LINK®

C.F.P. II Hip System

Anatomically Adapted & Neck Preserving

Surgical Technique

CE 0426

Explanation of Pictograms			
	Manufacturer	REF	Item number
MAT	Material (number)	CE	Product meets the applicable requirements, which are regulated in the EU harmonization legislation for the affixing of the CE marking.

C.F.P. II Hip System

Anatomically Adapted & Neck Preserving

Preoperative Planning

It is important to plan the intervention preoperatively in order to select the correct implant size and its final intraosseous position based on the patients individual anatomy.

For optimal results, the surgery must be planned in advance using the appropriate templates. The magnification factor of the x-rays must be compatible with the factor on the templates. C.F.P. II x-ray templates are available in standard 1.1:1.
The implant size must be chosen from adequate AP and ML x-rays with sufficient legibility. Each x-ray should be large enough for application of the whole template. A second x-ray of the unaffected joint is often helpful. Inadequate pre-operative planning can lead to improper selection of the implants and/or incorrect implant positioning.

When planning the resection level, the femoral neck must be considered together with the desired centre of rotation and leg length. Align the center of rotation of the medium size head of the template with the desired center of rotation of the femur.

The stem size and position are defined by achieving a fit and fill of the implant in the neck and upper metaphysis.

The stem should follow the medial curvature of the femur in order to achieve the best possible coverage of the calcar.

The resection is indicated by the dashed diagonal line in the template. The resection is carried out at 90° to the axis of the femoral neck and usually at the level of the isthmus.

Note
Preoperative planning gives an initial estimate but cannot conclusively determine the size of stem to be used. This has to be decided intraoperatively.

Patient positioning/Surgical approaches

The surgeon is free to choose the surgical approach on the basis of his/her experience and judgment, and according to the specific situation.

Fig. 1

Resection of the femoral neck

The resection is carried out at the level selected in preoperative planning.
Care should be taken to ensure that the resection is performed at 90° to the axis of the femoral neck (Fig 1).

Fig. 2

Opening the medullary canal

The medullary cavity is opened with a Gouge in the center of the resection surface. (Fig 2).

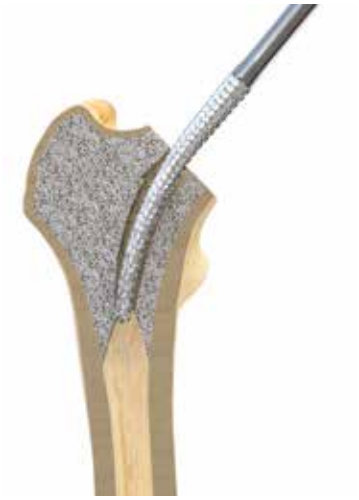


Fig. 3

The Opening Rasp must be used to further facilitate the access to the metaphyseal cavity. The Opening Rasp is guided by the medial calcar (Fig 3).

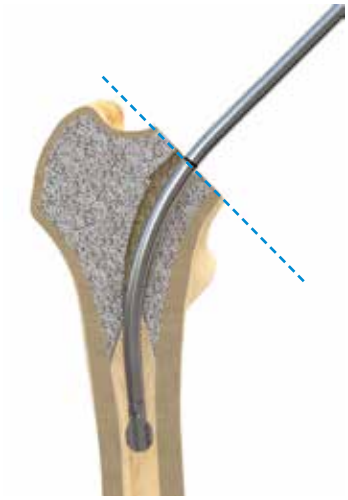


Fig. 4

Fig. 5

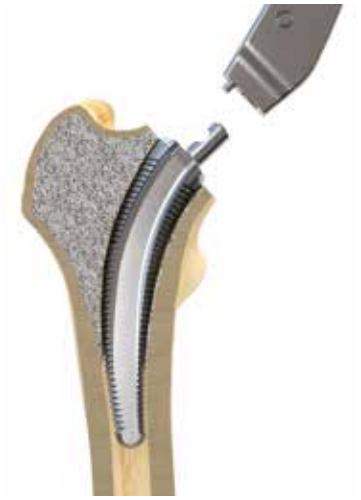


Fig. 6

Preparation of the medullary canal

Optional: Use of Curved Probes
The optional Curved Probes may be used to determine the maximum acceptable distal stem/compressor size. The Sizing Probes should always be used before the introduction of the corresponding Compressor. This can be especially helpful in high flare index cases in order to assess a sufficient distal diameter of the femoral cavity.

