KANGHUI
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MonoLoc 2.4/2.7mm Locking Plates System

Surgical Technique

CHANGZHOU KANGHUI MEDICAL INNOVATION CO., LTD

Add: No.11 North Changjiang Road, Xinbei Zone, Changzhou, Jiangsu 213022, P.R.China
Tel: +86-519-85139851 Fax: +86-519-85128628
www.kanghui.com
Shanghai Office
Add: Builing 18,No. 1000,Jinhai Road, PuDong District, Shanghai, China 201206
Tel: +86-21-50319916 Fax: +86-21-50312913

Content

Warning:

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

Indication

Possible indications for implants of size 2.4mm include:

– Fractures of the phalanges
– Fractures of the metacarpals and metatarsals (II–V)
– Fractures of the distal radius (double-plate technique)
– Osteotomies and arthrodeses on the hand and foot (e.g. TMT [II–V] fusions)
– Subcapital radial head fracture
– As an additional implant with small fragments

Possible indications for implants of size 2.7mm include:

– Fractures of metatarsal I
– Fractures of the tarsals
– MTP 1 fusions
– Osteotomies and arthrodeses of the tarsals (e.g. calcaneo-cuboidal fusion)

Surgical Steps

The following surgical technique is described using the example of an LCP T-plate 2.4. Implant handling is identical for the sizes 2.4 and 2.7.

1

Reduce fracture

Reduce the fracture under image intensification and, if necessary, fix with Kirschner wires or reduction forceps. The reduction method is fracture-specific.

2

Trim plate

Trim plate to the desired length using the 288100 Bending-Cutting Pliers and remove the burrs.

3

Bend plate

Bend the plate using the 288100 Bending-Cutting Pliers. The 288110 Bending Pin 2.4/2.7 can be used to bend the round threaded holes.

Note:
If possible, bend the plate between the holes. Do not deform the holes during bending as this may hinder the subsequent insertion of locking screws.

4

Position plate

Position the plate over the reduced fracture and, if necessary, fix provisionally with Kirschner wires or 01123 Reduction Forceps, Pointed.

5

Determine screw type

Depending on the indication and situation in each case, cortex screws and/or LCP locking screws may be inserted. If a locking screw is inserted first, ensure that the plate is held securely to the bone to prevent the plate from spinning as the screw locks into the plate. The final screw placement and the use of locking and cortex screws is determined by the fracture pattern.

Note:
If angularly-stable buttress pins are used, one screw per bone fragment must be inserted additionally.

6

Screws insertion

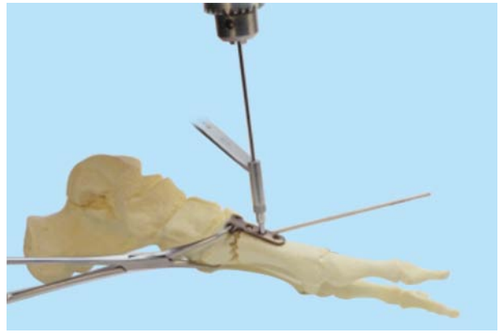
6a. Insertion of cortex screws

6a.1 Pre-drill screw hole for cortex screw

Instruments for 2.4 cortex screws
286230 Drill Bit, Φ 1.8mm
286270 Drill Bit, Φ 2.4mm
286250 Double Drill Guide1.8/2.4
286290 Tap, 2.4mm

Instruments for 2.4 cortex screws
286130 Drill Bit, Φ 2.0mm
286260 Drill Bit, Φ 2.7mm
286240 Double Drill Guide 2.0/2.7
286280 Tap, 2.7mm

Drill the screw hole using the drill bit and the corresponding drill guide. Lag screw technique is also applicable. Tap is optional when surgeon finds the bone is too hard to insert the screw.



6a.2 Determine screw length

Determine the screw length with 286200 Depth Gauge by measuring the bicortical depth.

6a.3 Insert cortex screw

Insert the self-tapping cortex screw using the corresponding Screwdriver.
288170 Cortex Screw Holding Sleeve
288130 Torx Screwdriver, with Quick Coupling
030100 T-Handle with Quick Coupling

6b. Insertion of locking screws

6b.1 Pre-drill screw hole for locking screw

Instruments for 2.4 locking screws
286220 Drill Sleeve for Drill Bit Φ 1.8mm
286230 Drill Bit, Φ 1.8mm

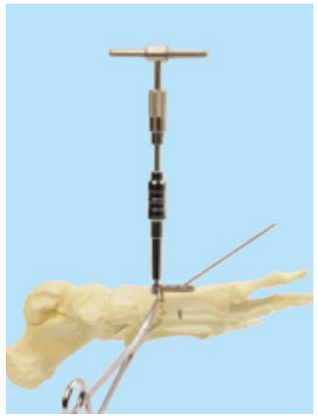
Instruments for 2.7 locking screws
286120 Drill Sleeve for Drill Bit Φ 2.0mm
286130 Drill Bit, Φ 2.0mm

