

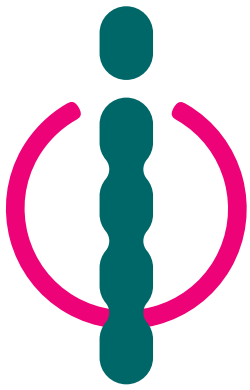
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Surgical technique

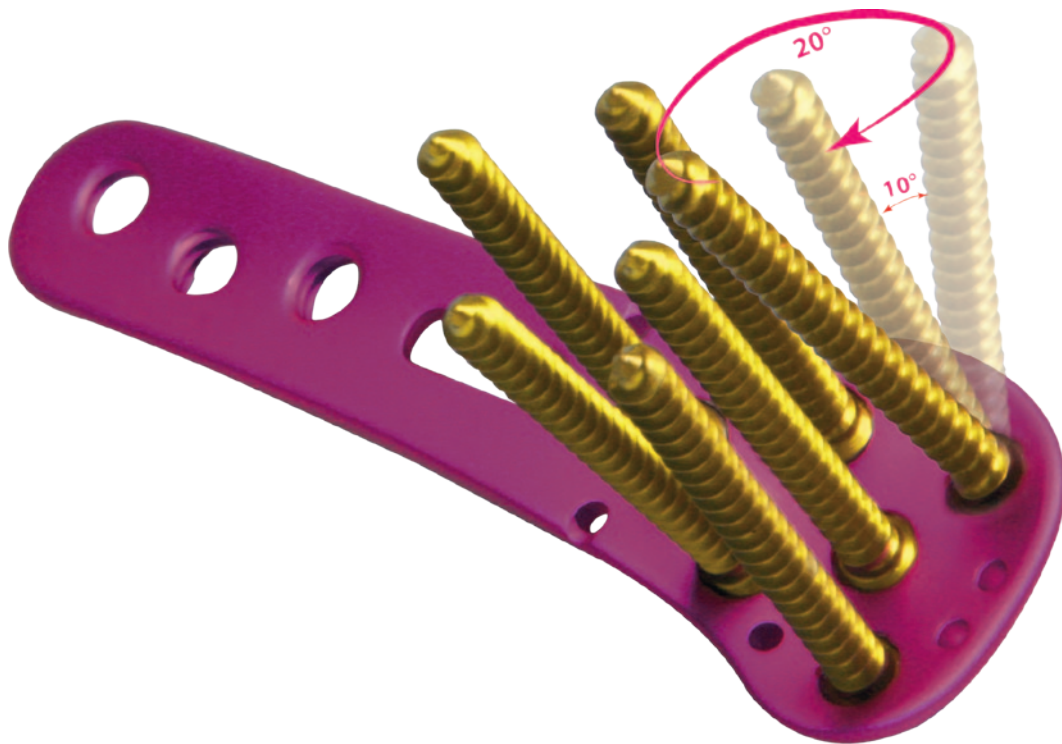
General handling of the
locking plate systems



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von der Idee zum Produkt



Polyaxial locking thread – patent no.: 10 2005 015 496



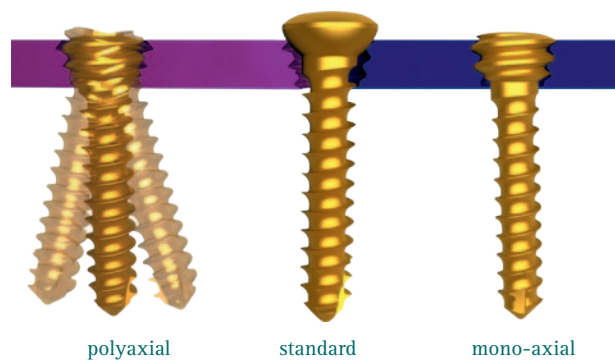
Locking plate systems

Material

Plates	Titanium and Ti6Al4V	ISO 5832-2 and ISO 5832-3
Screws	Ti6Al4V	ISO 5832-3

Characteristics

- » Anatomically pre-formed plate design for best fit on bone
- » Variable and secure fusion of plate and screw through patented thread
- » No cold-welded implants
- » Combi hole for optional use of standard and locking screws
- » Protection of the surrounding tissue through innovative surgical approaches
- » Early, active mobilization with stable fixation