Each curved probe is inserted up to the ring mark. The section below the ring mark corresponds to the length of the bone compressor and to the final implanted stem (Fig. 4).

Caution
The final implant size is determined by a fit and fill of the implant in the neck and upper metaphysis and not by the Curved Probes.

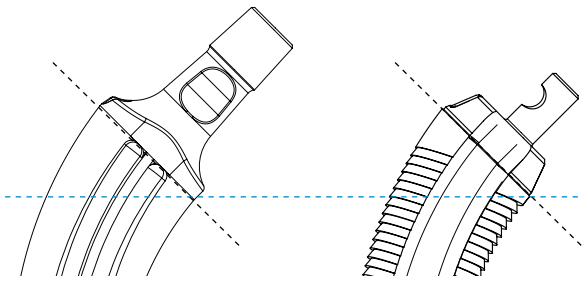
After the metaphyseal cavity has been opened, it is prepared with the smallest Compressor size (Fig 5).

To attach the Compressor, the lever on the Compressor Handle is opened and the Compressor is inserted with its medial side facing the lever. The lever is then closed again. Due to the anatomical shape of the Compressors and the native anteversion of the remaining neck, the stem anteversion is usually self-adjusting. With stepwise increasing sizes of the optional Curved Probes and respective Compressors, the proximal femur is prepared.

The proximal femur is prepared until maximum stability with the largest possible compressor size is achieved. The process is complete as soon as the Compressor is positioned in the curved femoral canal and rotationally stable. The handle is then removed and the Compressor is left in situ (Fig 6).

Caution
The final Compressor size is not necessarily the same as in preoperative planning, but can vary up to two sizes.

The Compressors ensure that the bone substance is compacted. When driving the Compressors in and out, unintentional turning movements of the Handle/Compressor unit should be avoided to prevent damage to the implant bed.



Caution
The C.F.P. II Compressors have a marking line a few millimeters below the handle attachment point. The height of this line at the Compressor is at the level of the transition between the modified surface and the polished neck section of the C.F.P. II Stem. The Prosthesis Stem is driven home with reference to the equivalent line at the final Compressor.
The position required for the Stem can thus be determined exactly.

Fig. 7

Fig. 8

Trial reduction

The acetabular component is usually implanted before the Stem so that trial reduction is possible.

This is carried out with the final Compressor in situ. The handle is removed and the trial neck segment is placed on the Compressor (Fig 7). The different Trial Heads are then used to check for optimal offset and correct leg length and to test adequate stability (Fig 8). The range of movement is checked to avoid impingement and rule out any instability.

A combination of the final Prosthetic Head with the Trial Neck Segments is not permissible.

Finally, the Trial Head and Neck Segment are detached. The Compressor is removed from the femoral canal using the Rasp Handle.

Implanting the final Stem

The Stem size to be implanted has to be determined by performing trial reduction. The corresponding implant is now removed from the sterile packaging and introduced into the femoral cavity with the Insertion Forceps as far as possible. This must be done with care so as to avoid damage to the implant bed (Fig. 9).

Fig. 9

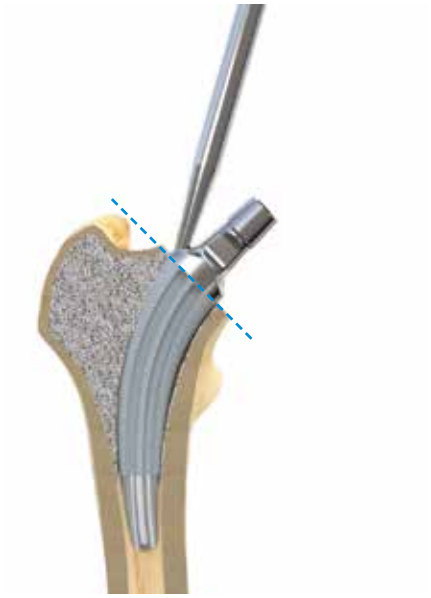


Fig. 10

The Insertion Forceps is released and the tip lateral to the Impactor is placed in the depression lateral to the neck of the Prosthesis. The design of the Impactor ensures that any lateral forces occurring during implantation do not reach the Stem.

