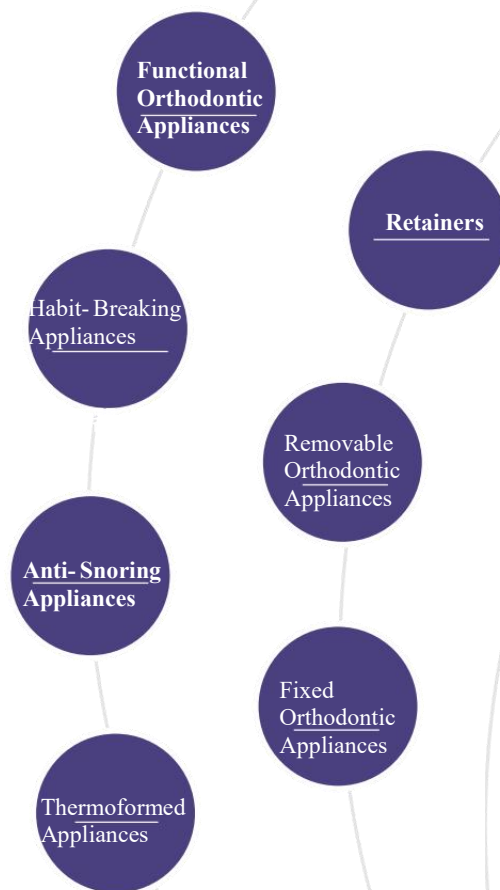




Orthodontic Product Manual



PRODUCT SERIES

PRODUCT

Retainers



Vacuum- Formed Retainer

Function: Used for retention after orthodontic treatment. Fabricated from 1.0 mm / 1.5 mm hard transparent polyethylene sheet, providing excellent esthetics, comfort, and minimal speech interference.

Precautions:

1. After disinfection, place the retainer directly into the mouth. It should seat smoothly, with well-adapted margins, no looseness, and no pressure pain.
2. Wear full-time except during cleaning, toothbrushing, and eating. Remove the retainer during meals
3. Do not clean or soak the retainer in hot water or non-recommended disinfectants, as this may cause warping or damage.

PRODUCT Retainers



Clear Retainer

Hawley Retainer

Function: Used for retention after orthodontic treatment to maintain the position of the teeth and supporting alveolar bone. The double-curved labial bow can also be adjusted to close minor anterior spaces. The appliance consists of a double-curved labial bow, acrylic baseplate, and retentive clasps (arrow clasp, single-arm clasp, or interproximal clasp). It is the prototype of most removable orthodontic appliances. Because the upper and lower teeth can occlude while wearing it, the retainer can assist with minor bite settling and may be worn full-time.

Precautions

1. After disinfection, place the retainer directly into the mouth. It should seat smoothly, with no interference to normal occlusion or natural space closure. The acrylic baseplate should be stable without lifting.
2. Wear full-time except during cleaning, toothbrushing, and eating. Remove the retainer during meals.
3. Do not clean or soak the retainer in hot water or non-recommended disinfectants, as this may cause warping or damage.
4. When using molar clasps for retention, the U-shaped labial bow may be adjusted to close small spaces or retract anterior teeth. However, excessive force must be avoided, as it may cause canine displacement or baseplate lifting.
5. When removing the retainer, first loosen the posterior clasp area, then remove the anterior portion together to avoid deformation.



Hawley Retainer

Wrap-around Retainer (Begg-type Retainer)

Function: Used for retention after orthodontic treatment, especially in extraction cases. It helps close residual band spaces and extraction spaces, and prevents buccal drifting of molars. The appliance features an extended double-curved labial bow that wraps posteriorly to form molar clasps, with the terminal ends embedded in the acrylic baseplate. An additional 0.5 mm auxiliary wire is placed distal to the canines to enhance stability of the long labial bow. Its full-wrap design avoids occlusal interference from crossing wires and allows minor posterior space closure through labial bow adjustment.

Precautions:

1. After disinfection, place the retainer directly into the mouth. It should seat smoothly, with no interference to normal occlusion or natural space closure. The baseplate should be stable without lifting.
2. Wear full-time except during cleaning, toothbrushing, and eating. Remove the retainer during meals.
3. Do not clean or soak the retainer in hot water or non-prescribed disinfectants, as this may cause warping or damage.
4. When using the U-shaped labial bow to close scattered spaces, avoid applying excessive force. Too much force may cause baseplate lifting, poor fit, or unwanted tooth movement.



Begg-type Retainer

► Soldered Retainer

Function: Used for retention after orthodontic treatment, especially in extraction cases. It provides a broader retention range and more effective space closure and maintenance. In this design, the double-curved labial bow is soldered directly onto the molar clasps. Clinically, the clasps may be arrow clasps or single-arm clasps. Because the labial bow is relatively long and may move vertically, additional stabilization can be achieved by adding a clear labial shield over the anterior portion or incorporating cross-arch auxiliary wires.

Precautions

1. After disinfection, place the retainer directly into the mouth. It should seat smoothly, with no interference to normal occlusion or natural space closure. The acrylic baseplate must be stable without lifting.
2. Wear full-time except during cleaning, toothbrushing, and eating. Remove the retainer during meals.
3. Do not clean or soak the retainer in hot water or non-prescribed disinfectants, as this may cause warping or damage.
4. When using the U-shaped labial bow to close scattered spaces, avoid excessive force. Too much force may cause baseplate lifting, poor fit, or unwanted tooth movement.