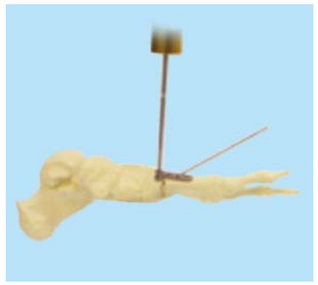
Drill screw hole through the LCP drill sleeve using the appropriately sized drill bit.

6b.2 Determine screw length
When using the LCP drill sleeve check the length directly on the scale of the drill sleeve. Then remove the drill sleeve.

Alternatively, determine the screw length with 286200 Depth Gauge by measuring the bicortical depth.

6b.3 Insert locking screw
Insert the self-tapping locking screw using the corresponding screwdriver shaft and the T-Handle. For final tightening, the Torque-limiting Screwdriver should be used in case the locking screw is stuck with the plate which makes screw removal difficult.
288160 Locking Screw Holding Sleeve
288130 Torx Screwdriver, with Quick Coupling
030100 T-Handle with Quick Coupling
288150 Torque-limiting Screwdriver(0.8Nm)





7

Implants Removal

288140 Screwdriver, self-retaining is used to remove the plate. First unlock all screws, and then remove them in a second step. If the screws are not unlocked before removal, the plate may rotate while the last screw is being removed and cause soft tissue damage.

Implants

Locking Plate 2.4, Straight

Code	Size	Material	Model No.
24201004	4H	PT	SDXZ40
24201005	5H	PT	SDXZ40
24201006	6H	PT	SDXZ40
24201007	7H	PT	SDXZ40
24201008	8H	PT	SDXZ40
24201010	10H	PT	SDXZ40

Locking Condylar Plate 2.4

Code	Size	Material	Model No.
24202000	2+7H	PT	SDXZ45

Locking Y-Plate 2.4

Code	Size	Material	Model No.
24203000	3+7H	PT	SDXZ06

Locking T-Plate 2.4

Code	Size	Material	Model No.
24204000	2+7H	PT	SDXZ72
24205000	3+7H	PT	SDXZ73

Locking Plate 2.7, Straight

Code	Size	Material	Model No.
24206004	4H	PT	SDXZ40
24206005	5H	PT	SDXZ40
24206006	6H	PT	SDXZ40
24206007	7H	PT	SDXZ40
24206008	8H	PT	SDXZ40
24206009	9H	PT	SDXZ40
24206010	10H	PT	SDXZ40

Locking Condylar Plate 2.7

Code	Size	Material	Model No.
24207000	2+7H	PT	SDXZ45

Locking T-Plate 2.7

Code	Size	Material	Model No.
24208000	2+3H	PT	SDXZ72

Locking L-Plate 2.7

Code	Size	Material	Model No.	Direction
24209200	2+3H	PT	SDXZ76	Left
24209100	2+3H	PT	SDXZ77	Right

Locking L-Plate 2.7,Oblique

Code	Size	Material	Model No.	Direction
24210200	2+3H	PT	SDXZ57	Left
24210100	2+3H	PT	SDXZ58	Right

X Locking Plate

Code	Size	Material	Model No.
24211001	Large	PT	SDXZ70
24211002	Medium	PT	SDXZ70
24211003	Small	PT	SDXZ70

2-Hole Locking Plate

Code	Size	Material	Model No.
24235000	2H	PT	SDXZ75

2.7mm Locking Screw, Self tapping

Code	Size	Material	Model No.
32580006	6mm	TA	SDLD01
32580007	7mm	TA	SDLD01
32580008	8mm	TA	SDLD01
32580009	9mm	TA	SDLD01
32580010	10mm	TA	SDLD01
32580011	11mm	TA	SDLD01
32580012	12mm	TA	SDLD01
32580013	13mm	TA	SDLD01
32580014	14mm	TA	SDLD01
32580016	16mm	TA	SDLD01
32580018	18mm	TA	SDLD01
32580020	20mm	TA	SDLD01
32580022	22mm	TA	SDLD01
32580024	24mm	TA	SDLD01
32580026	26mm	TA	SDLD01
32580028	28mm	TA	SDLD01
32580030	30mm	TA	SDLD01
32580032	32mm	TA	SDLD01
32580034	34mm	TA	SDLD01
32580036	36mm	TA	SDLD01
32580038	38mm	TA	SDLD01
32580040	40mm	TA	SDLD01
32580042	42mm	TA	SDLD01
32580044	44mm	TA	SDLD01
32580046	46mm	TA	SDLD01
32580048	48mm	TA	SDLD01
32580050	50mm	TA	SDLD01
32580052	52mm	TA	SDLD01
32580054	54mm	TA	SDLD01
32580056	56mm	TA	SDLD01
32580058	58mm	TA	SDLD01
32580060	60mm	TA	SDLD01

