

# TRANSPALATAL DISTRACTOR

A BONE-BORNE MODULAR DISTRACTION DEVICE  
FOR SURGICALLY ASSISTED, PALATAL EXPANSION

## Surgical Technique



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 Image intensifier control

This description alone does not provide sufficient background for direct use of DePuy Synthes products. Instruction by a surgeon experienced in handling these products is highly recommended.

**Processing, Reprocessing, Care and Maintenance**

For general guidelines, function control and dismantling of multi-part instruments, as well as processing guidelines for implants, please contact your local sales representative or refer to:

<http://emea.depuysynthes.com/hcp/reprocessing-care-maintenance>

For general information about reprocessing, care and maintenance of DePuy Synthes reusable devices, instrument trays and cases, as well as processing of DePuy Synthes non-sterile implants, please consult the Important Information leaflet (SE\_023827) or refer to:

<http://emea.depuysynthes.com/hcp/reprocessing-care-maintenance>

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# Transpalatal Distractor

A bone-borne modular distraction device for surgically assisted, palatal expansion

The Transpalatal Distractor is a modular, intraoral distraction system available in three widths.



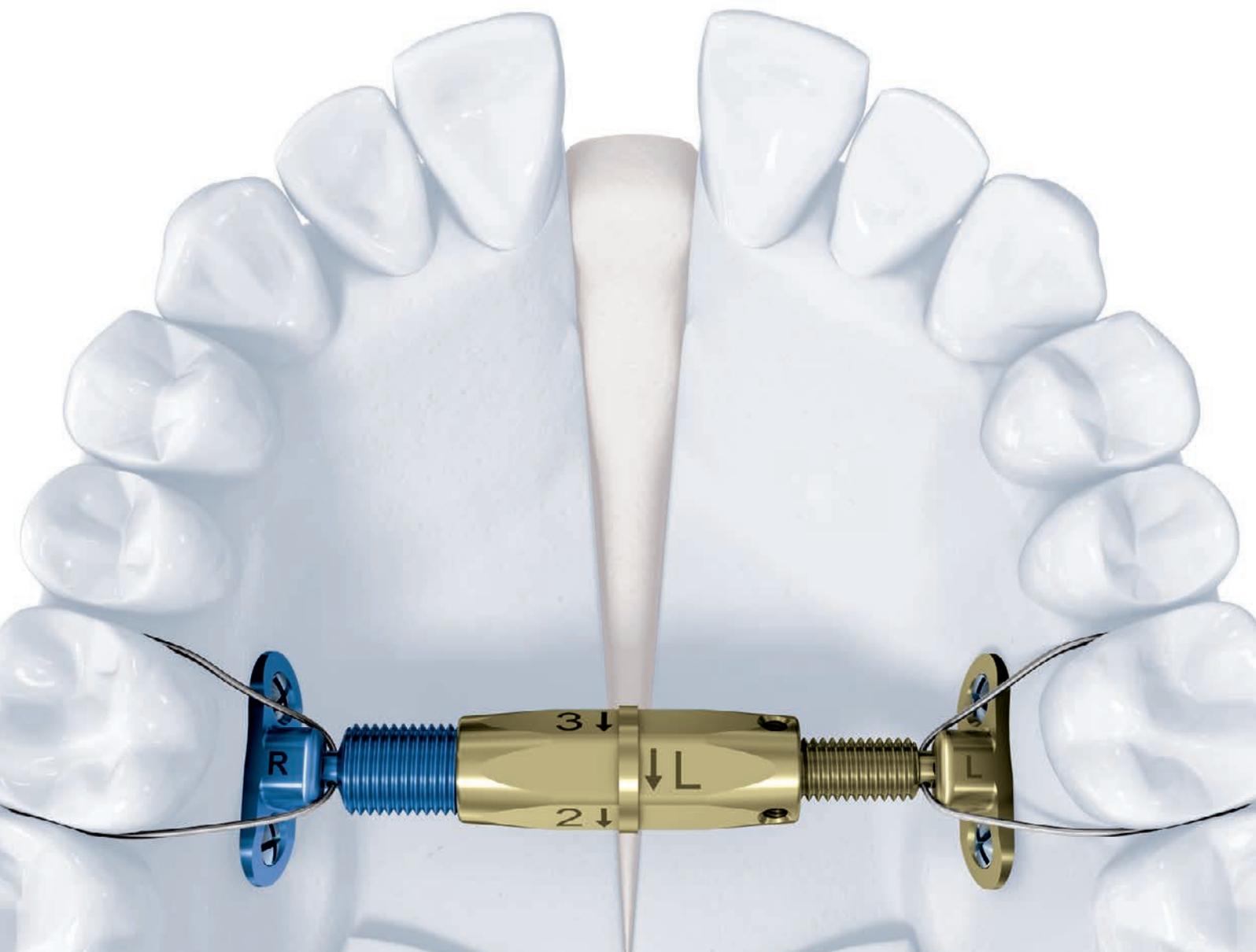
Right, blue footplate



Distractor body = right, blue threaded pin + central body + left, gold threaded pin



Left, gold footplate



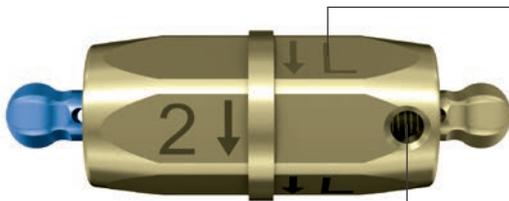
# Overview

## Transpalatal distractor body

- Central body with two telescopic threaded pins
- Available in three widths
- Titanium alloy

Transpalatal Distractor Body	Length in Closed Position (mm)	Length in Open Position (mm)	Total Distractor Expansion (mm)
04.509.005	16	24	8
04.509.006	20	36	16
04.509.007	24	48	24

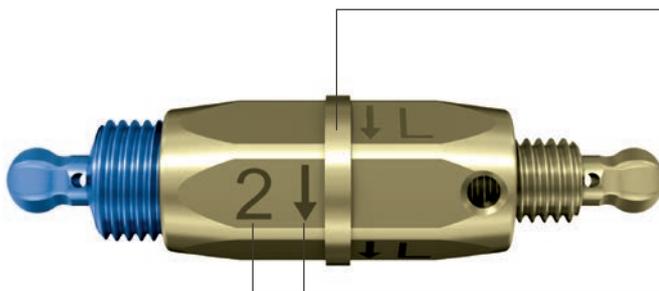
## Closed position



Three "L" markings indicate the left side of the palate.

Three threaded holes for blocking screw. The blocking screw prevents distractor rotation and turns the distractor from an expander into a retainer during latency and consolidation periods.

## Open position



Central ring for central placement and retention of activation instrument.

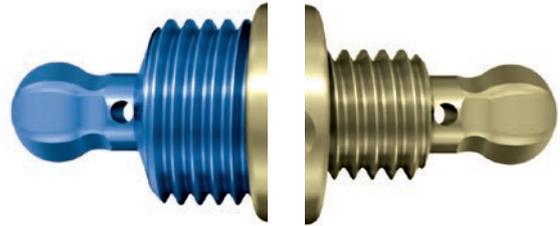
The numbers 1, 2, 3 control/monitor the distractor expansion. Arrows indicate the direction of rotation for distractor expansion (cranial to caudal direction).

