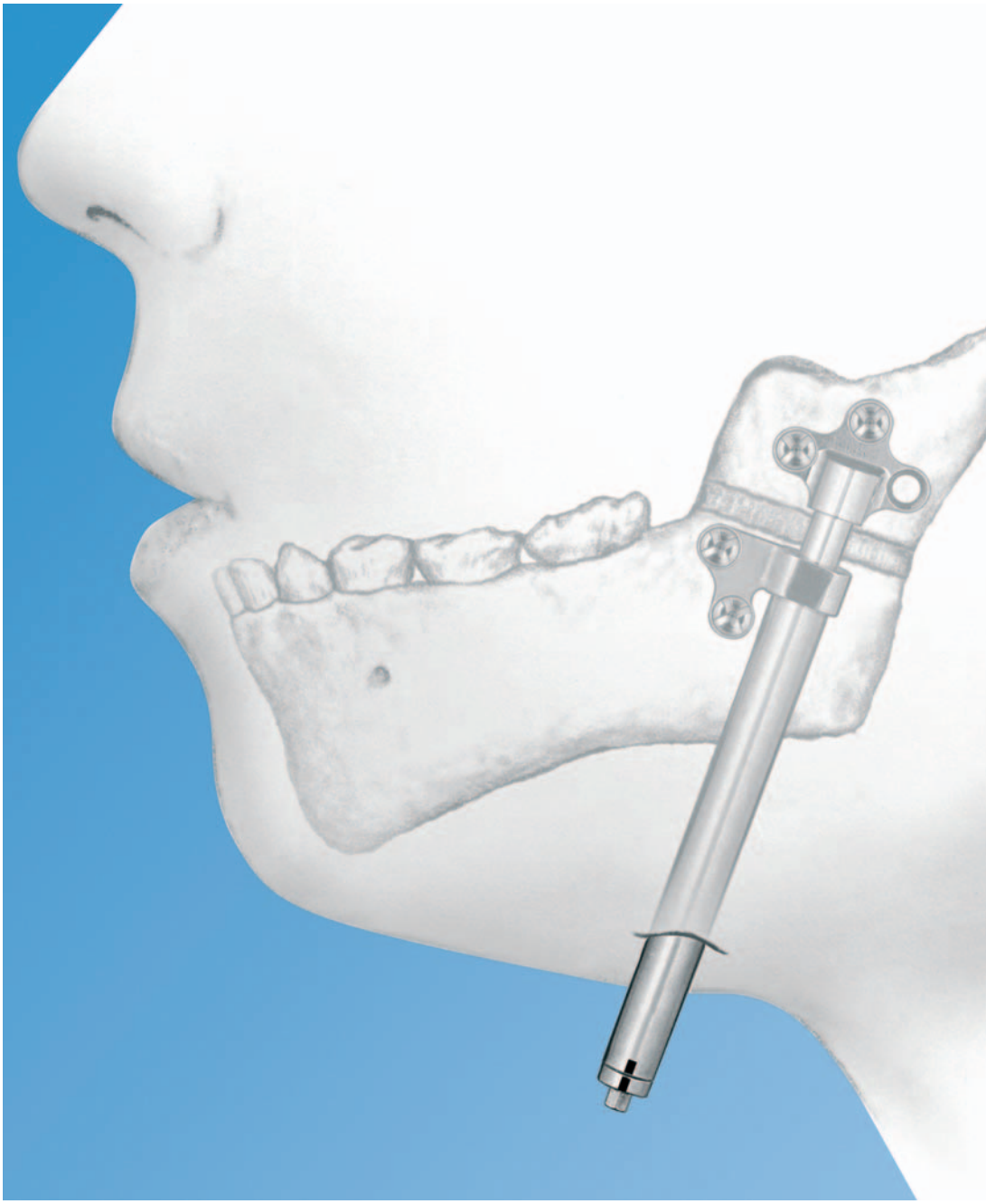
Mandible Distractor.

For mandibular bone lengthening.

