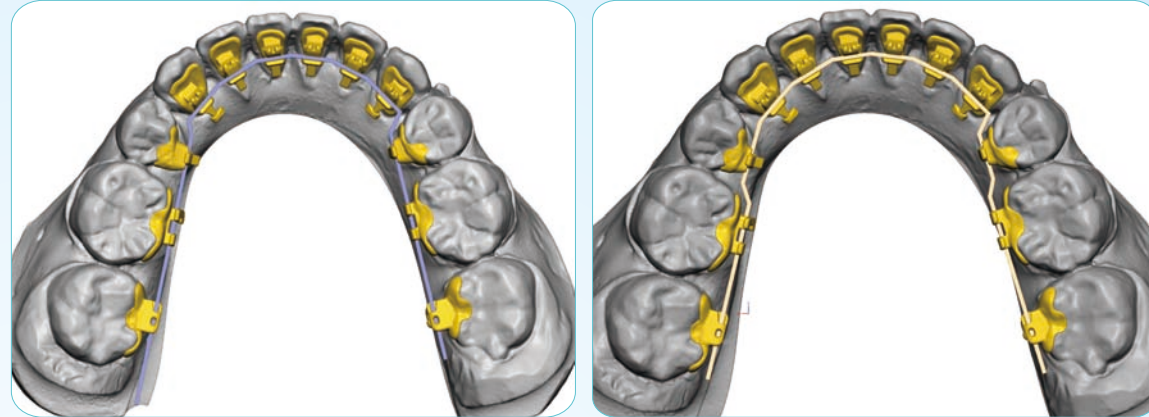


Advantages of eBrace

eBrace can design two kinds of wire in the lateral segment according to different situations & customer's requests.

Straight wire in the lateral segments to the benefit of teeth movement.

Posterior wire with bends avoiding the unnecessary movement at the first period, and the wire is much closer to the teeth so that the patient comfortable degree is increased.



Strigth wire in the later segment

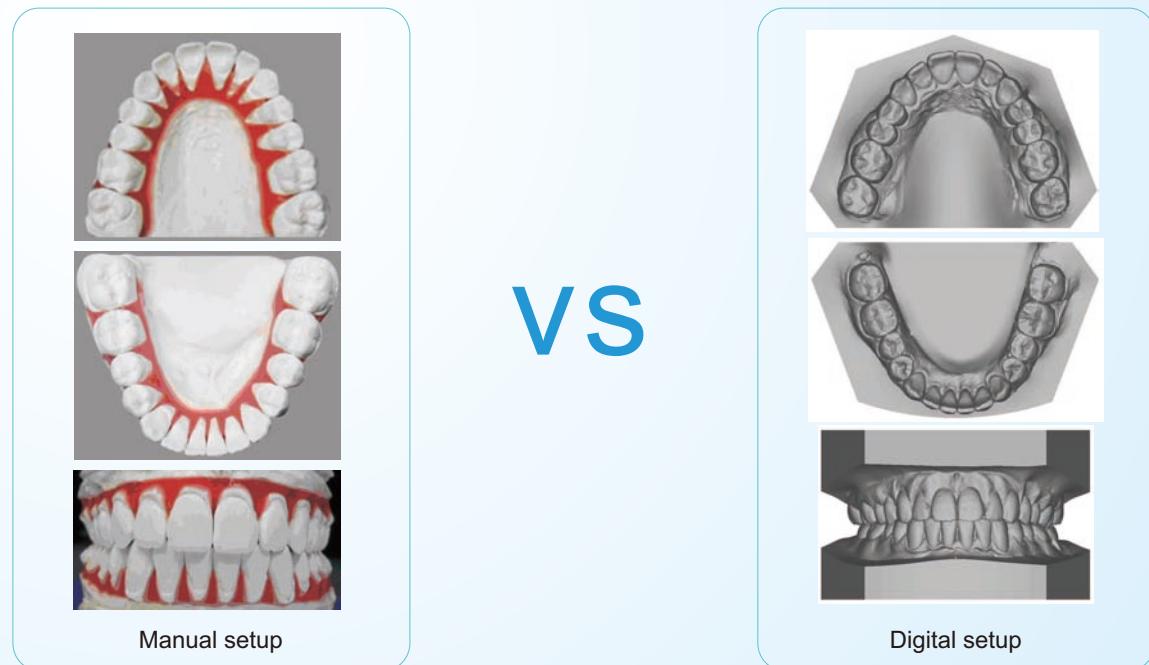
Posterior wire with bends

eBrace can provide manual setup and digital setup.

Manual setup: traditional way of setup, deal with the plaster model on the articulator which is convenient for the fine adjustment with the help of Reset apparatus. The final setup result can be viewed directly on the base bone.

Digital setup: high-tech setup, accurate. The 3D viewer is very convenient for doctor reference, and also convenient for the communication of the setup result.

Doctors can choose different mode of setup.



Manual setup

Digital setup



3D printing model

eBrace provides three kinds of materials.

Nichrome: high rigidity, corrosion resisting, lower friction.

Cobalt-chromium: high strength, high rigidity, corrosion resistance & lower friction, better biocompatibility.

Gold alloy: excellent biocompatibility and corrosion resistance, bright colors, soft alloy so the patient feel more comfortable.

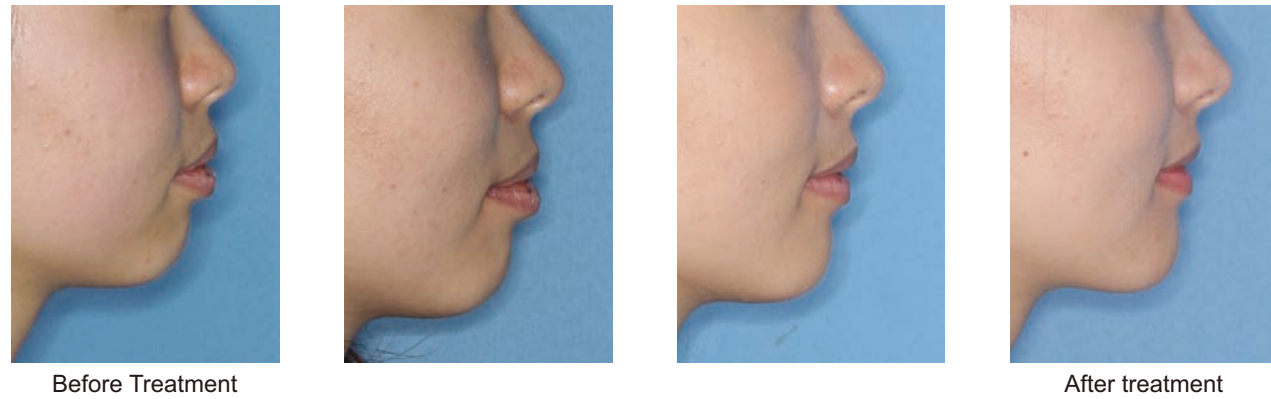
The mesh pad with number is one excellent feature of eBrace.

If one bracket fall off, doctors only need to sandblasting the pad and re-bond again. No need to make another one.



eBrace Case 1

Diagnosis: Class I with upper protrusion.
 Treatment plan:
 Extract 14,24,34,44. eBrace customized lingual bracket system.



The intra oral photos of the patient



In the process of treatment



eBrace Case 2

Treatment plan

- Extract 5s to correct anterior crowding.
- Minimal retract anterior teeth, due to the straight profile of the patient. Retraction amount is ≤ 5 degrees of upper and lower anterior teeth.
- Micro screw will be used.



Before Treatment

After Treatment

Treatment process



4m



8m



12m

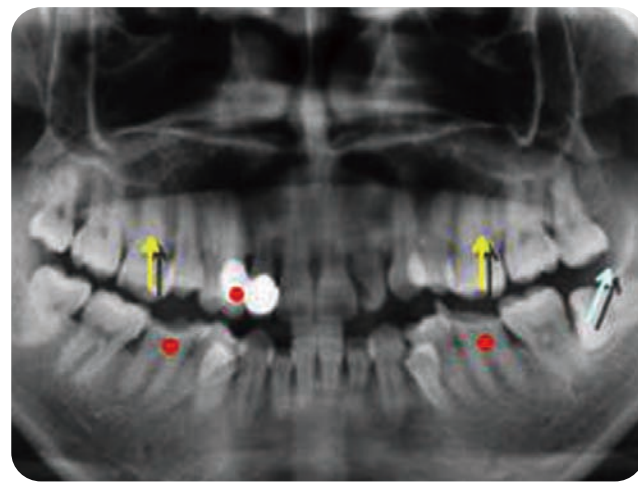
Result after 19 months of fixed lingual treatment



19m

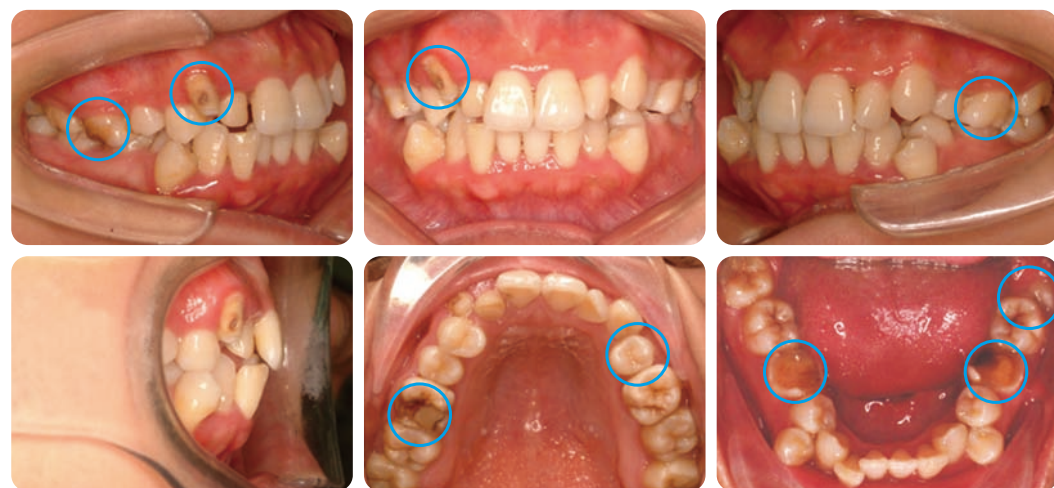
eBrace Case 3

Before treatment



Diagnosis:
 Convex profile
 skeletal II malocclusions
 Angle class II 1

Treatment plan:
 1. Extraction 13、36、46
 2. Intrusion 16、26 with implant anchorage
 3. Upright 38