## Transpalatal Distractor

A bone-borne modular distraction device for surgically assisted, palatal expansion

### Threaded pins

- Left, gold
- Right, blue
- Contains  $\varnothing$  0.6 mm hole for the  $\varnothing$  0.4 mm titanium safety wire



### Footplates

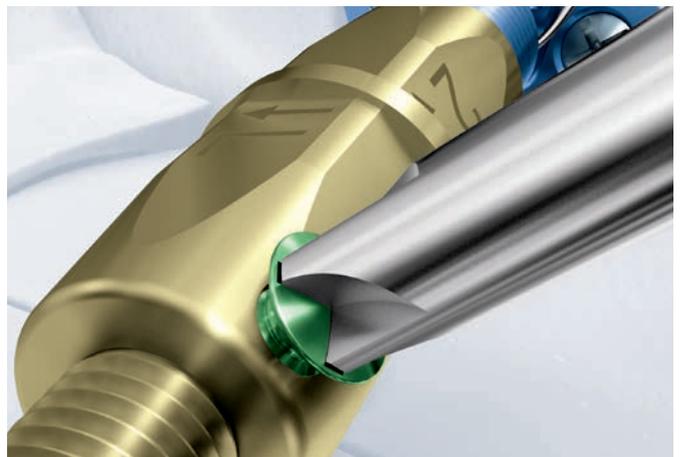
- Left, gold footplate to be assembled with the gold threaded pin
- Right, blue footplate to be assembled with the blue threaded pin
- Allows horizontal placement of the distractor body: angled socket ①
- Entry opening facilitates engagement with the threaded pin ②
- Tapered edges ③
- Large external contact surface facilitates handling with instruments ④
- 2 bone screw holes  $\varnothing$  2.1mm, 8 mm apart ⑤
- 4 spikes located underneath footplate ⑥
- Etched "L" on the left, gold footplate and "R" on the right, blue footplate for correct placement in the patient's mouth ⑦
- Pure titanium



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## Blocking screw

- Blocks the left, gold threaded pin
- Prevents unintentional distractor rotation
- Titanium alloy



## Titanium safety wires

- Ø 0.4 mm safety wires anchor the distractor to the teeth during the treatment period
- Length 140 mm
- Pure titanium



Intended Use, Indications and Contraindications can be found in the corresponding system Instructions for Use.

MRI Information on Torque, Displacement, Image Artifacts and Radio-Frequency-(RF-)induced heating can be found in the corresponding System Instructions for Use.

# General Precautions, General Warnings and Adverse Events

## ▲ General Precautions:

Irrigate and apply suction for removal of debris potentially generated during implantation or removal.

## ▲ GENERAL WARNINGS:

These devices can break during use (when subjected to excessive forces or outside the recommended surgical technique). While the surgeon must make the final decision on removal of the broken part based on associated risk in doing so, we recommend that whenever possible and practical for the individual patient, the broken part should be removed.

Be aware that implants are not as strong as native bone. Implants subjected to substantial loads may fail.

Medical devices containing stainless steel may elicit an allergic reaction in patients with hypersensitivity to nickel.

## General Adverse Events

As with all major surgical procedures, risks, side effects and adverse events can occur. While many possible reactions may occur, some of the most common include: Problems resulting from anesthesia and patient positioning (e.g. nausea, vomiting, dental injuries, neurological impairments, etc.), thrombosis, embolism, infection, nerve and/or tooth root damage or injury of other critical structures including blood vessels, excessive bleeding, damage to soft tissues incl. swelling, abnormal scar formation, functional impairment of the musculoskeletal system, pain, discomfort or abnormal sensation due to the presence of the device, allergy or hypersensitivity reactions, side effects associated with hardware prominence, loosening, bending, or breakage of the device, mal-union, non-union or delayed union which may lead to breakage of the implant, reoperation.

## Device-specific Adverse Events

Morbidity related to the osteotomies for transpalatal osteodistractor may necessitate medical treatment of the patient for rhinorrhea, nasal bleeding, periostitis, dermatitis, infraorbital ecchymosis, excessive postoperative edema, prolonged cheek hyperesthesia, necrosis of the palatal tissue in the area of a palatal torus, prolonged V2 branch nerve hypoesthesia, hematoma, fractures of the skull base, aneurysms, arteriocavernous fistulas, injuries involving the cranial nerves. Failure to follow post-operative care and treatment instructions can cause failure of the implant and the treatment.

Device-specific adverse events include but are not limited to:

- Choking hazard due to the presence of the distractor in the oral cavity, pain, bleeding, hemorrhage, loosening, inflammatory difficulties, wound dehiscence, tissue damage, teeth damage, orbital damage, infection, lesion of the palatal, buccal displacement, asymmetric expansion, relapse.

# The AO Principles of Fracture Management

## Mission

The AO's mission is promoting excellence in patient care and outcomes in trauma and musculoskeletal disorders.

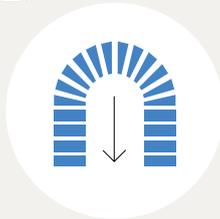
### AO Principles<sup>1,2</sup>

1.



Fracture reduction and fixation to restore anatomical relationships.

2.



Fracture fixation providing absolute or relative stability, as required by the “personality” of the fracture, the patient, and the injury.

3.



Preservation of the blood supply to soft-tissues and bone by gentle reduction techniques and careful handling.

4.



Early and safe mobilization and rehabilitation of the injured part and the patient as a whole.

<sup>1</sup> Müller ME, Allgöwer M, Schneider R, Willenegger H. Manual of Internal Fixation. 3rd ed. Berlin, Heidelberg New York: Springer 1991.

<sup>2</sup> Rüedi TP, RE Buckley, CG Moran. AO Principles of Fracture Management. 2nd ed. Stuttgart, New York: Thieme. 2007.

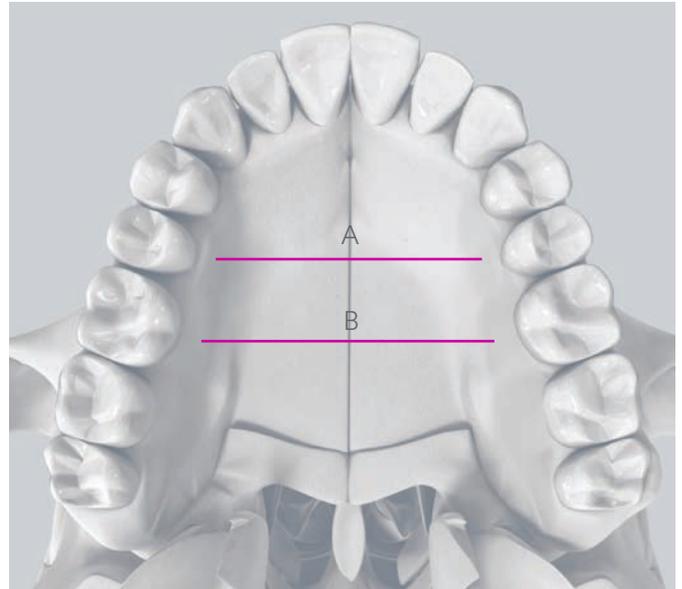
# Preoperative Planning

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## Instruments

03.509.005	Plate Holder, curved
03.509.015	Transpalatal Distractor Sizer, L 16 mm
03.509.016	Transpalatal Distractor Sizer, L 20 mm
03.509.017	Transpalatal Distractor Sizer, L 24 m

Determine the post-distraction anatomical goal by conducting an evaluation of the craniofacial pathology through clinical exams, CT scan, frontal cephalogram and/or x-ray. Dental models are beneficial for selecting the appropriate distractor size, determining the location of the osteotomies and placement of the distractor footplates.