Soldered Retainer

Lingual Fixed Retainer

Function: Fabricated from 3–5 strands of super-elastic stainless-steel wire, contoured to match the exact lingual surfaces of the teeth. Used for post-orthodontic retention, especially for maintaining anterior alignment. It is esthetic, invisible, comfortable, and does not interfere with speech, making it suitable for long-term wear in adults.

Precautions:

1. Generally indicated for anterior retention. The retainer should be positioned on the cingulum area of the lingual surfaces.
2. If the retainer becomes loose, seek dental care promptly to remove or rebond it to avoid accidental swallowing.
3. During impression taking, ensure the model is clear and detailed, especially the lingual surfaces of the anterior teeth.



Lingual Fixed Retainer



Space Maintainer



Lingual Arch Space Maintainer

Space Maintainer

Function: A space maintainer is composed of a band or preformed crown with a loop/bar, used in children after premature loss of primary teeth. Its purpose is to preserve the space, maintain the physiologic arch length, and prevent adjacent teeth from tilting into the space or the opposing tooth from over-erupting, ensuring proper eruption of the succeeding permanent tooth.

Lingual Arch Space Maintainer

Function: This appliance uses the most posterior teeth as anchorage, with a lingual arch wire soldered to the bands and extending around the entire arch to maintain the arch perimeter. It is indicated for children with multiple premature loss of primary molars in the mandible, as well as for simple lower anterior retention in adults. It may also serve as additional anchorage during fixed orthodontic treatment.

Precautions

- During try-in, check for any soft-tissue impingement, especially around the lingual frenum.
- For the first 24 hours after cementation, avoid brushing the abutment teeth where the bands are placed and choose soft or easy-to-chew foods. Normal use may resume after 24 hours.
- If the appliance becomes loose, discontinue use immediately to prevent accidental swallowing and seek dental care for removal or recementation.
- During impression taking, ensure the model is clear and accurate, especially the abutment teeth that will receive the bands.
- After placement, follow the dentist's instructions and attend regular follow-up appointments to monitor eruption and appliance stability.

PRODUCT

Removable Orthodontic Appliances





PRODUCT

Removable Orthodontic Appliances

Flat Bite Plate

Function: Commonly used during fixed orthodontic treatment to intrude the lower incisors and assist in correcting deep overbite.

Depending on clinical needs, it is available in two forms:

- Removable acrylic baseplate type
- Band-supported fixed type

Precautions

1. When first worn, multiple lower anterior teeth should contact the bite plate evenly, avoiding premature contact on a single tooth.
2. During treatment, monitor the posterior disclusion. Ensure the posterior teeth are separated 2–3 mm vertically. If the height is insufficient, the clinician may gradually increase the thickness of the bite plate until the desired opening is achieved.
3. Check the anterior–posterior width of the bite plate. The lower incisors must not occlude on the posterior acrylic portion, as this may worsen Class II tendency, deep overbite, or deep overjet. If the deep bite does not improve, evaluate whether the plate is not thick enough or the patient is not wearing it consistently.



Flat Bite Plate

Upper Inclined Bite Plate

Function: Used to correct deep overbite and deep overjet caused by mandibular retrusion in the early mixed dentition. The inclined plane guides the mandible forward. It may be used as a standalone appliance or in combination with other orthodontic attachments.

Precautions

Monitor the posterior occlusal separation. The height of the inclined plane should not be increased too much at once; typically, the posterior teeth should be opened 2–5 mm.

Check the anterior–posterior width of the bite plate. The lower incisors must not occlude on the posterior acrylic portion, as this may worsen Class II tendency or deep overbite.



Upper Inclined Bite Plate

PRODUCT

Removable Orthodontic Appliances

Lower Anterior Inclined Bite Plate

Function: Commonly used for early interceptive correction of anterior dental crossbite involving the upper incisors.

It provides rapid and effective results, with most cases corrected within 3–5 weeks.

Precautions

1. Instruct the patient to bite gently when chewing, ensuring that the upper incisors contact the labial surface of the inclined plane.

The patient must not protrude the mandible to achieve posterior tooth contact, as this will worsen the crossbite. Chewing should occur between the upper incisors and the inclined plane.

2. The appliance should be discontinued only after the crossbite is corrected and posterior occlusion has re-established. If any tooth shows premature contact, the appliance should be selectively adjusted or trimmed.

Lower Anterior Inclined Bite Plate



Occlusal Pad with Lingual Spring Appliance

Function: Commonly used in the primary and mixed dentition for early correction of single-tooth anterior crossbite.

The occlusal pad opens the bite to unlock the crossbite, while the lingual springs apply direct orthodontic force to move the affected tooth into a normal position.

Precautions

1. When first delivered, do not activate the springs immediately. Allow the child to adapt for one week, then gradually activate. The optimal force for each lingual spring is 25–50 g.

2. Schedule regular follow-ups every 2 weeks. At each visit, adjust the spring activation by no more than 1 mm.

3. Wear full-time (24-hour therapy). On the day of activation, the appliance must not be removed, and the child must eat with the appliance in place for effective treatment. Brushing and rinsing can be done normally. If food becomes trapped inside the appliance, it may be removed briefly for cleaning.