2.7mm Cortex Screw, Self tapping

Code	Size	Material	Model No.
30375006	6mm	TA	HAQ06
30375007	7mm	TA	HAQ06
30375008	8mm	TA	HAQ06
30375009	9mm	TA	HAQ06
30375010	10mm	TA	HAQ06
30375011	11mm	TA	HAQ06
30375012	12mm	TA	HAQ06
30375013	13mm	TA	HAQ06
30375014	14mm	TA	HAQ06
30375016	16mm	TA	HAQ06
30375018	18mm	TA	HAQ06
30375020	20mm	TA	HAQ06
30375022	22mm	TA	HAQ06
30375024	24mm	TA	HAQ06
30375026	26mm	TA	HAQ06
30375028	28mm	TA	HAQ06
30375030	30mm	TA	HAQ06
30375032	32mm	TA	HAQ06
30375034	34mm	TA	HAQ06
30375036	36mm	TA	HAQ06
30375038	38mm	TA	HAQ06
30375040	40mm	TA	HAQ06
30375042	42mm	TA	HAQ06
30375044	44mm	TA	HAQ06
30375046	46mm	TA	HAQ06
30375048	48mm	TA	HAQ06
30375050	50mm	TA	HAQ06
30375052	52mm	TA	HAQ06
30375054	54mm	TA	HAQ06
30375056	56mm	TA	HAQ06
30375058	58mm	TA	HAQ06
30375060	60mm	TA	HAQ06

2.4mm Locking Screw, Self tapping

Code	Size	Material	Model No.
34217006	6mm	TA	SDLD01
34217007	7mm	TA	SDLD01
34217008	8mm	TA	SDLD01
34217009	9mm	TA	SDLD01
34217010	10mm	TA	SDLD01
34217011	11mm	TA	SDLD01
34217012	12mm	TA	SDLD01
34217013	13mm	TA	SDLD01
34217014	14mm	TA	SDLD01
34217016	16mm	TA	SDLD01
34217018	18mm	TA	SDLD01
34217020	20mm	TA	SDLD01
34217022	22mm	TA	SDLD01
34217024	24mm	TA	SDLD01
34217026	26mm	TA	SDLD01
34217028	28mm	TA	SDLD01
34217030	30mm	TA	SDLD01

2.4mm Cortex Screw, Self tapping

Code	Size	Material	Model No.
30374006	6mm	TA	HAQ06
30374007	7mm	TA	HAQ06
30374008	8mm	TA	HAQ06
30374009	9mm	TA	HAQ06
30374010	10mm	TA	HAQ06
30374011	11mm	TA	HAQ06
30374012	12mm	TA	HAQ06
30374013	13mm	TA	HAQ06
30374014	14mm	TA	HAQ06
30374016	16mm	TA	HAQ06
30374018	18mm	TA	HAQ06
30374020	20mm	TA	HAQ06
30374022	22mm	TA	HAQ06
30374024	24mm	TA	HAQ06
30374026	26mm	TA	HAQ06
30374028	28mm	TA	HAQ06
30374030	30mm	TA	HAQ06
30374032	32mm	TA	HAQ06
30374034	34mm	TA	HAQ06
30374036	36mm	TA	HAQ06
30374038	38mm	TA	HAQ06
30374040	40mm	TA	HAQ06
30374042	42mm	TA	HAQ06
30374044	44mm	TA	HAQ06
30374046	46mm	TA	HAQ06
30374048	48mm	TA	HAQ06
30374050	50mm	TA	HAQ06
30374052	52mm	TA	HAQ06
30374054	54mm	TA	HAQ06
30374056	56mm	TA	HAQ06
30374058	58mm	TA	HAQ06
30374060	60mm	TA	HAQ06

1.8mm Buttress Pin

Code	Size	Material	Model No.
32581010	10mm	TA	SDLD04
32581012	12mm	TA	SDLD04
32581014	14mm	TA	SDLD04
32581016	16mm	TA	SDLD04
32581018	18mm	TA	SDLD04
32581020	20mm	TA	SDLD04
32581022	22mm	TA	SDLD04
32581024	24mm	TA	SDLD04
32581026	26mm	TA	SDLD04
32581028	28mm	TA	SDLD04
32581030	30mm	TA	SDLD04