A and B: Two possible placement options for the transpalatal distractor.

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Transpalatal distractor sizers are available for preoperative planning in each distractor's closed position size: 16, 20 and 24 mm.

**Sizers can be used to:**

- Select the appropriate distractor size for the patient's anatomy
- Determine the location of the footplate incisions
- Determine the available distractor expansion measurement

**▲ Precautions:**

Evaluate:

- The patient teeth to ensure that the distractor could be secured on both sides with safety wires
- Desired vector of movement and the magnitude of the desired skeletal correction
- Palatal mucosa thickness
- Palatal bone thickness in the area of footplate placement. The bone should provide adequate strength to sustain forces during the treatment. Thin palatal bone in the sinuses areas should be avoided
- Anatomic abnormalities of the distraction site (e.g. low maxillary sinuses) and bone quality; especially in young patients, cleft patients and patients with edentulous maxillae
- Necessary space for distractor placement and movement of the activation instrument during the entire course of treatment
- Surgical access for osteotomy (e.g. proximity of the incisors)

Evaluate patient cooperation with device activation process and oral hygiene.

Explain the treatment process to the patient before surgery, including the osteotomies, the application and functionality of the transpalatal distractor and the time needed for the distraction and consolidation periods. Clearly inform the patient that a diastema between the incisors will occur; this will be corrected later by the orthodontic treatment.



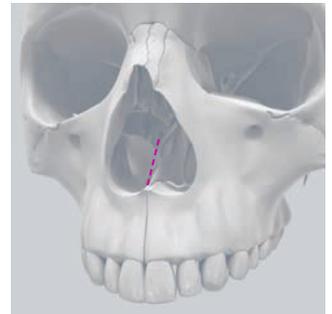
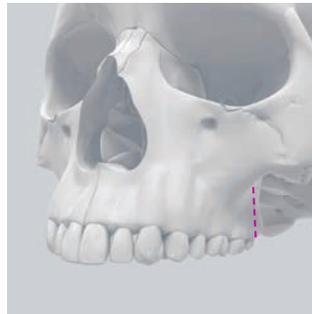
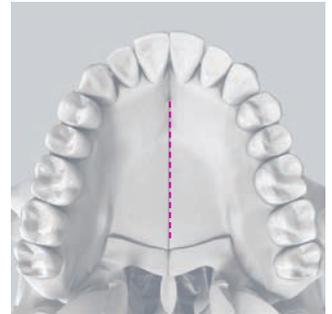
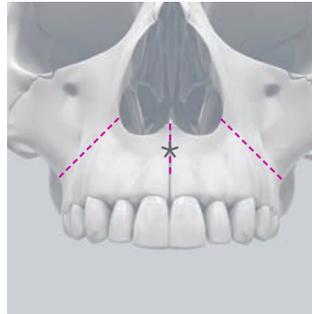
# Transpalatal Distractor Placement

## 1. Perform osteotomies

Perform the planned osteotomies for surgically assisted, palatal expansion.

### ▲ Precautions:

- The distractor is not designed or intended to break bone and/or complete an osteotomy.
- Avoid causing damage to the palatal blood vessels and critical structures while completing an osteotomy.
- Do not compromise periodontal health or tooth vitality while performing osteotomies. A 3 to 5 mm space between the apices of the central teeth is necessary to safely perform an interdental osteotomy.



## 2. Assemble transpalatal distractor

### Instrument

03.509.005 Plate Holder, curved

Manually adjust the length of the threaded pins to span the palate where the distractor placement is planned. Allow 3 mm on each side for the footplate thickness.

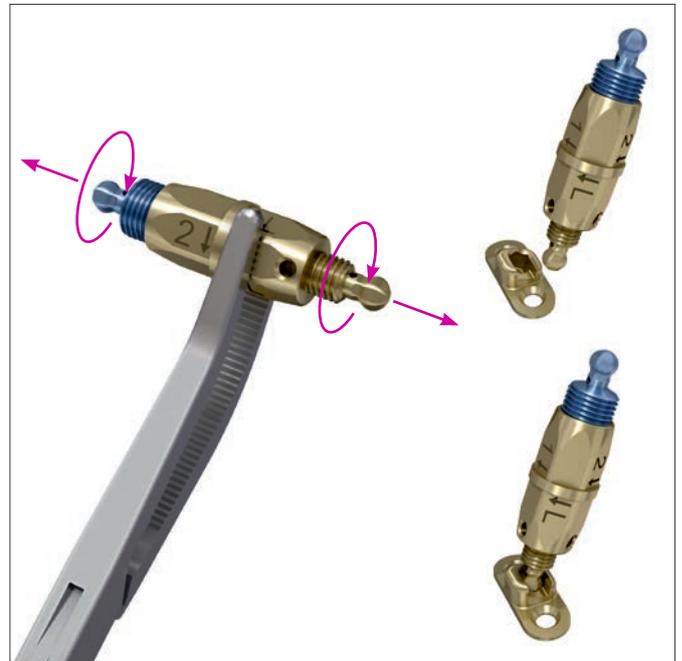
Assemble the distractor body with both footplates. Assemble the blue threaded pin with the blue footplate and gold threaded pin with the gold footplate. Alternatively, match the left side of the main distractor body with the left footplate.

#### ▲ Precaution:

Do not touch the spikes underneath the footplates. Handle the footplates with the plate holder included in the set.

#### ■ Note:

There is a light press fit between the footplate hexagonal hole and the distractor threaded pins to keep the parts together as one construct.



Assembly of the distractor body with the footplates

### 3. Fit transpalatal distractor

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#### Instrument

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03.509.005 Plate Holder, curved

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Hold the central body with the plate holder.

Place the expanded distractor in the planned location.

**Note:**

Expand the distractor symmetrically until the footplate spikes contact the palatal mucosa.

Place the footplates with the entry openings facing anteriorly. Place the left, gold footplate (marked “L”) on the left side of the palate and the blue footplate (marked “R”) on the right side of the palate.

**Note:**

Actual placement may vary depending on the patient’s clinical situation. Be sure to consider areas where more expansion is required, i.e., parallel or V-shape expansion.

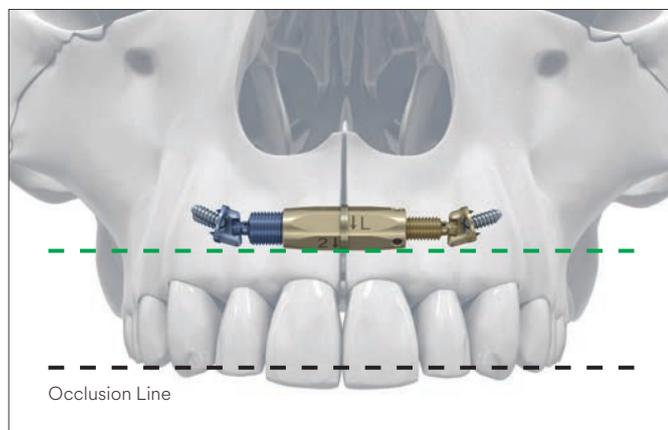
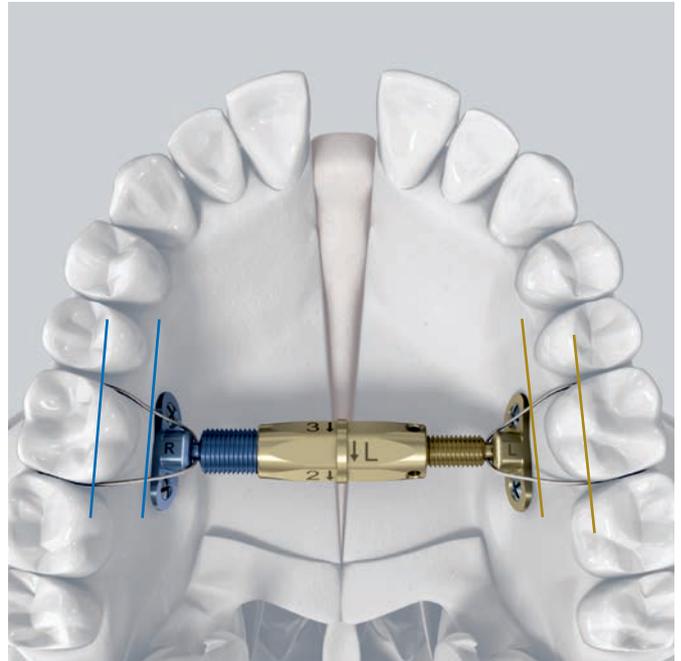


