I.T.S.

PHL

PROXIMAL HUMERAL LOCKING PLATE

emergency team for broken bones®

Features

Material:

- Plate material: Titanium
- Material of screws: TiAL6V4 ELI
- Easier removal of implant after fracture has healed
- Improved fatigue strength of implant
- Reduced risk of cold bonding
- Reduced risk of inflammation and allergy

HUMERAL HEAD PLATE

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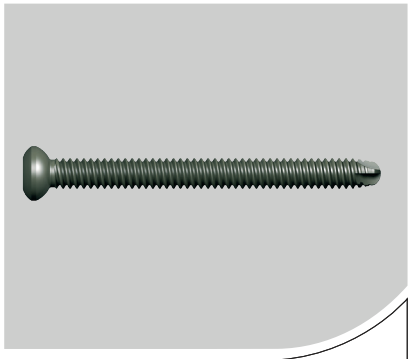
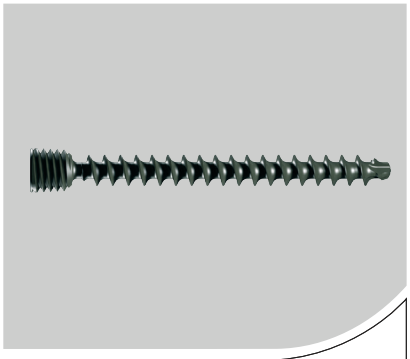


Ø 4.5 mm
Cortical Screw



Ø 4.2 mm locking
Cancellous Screw

locking HUMERAL HEAD PLATE

Features

Implant:

- Multidirectional Locking
- Free choice of screw angle
- Ø 4.5 mm Cortical Screw
- Ø 4.2 mm locking Cancellous Screw
- Anatomically contoured
- 3, 4 - hole

All I.T.S. locking plates are anatomically pre-contoured. In the unlikely event that the plate has to be formed to the bone please notice that slight contouring is possible.

ATTENTION: Significant bending at the locking holes will reduce locking effectiveness and if bend more than once in both directions it might weaken the titanium plate strongly.

Indications

- Dislocated, unstable 2, 3 and 4-segment fractures of the head of the humerus
- Valgus-impacted 4-segment fractures of the head of the humerus
- Pseudoarthroses of the head of the humerus

Contraindications

- Diaphyseal fractures of the head of the humerus

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Locking Humeral Head Plate

Fractures of the head of the humerus amount to 5% of all fractures and at least 45% of all humerus fractures. Whereas severe injuries with considerable trauma predominate in younger patients, the head of the humerus can often fracture on slight trauma with increasing age due to reduced bone quality in the case of osteoporosis.

Frequent complications in the case of multiple-fragment fractures of the head of the humerus after osteosynthesis include redislocation of the fracture and necrosis of the humeral head. The incidence of necrosis of the head of the humerus amounts to 3-14% in the case of 3-segment fractures and 26-75% in the case of dislocated 4-fragment fractures. Full or partial necrosis of the head of the humerus usually means a deterioration of the prognosis.

However, it is not rare to achieve an acceptable functional result.

If necrosis of the head should occur in the case of malpositioning, this leads to a significant deterioration of prognosis. The therapeutic aim is therefore to achieve a correct position of the tubercula by means of the most stable osteosynthesis.

The trend indicates that operation techniques conserving the humeral head using implants with the highest possible angular stability make sense.

Biomechanical angle-stable osteosynthesis are especially advantageous in the case of osteoporotic bones.

Position of the patient

- Beachchair position
- Adjustable accessory table to support arm position
- Image intensifiers from the head end

locking
HUMERAL HEAD PLATE

Surgical technique

- Deltopectoral access
- Raising the calotte fragment with reposition onto the shaft fragment (fig.1)
- Temporary fixation of the reposition using drill wires (fig.2)
- Set the tubercular fragments onto the head fragment
- Position the humerus plate 5 mm distal to the proximal end of the tuberculum majus and 10 mm dorsal to the posterior edge of the sulcus intertubercularis
- Fixation of the humeral head plate by means of a cortical screw in the sliding hole
- Fixation of the humeral head plate by means of a second cortical screw in the shaft
- Screw down the head of the humerus using locking screws
- Optional refixation of the tuberculum majus fragment using a frame suture
- Optional screw fixation of the tuberculum minus fragment (fig.3)
- Step by step closure of the wound