Occlusal Pad with Lingual Spring Appliance

Guide Arch Appliance with Lingual Springs

Function: This appliance opens the bite using an occlusal pad, releasing the locked relationship of the crossbite tooth. The guide arch acts on the lower anterior teeth, retracting them and guiding the mandible posteriorly, while the lingual springs apply labial force to move the upper incisors forward. Together, these mechanisms correct anterior crossbite.



Guide Arch Appliance with Lingual Springs

Precautions

The guide arch is generally not activated (a small amount of activation may be used only when spacing exists between the lower permanent incisors).

This appliance is not suitable for:

- Skeletal Class III anterior crossbite, where the mandible cannot be guided backward
- Crowded or rotated permanent incisors, where tooth alignment issues prevent proper appliance function

Occlusal Pad

Function: Used in conjunction with fixed orthodontic appliances to eliminate the locked relationship of anterior crossbite or scissor bite, remove occlusal interferences, and open the bite. This facilitates proper correction of crossbite or locked occlusion during fixed treatment.

Based on occlusal morphology, occlusal pads are generally classified into anatomic and non-anatomic types.



Occlusal Pad

Precautions

- Wear full time (24 hours). The patient must eat with the occlusal pad in place and maintain good oral hygiene.
- After the crossbite or locked occlusion is corrected, the posterior occlusal pads should be gradually reduced until fully removed.
- For accurate fabrication and comfortable fit, it is best to obtain a wax bite registration and opposing model.
- If any oral mucosal or gingival irritation/ulceration occurs, the patient should return for adjustment promptly.

Removable Orthodontic Appliances

Active Protraction Appliance

Function: The appliance is primarily used for treating Class III malocclusion caused by maxillary deficiency. It utilizes the child's growth potential by applying orthopedic forward-pulling forces to stimulate maxillary growth and improve underdevelopment of the maxilla. This is a classic early-intervention orthopedic device for skeletal Class III cases.

Precautions

The optimal age for maxillary protraction is 6–11 years. As age increases, orthopedic effects decrease, while dental compensation increases and skeletal change becomes limited.

Excellent patient compliance is essential. Daily wear time should be at least 12 hours. The longer the wear time, the greater the skeletal response and the better the orthopedic outcome.



Active Protraction Appliance

Unidirectional Expansion Screw Appliance

Function: Indicated for physiologic tooth movement of individual teeth during the mixed dentition, or for moving multiple teeth in the same direction.

The unidirectional screw provides controlled, incremental expansion to achieve targeted tooth movement.

Precautions

Patient activation

- The patient inserts and removes the appliance independently.
- The screw must be turned in the same direction as the arrow.
- Typically, the screw is activated every 2–3 days, each activation being 90°, producing 0.20–0.25 mm of expansion.
- After activation, the appliance should not be removed for 24 hours to avoid difficulty in reseating.

Safety during activation

- To prevent accidental swallowing of the expansion key, tie a string or floss to the key handle during activation



Unidirectional Expansion Screw Appliance

Removable Orthodontic Appliances

Function:

This appliance is used in growing children to address maxillary or mandibular crowding or arch- width discrepancies. By producing buccal tipping of the tooth axes, it expands the dental arch and creates space needed for second-phase alignment.

Precautions

Patient activation — The patient inserts and removes the appliance independently.

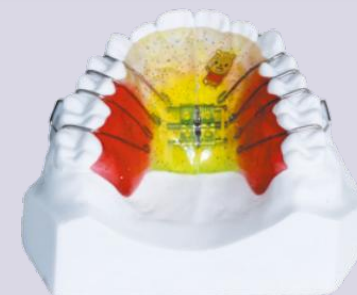
The screw must be turned in the direction indicated by the arrow.

Activation is typically performed every 2–3 days, each time turning $\frac{1}{4}$ turn (90°), producing 0.20–0.25 mm of expansion.

After activation, the appliance should not be removed for 24 hours to avoid difficulty in reseating.

Posterior crossbite management — If maxillary constriction has resulted in a posterior crossbite, posterior occlusal pads should be added.

Safety during activation — To prevent accidental swallowing of the expansion key, tie a string or floss to the key handle during activation.



Bidirectional Expansion Screw Appliance

Function: This appliance is used for three-dimensional maxillary expansion, helping to restore a normal arch form, relieve dental crowding, and create adequate space for proper tooth alignment.

Precautions

· Patient activation — The patient inserts and removes the appliance independently. The screw must be turned in the direction indicated by the arrow. Activation is typically performed every 2–3 days, each time turning 90° , producing approximately 0.20–0.25 mm of expansion. After activation, the appliance should not be removed for 24 hours to avoid difficulty in reseating.

· Safety during activation — To prevent accidental swallowing of the expansion key, tie a string or floss to the key handle during activation.



Three-Way Expansion Appliance

Removable Orthodontic Appliances

Fan- Type Expansion Appliance

Function: This appliance is mainly used for maxillary expansion in cases where molar occlusion is normal but the anterior teeth are crowded. The expansion pattern resembles the opening of a fan, widening the anterior portion of the arch more than the posterior.

Precautions

Patient activation — The appliance can be inserted and removed by the patient.

The screw must be turned in the direction indicated by the arrow.

Activation is typically performed every 2–3 days, each time turning 90°, producing approximately 0.20–0.25 mm of expansion.