Mark the locations of the footplate holes or of the inferior footplate edge on the palatal mucosa. These markings are used later as reference points for the incision lines.

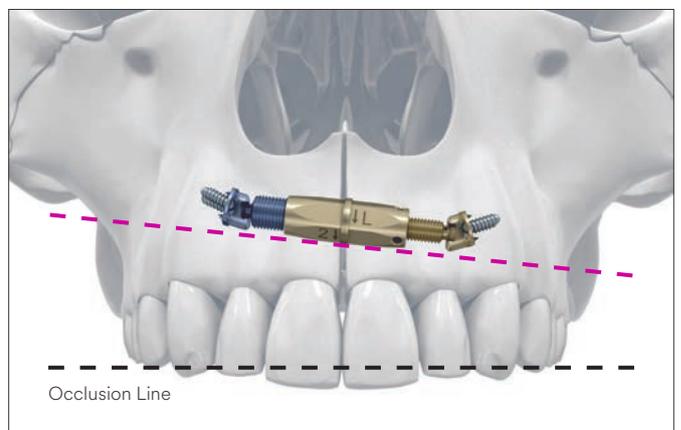
Remove the distractor from the patient's mouth.

**▲ Precautions:**

- When possible, use the tooth roots behind the footplates as additional reinforcement of palatal bone.
- Place the footplates facing each other and parallel to the teeth and occlusion line.
- Be sure to evaluate bone quality and any anatomic abnormalities of the distraction site; especially in young patients, cleft patients, and patients with overdeveloped maxillary sinuses or edentulous maxillae.
- Confirm that plate positioning allows for adequate clearance of the tooth roots and critical structures while drilling or inserting the screws.
- Do not touch the spikes underneath the footplates. Handle the footplates with the plate holder included in the set.
- Do not place the distractor in a location where it interferes with the lower teeth in occlusion.
- Symmetrically expand both threaded pins so that the central body is kept in the center/midline.
- Make sure that there is sufficient space for placement of footplates and for movement of the activation instrument during the activation period.



Correct

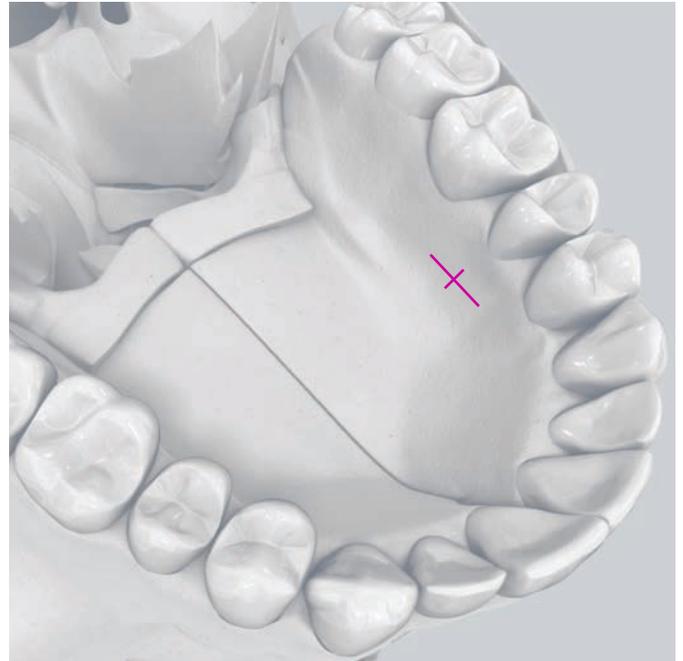


Incorrect

#### 4. Make incisions for footplate placement

Mark the incision lines on the palatal mucosa using the previous marks as reference points.

Make the mucoperiosteal incisions. For a cross-shaped incision, use the hole marking; for a T incision, use the footplate edge marking.



Cross-shaped mucoperiosteal incision at the level of the second premolar or first molar

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## 5. Fixate footplates to the bone

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### Instruments

311.007	Handle, large, with Hexagonal Coupling
03.503.203	Screwdriver Shaft MatrixMIDFACE, long, self-holding, length 96 mm, with Hexagonal Coupling
03.509.240	Drill Bit Ø 1.1 mm, length 110/16 mm, 2-flute, for J-Latch Coupling
03.509.005	Plate Holder, curved

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Disengage the distractor body from the footplate.

- Use the plate holder to grab the footplate.
- Slip the footplate under the mucoperiosteal flap with the entry opening facing the incisors.
- Place the blue footplate marked R on the right side of the palate.
- Press the footplates into the palatal bone using finger pressure to partially insert the spikes into the bone.

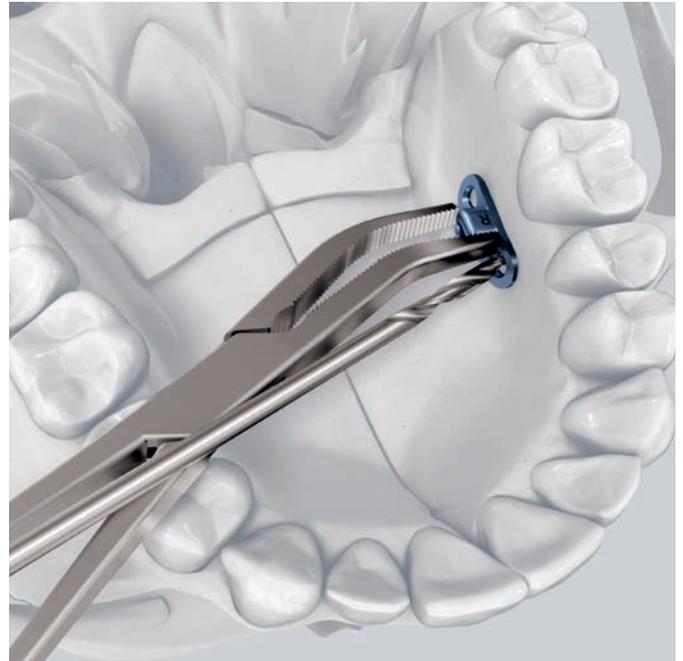


Keep the footplate in place with the plate holder and drill through the anterior hole in the footplate hole.