With steady hammer blows the Stem is now carefully driven home until it reaches its final position. Ideally this is achieved when the transition line on the Prosthesis is at the same height as that on the Compressor last used (Fig 10).

Sufficient stability of the anchorage is usually achieved when the Prosthesis no longer moves under continued moderate hammer strokes.

Caution
In case of severe resistance, care must be taken not to provoke a femoral neck fracture. Do not force the Stem in further and evaluate if a possible discrepancy in offset or leg length can be compensated by selecting a shorter Prosthesis Head.

Fig. 11

Trial reduction can then be repeated. The selected Trial Head is placed on the Implant and trial reduction is carried out. The Trial Head is then removed again.

Attaching the final Prosthesis Head
The taper of the Stem is cleaned and dried thoroughly. This is particularly important with ceramic heads. The Head is then attached by hand with axial pressure and a rotational movement.

The Head is hit lightly with the driver (Fig. 11). Once the joint surfaces have been cleaned the joint is reduced into the acetabular component (Fig. 12).

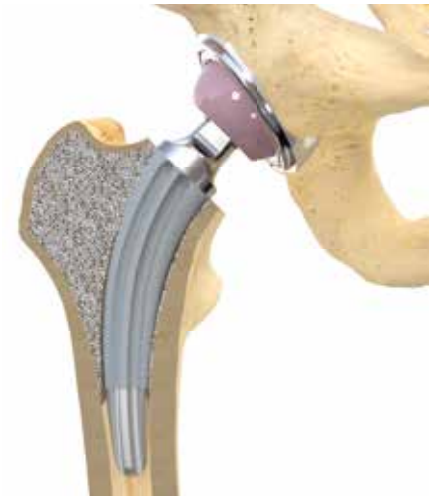


Fig. 12

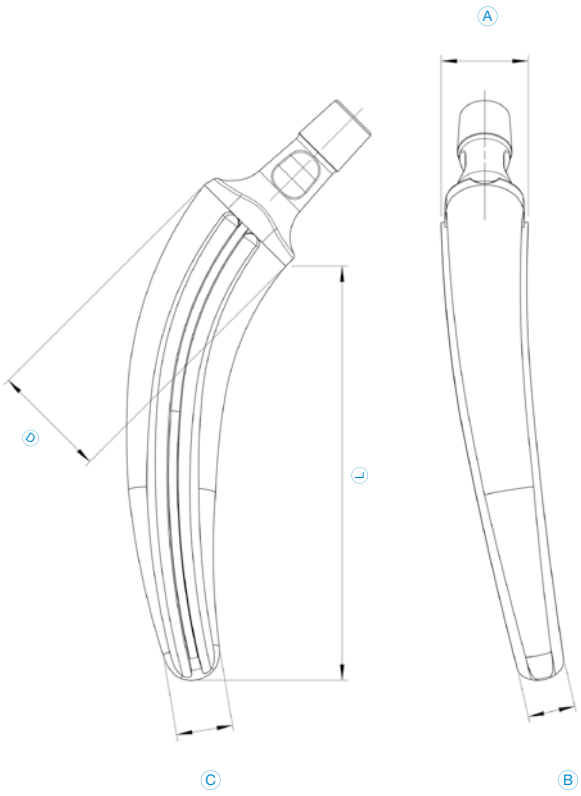
The wound is closed in layers.

Removing the components
The different components can be removed if required. The Prosthesis Head can be removed separately in an axial direction after dislocation using a plunger/stem/rod which is placed at the base of the head.
The femoral Component can be driven out with the Extraction Instrument (p. 11), connected to the Compressor Handle with the Adapter.