Technique Guide



SYNTHES®

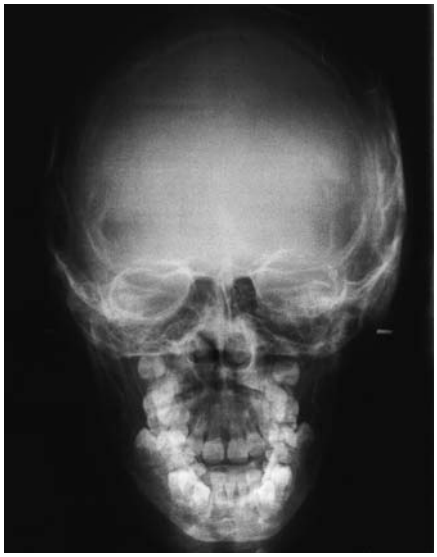
Instruments and implants
approved by the AO Foundation

Table of Contents

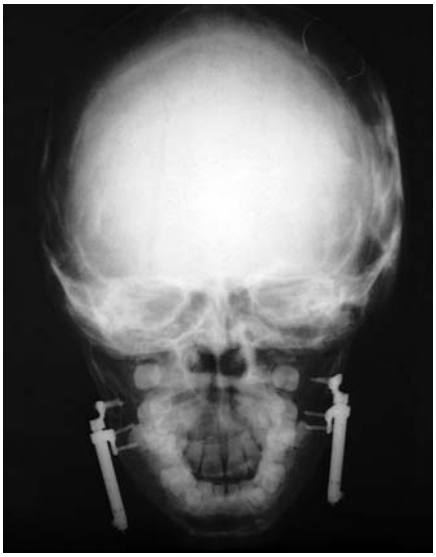
Warning
This description is not sufficient for immediate application of the instrumentation. Instruction by a surgeon experienced in handling this instrumentation is highly recommended.

Indications

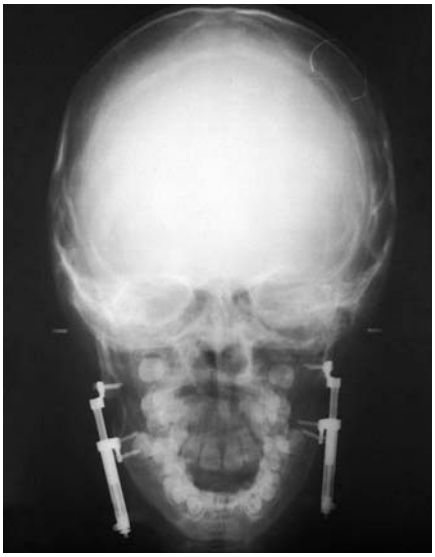
Indications for the Mandible Distractor
For use in mandibular bone lengthening where gradual bone distraction is required; including such conditions as congenital mandibular deficiencies or posttraumatic defects.



Pre-operative X-ray of a nine-year-old male with Treacher Collins Syndrome, prior to distraction.



Same patient, eight days post-op, at initial distraction.



Same patient, 12 weeks post-op, during consolidation. A total lengthening of 20 mm was achieved.

Features and Benefits

- Subcutaneous placement reduces unsightly scarring
- Single vector distraction lengthens bone up to 30 mm
- Distraction mechanism enclosed to minimize and protect device from soft tissue interference
- External activator allows easy access for activation
- Subcutaneous fixation allows for rigid fixation of the device to bone, minimizing micromovement during distraction
- Available with a left or a right foot to facilitate anterior or posterior position of screws
- Stainless steel

Foot plate position may be adjusted up to 5mm from fully closed position for screw placement as required by patient anatomy.

One revolution from etched mark equals 0.5 mm advancement.