Verify the screw length. The graphic case provides a slot with etched screw length markers to facilitate the confirmation of the correct screw length. Choose a screw for plate fixation. Pick up the screw using the self-holding screwdriver shaft. Place the screw in the slot as shown in the image. Make sure that the bottom of the screw head rests against the bottom of the counterbore at the lower end of the slot. Read the number adjacent to the screw tip.

Insert the screw on the footplate without fully tightening to avoid possible screw extrusion caused by the insertion forces of the second screw.



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Drill the posterior hole. The plate holder can be removed for visualization.



Tighten the screws in an alternating fashion until they are fully inserted into the bone.



Repeat the above steps to place the gold footplate marked “L+” on the left side of the palate.

**▲ Precautions:**

- Place gauze in the mouth to retain any distractor part in the event it is dropped in the mouth.
- Do not touch the spikes underneath the footplates. Handle the footplates with the plate holder included in the set.
- Do not bend the footplates.
- Select the appropriate drill bits and screw lengths in order to avoid damage to the critical structures.
- Confirm the screw length before using it.
- Confirm that plate positioning allows for adequate clearance of the tooth roots and other critical structures while drilling or inserting the screws.
- Drill rates should never exceed 1800 rpm. Higher rates can result in thermal generated necrosis of the bone and an oversized hole.
- Irrigate adequately to prevent overheating of the drill bit or the bone.
- Always use two screws with each footplate to ensure adequate distractor stability.

**■ Notes:**

- The distractor can be used alternatively as an all-in-one device. However do not use the distractor as an all-in-one device if the posterior screw is difficult to insert.
- Do not use the distractor as an all-in-one device if the distractor obstructs or if there is no room for the instrument to drill/insert the bone screws. Use the distractor as a three-piece device (footplates separate from the distractor body) if you need more room to handle the instruments in the patient’s mouth.
- Self-drilling and self-tapping screws are available in the set.
- $\varnothing$  1.85 mm MatrixORTHOGNATHIC screws could be used as optional screws. See the optional screws and their  $\varnothing$  1.4 mm drill bits.



## 6. Place distractor body

### Instrument

03.509.005 Plate Holder, curved

Manually adjust the length of the threaded pins by rotating the threaded pins so that the distractor body bridges the span between the footplate's entry openings.

Hold the central body with the plate holder and place the threaded pins in the footplates. Assemble the blue threaded pin with the blue footplate and the gold threaded pin with the gold footplate (or match the "L" side of the main distractor body with the "L" footplate).

### ▲ Precautions:

- Hold the central body with the front tip of the plate holder to avoid harm to the palatal mucosa.
- Place the distractor body so that the holes for the titanium safety wire are in a horizontally accessible position.
- Symmetrically expand both threaded pins so that the central body is kept in the center/midline.
- If the palatal mucosa is very thick and covers the titanium safety wire holes of the distractor, place the titanium safety wires in the distractor before the distractor body is placed into the footplates.



## 7. Confirm activation of transpalatal distractor

### Instruments

03.509.002	Activation Instrument for Transpalatal Distractor
03.509.003	Patient Instrument for Transpalatal Distractor

Confirm stability of the device by verifying the pins' insertion in the footplates.

Expand the transpalatal distractor slightly to obtain a total widening of 1.5–2 mm at the incisors diastema and confirm independent, symmetric expansion and mobility of both sides of the maxilla.

Expansion takes place when the distractor central body is rotated from the cranial to the caudal position, as the arrows on the central body indicate.

The transpalatal distractor should be reset to the starting position.

### ▲ WARNINGS:

- Do not activate the distractor before the osteotomies are made.
- Do not activate the distractor to its maximum width intraoperatively.



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## 8. Secure transpalatal distractor with titanium safety wires

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### Instruments

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03.509.005 Plate Holder, curved

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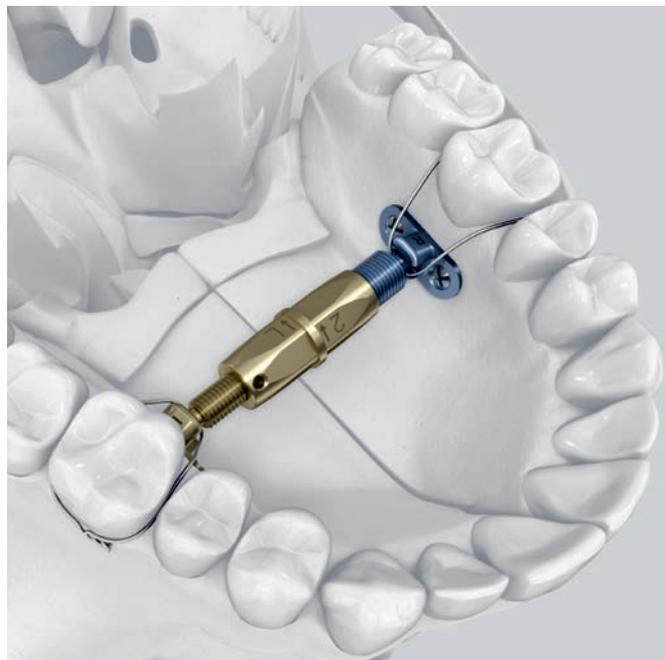
Using the plate holder, insert a  $\varnothing$  0.4 mm titanium safety wire in each hole of the threaded pin necks. Anchor each side of the distractor to the teeth with the titanium safety wires.

#### ▲ WARNING:

At any time while the distractor is in the patient's mouth, both sides of the distractor must be secured to the teeth with the safety wires in order to avoid hazard of swallowing or choking.

#### ▲ Precaution:

If the palatal mucosa is very thick and covers the titanium safety wire holes of the distractor, place the titanium safety wires into the holes before the distractor body is placed into the footplates.



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## 9. Lock transpalatal distractor

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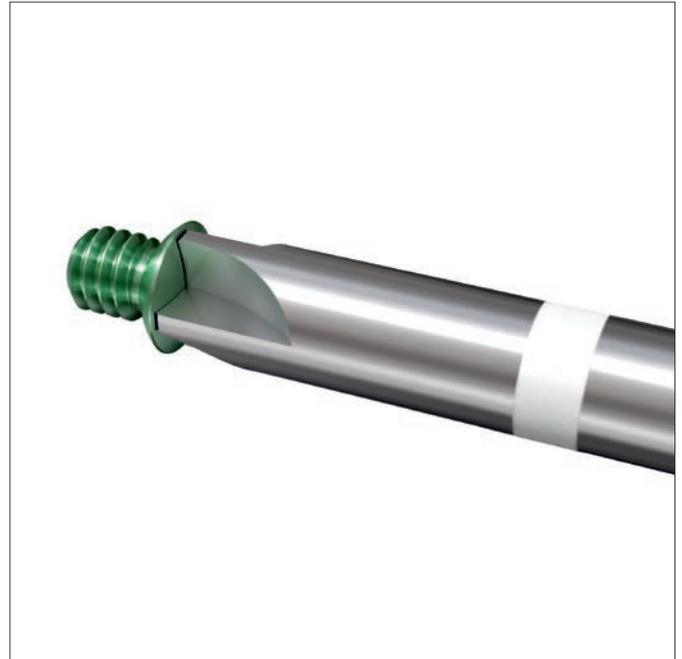
### Instruments

03.503.203	Screwdriver Shaft MatrixMIDFACE, long, self-holding, length 96 mm, with Hexagonal Coupling
311.007	Handle, large, with Hexagonal Coupling

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Remove the green blocking screw from the case with the screwdriver blade or the blade with sleeve.

