



Rhombic 3D Condylar Fracture Plate

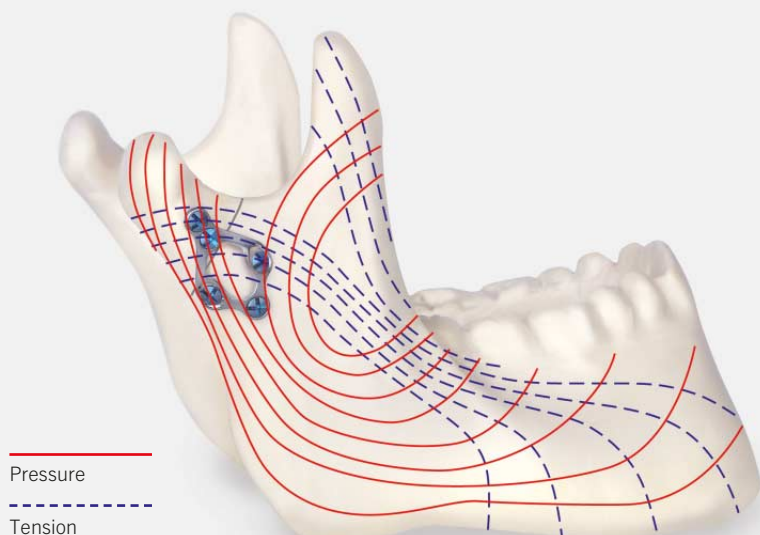
Three-dimensional geometries
for multilateral forces



Oral and maxillo-facial surgery is our passion! Its further development, together with our customers, is our ambition. Every day we work on developing innovative products and services which meet the highest demands on quality, and which contribute to the wellbeing of the patient.

Rhombic 3D Condylar Fracture Plate

Three-dimensional geometries for multilateral forces



Developed in collaboration with

Prof. Dr. Dr. Günter Lauer,
University Hospital of Dresden

Pattern of the tensile and pressure forces present in the mandible. The special geometry of the Rhombic 3D Condylar Fracture Plate ensures optimal force transmission.

Rhombic 3D Condylar Fracture Plate

Condylar fractures surely are among the greatest challenges with which surgeons can be confronted in the region of the craniomaxillofacial skeleton. The considerable degree of dislocation, the lack of working space and the proximity to vital vessels and nerve structures are inherent aspects that make many physicians recoil from any surgical treatment of such conditions. However, more recent studies have shown that a generally better aesthetic and functional result can be achieved by careful open surgery using the best possible approach. Moreover, the range of available osteosynthesis materials (micro- and mini-plates, meshes, resorbable solutions, etc.) is so wide that surgeons frequently find it hard to make their choices. With the Rhombic 3D Condylar Fracture Plate, KLS Martin offers you a medium that is perfectly adapted to the multilateral masticatory forces present in this area.

Advantages

- The rhombic shape of the plate takes account of the great variety of pressure and tensile forces involved in the masticatory process, thus ensuring rigid, torsionresistant osteosynthesis.
- Thanks to the rhomboidal lightweight design, the plate provides a central window for perfect control of the fracture gap after reduction.
- Closely positioned screw holes in the cranial part of the plate allow you to place the osteosynthesis screws securely even where space is very limited.

Indications

- Surgical treatment of deep, medium and high condylar fractures

Contraindications

- Diacapitular fractures

Approaches

- Intraoral approach and endoscopically assisted intraoral approach
- Preauricular or auricular approach, especially in the case of high condylar fractures
- Periangular approach
- Retromandibular approach
- Retroauricular approach
- Submandibular approach


Note

The narrow side of the implant is fixed in place cranially (top), the wide base must be placed caudally (bottom).

The plates are available in two different versions:

Icon explanations

Ti Pure titanium

 Plate profile

1 Items/pack

STERILE IR Sterile packed implants




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25-285-05-09 **Ti** **1**

25-285-05-71 **Ti** **1**

20 x 13 mm

 = 1.0 mm

Standard version (non-locking)




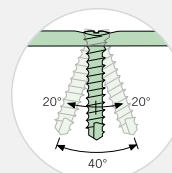
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25-283-05-09 **Ti** **1**

25-283-05-71 **Ti** **1**

20 x 13 mm

 = 1.0 mm



Locking version

Fixation by

- 2.0-mm Mini osteosynthesis screws, non-locking
- 2.3-mm Fracture osteosynthesis screws, non-locking
- 2.0-mm ThreadLock TS locking screws (angle-stable)
- 2.3-mm ThreadLock TS locking screws (angle-stable)
- 2.0-mm Mini osteosynthesis screws, non-locking
- 2.3-mm Fracture osteosynthesis screws, non-locking