MonoLoc Locking Plates 2.4/2.7mm System Instruments Set

Code	Product Description	Qty
288000	MonoLoc Locking Plates 2.4/2.7mm System Instruments Set	1
030100	T-Handle with Quick Coupling	2
288100	Bending-Cutting Pliers	2
01123	Reduction Forceps, Pointed	1
01124	Reduction Forceps with Points, toothed	1
01215	Retractor, width 6mm	1
01216	Retractor, width 8mm	1
01217	Retractor, width 15mm	1
01218	Sharp Hook	1
01219	Periosteal Elevator, width 5mm	1
01232	Periosteal Elevator, width 3mm	1
216160	Plate Holder	1
288110	Bending Pin 2.4/2.7	4
286200	Depth Gauge	1
288120	Easyout	1
288160	Locking Screw Holding Sleeve	1
288170	Cortex Screw Holding Sleeve	1
288130	Torx Screwdriver, with Quick Coupling	2
286300	Countersink	1
288140	Screwdriver,self-retaining	1
288150	Torque-limiting Screwdriver(0.8Nm)	1
10735150	K wire,Φ1.8mm	3

288020 2.4 mm Implants Tray (with Special Instruments)

Code	Product Description	Qty
288070	2.4 mm Implants Tray(empty)	1
286220	Drill Sleeve for Drill Bit Φ 1.8mm	2
286230	Drill Bit, Φ 1.8mm	2
286270	Drill Bit, Φ 2.4mm	2
286250	Double Drill Guide 1.8/2.4	1
286290	Tap, 2.4mm	2

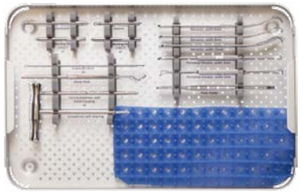
288030 2.7 mm Implants Tray (with Special Instruments)

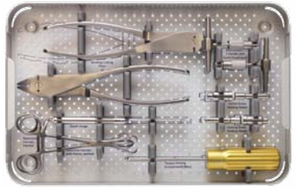
Code	Product Description	Qty
288080	2.7 mm Implants Tray(empty)	1
286120	Drill Sleeve for Drill Bit Φ 2.0mm	2
286130	Drill Bit, Φ 2.0mm	2
286260	Drill Bit, Φ 2.7mm	2
286240	Double Drill Guide 2.0/2.7	1
286280	Tap, 2.7mm	2

Please contact your sales representative for final product list.

Instruments Set

288000





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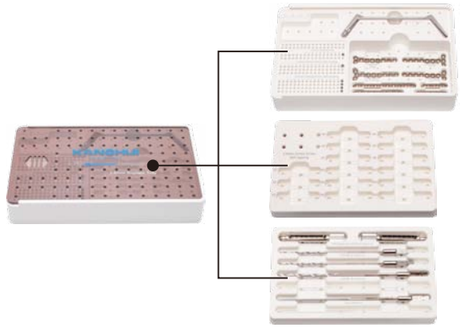

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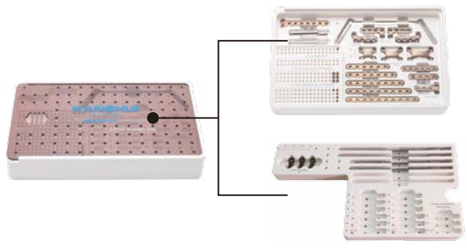

030100
T-Handle with Quick Coupling

288100
Bending-Cutting Pliers

01123
Reduction Forceps, pointed

01124
Reduction Forceps with Points, toothed

01215
Retractor, width 6mm

01216
Retractor, width 8mm

01217
Retractor, width 15mm

01218
Sharp Hook

01219
Periosteal Elevator, width 5mm

01232
Periosteal Elevator, width 3mm

216160
Plate Holder

288110
Bending Pin 2.4/2.7

286200
Depth Gauge

288120
Easyout

288160
Locking Screw Holding Sleeve

288170
Cortex Screw Holding Sleeve

288130
Torx Screwdriver, with Quick Coupling

286300
Countersink

288140
Screwdriver,self-retaining

288150
Torque-limiting Screwdriver(0.8Nm)

10735150
K wire,Φ1.8mm

286220
Drill Sleeve for Drill Bit Φ 1.8mm

286230
Drill Bit, Φ 1.8mm

286270
Drill Bit, Φ 2.4mm

286250
Double Drill Guide 1.8/2.4

286290
Tap, 2.4mm

286120
Drill Sleeve for Drill Bit Φ 2.0mm

286130
Drill Bit, Φ 2.0mm

286260
Drill Bit, Φ 2.7mm

286240
Double Drill Guide 2.0/2.7

286280
Tap, 2.7mm