2011-07



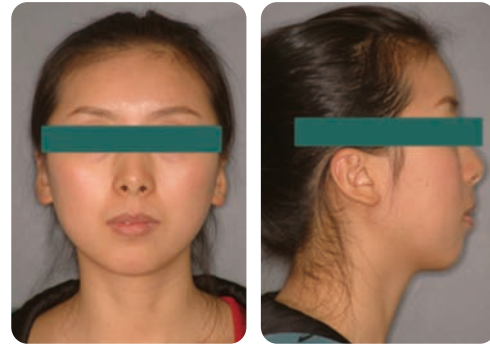
2011-08



2012-01

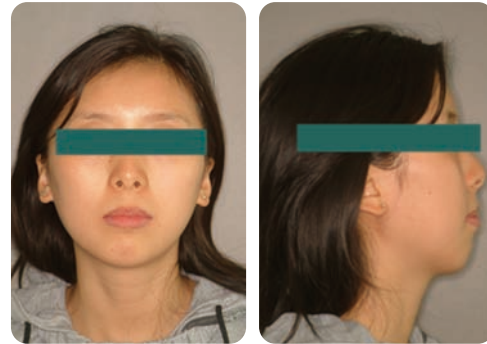


2011-02



Initial

2012-01



In progress

After treatment



eBrace Case 4

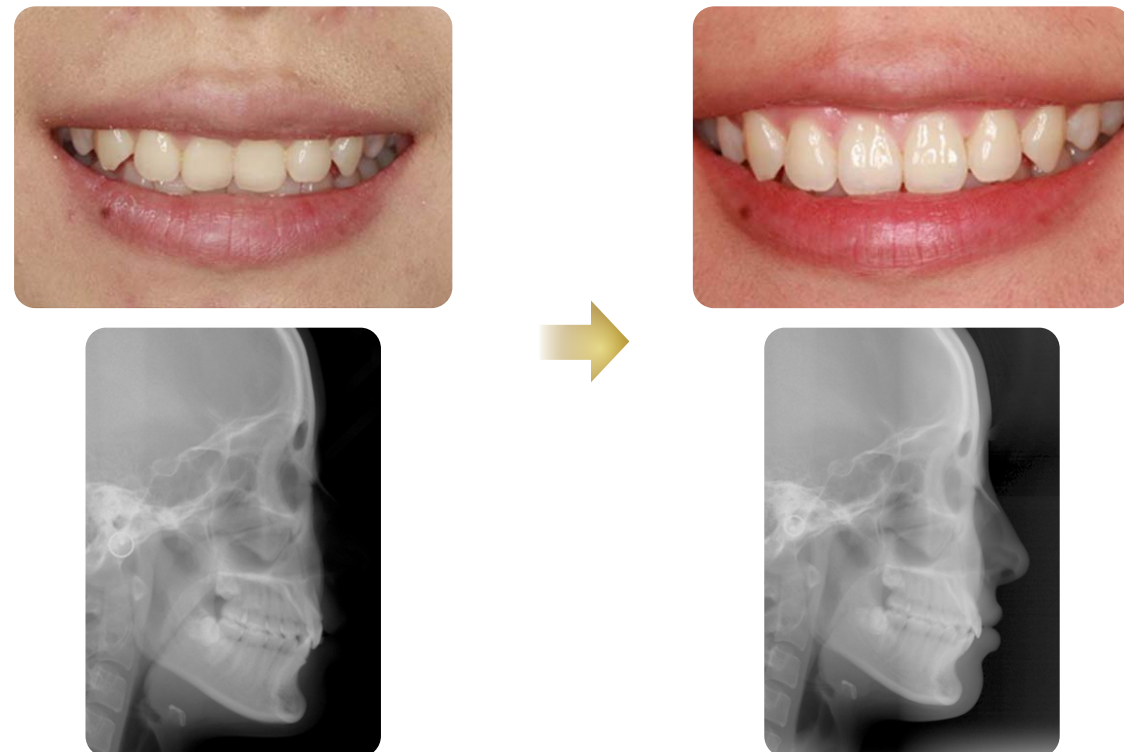
Before treatment



In the progress



After treatment



Lingual Orthodontics is relatively easy to operate for the following cases:

Non-extraction cases

- Deep bite, Class I cases with mild crowding, good facial pattern
- Deep bite, Class I with spacing or diastema, good facial pattern
- Deep bite, mild Class II, good facial pattern
- Class II division 2 with retrusion of mandible

Extraction cases

- Class II, extraction of maxillary first bicuspid, or extraction of mandibular second bicuspid .
- Class II, extraction of maxillary first bicuspid
- Mild bimaxillary protrusion with four first bicuspid extraction
- Class III tendency with deep bite

Lingual Orthodontics is relatively difficult in the following cases:

Surgical cases

Open bite cases

- Periodontal involvement with reduced bone level
- Class III high angle case
- Class II high angle cases
- Severe Class II discrepancies
- Cases with multiple restorative work
- Short clinical crown
- Poor oral hygiene
- Mutilated posterior occlusion

Lingual (and buccal) Orthodontics should be avoided in the following cases:

- Acute TMJ dysfunction
- Unresolved periodontal problems
- Inadaptible personality type

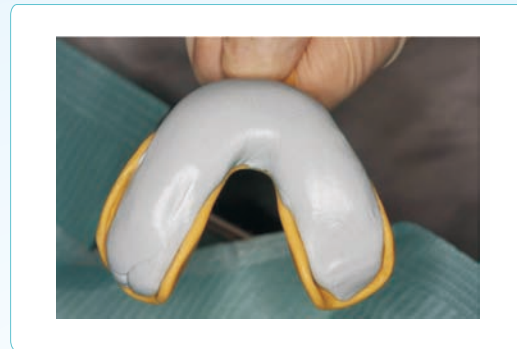
Silicone Impression

Two-phase silicone impression.

1. Check the oral hygiene before impression taken. Make sure that the lingual surfaces are free of calculus and plaque, especially for the mandibular molars. Deep undercuts (e.g. sanitary bridges) should be blocked with wax.

2. Select a proper tray.

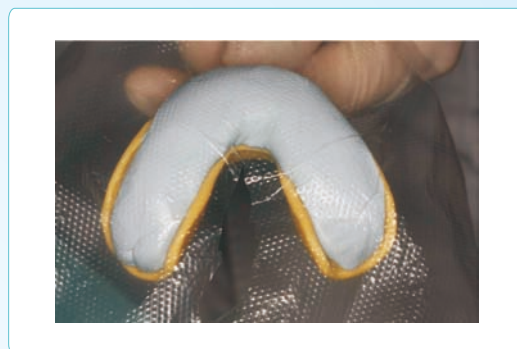
Select a suitable tray according to the patient's arch form. It is suggested that the width of the tray should be 5mm wider than the labial and buccal surface of the archform. You need to take upper and lower impressions even if only one jaw would be treated.



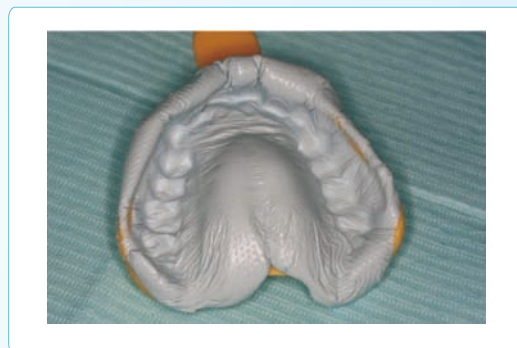
3. Preliminary impression taking: mix the kneadable silicone according to the instructions. Please keep the patients dry mouth.



5. Position the tray from posterior teeth to anterior teeth with increasing pressure in the patient's mouth to avoid blistering. The tray must be held carefully while the impression is being taken.



4. Apply the space maintainer foil and then shorten it, distally with a pair of scissors to tray size.



6. After hardening, the impression is easy to withdraw from the mouth. Remove the space maintainer foil and shorten the impression at the edges approx. 3mm above the gingival margin to simplify removal after taking the correctable impression.

7. Check the preliminary impression for floating parts before air-drying it.

8. Final impression taking: keep all teeth clean and dry. Fit the mixing gun for the thin-bodied silicone with a new mixing tube and fill the depression in the tray with correction material. You must fill enough amount material at first time.



9. Position the impression with increasing pressure in the patient's mouth keep it at constant pressure. When polymerization is completed (approx. 3-4 min), remove the impression.

10. Check the impression:

a) The correction material should be flowed out thinly and evenly.

b) All teeth are clearly impressed, no blistering, no defects or wrinkles, the gingival margin should be clear, smooth and continuation.