After activation, the appliance should not be removed for 24 hours to avoid difficulty in reseating.

Because adjustments are frequent, patients may perform activation themselves when safety is ensured.

Safety during activation — To prevent accidental swallowing of the expansion key, tie a string or floss to the key handle during activation.



Fan- Type Expansion Appliance

Rhomboid Expansion Appliance

Function: This appliance is used in the mixed dentition or early permanent dentition to correct mild arch constriction. The split spring is positioned at the specific area of the arch where expansion is required, allowing targeted widening of the dental arch.

Precautions

1. Full-time wear — The appliance must be worn 24 hours a day. On the day of activation, it must not be removed, and the patient must eat with the appliance in place for effective force delivery. Typically, the patient returns every 2–3 weeks for the clinician to activate the split spring, widening it 1.0–1.5 mm each time.

2. Oral hygiene during wear — Brushing and rinsing can be performed normally while wearing the appliance. If food becomes trapped inside, the appliance may be removed briefly for cleaning.



Fan- Type Expansion Appliance

PRODUCT

Fixed Orthodontic Appliances



Fixed Orthodontic Appliances

Eruption Blocker Appliance

Function: This appliance is used when a primary tooth is missing and the successor permanent tooth erupts prematurely, with less than one-third root formation. Its purpose is to preserve the remaining space and prevent malocclusion. It is essentially a space maintainer with added resin attachments or blocking wires to control premature eruption.

Precautions

24-hour post-cementation care — During the first 24 hours after cementation, the patient should avoid brushing the involved side and avoid chewing on that side. Normal use may resume after 24 hours.

If loosened, stop wearing — If the appliance becomes loose, discontinue use immediately to prevent accidental swallowing.

Accurate impressions — Impressions must be clear and detailed, especially around the banded abutment tooth, to ensure proper fit.



Eruption Blocker Appliance

TPA + Nance Button Appliance

Function: This appliance consists of a Transpalatal Arch (TPA) combined with a Nance button. The TPA provides reinforcement and stabilization of molar anchorage, while the Nance button prevents mesial movement of the posterior teeth and further enhances anchorage control.

Precautions

Check fit during try-in — During try-in, ensure the appliance adapts closely without causing pressure, especially along the anterior edge of the acrylic button.

Monitor band retention — At each follow-up visit, verify that the fixed bands have not loosened.

Inspect for deformation — During follow-up, check for TPA wire distortion and adjust as needed to maintain proper molar relationship and prevent food impaction.

Check for palatal or lingual irritation — Observe the palatal mucosa and tongue for signs of irritation, redness, or pressure. If mucosal inflammation occurs, adjust the appliance accordingly; discontinue use if symptoms persist.



TPA + Nance Button



Eruption Blocker Appliance



Nance Arch with Transpalatal Bar

Maxillary Framework Expander

Function: This appliance is used in children and adolescents during growth who present with severe crowding or significant maxillary arch constriction/width discrepancies. It expands the arch horizontally, helping restore a normal arch form, relieve crowding, and create space for proper tooth alignment.

Precautions

Activation protocol — Turn the expansion screw in the direction indicated by the arrow. Activation is typically performed every 3–5 days, each time turning 90°.

Oral hygiene — Maintain excellent oral hygiene. After meals, use an oral irrigator to clean around the appliance and gingival margins.

Soft-tissue monitoring — If any mucosal or gingival irritation/ulceration occurs, the patient should return for adjustment promptly.



Rapid Palatal Expander
(RPE)

Maxillary Framework Expander

Maxillary Framework Expander

Function: This appliance is used in children and adolescents during growth who present with severe crowding or significant maxillary arch constriction/width discrepancies. It expands the arch horizontally, helping restore a normal arch form, relieve crowding, and create space for proper tooth alignment.

Precautions

Activation protocol — Turn the expansion screw in the direction indicated by the arrow. Activation is typically performed every 3–5 days, each time turning 90°.

Oral hygiene — Maintain excellent oral hygiene. After meals, use an oral irrigator to clean around the appliance and gingival margins.

Soft-tissue monitoring — If any mucosal or gingival irritation/ulceration occurs, the patient should return for adjustment promptly.



Maxillary Framework Expander

Fixed Orthodontic Appliances

MSE – Maxillary Skeletal Expander

Function: The Maxillary Skeletal Expander (MSE) is a bone-borne expansion device anchored by four mini-implants that penetrate both cortical plates of the maxilla. Because the expansion force is delivered directly to the maxillary bone, it can generate approximately 5.9 kg of expansion force, nearly three times that of a conventional rapid palatal expander (RPE).

MSE expansion minimizes buccal tipping of posterior teeth, which is common with tooth-borne expanders, and instead produces true skeletal expansion. It is especially indicated for adults whose mid-palatal suture is already fused, addressing transverse maxillary deficiency without age limitations.

Different expansion amounts and arch forms can be selected, with models offering 6 mm, 8 mm, and 10 mm expansion capacity.

Precautions

Bone-borne After expansion is completed, the appliance may be used as an arch-form retainer to maintain the achieved width.

Activation — Follow the prescribed activation schedule to ensure controlled skeletal expansion.

Monitor soft tissue — Report any mucosal irritation or inflammation around the mini-implants.

Hygiene around mini-implants — Maintain excellent oral hygiene to prevent peri-implant inflammation.