Caution
If a Ceramic Head has to be replaced with another Ceramic Head, only Ceramic Revision Heads with a metal inner taper (ELEC plus) must be used.

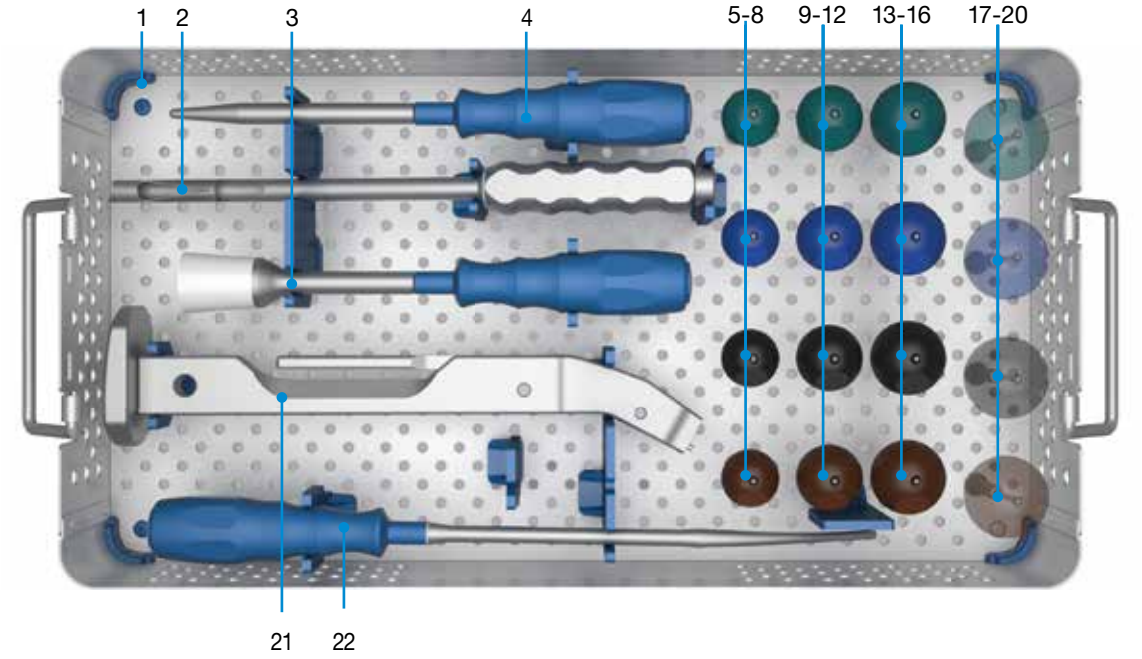
C.F.P. II Hip Stem

MAT Tilastan-S (TiAl6V4), HX-coated



REF	Version	Size	Ⓐ mm	Ⓑ mm	Ⓒ mm	Ⓓ mm	Ⓛ mm
294-001/26	left	1	15	6.5	6.4	20.0	70
294-002/26	left	2	16	7.3	7.6	21.3	75
294-003/26	left	3	17	8.0	8.7	22.6	80
294-004/26	left	4	18	8.6	9.8	23.9	85
294-005/26	left	5	19	9.6	11.0	25.2	90
294-006/26	left	6	20	10.4	12.1	26.5	95
294-007/26	left	7	21	11.2	13.2	27.8	100
294-008/26	left	8	22	11.9	14.3	29.1	105
294-101/26	right	1	15	6.5	6.4	20.0	70
294-102/26	right	2	16	7.3	7.6	21.3	75
294-103/26	right	3	17	8.0	8.7	22.6	80
294-104/26	right	4	18	8.6	9.8	23.9	85
294-105/26	right	5	19	9.6	11.0	25.2	90
294-106/26	right	6	20	10.4	12.1	26.5	95
294-107/26	right	7	21	11.2	13.2	27.8	100
294-108/26	right	8	22	11.9	14.3	29.1	105