Ensure proper blade engagement with the screw recess.



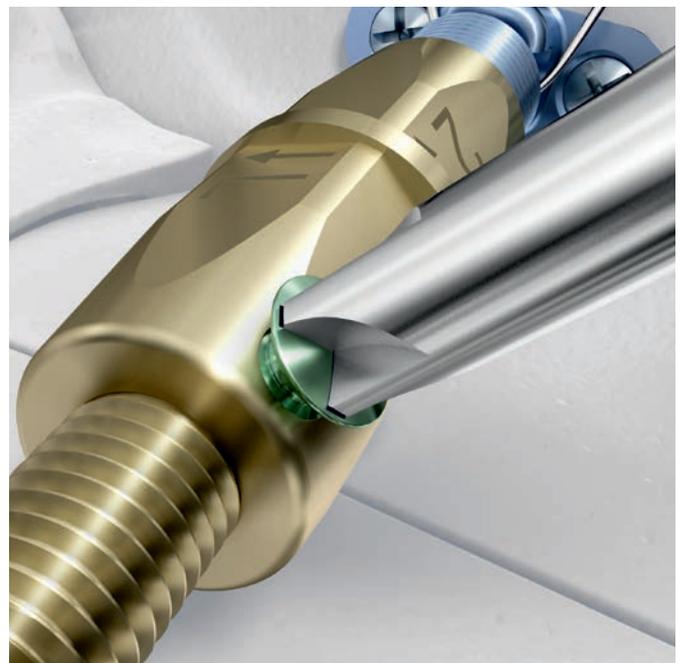
Tighten the blocking screw in one of the three holes of the central body until it contacts the threaded pin to prevent central body rotation during the latency period.

**▲ Precautions:**

- When inserting the blocking screw, rotate the screwdriver shaft using your fingertips. The screwdriver handle is not attached to the shaft. Once the blocking screw is properly engaged, the screwdriver handle may be mounted to the shaft to further tighten the blocking screw. Do not overtighten the blocking screw.
- Place gauze in the mouth to prevent ingestion in the event the blocking screw drops from the screwdriver blade.
- It is recommended to begin distraction 5 – 7 days after distractor placement.

**■ Notes:**

- Maintain a clear view of the hole.
- Place the blocking screw perpendicular to the distractor.



# Postoperative Considerations – Distraction Protocol

## 1. Blocking screw removal

### Instruments

03.503.206	Screwdriver Shaft MatrixMIDFACE, long, with Holding Sleeve, length 95 mm, with Hexagonal Coupling
311.007	Handle, large, with Hexagonal Coupling

Following the latency period, remove the green blocking screw from the central body of the distractor with the screwdriver.

### ▲ Precaution:

Place gauze in the mouth to prevent ingestion in the event the blocking screw drops from the screwdriver blade.



## 2. Suggested distraction protocol

### Instrument

03.509.002      Activation Instrument for Transpalatal Distractor

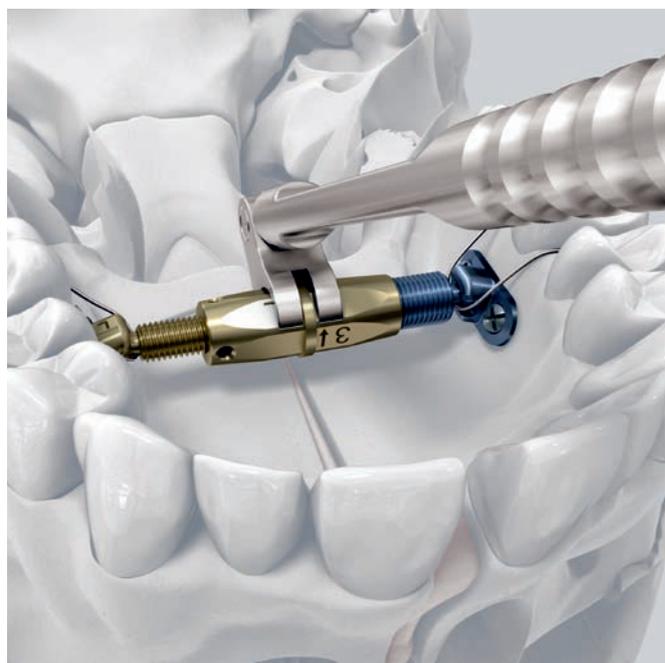
### Optional instrument

03.509.003      Patient Instrument for Transpalatal Distractor

It is recommended to activate the device 0.33 mm per day (2 activation instrument strokes), after the latency period.

To open the distractor 0.33 mm, the central body must be rotated in the direction of the arrows (from the cranial to the caudal position); from one number to the next (e.g. from 1 to 2, from 2 to 3 or from 3 to 1).

Follow the steps below to accomplish 0.33 mm distractor expansion.



**Two instrument activations, as described below, are necessary to expand the distractor by 0.33 mm.**

A number is visible on the front surface of the distractor central body.

Hold the activation instrument by its handle and push its pivot head forward.

Center and fully engage the tip on top of the distractor central body. The instrument head has a slot that must mate with the central body ring **1**.

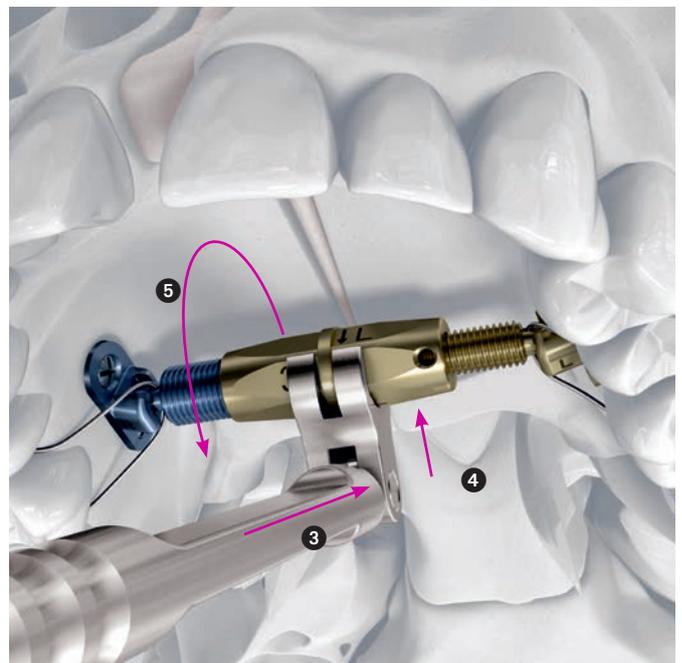
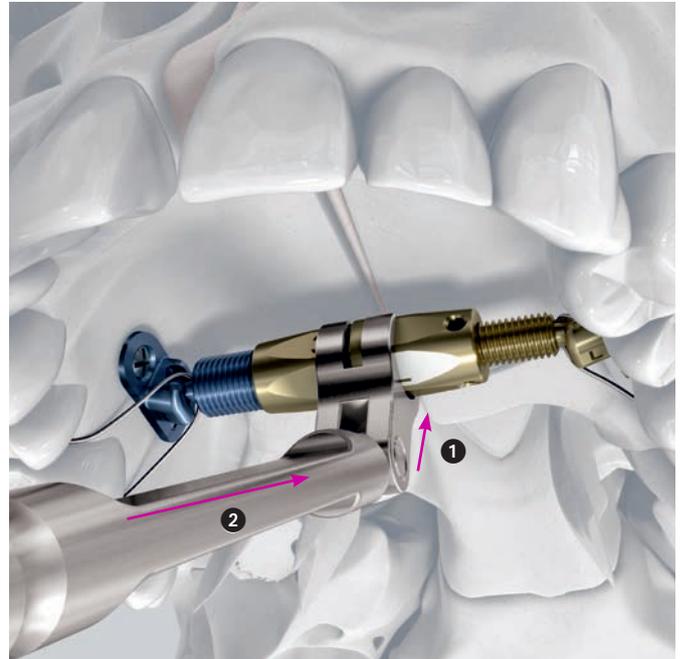
Push the activation instrument handle forward along a horizontal plan **2 3** until its head comes to a stop **4**. The instrument head together with the distractor central body will rotate 60° exposing the next distractor surface **5**.