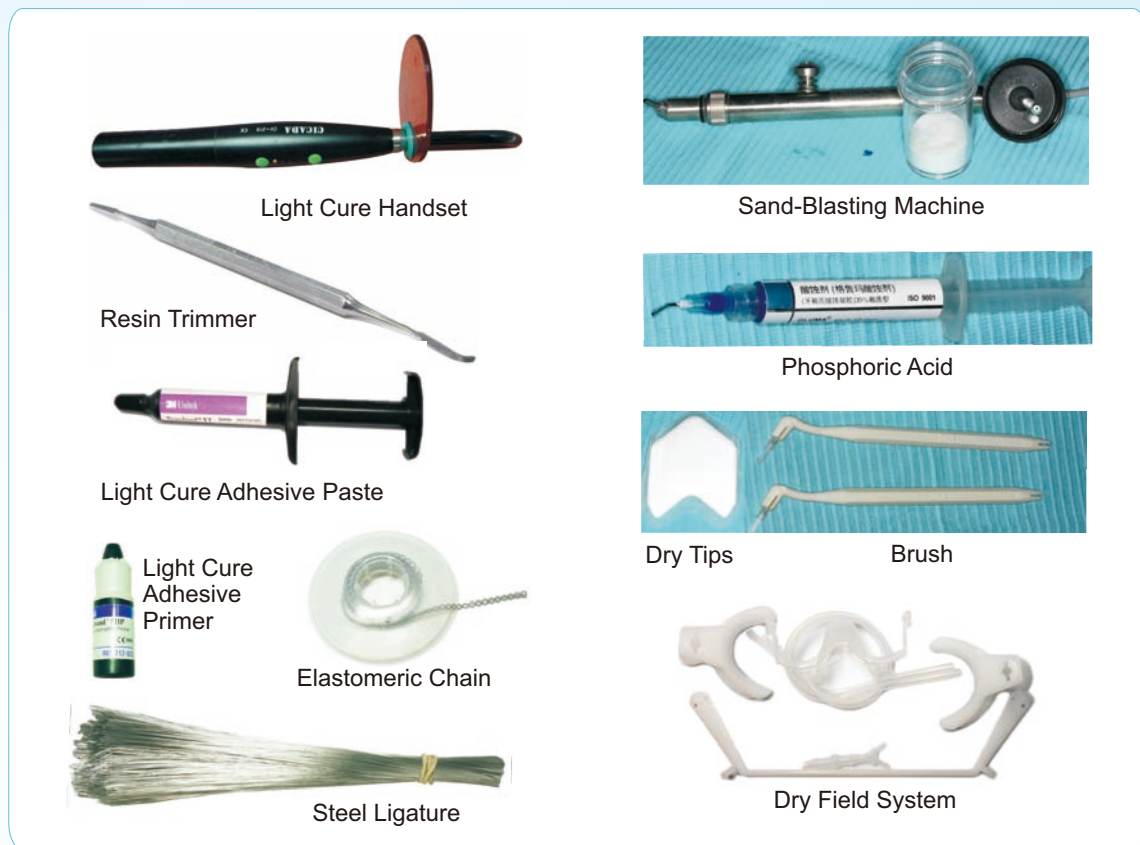


11. Rinse and dry the impression, and put in plastic bag.

eBrace Bonding Protocol (Light Cure)



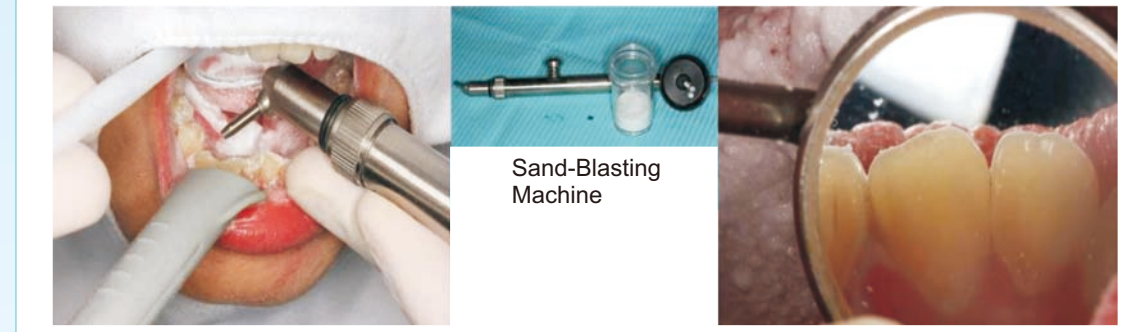
1. Transfer tray, set-up models and screenshots.



2. Necessary orthodontic instruments.



3. Verification and cleaning of the transfer tray with alcohol. Cut the transfer tray into several parts with lingual pin cutter for convenience. Take special care when cutting the tray at the areas of crowded teeth.



4. Intra-oral sandblasting, patient protection and 3-4 seconds (It is highly recommended, especially in teeth with restorations). Sandblasting per tooth away from the gingival to avoid bleeding.



5. Make sure the area is completely dry. You can use the Dry-Field-System or long cotton rolls.



6. Preparation of the lingual surfaces (37% phosphoric acid, aspirate, rinse, dry) and visual control. Make sure that you have gained a white chalky appearance.



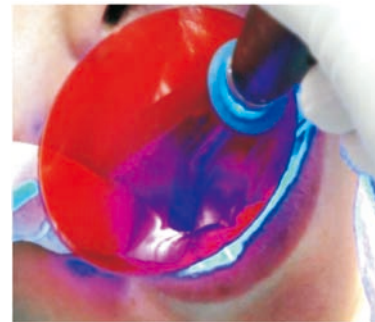
7. For lower arch bonding center the tongue cage with 2 salivary cottons. Applying of Light Cure Adhesive Primer on the lingual tooth surfaces and on bonding surfaces of the eBrace bracket in the transfer tray.

eBrace Bonding Protocol (Light Cure)



8. Applying of Light Cure Adhesive Paste on bonding surfaces of the eBrace bracket in the transfer tray. Make sure there is a minimum amount of paste, to avoid extensive residues.

9. Insertion of the transfer tray. Hold the tray without pressure.



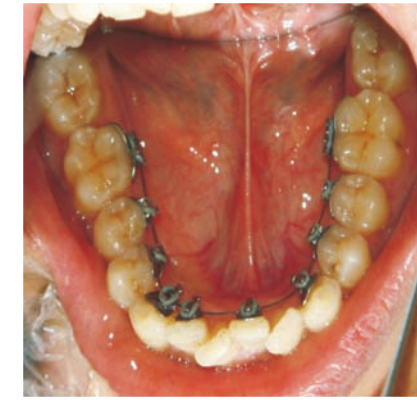
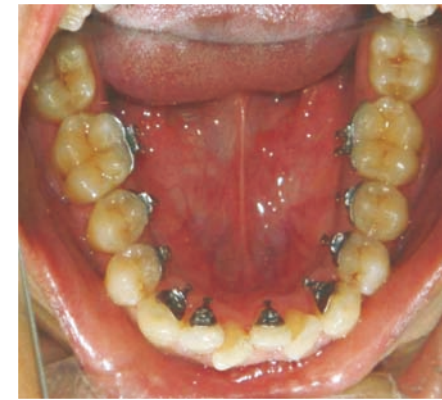
10. Photopolymerization for each tooth according to the time specified by the manufacture of the LED. Usually Photopolymerization 30-60 seconds per tooth.



11. Take out of the transfer tray in two steps. First take out the more rigid tray and then the softer one, beginning in the back and working forward and from the outer to the inner side.



12. Elimination of adhesive residues with the short explorer, scaler and dental floss. Please do not forget to clean the vestibular surface too.

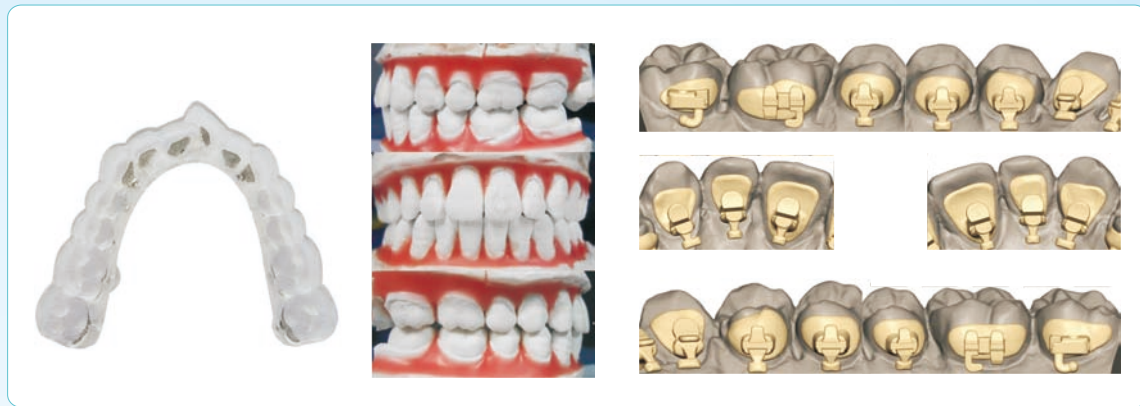


13. Finished bonding. Please note that with some teeth, especially very crowded ones, the bonding of the brackets is sometimes postponed to a later stage.

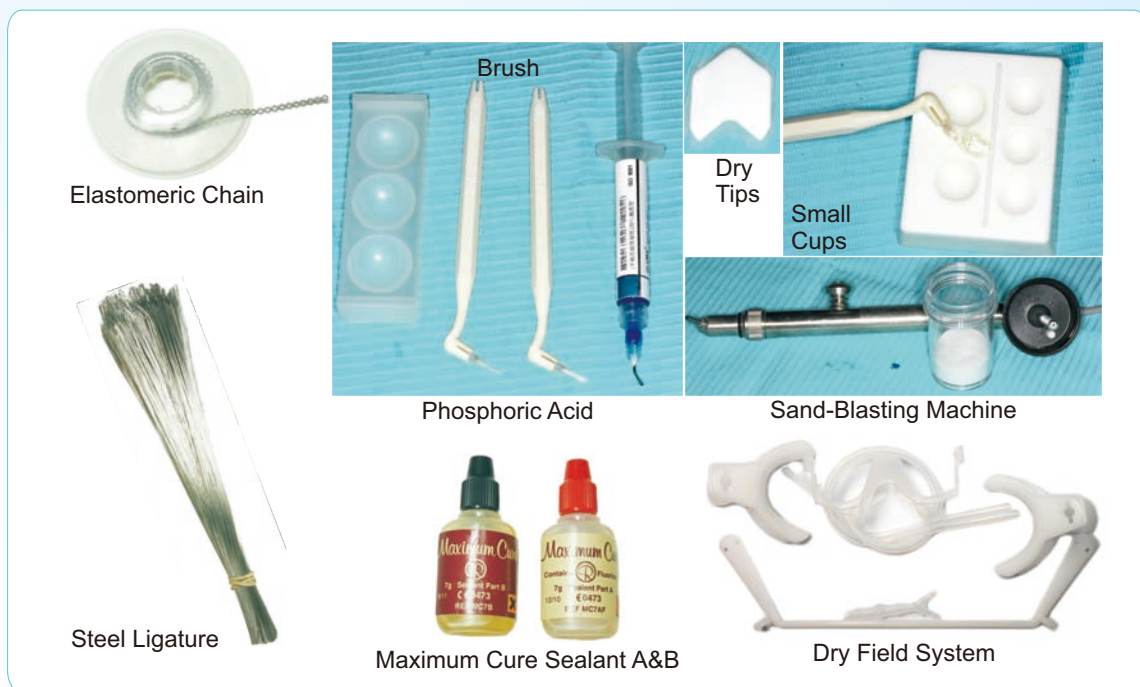
14. Inserted archwire.