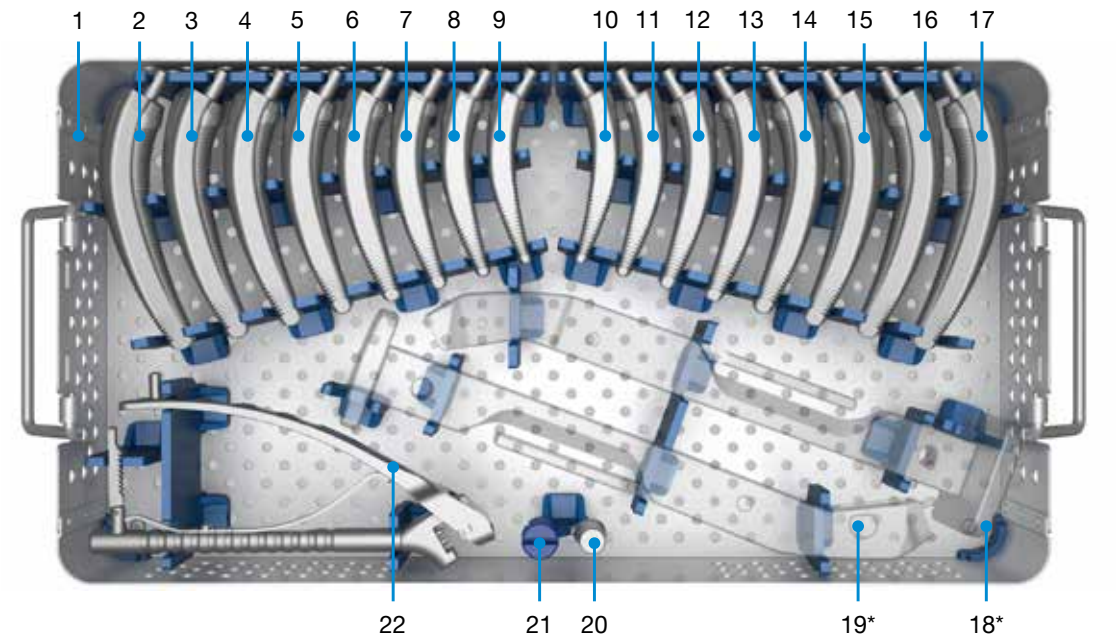
Basic Instrument Tray, complete for C.F.P. II Hip Stems



1	175-111/00	**Instrument Tray**, empty			1
2	175-380	**Gouge** to open medullary cavity, 180 mm			
3	175-360	**Impactor** for Prosthesis Heads with exchangeable plastic head, 280 mm			
4	130-622	**Stem Impactor,** 250 mm, straight			
		Trial Heads with snap-fit for Compressor cylinder			
	REF	Ø	Neck length	Neck length mm	Qty.
5	175-928/11	28	short	-3.5	1
6	175-928/12	28	medium	0	1
7	175-928/13	28	long	+3.5	1
8	175-928/14	28	extra long	+10.5	1
9	175-932/11	32	short	-4	1
10	175-932/12	32	medium	0	1
11	175-932/13	32	long	+4	1
12	175-932/14	32	extra long	+8.5	1
13	175-936/11	36	short	-4	1
14	175-936/12	36	medium	0	1
15	175-936/13	36	long	+4	1
16	175-936/14	36	extra long	+8	1
17*	175-940/11	40	short	-4	1
18*	175-940/12	40	medium	0	1
19*	175-940/13	40	long	+4	1
20*	175-940/14	40	extra long	+8	1
21	130-394/01	**Compressor Handle with quick coupling**			1
22	175-390	**Opening Rasp**			1