Follow-up imaging — CBCT or occlusal radiographs may be required to evaluate suture opening and expansion symmetry.



MSE – Maxillary Skeletal Expander

Four-Eye Coil Spring Expander

Function: This appliance is commonly used as an auxiliary posterior expansion device in conjunction with fixed orthodontic appliances. By applying expansion force through the four-eye coil springs positioned on the palatal side, it produces buccal movement of the maxillary premolars and molars, thereby widening the posterior maxillary arch.

Because the force system is flexible and highly adjustable, it allows personalized, asymmetric activation, making it suitable for patients whose anterior and posterior expansion needs differ.

Precautions

Not indicated for isolated severe anterior crowding — This appliance is not suitable as a standalone treatment for cases with severe anterior crowding only.

Activation schedule — After insertion, adjust the four coil springs according to clinical needs. Activation is typically performed every 3–4 weeks. At each visit, check whether the expander is causing palatal pressure.



Four-Eye Coil Spring Expander

Function: The Pendulum Appliance is one of the most commonly used fixed intraoral appliances for distalizing maxillary molars. It is frequently indicated in Class II malocclusion cases with mild to moderate maxillary crowding, allowing non-extraction treatment by moving the molars distally.

A screw-adjustable version can incorporate a palatal expansion screw within the acrylic baseplate, enabling simultaneous correction of maxillary arch constriction.

Precautions

Avoid occlusal interference — Ensure the premolar rests/occlusal supports are properly adjusted to avoid interference during biting.

Maintain hygiene around wires — Clean the spaces between the stainless-steel wires and oral tissues carefully to prevent food debris accumulation.

Monitor soft-tissue health — If mucosal or gingival irritation/ulceration occurs, the patient should return for evaluation and adjustment.



Pendulum Molar Distalization Appliance



Distal Jet Palatal Molar Distalization Appliance



Pendulum Appliance



Pendulum Appliance with Expansion

PRODUCT

Functional Orthodontic Appliances



Frankel II Functional Appliance (FR- II)

Function: The Frankel II appliance is primarily indicated during the mixed dentition stage for patients with:

Mandibular retrusion || Retroclined upper incisors || Deep overbite

Class II Division 2 malocclusion with arch-size discrepancy

Before treatment, the retroclined maxillary incisors must be uprighted to allow proper mandibular advancement during therapy.

Precautions

Wear schedule — The appliance should be worn full-time except during meals. At the beginning, daily wear should exceed 12–14 hours to ensure adaptation and effectiveness.

Proper storage — Keep the appliance safely stored when not in use to avoid deformation or breakage.

Monitor soft- tissue health — If mucosal or gingival irritation/ulceration occurs, the patient should return for evaluation and adjustment.

Accurate impressions & bite registration — Upper and lower impressions must capture the full depth of the vestibule. The bite registration should be taken with the mandible guided into an edge- to- edge position to construct the functional appliance correctly.

Frankel III Functional Appliance (FR- III)

Function: The Frankel III appliance is designed to restrain mandibular growth and promote maxillary development, helping correct anterior crossbite. It is mainly indicated for:

Functional Class III malocclusion || Pseudo- Class III caused by muscular imbalance || Primary dentition and mixed dentition stages

By modifying perioral muscle function and guiding skeletal growth, it helps correct early Class III functional shifts.

Precautions

Wear schedule — The appliance should be worn full-time except during meals. During the initial phase, daily wear should exceed 12–14 hours to ensure adaptation and therapeutic effect.

Proper storage — Store the appliance carefully to avoid deformation or breakage.

Monitor soft- tissue health — If mucosal or gingival irritation/ulceration occurs, the patient should return promptly for adjustment.

Accurate impressions & bite registration — Upper and lower impressions must capture the full depth of the vestibule. The bite registration should be taken with the mandible guided backward into an edge- to- edge position to properly construct the appliance.

PRODUCT

Functional Orthodontic Appliances



Frankel II



Frankel III

PRODUCT

Functional Orthodontic Appliances

Myotonic Activator (Muscle-Stimulating Functional Appliance)

Function: The Myotonic Activator is a functional orthopedic appliance designed to modify jaw growth by stimulating or inhibiting muscle activity in different planes:

Sagittal plane: Stimulates mandibular growth • Restrains maxillary sagittal growth

Vertical plane: Stimulates vertical development of the mandible

It is indicated only for growing patients, with the optimal treatment timing being the early adolescent growth spurt, when skeletal response is greatest.

Precautions

Daily wear time — Wear the appliance more than 8 hours per day to achieve effective orthopedic stimulation.

Correct insertion & breathing — Ensure correct orientation (upper vs. lower). Teeth must be fully seated in the appliance. Close the lips and breathe through the nose. If nasal congestion occurs (e.g., during a cold), pause use temporarily.

Avoid misuse — Do not talk, eat, chew, or play with the appliance while wearing it to prevent breakage.

Monitor TMJ and soft tissues — During wear, observe for: • TMJ discomfort or tenderness • Masseter or temporalis muscle soreness • Pain or irritation of lips, tongue, or oral mucosa If symptoms appear, return for evaluation.



**Myotonic Activator
(Muscle-Stimulating
Functional Appliance)**

Bioregulator Functional Appliance

Function: The Bioregulator is a functional orthopedic appliance developed from the myotonic activator but with different therapeutic goals. Its purpose is to establish proper functional regulation by eliminating abnormal muscular patterns that restrict normal craniofacial growth.