Note: the choice of Liquid Bonding Adhesive and Paste Bonding Adhesive is mainly based on the preference of the orthodontist.

eBrace Bonding Protocol (Maximum Cure Sealant A&B)



1. Transfer tray, set-up models and screenshots.



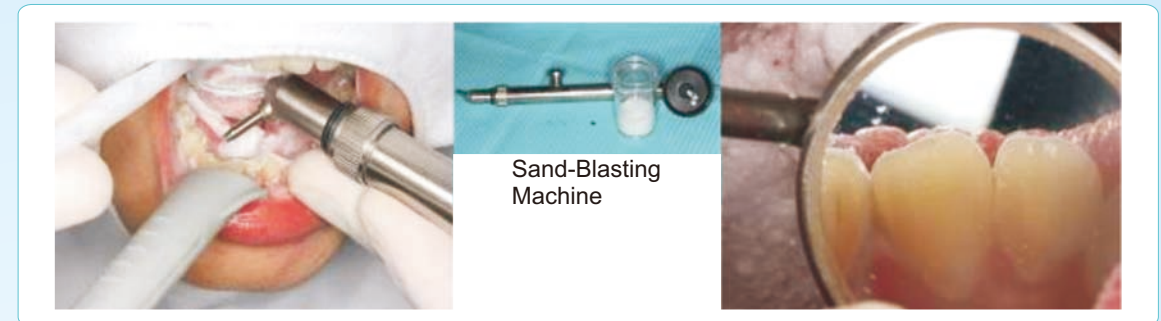
2. Necessary orthodontic instruments.



3. Verification and cleaning of the transfer tray with acetone.



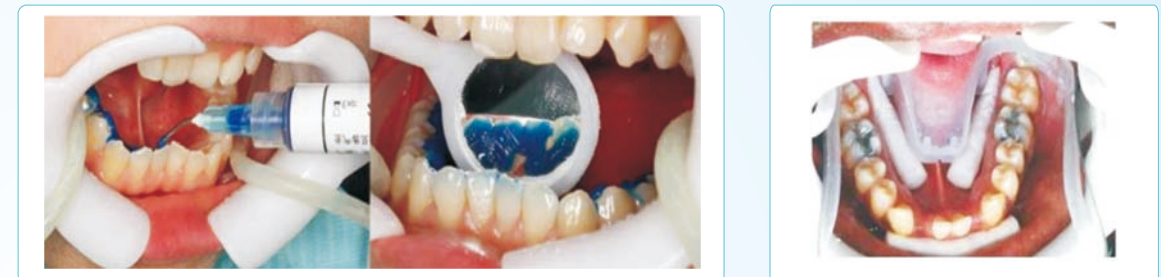
4. Cleaning and polishing of the lingual surfaces.



5. Intra-oral sand-blasting, patient protection and 3-4 seconds (Sand-blasting is not mandatory, although it is recommended, especially in teeth with restorations). sandblasting per tooth away from the gingival to avoid bleeding.



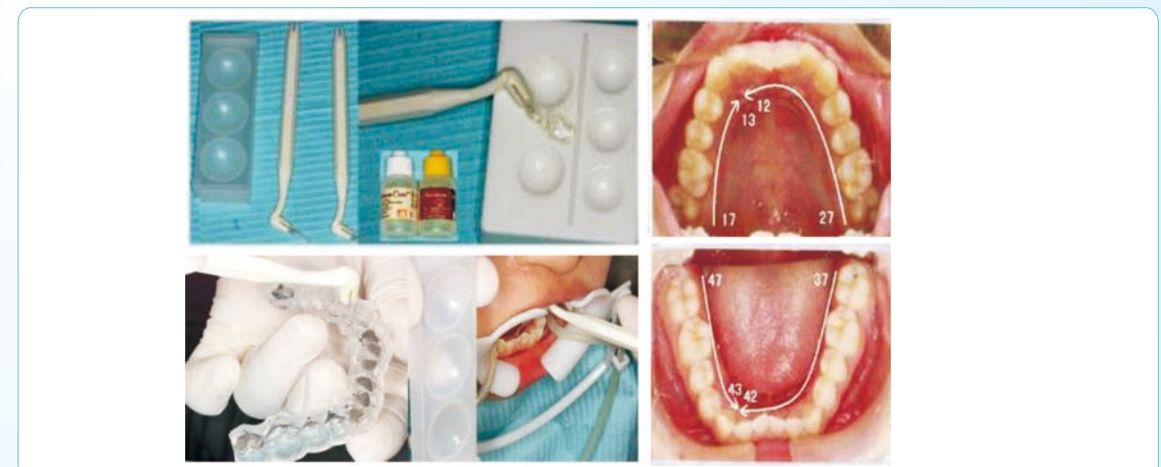
6. Make sure the area is completely dry. You can use the Dry-Field-System or long cotton rolls.



7. Preparation of the lingual surfaces (37% phosphoric acid, aspirate, rinse, dry) and visual control. Make sure that you have gained a white chalky appearance.

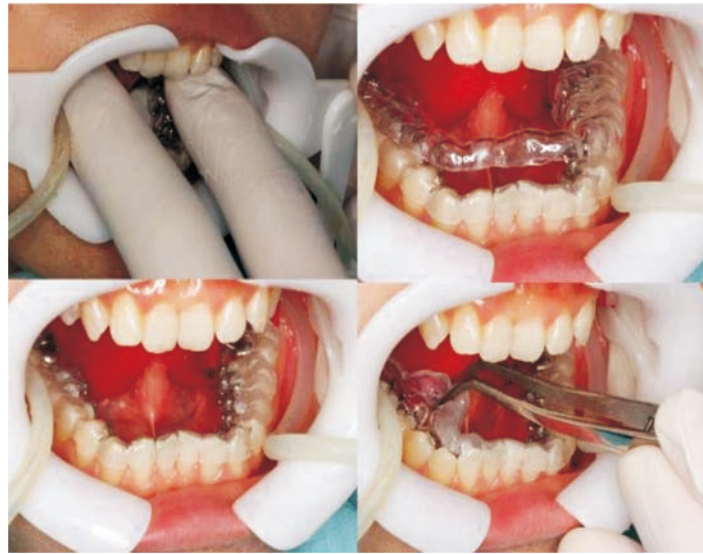


8. For lower arch bonding center the tongue cage with 2 salivary cottons.

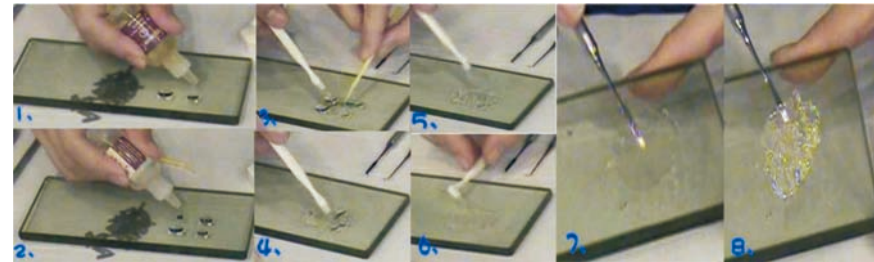


9. Preparation of the bonding agent Maximum Cure from Reliance (keep refrigerated) in two cups: Mix 4 drops of part A and 4 drops of part B in each cup. Application of the bonding agent on the bracket in the tray (assistant) and on the lingual surfaces (orthodontist) in two steps: First from 27 to 12, dry on the right side and then from 17 to 13.

eBrace Bonding Protocol (Maximum Cure Sealant A&B)



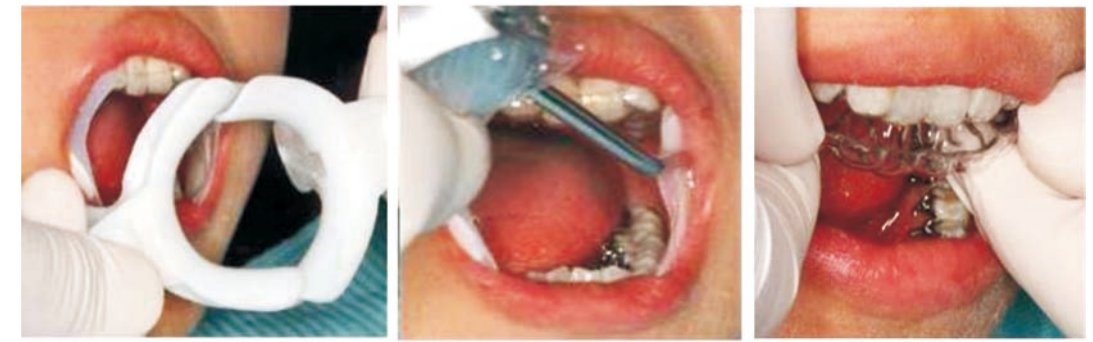
10. Insert the lower transfer tray. Maintain for 3-4 minutes without pressure or you can watch the residual cured sealant A & B as a reference. Then taking out the transfer tray in two steps, first take out the more rigid tray then the softer one, beginning in the back and working forward and from the outer side to the inner side.



11. Watch the residual sealant A&B the cured details so as to confirm the bonding condition of bracket and lingual surface.



12. Insert the upper transfer tray.



13. First take out the dry field system then the upper transfer tray. The operation of upper arch is same to step 10.



14. Elimination of adhesive residues with the short explorer, scaler and dental floss. Please do not forget to clean the vestibular surface too.



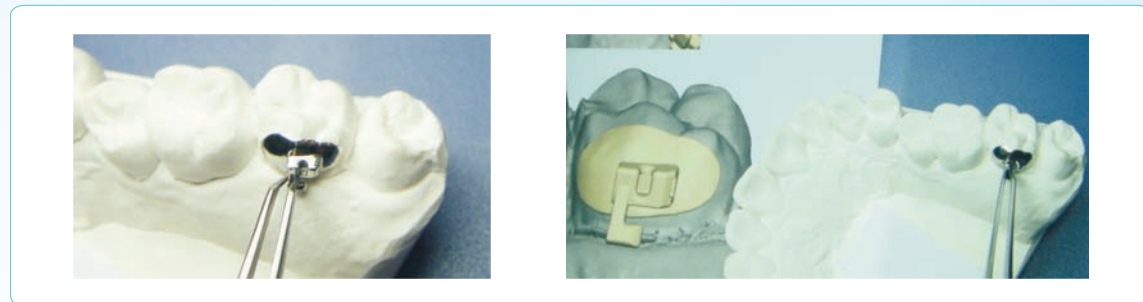
15. Finished bonding and inserted archwire.

Note: the choice of Liquid Bonding Adhesive and Paste Bonding Adhesive is mainly based on the preference of the orthodontist.