Carefully slide the activation instrument downward off the distractor central body and remove it from the mouth.

After this first activation sequence, a new distractor front surface is visible. This surface is not marked with a number.

Repeat the above steps to rotate the distractor central body and to expose the surface marked with the next number (e.g. from 1 to 2, from 2 to 3 or from 3 to 1).

The next number must be visible on the distractor front surface.



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### ▲ Precautions:

- Carefully plan the rate and frequency of the distraction in order to avoid injuries to important neurovascular structures that may result from forces associated with the maxillary expansion.
- Do not distract with higher rates than 0.33 mm. This could be detrimental to the patient health and treatment outcome.
- Do not force the instrument after it comes to a stop. Its head may slip off the distractor central body causing damage to the soft tissue of the mouth.
- Do not activate the distractor central body in reverse during palatal distraction.
- During the first days of distraction, the distractor might need to be blocked with the blocking screw by the surgeon every day after expansion to prevent it from being activated unintentionally. The blocking screw must be removed each day prior to distraction.

### ■ Notes:

- A full (360°) rotation of the central body will expand the distractor 1 mm (e.g. the central body is rotated from 1 to 1, from 2 to 2 or from 3 to 3).
- The patient activation instrument (wrench design) could also be used in case of unrestricted mouth opening. The head of the wrench is turned upside down after every rotation.

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## 3. Document patient progress

Distraction progress must be observed by documenting the changes in the intended diastema. The Patient Care Guide is included in the system to help the patient record and monitor distractor activation. This Patient Care Guide must be provided to the patient.

## 4. Patient care

Care should be taken not to accidentally activate the distractor with a toothbrush or the tongue during the distraction time.

The patient should fill in the dates from the beginning of the distraction through completion as instructed and return the patient care schedule once the transpalatal distractions treatment is finished.

The Surgeon should instruct the patient on the transpalatal distraction treatment.

### ▲ Precaution:

The patient should be advised to report any unusual changes in the palatal region to the surgeon and be closely monitored if any asymmetric change occurs.

### ▲ Patient care precautions:

Accept the transpalatal distractor as a foreign body in your mouth:

- Do not tamper with, remove or activate the distractor with the tongue, finger, toothbrush or other foreign objects. Do not tamper with the safety wires.
- Observe arrow direction when operating the distractor.
- Follow a soft diet during the entire distraction treatment.
- Consider gentle cleaning of the nose. Avoid aggressive nose blowing.
- Should you have any nose-bleeding, missing or broken safety wires, redness, drainage, undue pain, questions or concerns, contact your physician immediately.
- Maintain daily oral hygiene.
- Comply fully with your doctor's instructions. Regular follow-up visits are essential for long term clinical success.
- Under instructions from your physician, you need to activate the distractor each day.
- Please follow the distractor activation steps within the patient guide. Mark your progress on the distraction calendar.

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## 5. Optional: Exchange distractor body during distraction period

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### Instruments

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03.509.005	Plate Holder, curved
03.509.002	Activation Instrument for Transpalatal Distractor
03.509.003	Patient Instrument for Transpalatal Distractor

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It is possible to exchange the distractor body with the next available size when further expansion of the maxilla is desired.

Remove the green blocking screw from the distractor central body using the screwdriver shaft with holing sleeve and handle.

Select the next size distractor body. Prepare the new safety wires.

Prior to distractor removal, ensure that the gold and blue threaded pins are clean.

Cut the safety wires from around the teeth and remove them from the mouth.

Remove the distractor body from the patient's mouth.

Rotate the distractor central body in reverse (opposite to the direction of the arrows) with the plate holder or patient instrument from the caudal to the cranial position until the threaded pins disengage from the footplates.

Repeat steps 6–8 of the Transpalatal Distractor Placement to place and secure the next size distractor in the patient's mouth.

Follow the distraction steps according to the next size distraction protocol.

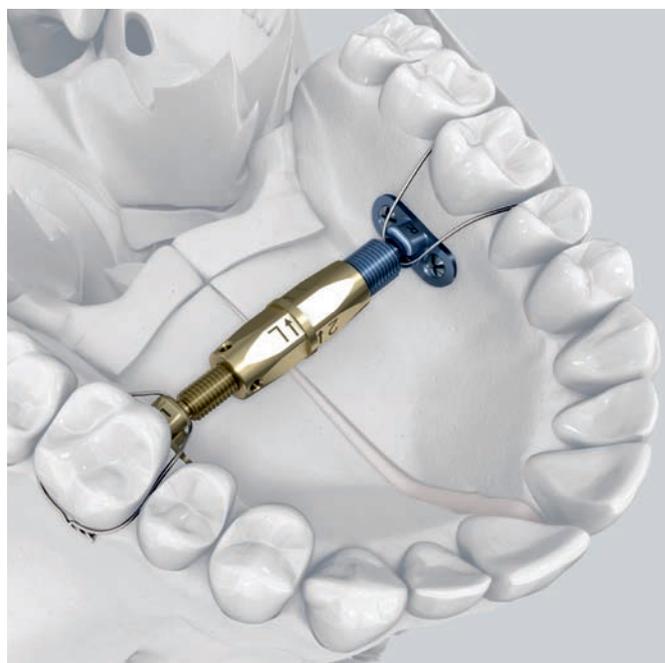
### ▲ WARNING:

At any time while the distractor is in the patient's mouth, both sides of the distractor must be secured to the teeth with the safety wires.



▲ **Precautions:**

- Press plate holder against the footplate while removing the threaded pin from the footplate socket to prevent extrusion of the bone screws.
- Hold the central body with the front tip of the plate holder to avoid harm to the palatal mucosa during rotation of the central body.
- Place the distractor body so that the holes for the titanium safety wires are in a horizontally accessible position.
- Symmetrically expand both threaded pins so that the central body is kept in the center/midline.
- If the palatal mucosa is very thick and it covers the titanium safety holes of the distractor, place the titanium safety wires into the holes before the distractor body is placed into the footplates.



# Consolidation Period

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## Instruments

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311.007	Handle, large, with Hexagonal Coupling
03.503.206	Screwdriver Shaft MatrixMIDFACE, long, with Holding Sleeve, length 95 mm, with Hexagonal Coupling

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Once the planned expansion is accomplished, the new bone must be given time to consolidate.