It works mainly by:

Advancing the mandible

Repositioning the tongue

Achieving competent lip seal

Improving orofacial muscle function

Through these mechanisms, it helps correct developing malocclusions by guiding harmonious growth and muscle balance.

Precautions

Wear schedule — The appliance is effective only while worn. Except during meals, toothbrushing, or vigorous physical activity, it should be worn the rest of the time.

Mandibular advancement — The mandible should be advanced to an edge-to-edge incisal position without excessive bite opening. If the overjet is large, advance the mandible gradually, typically 3–5 mm in total.

Tongue-training instruction — While wearing the appliance, instruct the patient to frequently touch the opening of the U-shaped palatal bar with the tongue. This helps retrain the tongue to return to its physiologic resting position.



Bioregulator Functional Appliance

Headgear- Type Myotonic Activator

Function : The Headgear- Type Myotonic Activator is based on the standard myotonic activator but incorporates an extraoral facebow and headcap. It is widely used in the orthopedic treatment of Class II malocclusion.

Its orthopedic effects include: Restraining maxillary forward growth — The extraoral traction limits anterior growth of the maxilla and upper dental arch.

Redirecting traction forces — Changing the direction of force helps control vertical and sagittal development.

Inhibiting upper posterior tooth eruption — The upward and backward traction reduces the eruption tendency of upper molars, assisting in vertical control.

Precautions

Daily wear time — Wear 12–14 hours per day, with mandatory nighttime wear.

Correct insertion & nasal breathing — Distinguish upper and lower positions. || Ensure teeth are fully seated in the appliance. || Close lips and breathe through the nose. || If nasal congestion occurs (e.g., during a cold), pause use.

Avoid misuse — Do not talk, eat, chew, or play with the appliance while wearing it to prevent breakage.

Monitor TMJ and soft tissues — Observe for: • TMJ discomfort or tenderness || Masseter or temporalis muscle soreness || Pain or irritation of lips, tongue, or oral mucosa || Report symptoms promptly.

Remove elastics first — Never remove the appliance while elastics are still attached, to avoid accidental injury.



Headgear- Type Myotonic Activator

Concise takeaway

This appliance is a Twin Block functional appliance combined with an expansion screw, used for Class I or Class II Division 1 malocclusion with deep overbite/overjet and mild crowding, to stimulate mandibular forward growth and correct arch width deficiencies.

Function

The Twin Block with Expansion appliance is indicated for:

Class I / Class II Division 1 malocclusion with deep overbite and deep overjet

No crowding or mild crowding, with generally good arch form

Adolescent patients with significant sagittal discrepancy (mandibular retrusion)

Therapeutic effects include:

Stimulating mandibular forward growth

Correcting molar distal relationship

Reducing deep overbite and overjet

Improving mandibular deficiency and facial profile

Arch expansion to address maxillary constriction when the expansion screw is added

Precautions

Full-time wear Must be worn 24 hours/day. On activation days, do not remove the appliance, and eat with the appliance in place for effective treatment. Follow-up every 4–6 weeks.

Oral mucosa monitoring If oral mucosa or gingival injury (ulceration) occurs, seek dental evaluation promptly.

Accurate impressions and bite registration Upper and lower impressions must be clear and complete. The construction bite must record the mandible advanced to edge- to- edge incisor position.



Twin Block with Expansion Screw

SGTB Appliance (Skeletal Growth Twin Block)

Concise takeaway

The SGTB is a modified Twin Block designed for Class II malocclusion in late mixed or early permanent dentition, with the maxillary component fixed and the mandibular component removable, providing stronger orthopedic control.

Function

The SGTB Appliance is indicated for:

Class II malocclusion in late mixed or early permanent dentition

Cases requiring enhanced maxillary anchorage, since the upper component is fixed

Patients needing mandibular advancement and sagittal correction

Therapeutic effects include:

Stimulating mandibular forward growth

Improving the molar relationship

Reducing overjet and deep overbite

Enhancing facial profile by correcting mandibular retrusion

Precautions

Full-time wear: Must be worn 24 hours/day. || The lower removable component should be taken out only for toothbrushing. || Clean the appliance after every meal.

Monitor soft tissue health: If oral mucosa or gingival irritation/ulceration occurs, seek dental evaluation promptly.

Accurate impressions & construction bite : Upper and lower impressions must be clear and complete. The construction bite should record the mandible advanced to an edge- to- edge incisor position.



SGTB

Herbst Appliance

Concise takeaway: The Herbst appliance is a fixed functional device used to correct Class II malocclusion by holding the mandible in a forward position continuously, promoting skeletal and dental correction.

Function: The Herbst Appliance is a fixed mandibular advancement device indicated for: Class II malocclusion with mandibular retrusion || Late mixed or early permanent dentition || Patients needing continuous 24- hour mandibular advancement without relying on compliance

Therapeutic effects include: Stimulating mandibular forward growth || Improving molar relationship toward Class I || Reducing overjet || Enhancing facial profile by correcting mandibular deficiency

Precautions

1. **Full-time wear & early adaptation:** The appliance is fixed and worn 24 hours/day. || During the first week, patients may experience: Chewing difficulty || Temporary TMJ clicking in some cases || Advise soft diet during the initial adaptation period.