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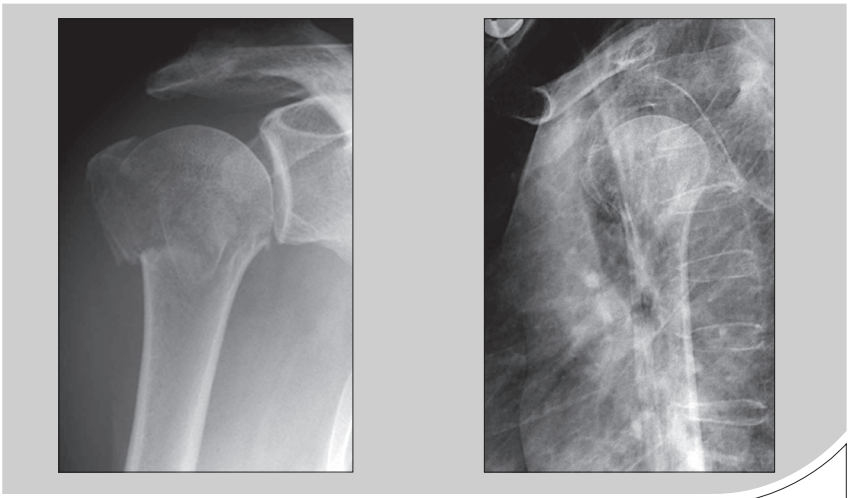
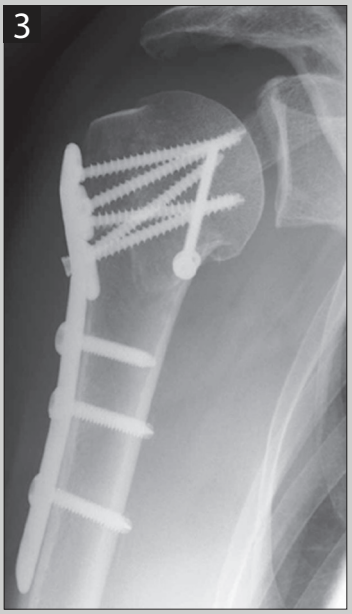


Case study

Case study

63-year-old female patient with valgar-impacted 4- segment upper arm fracture.



Postoperative

- Functionally as early as possible
- If bone quality is bad, shoulder bandage for max. 4 weeks
- Passively and actively guided movement exercises