Rebonding Protocol

1. Dispose the lingual tooth surface before rebonding a bracket.
 - a. Remove the remaining composite residue with tools (e.g.: a dental bur).
 - b. Sandblast the lingual tooth surface.
 - c. Check and ensure no composite residue remained.
 - d. Apply 37% phosphorous acid to the surface for 30 seconds. Then rinse and dry thoroughly.
 - e. Check and ensure the surface is dry and no composite residue remained.
2. Inspect whether the bracket base is intact. If the bracket is lost, please contact our technical servicer to remake it.
3. Dispose the fallen bracket.
 - a. As for the bracket base with coating.
The contaminated bracket base needs to be cleaned carefully by sandblasting gently at an angle.
 - b. As for the bracket base without coating (you can see the mesh base directly).
Remove the remaining composite residue and clean the bracket base by sandblasting.
4. Positioning the bracket.

Direct re-bonding



- a. Position the bracket directly on the patient's tooth with special lingual bracket tweezers.
- b. Or you can place the bracket on plaster model to check the bracket position first. If the position is still unsure, the screenshot will help.

Use transfer tray for re-bonding

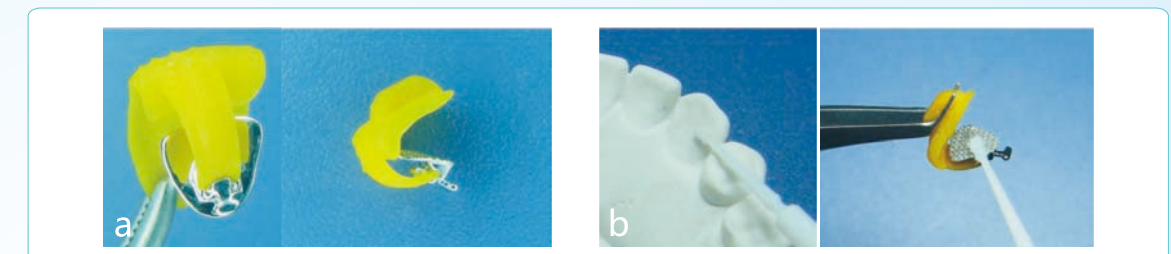
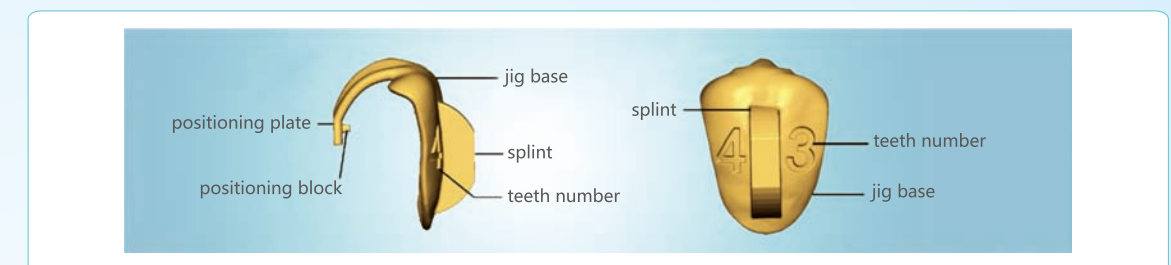


- a. Tailor the single tray from the whole one and separate it into the soft one and hard one.
- b. Place the bracket in the soft tray and put them together into the hard one.
- c. When using transfer tray for indirect rebond, check the position of the bracket on plaster model would be better.

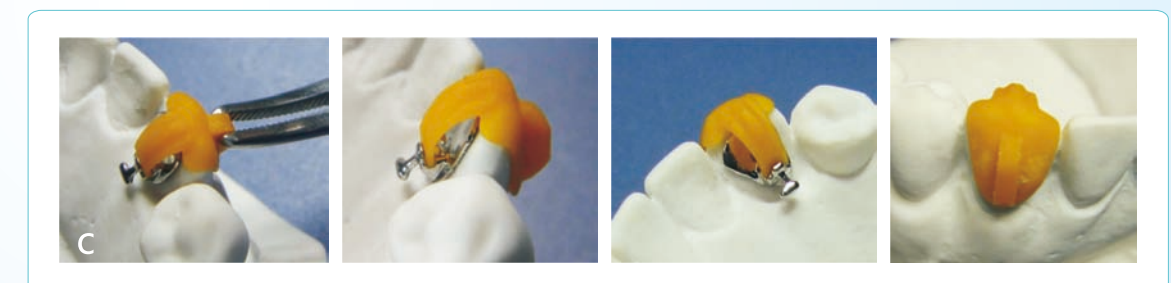
5. After checking the bracket position, disinfect the base of the bracket with a small cotton wool pellet soaked in alcohol. Then rebond the bracket base with coating, referring to the method of initial bonding. For the bracket base without coating, apply a Metal Primer on the bracket base and as the same way to light cure the bracket.

Use jig for re-bonding

The jig is custom-made device, which is specially used for positioning frontal teeth. If you need the jig, please contact our technical servicer and purchase it separately.



- a. Put the positioning plate into the vertical slot of frontal bracket and get the bracket occlusal wing stuck into the position block. Please pay attention to the number on the jig.
- b. Apply bonding agent Maximum Cure A&B gently on the bracket and the lingual surface.



- c. Use the mosquito pliers to clamps the splint of jig and position the bracket precisely on the lingual side.

Rebonding Protocol



d. Press the bracket slightly by using tweezers so that the base is fully fit the tooth. Take out the jig gently after the bonding agent is cured. Bracket rebonding is finished.

e. When using Light Cure Adhesive Paste, you can position the bracket on the lingual tooth surface in advance and then adjust it to the perfect position with the jig. Lastly, photopolymerize the bracket to the tooth surface.

Debonding

Instruments:



Debonding Plier
Debonding cutter



Debonding of
anterior teeth

Frequently-used Wire Ligation

1. Normal elastic or steel ligature tie



2. Reverse double overtie with vertical slot

Tools: hemostat/mosquito pliers, ligature director with a small head, short explorer, powerchain, steel ligature.

A. Reverse Double Overtie with elastic

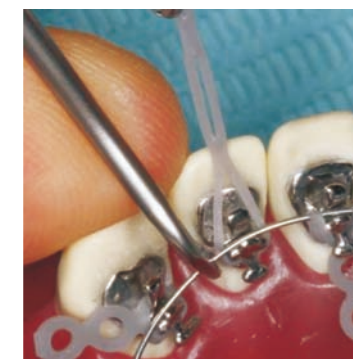
When to use it: Use the reverse double overtie when you need maximum seating force on the wire.



1. Use three modules of powerchain for one bracket.



2. Ligature is placed around the hook and behind the occlusal wing before placing the wire. In contrast to a normal overtie, the free modules are oriented to the occlusal.

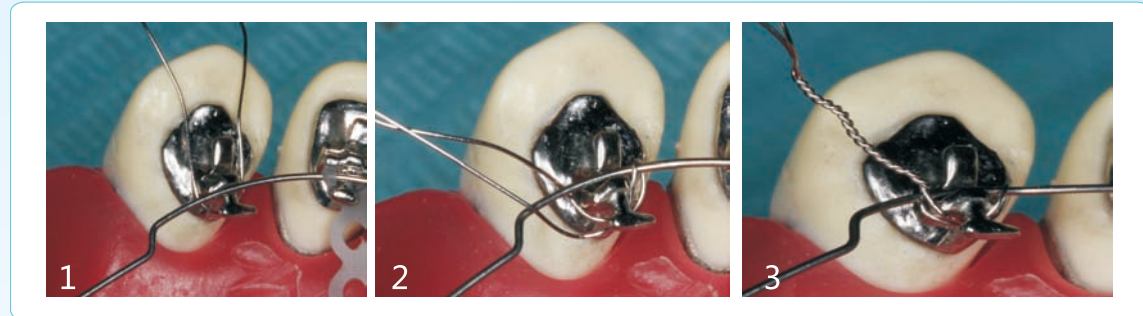


3. To overtie, seat the wire in the slot with a ligature director, stretch the elastic with the hemostat/mosquito pliers over the wire and fix the first module under the hook. Use the ligature director to guide the powerchain to bottom of hook and cut the remaining elastic.

Frequently-used Wire Ligation

B. Reverse Double Overtie with Steel Ligature

When to use it: Use this tie to prevent tipping when you are retracting canines or doing en-masse retraction. For effective control, the steel ligature needs to be tied close to the bracket body.

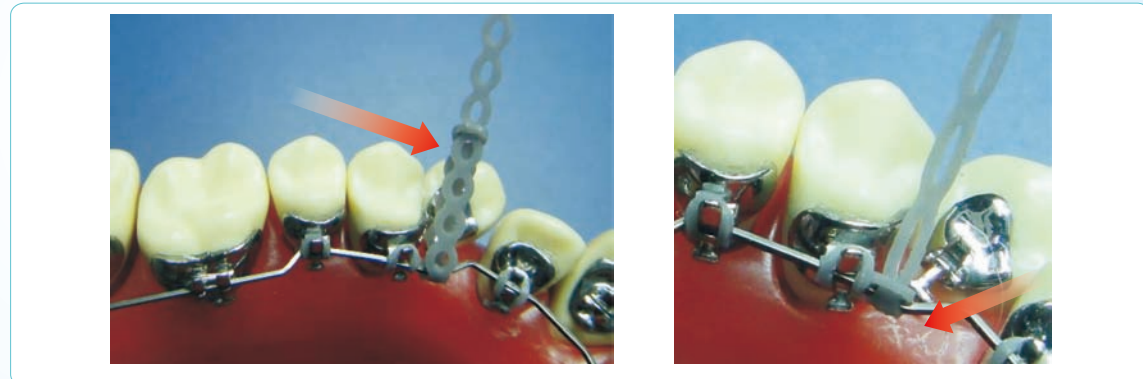


1. Make a U-shape under the hook on both side of the bracket body going under the wire.
2. Take one side of the ligature, go over the wire and under the hook. Twist it together with other side ligature.
3. Pushed the sides of steel ligature as close to the bracket body as possible and tighten it with maximize seating force. Cut remaining steel ligature and hide the ends behind the occlusal wing by using short explorer or ligature director, so it can avoid scratching the patient's tongue.