2. **Appliance monitoring :** Regularly check for breakage or loosening of rods, screws, or crowns. || Any unusual movement or noise from the mechanism requires immediate evaluation.

3. **Oral mucosa care:** If oral mucosa or gingival ulceration occurs, seek dental care promptly.

4. **Accurate impressions & construction bite**

Upper and lower impressions must be clear and complete. || Construction bite should record the mandible advanced to an edge- to- edge incisor position.



Herbst Appliance

PRODUCT

Habit-Breaking Appliances



PRODUCT

|Habit-Breaking Appliances|

Tongue-Habit Breaker (Tongue Crib / Tongue Spikes)

Concise takeaway : This appliance is used to eliminate harmful oral habits such as tongue- thrusting, finger- sucking, and lip- biting. It comes in two designs—tongue crib or tongue spikes—and can be fixed or removable

Function

The Tongue-Habit Breaker is indicated for: Tongue- thrusting habit || Finger- sucking habit || Lip- biting habit

Other persistent oral parafunctional habits

Clinical effects include: Preventing the tongue from pushing against anterior teeth || Helping correct anterior open bite or proclination caused by tongue habits || Interrupting finger- sucking or lip- biting patterns || Supporting stable orthodontic outcomes by removing etiologic factors || Two structural types: || Tongue crib — a metal grid blocking anterior tongue thrust || Tongue spikes — small projections providing aversive feedback to stop the habit || Two usage types: Fixed type — cemented to molar bands || Removable type — worn like a retainer

Precautions

Wear schedule for removable type || Wear full- time except during meals. -Must be worn during sleep.

Monitor soft tissue health: If oral mucosa or gingival irritation/ulceration occurs, seek dental evaluation promptly.



Tongue-Habit Breaker (Tongue Crib / Tongue Spikes)

Lip Bumper (Lip Shield / Lip Guard)

Concise takeaway : A lip bumper is used to eliminate lip- biting or sucking habits and can also serve as a lower molar anchorage-reinforcement device, helping upright or distalize mandibular molars depending on design and force direction.

Function : The Lip Bumper is indicated for: Lip- biting or lip- sucking habits || Enhancing lower molar anchorage during orthodontic treatment || Uprighting or distalizing lower molars by eliminating lip pressure and transferring soft- tissue forces to the molars || Cases requiring arch development or relief of mild anterior crowding

Types: Removable type — worn like a retainer || Fixed type — attached to molar tubes or bands

Precautions

Wear schedule for removable type : Wear 12 hours or more per day; full- time wear is acceptable. Must be worn during sleep.

Correct lip positioning : The lip must cover the lip bumper during wear. It must not sit on the gingival side. **Avoid misuse :** Do not play with the appliance or wear it to school (for removable type), as this increases the risk of breakage or loss. **Monitor soft tissue health :** If oral mucosa or gingival irritation/ulceration occurs, seek dental evaluation promptly.



Lip Bumper (Lip Shield / Lip Guard)

Lip-Bumper Wire Appliance

Concise takeaway

A lip-bumper wire appliance is used to correct lip-biting/sucking habits or finger-sucking habits, helping protect the dentition and support normal oral function.

Function

The Lip-Bumper Wire Appliance is commonly indicated for: Lip- biting or lip- sucking habits || Finger- sucking habits ||

Prevention of anterior dental flaring or malocclusion caused by these habits,

It works by creating a physical barrier between the lips/fingers and the teeth, interrupting the habit pattern and allowing normal muscle balance to re-establish.

Precautions

Wear schedule : Recommended to wear full- time except during meals. Must be worn during sleep.

Avoid wearing during play or school

Do not wear while playing with other children or at school to prevent breakage or accidental injury.

Monitor soft-tissue health

If oral mucosa or gingival irritation/ulceration occurs, seek dental evaluation promptly.



Lip- Bumper Wire Appliance



PRODUCT

Habit-Breaking Appliances |

Vestibular Shield (Oral Screen)

Concise takeaway

A vestibular shield is used to correct mouth-breathing, lip-biting, and finger-sucking habits, and also functions as a myofunctional training appliance to improve perioral muscle balance and reduce harmful muscular pressure.

Function

Mouth breathing correction || Lip- biting or finger- sucking habits || Myofunctional training to improve orbicularis oris and perioral muscle tone || Reducing adverse muscular pressure on the dentition || Supporting normal arch development and stable orthodontic outcomes || It works by blocking abnormal lip/tongue activity and encouraging nasal breathing and proper lip seal.

Precautions

Wear time

Wear 12 hours or more per day. || Can be worn full- time except during meals. || Must be worn during sleep.

Correct positioning : Distinguish upper and lower orientation. || Ensure the appliance is fully seated in the upper and lower vestibules. || Maintain lip seal and nasal breathing. || If nasal congestion occurs (e.g., during a cold), pause use.

Avoid misuse : Do not talk, eat, chew, or play with the appliance while wearing it to avoid breakage.

Accurate impression requirements : When taking impressions, the anterior vestibules of both arches must be fully captured.



Vestibular Shield (Oral Screen)

PRODUCT

Anti -Snoring Appliance



Anti-Snoring Appliance

Concise takeaway

An anti-snoring appliance is a mandibular advancement device designed to vertically open the bite and advance the mandible, enlarging the upper airway to reduce snoring and improve airflow.