locking
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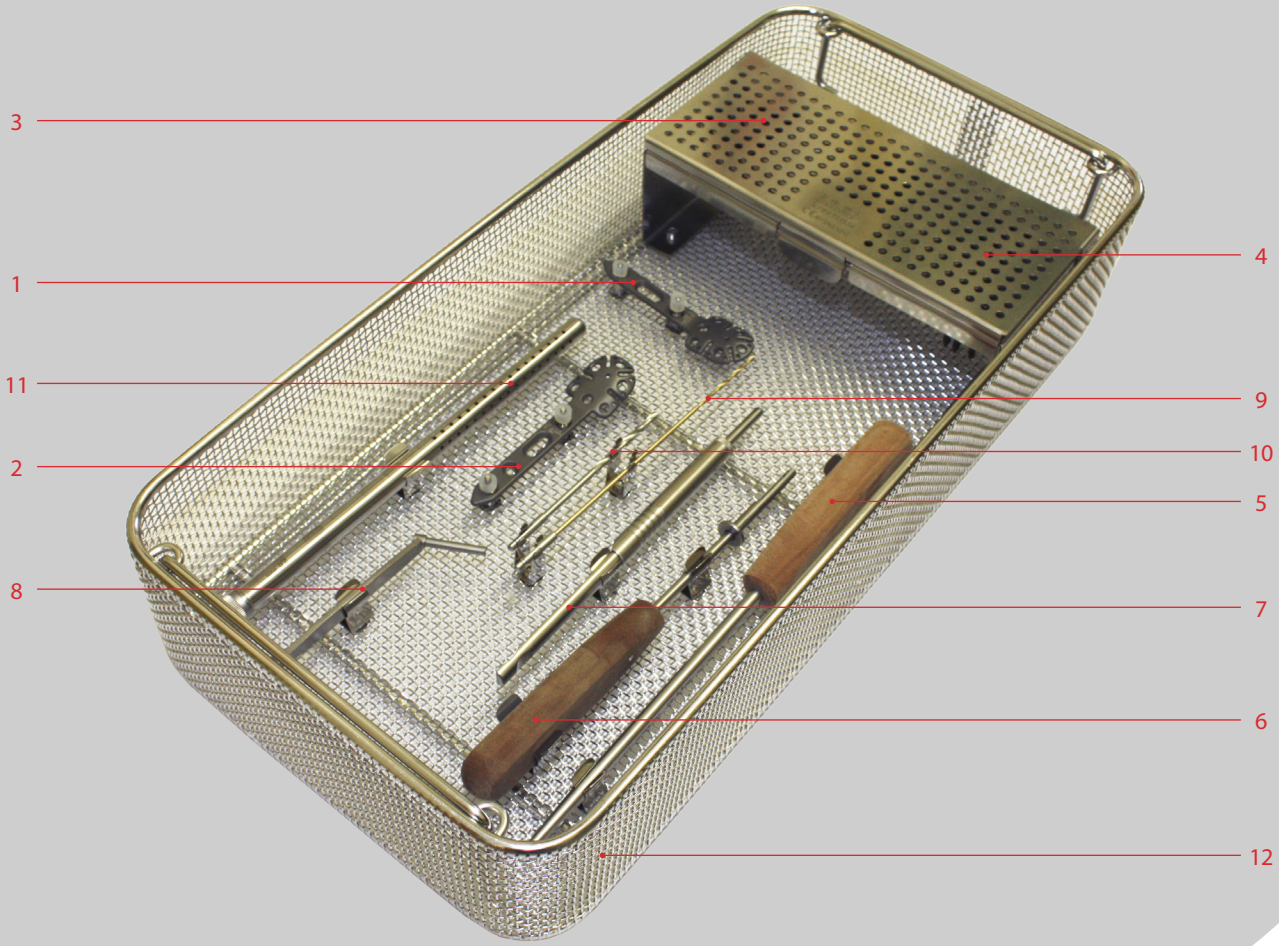
		Order No.
1	Humeral Head Plate, Wide, 3-Hole	21131-3
2	Humeral Head Plate, Wide, 4-Hole	21131-4
3	Cancellous Screw, Locking, D=4.2mm, L=38mm	37422-38
	Cancellous Screw, Locking, D=4.2mm, L=40mm	37422-40
	Cancellous Screw, Locking, D=4.2mm, L=42mm	37422-42
	Cancellous Screw, Locking, D=4.2mm, L=44mm	37422-44
	Cancellous Screw, Locking, D=4.2mm, L=46mm	37422-46
	Cancellous Screw, Locking, D=4.2mm, L=48mm	37422-48
	Cancellous Screw, Locking, D=4.2mm, L=50mm	37422-50
	Cancellous Screw, Locking, D=4.2mm, L=55mm	37422-55
	Cancellous Screw, Locking, D=4.2mm, L=60mm	37422-60
4	Cortical Screw, D=4.5mm, L=24, metric Thread	32451-24
	Cortical Screw, D=4.5mm, L=28, metric Thread	32451-28
	Cortical Screw, D=4.5mm, L=32, metric Thread	32451-32
	Cortical Screw, D=4.5mm, L=36, metric Thread	32451-36
	Cortical Screw, D=4.5mm, L=38, metric Thread	32451-38
5	Screw Driver, WS 3.5, Conic, Self Holding	56352-SH
6	Screw Driver, WS 2.5, Self Holding Sleeve	56252



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7	Depth Gauge, Solid Small Fragment Screws	59022
8	Drill Guide, D=2.5/3.5mm	62252
9	Spiral Drill, D=2.5mm, L=180mm, AO Connector	61253-180
10	Spiral Drill, D=3.5mm, L=110mm, AO Connector	61353-110
11	Guide Wire, Steel, D=2.0mm, L=228mm, TR	35204-228
12	Sterilization Tray, Humeral Head Plate	50160

Notes:

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