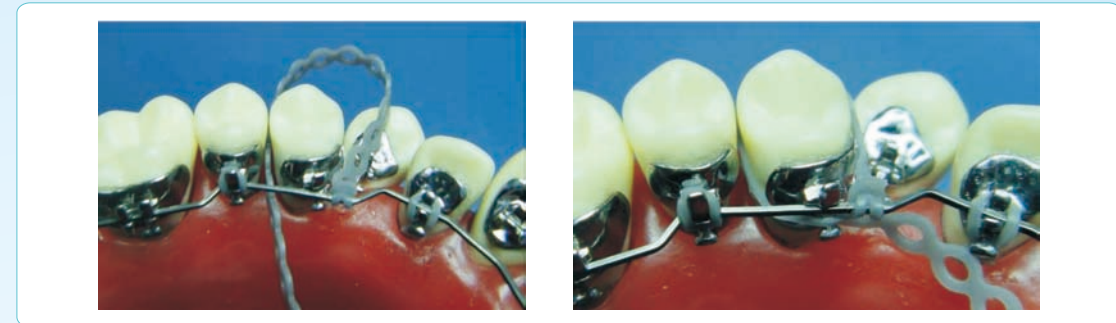
For rotated teeth, choice the twist point at the side where seating force is less.

3. Derotate teeth by wrapping powerchain

The first premolar is rotated to the distal. The powerchain has to be placed mesial of the tooth on the wire.

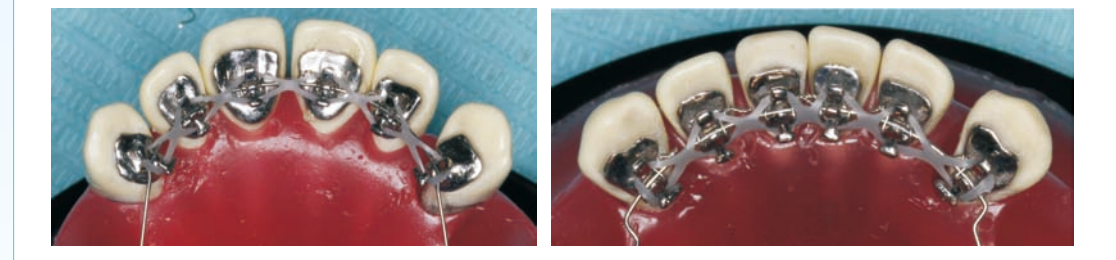


1. Use the tweezers in combination with the mosquito pliers to thread the powerchain between the first premolar and the canine under the wire, like threading a needle. This will anchor the elastic to the wire.

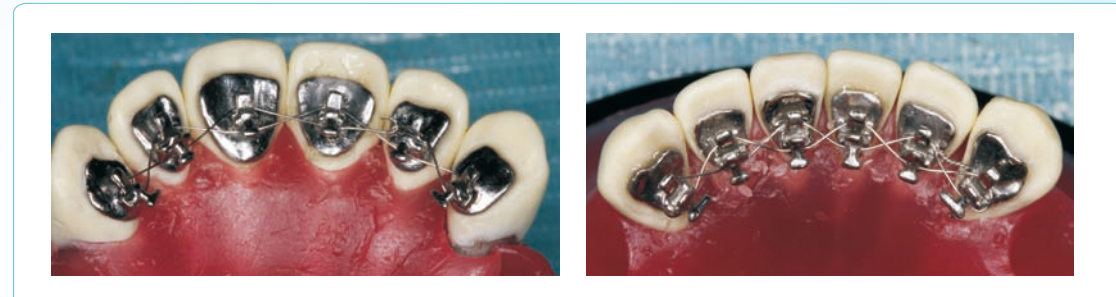


2. Go around the mesial side of the tooth under to the distal and back to the lingual side of the tooth.
3. Pull the ligature tight, and then attach the last module to the hook with the ligature director.

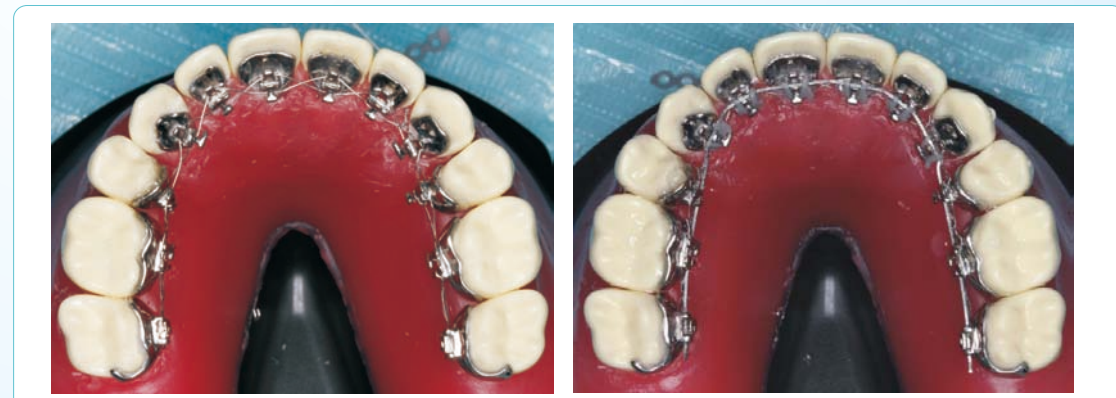
4. Figure-eight steel ligature



1. Use powerchain to make Figure-eight steel ligature to close spaces of frontal teeth after inserting the wire.



2. Use steel ligature to make Figure-eight steel ligature when it is doing en-masse retraction before inserting the wire.



3. Use steel ligature to make Figure-eight steel ligature when it is inserted the TMA full sized archwire to complete the final precision adjustment.

Lingual Attachments

Arch stop

Press the arch stop on archwire with needle holder. Purpose one: to prevent main archwire slipping off the bracket; Purpose two: use for expanding the anterior arch. Press two arch stops on both ends of partial archwire which need to be extended. They would stop bracket mesial moving. As shown in the figure, add a arch stop to the NiTi round wire where the arrows shown. They will extend the arch length.



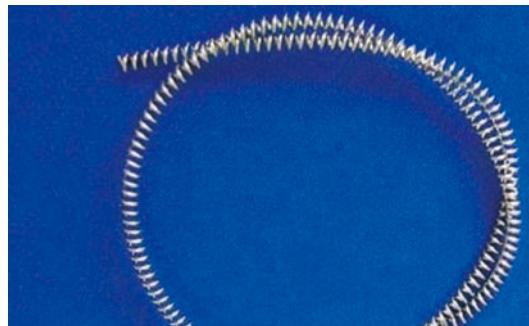
Arch stop



gain space by arch stop

Niti coil spring

Niti coil spring is used for extending partial arch length or creating space when the space is insufficient. Attention: To avoid high friction, normal ligature was recommended on the moved teeth.



Anterior bite plate

Designed as the integral with the anterior brackets.

Circle Band

Circle Band was used in short-crown cases or headgear treatment. Tooth should be separated clinically before bonding. eBrace can provide band-like structural for doctors which can be bonded without doing separation.

Esthetic denture

Esthetic denture is used for keeping appearance beauty in extraction cases. It can be made by composite resin and bonded in the space of extraction/missing teeth. It is commonly bonded in canines, using to shade the space of extraction/missing teeth. It is necessary to leave about 1mm space between denture and premolars during retraction. Doctors can use dental grinding machine to modify the denture shape in clinical.



Bonding attachment

The material of bonding attachment can be divided into metal and resin. The metal attachment is "lingual button" which used in molars, the resin attachment is similar to tooth-color that can be used in anterior & posterior segment. Application: coordinate with all kinds of elastics and assist to close space.

TPA

Casting TPA is used for enhancing anchorage

Common Clinical Problems & Solutions

1. How to bond brackets in deep overbite case?

- If the extrusion of posterior is allowed, anterior bite plate can be designed at maxillary.
- If the extrusion of posterior is not allowed, resin occlusal pad or GIC (glass ionomer cement) can be used at posterior teeth according to the overbite.

2. Why the rotated teeth were not corrected during the treatment?

- Wires were not embedded completely: Niti wires should be embedded completely.
- Ligation force is not enough: Reverse double overtie with steel ligature should be applied.
- Poor bracket position: Rebond the brackets.
- Less space: Open spaces for the rotated teeth.

3. Why the incisors were not aligned during lingual treatment?

If this problem happened at the early stage of the treatment, reverse double overtie should be used; If it happened at the later stage, compensation bends should be needed on the TMA wire. Horizontal slot can be used on canine.

4. How to upright posterior in clinical?

Tips back bend or reverse-curve on SS wires.

5. After retraction, the canine is distally tipped

- Change the TMA wire at the finishing stage, and use the “strong ligation” to correct tip problem.
- It is difficult to fully express the anterior tip in vertical slot.
- Class II elastic can be used
- Add over tip on bracket or setup.

6. Precautions for the wires broken

- To avoid the contact between upper teeth and lower wire, and the premature contact between upper and lower teeth, which result in stress focus.
- Change the wires in sequence. Stress focus would be occurred if heavy wire were inserted.
- End-back first before inserting the wire.

7. Why does anterior open bite appear during treatment?

- Rule out the problem in designment (this problem would be solved after inserting the TMA18*25 wire.)
- Vertical intermaxillary elastics

8. Bowing effect

Clinical feature: anterior bite deepened, premolars open bite and outward, molars mesially tipped, terminal molars toed-in,

This problem normally solved by the following 4 ways:

- Add 5-10° reverse curve on SS 16*22 arch wire.
- Expand the archwire in terminal segment.
- Retracted elastics were applied in both buccal and lingual sides.
- proper retraction force were used.

9. Why is the process of closing space very slow?

Usually, the lingual procession of the space closure is faster than the labial one.

- Check the resistance of wire.
- Check the elastic strength. lingual and labial traction at the same time.
- Check anterior overbite.
- Check out the cuspid interference.

10. How to avoid interferences in molar area?

- Design circle band.
- Apply the resin pads at posterior teeth after bonding brackets.
- Apply the anterior bite plate to correct the molar before lingual treatment. (if extrusion of posterior is allowed).

11. For the case that have the inclination of open bite, how to prevent from getting worse during the lingual treatment?

Three ways to prevent open bite:

- Lingual button on anterior for vertical elastic.
- Intensive curve of spee in lower arch wire.
- For open bite cases the brackets could be positioned more gingivally.