Function

A **snoring appliance** is one type of mandibular advancement device. Its therapeutic effects include:

Vertically opening the bite to increase airway space

Advancing the mandible forward to prevent upper-airway collapse

Improving airflow through the oropharyngeal region

Relieving snoring caused by upper-airway narrowing

Because of different structural designs, there are many types of anti-snoring appliances, including:

Rod-type anti-snoring device || Shark- type anti- snoring device || Other mandibular advancement

devices with various connectors or titration mechanisms || All share the same goal: maintaining a forward mandibular position during sleep to keep the airway open.



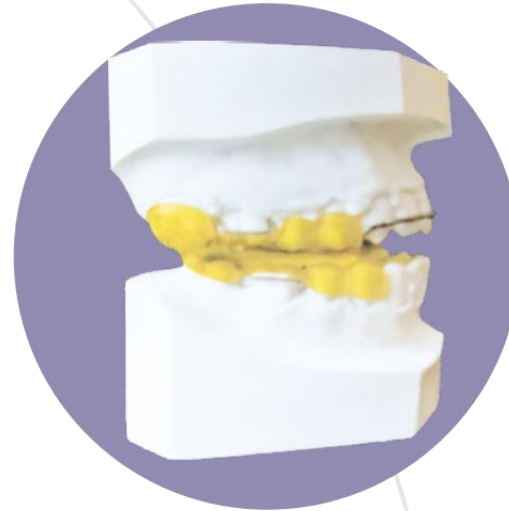
Shark-Type Anti-Snoring Appliance



Rod-Type Anti-Snoring Appliance



Modified Positioner- Type Anti- Snoring Appliance



Monoblock Anti-Snoring Appliance

PRODUCT

Thermoformed Appliances



Sports Mouthguard

Concise takeaway

A sports mouthguard is worn during athletic activities to absorb and distribute external forces, protecting the teeth, alveolar bone, and maxillofacial structures from injury. It is commonly used in boxing, basketball, football, and other contact sports, and is available in standard and professional versions depending on the athlete's needs.

Function

The Sports Mouthguard provides:

- Impact cushioning to reduce direct trauma to teeth and jaws
- Force distribution across a larger area to minimize localized injury
- Protection of teeth, alveolar bone, lips, and TMJ during sports
- Injury reduction during boxing, basketball, football, martial arts, and other high-impact activities

Options:

Standard type — for general sports use

Professional type — thicker, more customized, for high-impact or competitive athletes

Precautions

Choose the correct type: Select the mouthguard based on the athlete's sport and individual needs. It should seat fully, fit snugly, have well-adapted borders, and cause no looseness or pressure pain.

Proper cleaning and storage: Since it is worn only when needed, clean thoroughly after each use. Store in a dry, ventilated container and avoid direct sunlight to prevent deformation.



Sports Mouthguard

Bleaching Tray (Whitening Tray)

Concise takeaway

A bleaching tray is a thermoformed dental tray used to hold whitening gel against the teeth during treatment of discolored teeth, mild fluorosis, or mild-to-moderate tetracycline staining.

Function

The Bleaching Tray is worn during professional or dentist-supervised home whitening to:

- Maintain close contact between whitening gel and tooth surfaces
- Assist clinicians in treating stained teeth, mild fluorosis, and mild-moderate tetracycline discoloration
- Ensure even distribution of bleaching material ;Prevent gel leakage and maximize whitening efficiency

Precautions

Placement of whitening gel: Apply the whitening gel only in the tooth areas, avoiding empty spaces. Place the gel into the tray first, then seat the tray onto the teeth.

Avoid gingival irritation: Properly applied whitening gel should not irritate the gingiva. Wipe away any excess gel that extrudes after seating the tray.

General use guidance: Ensure the tray fits smoothly, with no pressure points. Follow the clinician's instructions regarding wear time and frequency.



Bleaching Tray (Whitening Tray)

PRODUCT

Night-time Bruxism Occlusal Splint (Night Guard)

Concise takeaway

A night-time bruxism occlusal splint is used to reduce complications of teeth grinding, protect teeth and supporting structures, and distribute occlusal forces during sleep. It is commonly fabricated as soft, dual-laminate (soft inside, hard outside), or hard types depending on the patient's grinding severity.

Function

The Night-time Occlusal Splint is designed to: Reduce complications of bruxism such as tooth wear, fractures, and muscle fatigue || Provide cushioning and force distribution during nocturnal grinding || Protect teeth, restorations, and TMJ || Improve comfort and reduce morning jaw soreness

Common types include: Soft splint || Dual-laminate splint (soft inner layer + hard outer layer) || Hard splint

Precautions

Choose appropriate thickness ;The membrane thickness should be selected based on the severity of the patient's bruxism.

Proper night-time wear: Wear at night. The splint should seat smoothly, with well-adapted borders, no looseness, and no pressure pain. Speech may be slightly affected while wearing it.

Accurate impression quality :For optimal fabrication quality, impressions must be clear and complete, without bubbles. The gingival sulcus morphology must be accurately captured.



Soft Night Guard
(Soft Bruxism Occlusal Splint)



Hard Night Guard
(Hard Bruxism Occlusal Splint)



Dual-Laminate Night Guard
(Soft-Inside / Hard-Outside Bruxism Splint)