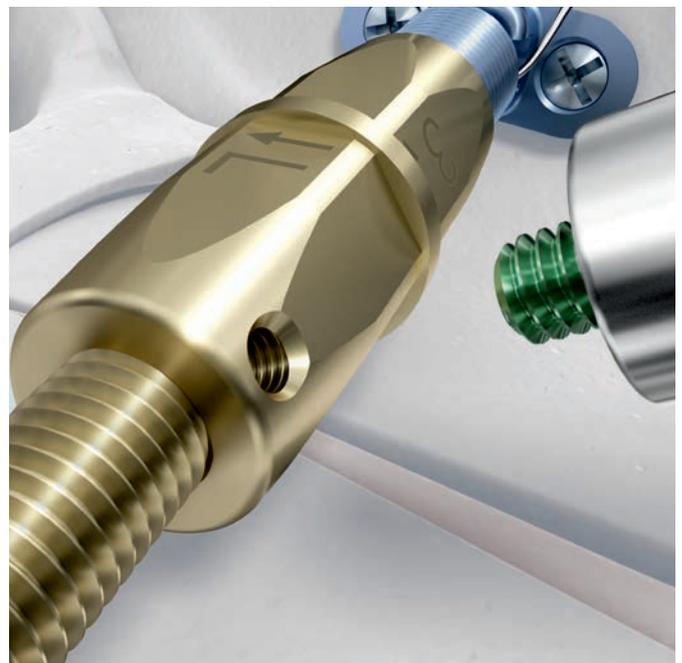
Block the distractor with the green blocking screw using the screwdriver blade with holding sleeve and handle. The blocking screw must contact the threaded pin to prevent central body rotation during the consolidation time.

### ▲ Precautions:

- Allow the bone to consolidate for 12 weeks. This time period may vary in relation to patient age and to accomplished palatal expansion and should be determined by clinical evaluation and radiographic or CT evidence of bone healing.
- Consolidation time should be lengthened to allow bone to mineralize and become strong enough to resist high forces from skull bones and stretched palatal soft tissue.

### ■ Note:

Active orthodontic treatment may possibly start after six weeks.



# Transpalatal Distractor Removal

## Instruments

311.007	Handle, large, with Hexagonal Coupling
03.503.206	Screwdriver Shaft MatrixMIDFACE, long, with Holding Sleeve, length 95 mm, with Hexagonal Coupling
03.503.203	Screwdriver Shaft MatrixMIDFACE, long, self-holding, length 96 mm, with Hexagonal Coupling
03.509.003	Patient Instrument for Transpalatal Distractor
03.509.002	Activation Instrument for Transpalatal Distractor
03.509.005	Plate Holder, curved



Clean the gold and blue threaded pins.

Remove the green blocking screw from the distractor central body using the screwdriver shaft with holding sleeve and handle.

Cut the titanium safety wires and remove them from the mouth.

Remove the distractor body. Rotate the central body counterclockwise using the plate holder or the activation/patient instrument until at least one threaded pin disengages from its footplates.

Disengage the distractor from the second footplate and remove it from the mouth.



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Remove both footplates by incising the palatal mucosa, exposing the footplates and removing the four bone screws with the self-holding screwdriver shaft with handle.

**▲ Precautions:**

- Hold the central body with the front tip of the plate holder to avoid harm to the palatal mucosa during rotation of the central body.
- The timing for distractor removal should be determined by clinical evaluation and radiographic or CT evidence of bone healing.



# Implants

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## Distractor implants

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04.509.008 Blocking Screw for Implant,  
for Transpalatal Distractor



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04.509.001 Foot Plate, right, for Transpalatal  
Distractor



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04.509.002 Foot Plate, left, for Transpalatal  
Distractor



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04.509.010.02 Titanium Wire, Ø 0.4 mm, L 140 mm,  
pack of 2 units

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04.509.005 Transpalatal Distractor Body,  
16–24 mm

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04.509.006 Transpalatal Distractor Body,  
20–36 mm

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04.509.007 Transpalatal Distractor Body,  
24–48 mm



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## Screws

### 1.5 mm MatrixMIDFACE Self-Drilling Screw, 4 in clip\*

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04.503.225.04C length 5 mm



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04.503.226.04C length 6 mm



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04.503.228.04C length 8 mm



### 1.5 mm MatrixMIDFACE Self-Tapping Screw, 4 in clip\*

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04.503.205.04C length 5 mm



---

04.503.206.04C length 6 mm



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04.503.208.04C length 8 mm



### 1.8 mm MatrixMIDFACE Emergency Screw, 1 in clip

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04.503.235.01C length 5 mm



---

04.503.236.01C length 6 mm



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04.503.238.01C length 8 mm



\* Screws are also available in packs of 1 screw in clip. Substitute 04C with 01C in the part number to order.

# Instruments

311.007	Handle, large, with Hexagonal Coupling	
03.503.203	Screwdriver Shaft MatrixMIDFACE, long, self-holding, length 96 mm, with Hexagonal Coupling	
03.503.206	Screwdriver Shaft MatrixMIDFACE, long, with Holding Sleeve, length 95 mm, with Hexagonal Coupling	
03.509.002	Activation Instrument for Transpalatal Distractor	
03.509.003	Patient Instrument for Transpalatal Distractor	
03.509.240	Drill Bit Ø 1.1 mm, length 110/16 mm, 2-flute, for J-Latch Coupling	
03.509.280	Drill Bit Ø 1.1 mm, length 110/16 mm, 2-flute, for Quick Coupling	
03.503.248	Drill Bit Ø 1.1 mm with Stop, length 44.5/8 mm, for J-Latch Coupling	
03.503.288	Drill Bit Ø 1.1 mm with Stop, length 44.5/8 mm, for Mini Quick Coupling	

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03.509.015 Transpalatal Distractor Sizer, L 16 mm



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03.509.016 Transpalatal Distractor Sizer, L 20 mm



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03.509.017 Transpalatal Distractor Sizer, L 24 mm



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03.509.005 Plate Holder, curved, complete



## Cases

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68.509.001 Module for Transpalatal Distractor System, 2/3, with Lid, without Contents



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01.509.001 Transpalatal Distractor Set

# Additionally Available

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## Screws

### MatrixORTHOGNATHIC® Screws, Titanium Alloy (TAN)

#### Self-tapping screws Ø 1.85 mm\*

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04.511.205.04C length 5 mm



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04.511.206.04C length 6 mm



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04.511.208.04C length 8 mm



#### Self-drilling screws Ø 1.85 mm\*

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04.511.225.04C length 5 mm



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04.511.226.04C length 6 mm



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04.511.228.04C length 8 mm



#### Matrix screws Ø 2.1 mm, self-tapping

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04.511.235.01C length 5 mm



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04.511.236.01C length 6 mm



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04.511.238.01C length 8 mm



\* Screws are also available in packs of 1 screw in clip. Substitute 04C with 01C in the part number to order.

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## Drill bits

### Matrix Drill Bits $\varnothing$ 1.4 mm, for J-Latch Coupling

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03.511.244 Drill Bit with Stop, length 44.5/4 mm



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03.511.246 Drill Bit with Stop, length 44.5/6 mm



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03.511.248 Drill Bit with Stop, length 44.5/8 mm



### Matrix Drill Bits $\varnothing$ 1.4 mm, for Mini Quick Coupling

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03.511.284 Drill Bit with Stop, length 44.5/4 mm



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03.511.286 Drill Bit with Stop, length 44.5/6 mm



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03.511.288 Drill Bit with Stop, length 44.5/8 mm







Not all products are currently available in all markets.  
This publication is not intended for distribution in the USA.  
Intended use, Indications and Contraindications can be found in the corresponding system Instructions for Use.  
All Surgical Techniques are available as PDF files at [www.depuysynthes.com/ifu](http://www.depuysynthes.com/ifu)



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