The key to correct open bite lies in prescription design, posterior intrusion and anterior extrusion are basic principles. Anterior vertical elastics or deepened mandibular curve of spee will be commonly needed during treatment. What matters most is the prescription, not the methods.

12. How to bond brackets on cone shaped teeth.

Deal with the lingual surface first before treatment.

Pliers and Instruments for Lingual



Dry Field System



Lingual Distal End Cutter



Mosquito-Forceps-Curved



Distal Cinch Back Plier



Lingual Debonding Plier



Lingual Pin Cutter



Lingual Bracket Tweezers



Ligature Director



Probe short, Explorer

Consumables for Lingual



Light Cure Adhesive Paste



Light Cure Adhesive Primer



Denfil Flow



Maximum Cure Sealant A & Sealant B



Elastomeric Chain



Crimpable Arch Stops (open)

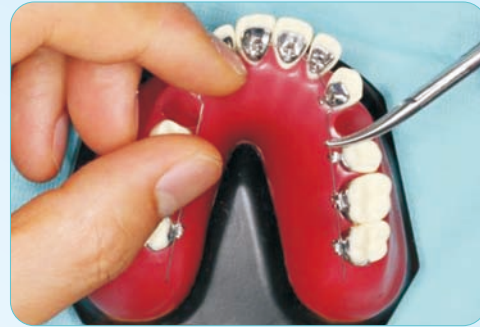


Steel Ligature

eBrace Typodont Hand-on Guide



1、Orthodontic instruments



2、Archwires



3、Cutting distal-ends



4、Befort treatment (frontal side)



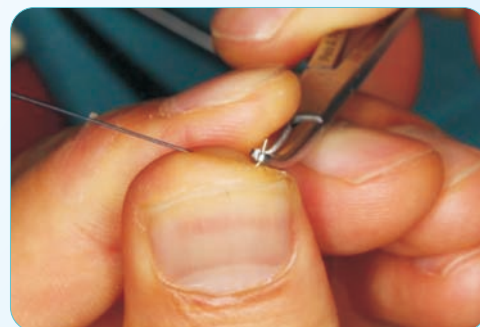
5、Befort treatment (right side)



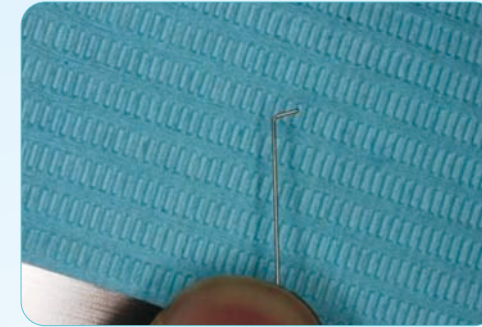
6、Befort treatment (left side)



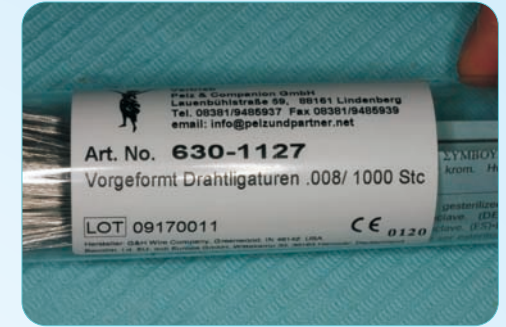
7、Distal-end bends



8、Mosquito plier bends



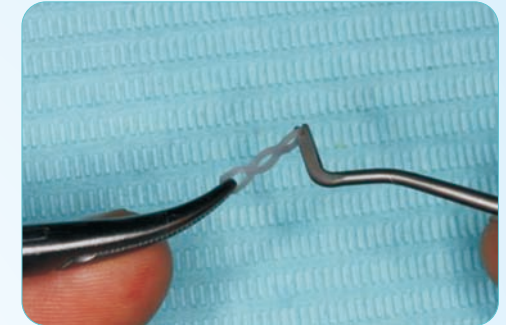
9、After bending



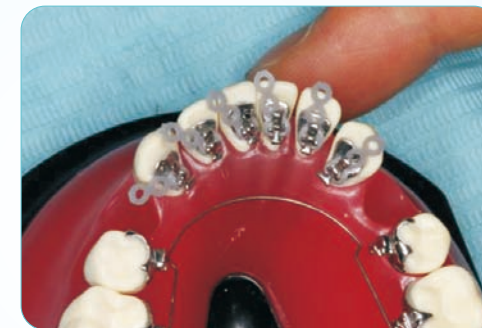
10、Steel ligature



11、Powerchain



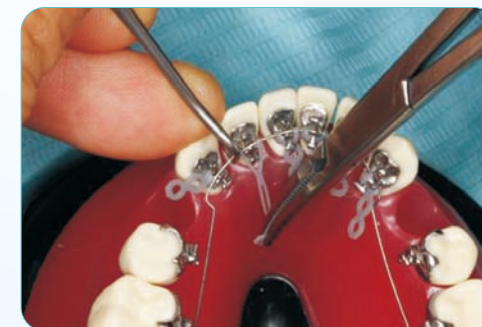
12、Three modules powerchain



13、placed the powerchain on the bracket



14、Inserted into the slot



15、Reserve overtie by powerchain

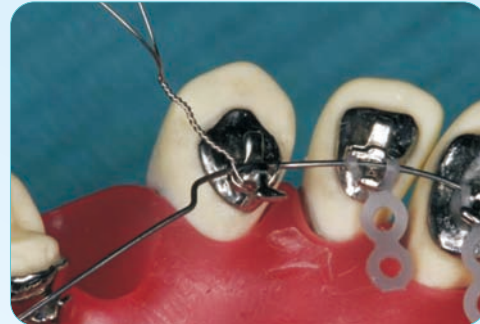


16、Steel ligature

eBrace Typodont Hand-on Guide



17、 Reserve overtie by steel ligature



18、 Reserve overtie by steel ligature

Typodont hand-on practice

Put the Typodont in water bath for ten minutes to imitating the teeth moving, when changed or ligated arch-wire. It is necessary to put Typodont in cold bath when taking it from the hot water bath before the arch wire adjustment. Make sure do not touch the wax form in the whole process.

1. leveling and aligning

1) 0.014NiTi round wire of upper and lower jaw

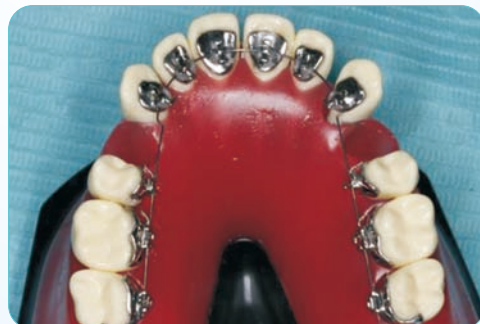
The frontal teeth are ligated with a powerchain reverse overtie. The premolars and molars are ligated by 0.008 inch steel ligature or powerchain. There are two ways to handle the distal-end: distal-end bends or paralleling the distal-end and figure-eight ligating in molar teeth.



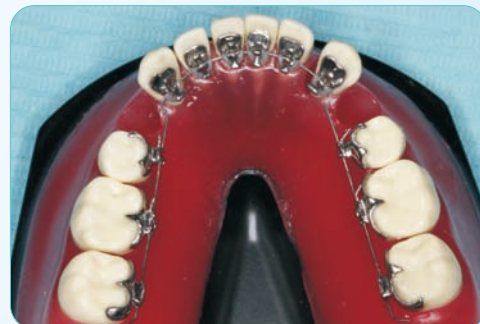
19、 Before water bath (upper arch)



20、 Before water bath (lower arch)



21、 After water bath (upper arch)

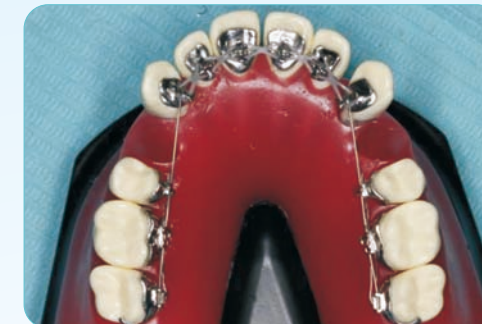


22、 After water bath (lower arch)

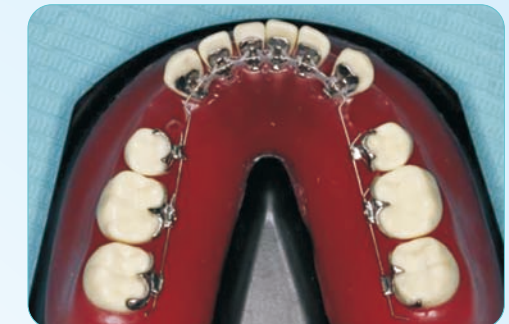
2) 0.016 NiTi round wire of upper jaw

In order to close the space of the upper frontal teeth, upper lateral incisor to lateral incisor (2-2) are ligated with steel ligature. The wire are not inserted into the slot of canines. Using 6 modules elastic chain to ligate the canine to canine (3-3). Closing the space in canine to canine after water bath, and reverse double overtie by powerchain in canine to canine. Premolar and molar teeth are normal tied by steel ligature or powerchain. Distal-end bends as the last step.

0.016 NiTi round wire is normally no needed for Lower Jaw. If need, follow the same step as above.



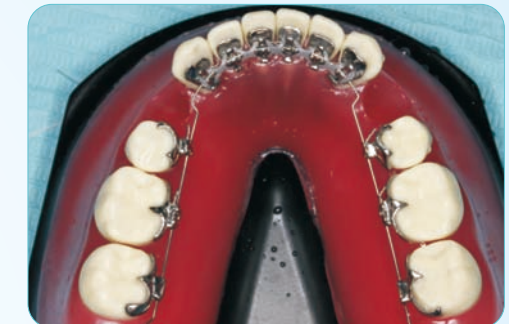
23、 Before water bath (upper arch)



24、 Before water bath (lower arch)



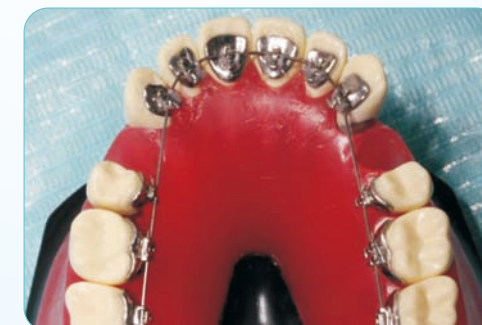
25、 After water bath (upper arch)



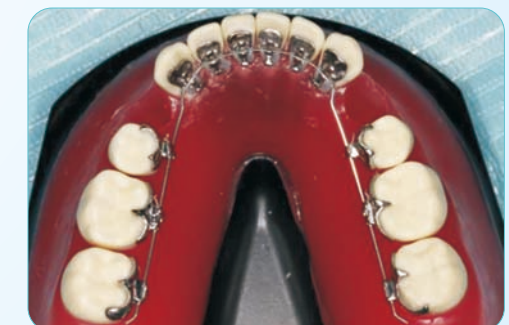
25、 After water bath (lower arch)

3) 0.016*0.022NiTi square wire

Inserted 0.016*0.022 NiTi square wire after leveling the frontal teeth and closing the space. Using the reserve double overtie by elastic chain in the frontal area, the steel ligature in premolar and molar teeth. Distal-end bends as the last step, this is good for stainless steel wire of next step. Make sure the wire inserted into all teeth slot completely.