Medical author of the surgical technique

Prof. Dr. Dr. h.c. mult. Wilhelm Friedl
Rotkreuzklinik Wertheim

This surgical technique is based on the author's many years of experience as a surgeon. Its content was carefully considered and tested by the author. However, it cannot take all of the specifics of the individual case into account and is therefore only a recommendation. All information in this surgical technique is provided without guarantee by the author. The author assumes no liability for damages of any kind.

Reference hospitals

Rotkreuzklinik Wertheim gGmbH, Wertheim
Klinikum Aschaffenburg-Alzenau, Aschaffenburg site
Greifswald University Hospital, Clinic and Polyclinic for Trauma Surgery, Reconstructive Surgery and Rehabilitative Medicine, Greifswald
Krankenhaus Rummelsberg GmbH, Schwarzenbruck
108 Military Central Hospital, Hanoi, Vietnam
Ufa emergency hospital, state budgetary authority of the Republic of Bashkortostan



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Surgical technique

General handling

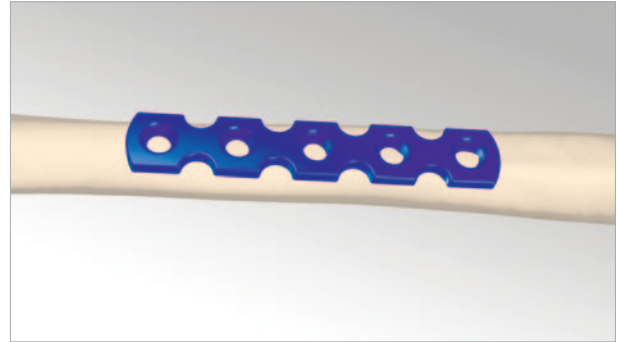
Mono-axial and polyaxial locking systems

Perioperative

- » Presence of the signed information regarding the operation including statement of the risks
- » Clarification of secondary illnesses, including long-term therapy with bridging/pausing of blood thinning where applicable
- » Checking clinical results including clarification of the vascular status
- » Anaesthesia information including local pain catheters where applicable
- » X-ray images in at least two planes
- » Hair removal from the surgery site if required

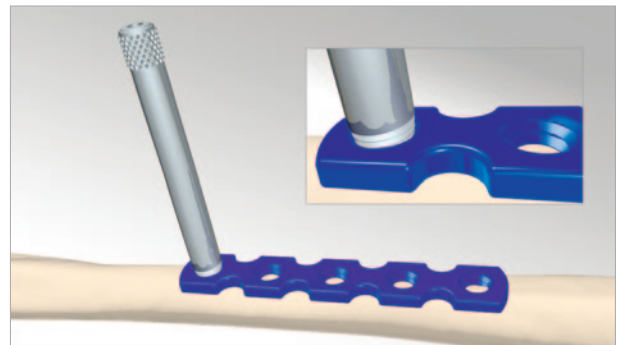
GENERAL SURGICAL TECHNIQUE – ON THE HANDLING OF SCREWS IN LOCKING PLATE SYSTEMS

Placement of the locking plate, temporary fixation of the plate using Kirschner wires as required and X-rays (image intensifier monitoring).