Activator

Mandible Distractor with left Foot (287.954)

Mandible Distractor with right Foot (287.953)

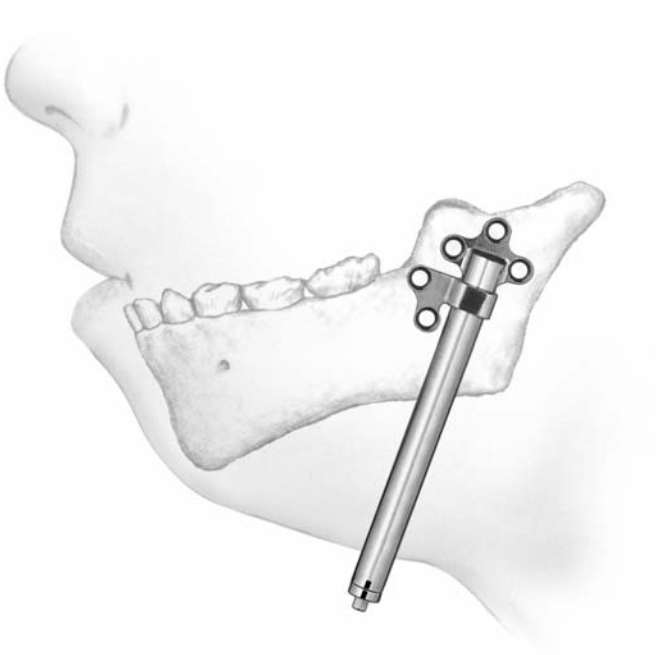
Activation Screwdriver (314.402)
An autoclavable screwdriver is used to activate the distractor.

Marking on screwdriver indicates rotational direction for lengthening.

1

Determine distractor position

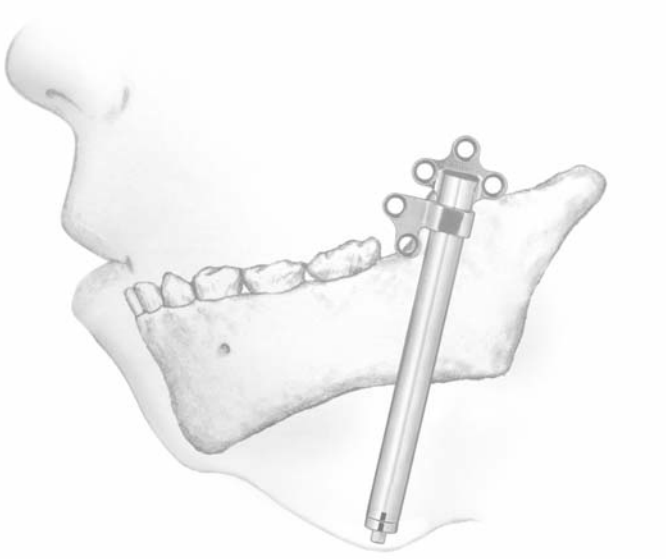
Expose the surgical site using an intraoral approach. Place the distractor on the skin overlying the mandible to aid device positioning. The positioning of the foot plates may be adjusted by lengthening the distractor up to 5 mm. Mark the approximate location of the device and percutaneous port on the patient's skin.



2

Insert distractor

Place the device intraorally and tent the skin to determine the distractor's exact position. Make a stab incision through the skin at this point, followed by blunt dissection. Pass the distraction activator through the percutaneous port. Once the distractor is positioned, mark the site of the osteotomy on the bone.



3

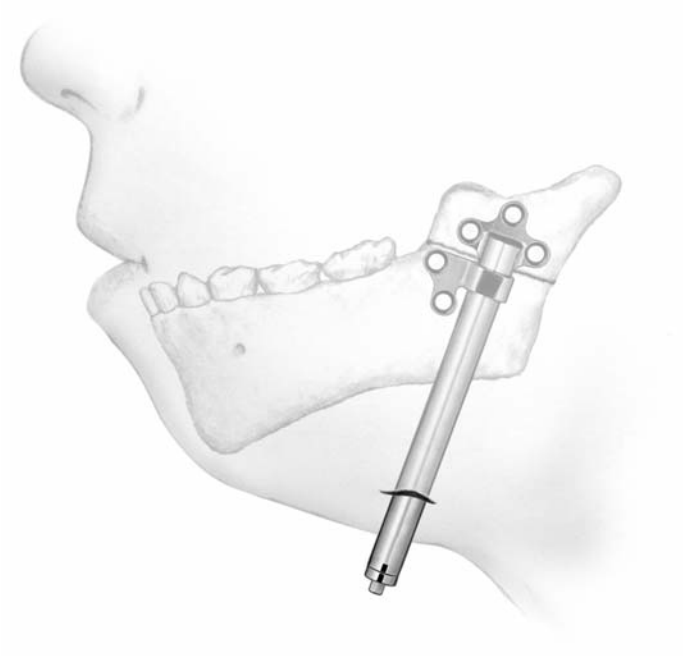
Perform osteotomy

Remove the distractor and perform an osteotomy. Make sure both cortices are loose and the segments are mobile.