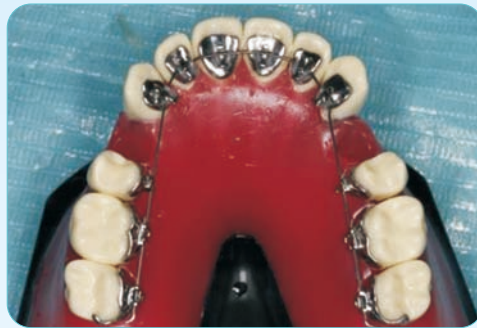


27、 Before water bath (upper arch)

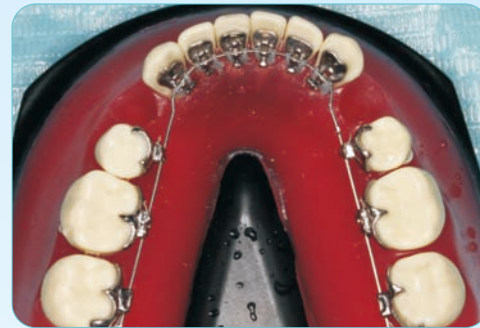


28、 Before water bath (lower arch)

eBrace Typodont Hand-on Guide



29、 After water bath (upper arch)



30、 After water bath (lower arch)

2. Close the space phase

When all the teeth are leveling, no space in the upper and lower incisors and Niti square wire can be inserted into the slot completely, it can enter into the phase of closing the space.

0.016*0.022 stainless steel square wire for upper and lower jaw;

Use a figure-eight steel ligature from canine to canine (3-3) of upper and lower jaw;

Use normal overtie by steel ligature from lateral incisor to lateral incisor (2-2);

Use reserve double overtie for canines;

Second premolar and first molar (5-6) are ligated using normal overtie;

In order to close space, 5 modules elastic chain is placed on canine and second molar (3-7). The elastic chain will pass 5-6.

The elastic is attached on the UR canine and LR second molar (13-47, 23-37), on the UL canine and LL second molar to correct the Class II relationship.

The distal-ends are cut to parallel.

4) 0.016*0.022 SS square wire of upper and lower



31、 Figure-eight steel ligature in frontal teeth



32、 Figure-eight steel ligature in lower frontal teeth



33、 Before water bath (Class II elastic)



34、 Before water bath (Class II elastic)



35、 After water bath



36、 After water bath



Notice:

- It is easy to cause the canine distal tipping in the process of closing space and the arch form reaction, this would lead to the open bite in both canines. It's normal biomechanics effect but more obvious in Typodont than in clinical. It can help to solve this problem by tightening the reserve double overtie in canines, properly prolong the water bath time, and properly add the power arm to the archwire.
- If it is not successfully close the space in one of the 4 area, take out the archwire and check whether it is deformation. Then ligate the wire again.
- Get through the next phase as the space has been closed in the upper and lower arch

3. Finishing phase

0.018*0.025TMA square wire for upper and lower jaw

Use a figure-eight steel ligature from second molar to second molar (7-7) on upper and lower jaw

Use reserve double overtie by elastomeric chain from canine to canine (3-3) on upper and lower jaw

Second premolar and first molar (5-6) are ligated using normal overtie on upper and lower jaw

The distal-ends are cut to parallel.

5) 0.018*0.025TMA square wire of upper and lower



40、 Figure-eight ligature from upper molar to molar (the same as lower arch)



41、 Before water bath



43、 Before water bath



44、 After water bath



45、 After water bath



46、 The finishing model



47、 The finishing model



48、 The finishing model

Notice: In the finishing phase, necessary bending of archwire according to the actual situation will help successfully finishing.

1. Can eBrace customized lingual bracket system reach the same effect as the traditional brackets?

Clinical practice proves that eBrace definitely can achieve the same effect with the traditional bracket while ensuring beauty and comfort. Certainly it is also related to doctor's clinical experience and patient's cooperation.

2. Is it easy to talk wearing the eBrace lingual brackets?

Sometimes, lingual bracket can affect you speech too. Some people develop a slight lisp or struggle forming particular words, but they soon adapt. Once again, it isn't normally a big issue; it simply means giving your mouth time to adjust. In fact, because a good smile is so important for a television career, celebrities such as newsreaders and presenters have worn Lingual Brace on air. That shows how invisible they are and also individuals can quickly adapt to their new braces.

3. Who can use eBrace customized lingual bracket system?

eBrace is a high-tech appliance for patients with all kinds of different malocclusions. Normally they can be divided into ideal cases, difficult cases.

4. Is eBrace customized lingual bracket easy to bond as a comparison with the standard lingual brackets?

eBrace system is quick and easy handing and offers a great variety of treatment options for orthodontists, the resulting short chair time as well as the highest patient comfort is technically possible at present.

5. Can eBrace lingual brackets be worn in combination with standard brackets?

Lingual brackets can be worn for both the upper and lower teeth. However, since the lower teeth are less visible, one can go for a combination of lingual brackets on the upper teeth and standard brackets for the lower teeth.

6. How long does the orthodontic treatment need?

The treatment time depends on the complexity of the case and the appliances used. Therefore it varies from patients. The average treatment time for a fixed appliance is 18 – 24 months.

7. The front teeth retrusion is necessary for some extraction cases. Do they have enough strength when use molars as anchorage?

Normally it used #6 #7 as anchorage, or you can use micro-screw implant when it's necessary.

Why We Select eBrace

8. Is it complicated when eBrace is bonded?

No, it's not complicated. Because of the extended individualized base, which permits precise positioning on the tooth, the brackets can then even be directly bonded by the orthodontist. Optionally, indirect bonding is possible after fabrication of a two-phase bonding tray. For this purpose the brackets are first fixed on the malocclusion model with water-soluble bonding agent. The bonding tray is made of an inner, softer tray and an outer, extremely hard tray. Prior to bonding, the individualized bracket bases are sandblasted to improve their bond strength and coated with a silan. Because of the exact fit and the size of the bases, bonding with unfilled adhesive offers adequate bond strength.

9. Almost all clinical cases need some adjustment for final perfect finishing. How can eBrace correct this problem?

The problem is solved by the following ways:

- eBrace is providing a specific prescription to each bracket by the set up & the specific malocclusion. The need for much detailing is very low.
- All prescription is in the bracket - no torque, tip bends are in the wire. Only in-out.
- Additional brackets are provided in cases of sever crowding & rotation to allow best bracket positioning in the 2nd stage to gain best results.
- A set of 3-3 jigs are provided with some cases to allow accurate repositioning in case of bracket bonding failure.

10. Does eBrace have any difference in dealing with the extraction case?

Different from the labial treatment, in lingual treatment the anterior point of application is located in the lingual side of center of resistance. For the extraction cases that the anterior axis is vertical if not controlled well, the anterior will be further upright and even lingual tipped during the space closure process.

eBrace would compensate for this situation by the design. Normally, eBrace adds 7 degrees extra-torque at the anterior(2-2) bracket slot. But in all cases it is strongly recommended for the doctor to add his specific requirement (extra torque or tip & the specific degrees, if need the over correction on the setup model) and closely monitor at all phases in order to have excellent control on results. eBrace is providing very good service.

11. What advantages does eBrace have in Mechanics control?

Since eBrace has small mesial and distal dimension and large bracket distance, wire insertion is easier, level of forces can be kept low with a large range of activation. Rotations are easily managed because of the large inter-bracket distance and the vertical slot.

Vertical slot in anterior segment can avoid the torque lose that resulted by the wire pop off from the slot during the retraction of anterior teeth. Horizontal slot in posterior segment can avoid the teeth mesially tipped during the posterior mesially moved.

Since the brackets are flat, the point of force application is closer to the center of resistance and tooth movement is well controlled.





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 Editor of the book, Lingual & Esthetic Orthodontics, Quintessence Publishing, 2011.
 Past president of the Israel Orthodontic Society (IOS) and past secretary-treasurer of the International Federation of Esthetic Dentistry (IFED).



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Prof. Lin is orthodontic professor of stomatological college, Beijing University, physician-in-charge of the Craniofacial Growth and Development Center, tutor of Ph D. student, honorary editor-in-chief of Chinese Journal of Orthodontics, Vice editor of Chinese Journal of Orthodontics, Past vice-president of Peking University of Stomatology School



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A specialist in orthodontics and dentofacial orthopedics
 Course Director, Lingual Orthodontics, Dept of Orthodontics, Tel-Aviv University
 Past President of Israel Orthodontic Society. Founding member and former Secretary, WSLO, World Society of Lingual Orthodontics



Professor Zhihe Zhao

Prof. Zhao is orthodontic professor of West China School/Hospital of Stomatology Sichuan University, chairman of Orthodontics Department, tutor of Ph. D. student, present president of Chinese Orthodontic Society.



Dr Thomas W. Örtendahl

A specialist in orthodontic
 Own his private orthodontic clinic in the region of Gothenburg
 Designed the Phantom lingual bracket and the Cabriolet bracket.
 The assoc. professor at the department of Orthodontics, Faculty of Odontology, University of Göteborg 1992-1995
 2012 he decided to focus on only eBrace.



Professor Yanheng Zhou

Prof. Zhou is orthodontic professor of stomatological college, Beijing University, vice physician-in-charge, tutor of Ph D. student, an invited professor of Adjunct Professor, Case Western Reserve University School of Dental Medicine. President elect of Chinese Orthodontic Society.