* on request, not part of the standard set configuration

Compressor Tray, complete for C.F.P. II Hip Stems



1	295-421/00	**Instrument Tray**, empty		1
2	295-008/26	**Compressor left**	Size 8	1
3	295-007/26	**Compressor left**	Size 7	1
4	295-006/26	**Compressor left**	Size 6	1
5	295-005/26	**Compressor left**	Size 5	1
6	295-004/26	**Compressor left**	Size 4	1
7	295-003/26	**Compressor left**	Size 3	1
8	295-002/26	**Compressor left**	Size 2	1
9	295-001/26	**Compressor left**	Size 1	1
10	295-101/26	**Compressor right**	Size 1	1
11	295-102/26	**Compressor right**	Size 2	1
12	295-103/26	**Compressor right**	Size 3	1
13	295-104/26	**Compressor right**	Size 4	1
14	295-105/26	**Compressor right**	Size 5	1
15	295-106/26	**Compressor right**	Size 6	1
16	295-107/26	**Compressor right**	Size 7	1
17	295-108/26	**Compressor right**	Size 8	1
18*	130-394/03	**Single angled Handle** for compressors, left		1
19*	130-394/02	**Single angled Handle** for compressors, right		1
20	295-201/26	**Trial Neck Segment**		1
21	179-122/01	**Exchangeable Taper Cap** for Stem Positioner		1
22	179-122	**Insertion Forceps**		1

* on request, not part of the standard set configuration

130-394/01 **Universal Handle** for Rasp Stems and Compressors
130-394/02 **Universal Handle** for Rasp Stems and Compressors, angled, right
130-394/03 **Universal Handle** for Rasp Stems and Compressors, angled, left

Coupling of the Compressor

1

To couple Compressor and Handle, the catch is retracted fully (left arrow). Then, the Compressor fitting is inserted into the mount on the front of the Handle (right arrow, Fig. 1).

2

To secure the connection between Compressor and Handle, the catch is pushed forwards (arrow) (Fig. 2).

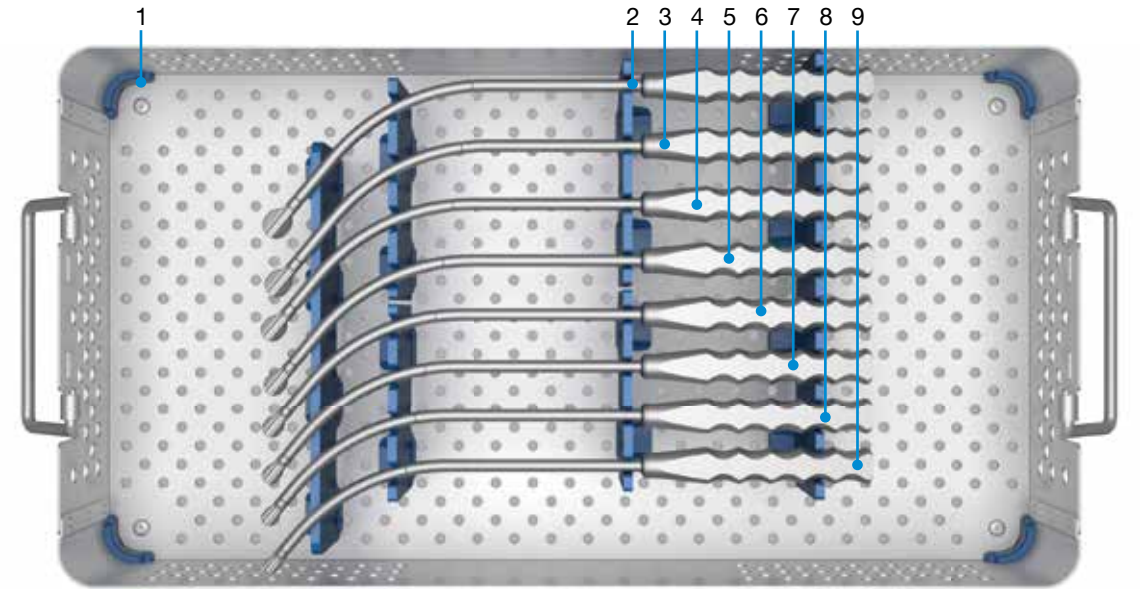
3

To disengage open the Handle again (arrow) (Fig. 3).
The Handle for Compressors can then be detached from the Compressor.