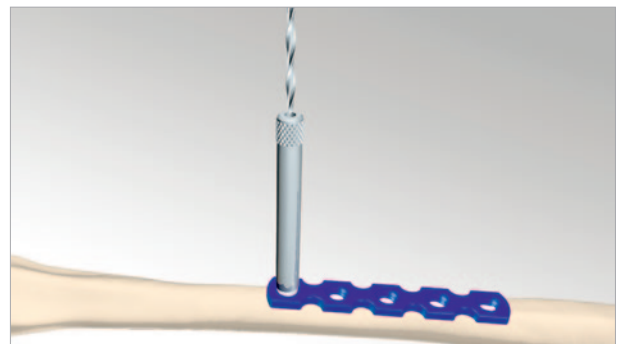


Screw insertion:

Screwing the drill guide into the respective threaded hole.

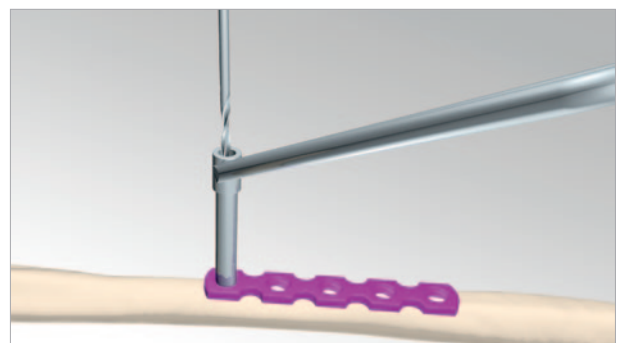


Note! The use of the drill guide is mandatory for mono-axial locking plates.



In contrast, a simple protection sleeve can also be used for polyaxial locking plates.

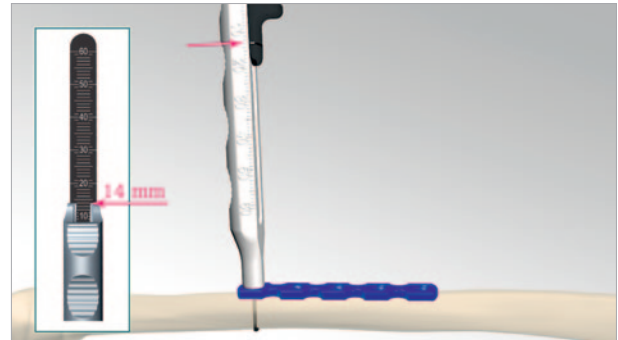
Drilling using a drill. The appropriate drill bits can be found in the corresponding set. The drill bit diameter matches the core diameter of the screw.



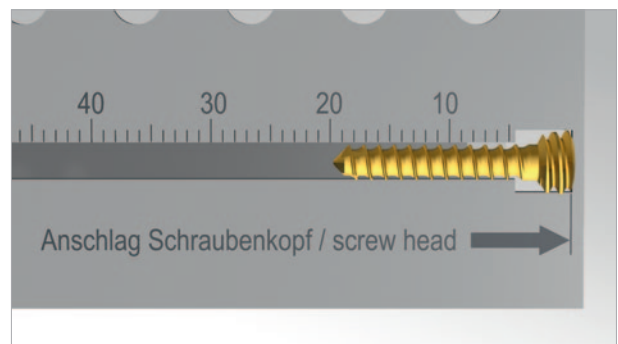


Removal of the drill guide from the plate.

Determination of the screw length using a gauge, the screw length displayed includes the screw head.

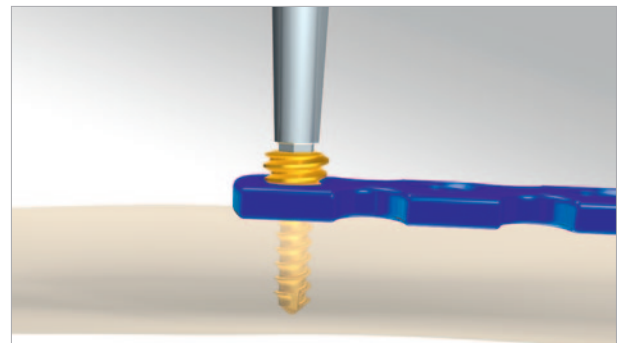


The plates and screws in the sets are compatible with one another. The screws are labelled with the type of screw and diameter on the screw bar and are sorted by size. In addition, there is a scale on it for comparing it with the screw length. Here, the screw head must touch the end of the scale. The screw length can then be read. In the example in the image, the length is 20 mm incl. screw head.