4

Reinsert distractor

Reinsert the distractor, passing the distraction activator through the percutaneous port, and correctly position the foot plates on each side of the osteotomy.



5

Drill holes and insert screws

It is recommended that at least two screws be placed on each side of the osteotomy. A 2.0 mm diameter trocar/drill sleeve assembly should be used for soft tissue protection. Drill holes with a 1.5 mm drill bit. Holes may be drilled trans-buccally or intraorally depending on surgical access.

Insert appropriate length 2.0 mm self-tapping stainless steel screws.

6
Activate distractor

Distraction should commence no later than one week after implantation. To distract, rotate the activator counterclockwise using the Activation Screwdriver (314.402). Each complete rotation equals 0.5 mm of distraction.

Marking on distractor determines when one full rotation is complete.

Marking on Activation Screw-driver indicates correct direction for lengthening.

After the desired length of distraction has been achieved, the new bone must be given time to consolidate. The consolidation period should be at least twice the distraction period (i.e. if the distraction period is 20 days, the consolidation period should be 40 days). A cortical outline should be visualized in the bony regeneration on radiographs or confirmed manually by palpation on the posterior border.

Distractor Removal
Expose the distractor through a transoral incision. Remove the screws percutaneously and screw the distractor closed. Remove the entire device through the inside of the mouth.

Ordering information

Set and Module

184.750	Mandible Distractor, monoaxial, in Vario Case™, Stainless Steel
684.750	Module for Mandible Distractor Set, with Lid, without Contents

Implants

287.953	Mandible Distractor, monoaxial, right, Stainless Steel
287.954	Mandible Distractor, monoaxial, left, Stainless Steel
201.806	Cortex Screw ∅ 2.0 mm, self-tapping, length 6 mm, Stainless Steel
201.808	Cortex Screw ∅ 2.0 mm, self-tapping, length 8 mm, Stainless Steel
201.810	Cortex Screw ∅ 2.0 mm, self-tapping, length 10 mm, Stainless Steel
201.508	Cortex Screw ∅ 2.4 mm, self-tapping, length 8 mm, Stainless Steel
201.510	Cortex Screw ∅ 2.4 mm, self-tapping, length 10 mm, Stainless Steel

Instruments

314.402	Activation Screwdriver, for Mandible Distractor, monoaxial
316.520	Drill Bit ∅ 1.5 mm, length 125 mm, 2-flute, for J-Latch Coupling
314.442	Screwdriver Shaft 1.5/2.0, cruciform, self-holding, length 92 mm

Additionaly available

201.812	Cortex Screw ∅ 2.0 mm, self-tapping, length 12 mm, Stainless Steel
201.814	Cortex Screw ∅ 2.0 mm, self-tapping, length 14 mm, Stainless Steel
201.506	Cortex Screw ∅ 2.4 mm, self-tapping, length 6 mm, Stainless Steel
201.512	Cortex Screw ∅ 2.4 mm, self-tapping, length 12 mm, Stainless Steel
201.514	Cortex Screw ∅ 2.4 mm, self-tapping, length 14 mm, Stainless Steel
311.210	Tap for Cortex Screws ∅ 2.0 mm, length 100/38 mm
311.011	Handle, small, with Mini Quick Coupling
397.422	Transbuccal Guide 2.0/2.4/3.0
397.433	Drill Sleeve 1.5, for No. 397.422
397.423	Cheek Retractor, U-shaped, for No. 397.422
397.424	Cheek Retractor Ring, for No. 397.422

Synthes GmbH
Eimattstrasse 3
CH-4436 Oberdorf
www.synthes.com

Presented by:

CE
0123

036.000.533 SE_073314 AA 60060037