Special properties

- Special gliding holes allow raising the condyle securely to its original position
- The locking plate (green anodization) is usually implanted with locking (angle-stable) osteosynthesis screws from the 2.0/2.3-mm ThreadLock TS system. This gives you a maximum lateral range of angulation of 40° (± 20° in every direction).
- The locking feature keeps the screw exactly in the chosen angulation relative to the osteosynthesis medium. This provides a self-supporting structure that prevents resorption caused by pressing the bone against the plate when tightening the screws.
- Alternatively, it is also possible to use non-locking screws from the 2.0 Mini and 2.3 Fracture standard osteosynthesis product lines. These screws offer the advantage of a significantly wider range of lateral angulation compared to the locking screws. Of course, the locking effect will not be available in this case.

Illustrations



The procedure step by step using the standard version for illustration

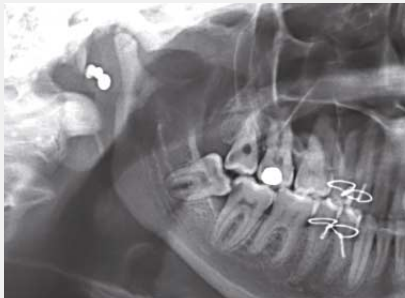


Fig. 1: Preoperative X-ray of the condylar fracture



Fig. 2: Since condylar fractures are almost always dislocated fractures, the surgeon usually will start by placing the osteosynthesis screw ❶ next to the fracture gap on the fractured condyle, because this hole is easily accessible. This is followed by inserting the second osteosynthesis screw ❷ located cranially to the first screw.



Fig. 3: Now the plate is securely fixed to the fractured bone segment. Following intra-operative verification of the anatomically correct position of the condyle or proximal fragment, this position can be secured step by step by inserting additional screws in the intact, distal region of the mandible. The special gliding hole geometry ensures that there is still a gliding range of 2.5 mm left for further corrections or adjustments.



Fig. 4: The final osteosynthesis screw is inserted as soon as the fracture has been well repositioned. This screw neutralizes the gliding hole effect.



Fig. 5: Postoperative X-ray

Case example: Treatment of a bilateral condylar fracture using the locking version



Fig. 1: Preoperative X-ray



Fig. 2: Endoscopically assisted intraoral approach to expose the condylar fracture. The fracture is visibly dislocated.

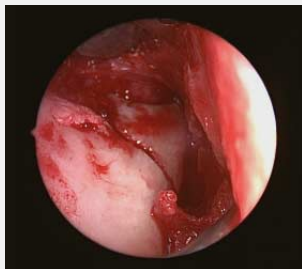


Fig. 3: Using a hooklet, it was possible to raise the fractured bone segment and restore it to its original position, thus correcting the dislocation.



Fig. 4: Important advantage of the Rhombic 3D Condylar Fracture Plate: the fracture is easily visible through the window of the plate. This gives the surgeon perfect control.

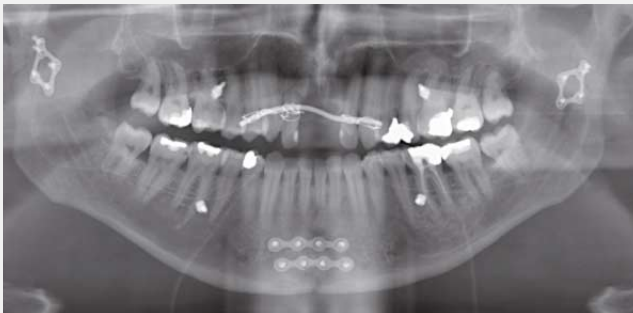


Fig. 5: Postoperative X-ray

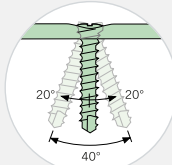
Ordering data



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 ⌀ = 1.0 mm



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Icon explanations

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- Plate profile
- 1** Items/pack

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References

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Brochures



Osteosynthesis 2.0 Mini



Osteosynthesis 2.3
Fracture and Reconstruction



ThreadLock TS
Osteosynthesis 2.0 - 2.7
Fracture and Reconstruction



Instruments for treating
condylar fractures



Angulus2
angled screwdriver

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