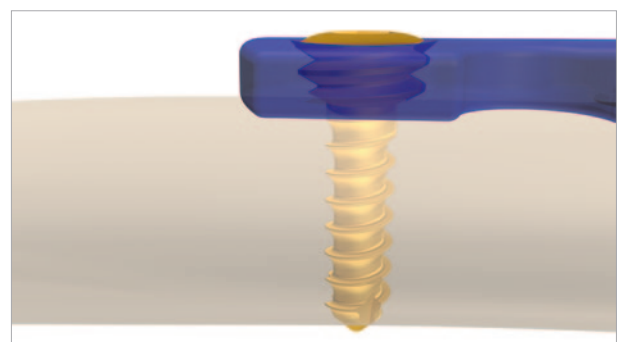
Insertion of the screw into the drilled core hole with the screw driver in the set.

The thread on the screw head is screwed into the thread of the plate hole until the screw is firmly anchored.



Note!

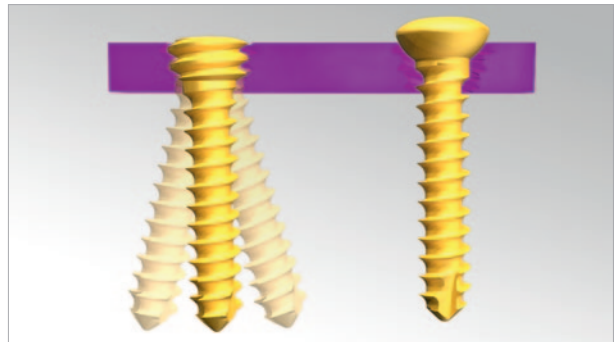
Mono-axial locking plates have only one fixed predefined angle at which the screw can be screwed in. This angle is precisely prescribed and drilled through screwing the drill guide into the plate. The screw can then be correctly inserted.



Note!

With the polyaxial threaded holes, the screws with the conical head thread can be interlocked at their vertical main axis and at 4 further positions that are rotated around the main axis at an angle of 10°.

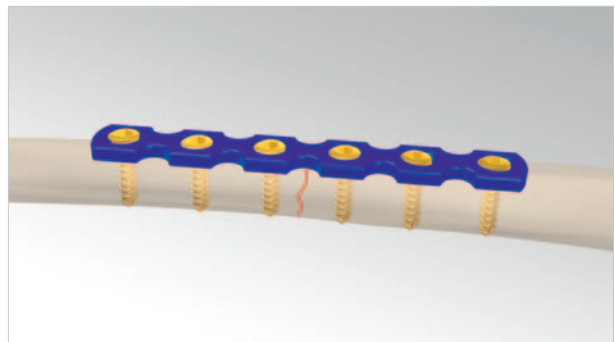
As an alternative, standard screws can be used for mono-axial and polyaxial locking holes. (See characteristics on page 5)

**Caution!**

Where possible, always use three screws at the proximal and distal portion of the plate.

Caution!

The screws may not be placed directly into the fracture gap as this may result in instability or even material fatigue.

**Caution!**

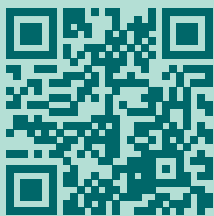
When tailoring the plate to the bone, care must be taken to ensure that a maximum bending angle of 15° is not exceeded. Bending back and forth should be avoided as this results in weakening of the plate material. (AO standard)

Caution!

When shortening (cutting) plates and wires, care must be taken to ensure that no burrs form on the cut edge as this may hurt the patient. (AO standard)

Caution!

More information about the use of INTERCUS medical products can be found in the instructions for use and preparation on our homepage at www.intercus.de



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