Additional Instruments

(not included in instrument set)

Curved Probes Tray, complete for C.F.P. II hip stem
graduated, with Sizing Olive
MAT Stainless Steel, 300 mm



	REF	Version	Size
1	295-431/00	**Instrument Tray**, empty	
2	295-501/26	**Curved Probe** left / right	1
3	295-502/26	**Curved Probe** left / right	2
4	295-503/26	**Curved Probe** left / right	3
5	295-504/26	**Curved Probe** left / right	4
6	295-505/26	**Curved Probe** left / right	5
7	295-506/26	**Curved Probe** left / right	6
8	295-507/26	**Curved Probe** left / right	7
9	295-508/26	**Curved Probe** left / right	8

130-252/00 **Instrument set for stem extraction** (not illustrated)

x-ray templates

for C.F.P. II Hip Prosthesis Stems, cementless
MAT Stem: Ti6Al4V, HX Coating, taper 12/14 mm, sizes 1-8, set with 8 sheets

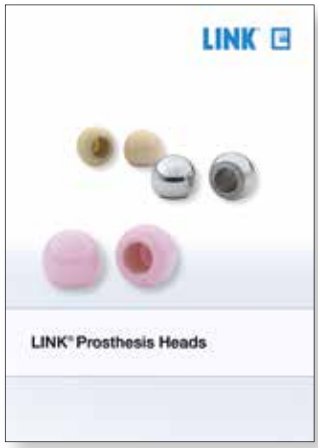
REF	Actual size
295-401/26	110%

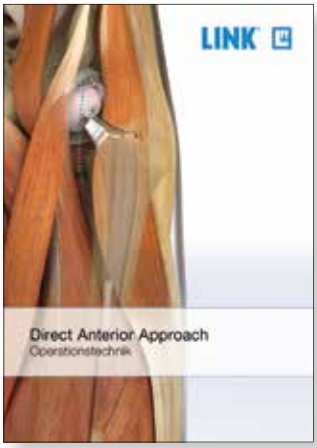
Instructions for Cleaning and Maintenance

Specific instructions for instruments are available on request: E-mail customer@linkhh.de

Additional Information

Catalogs on request: E-mail customer@linkhh.de





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Cfp2opvideo.linkorthopaedics.com

Indications and contraindications: **C.F.P. II Short Stem Hip System**
General Indications
Mobility-limiting diseases, fractures or defects which cannot be treated by conservative or osteosynthetic procedures
Indications
Primary and secondary coxarthrosis
Rheumatoid arthritis
Correction of functional deformities
Avascular necrosis
Contraindications
Poor general state of health
Acute and chronic infections, local and systemic
Allergies to (implant) materials
Distinctive muscular-, nerve-, vascular or other diseases, which put the affected limb at risk
Insufficient/inadequate bone mass- or quality which prevents a stable anchorage of the prosthesis

Caution:
These indications/contraindications refer to standard cases. The ultimate decision on whether or not an implant is suitable for a patient must be made by the surgeon based on his/her individual analysis and his/her experience.

The C.F.P. II Hip Stems can be combined with prostheses heads up to +10.5 mm additional neck length.

Important Information

Please note the following regarding the use of our implants:

1. **Choosing the right implant is very important.**
   The size and shape of the human bone determine the size and shape of the implant and also limit the load capacity. Implants are not designed to withstand unlimited physical stress. Demands should not exceed normal functional loads.

2. **Correct handling of the implant is very important.**
   Under no circumstances should the shape of a finished implant be altered, as this shortens its life span. Our implants must not be combined with implants from other manufacturers.

   The instruments indicated in the Surgical Technique must be used to ensure safe implantation of the components.

3. **Implants must not be reused.**
   Implants are supplied sterile and are intended for single use only. Used implants must not be reused.

4. **After-treatment is also very important.**
   The patient must be informed of the limitations of the implant. The load capacity of an implant cannot compare with that of healthy bone!

5. **Unless otherwise indicated, implants are supplied in sterile packaging.**
   Note the following conditions for storage of packaged implants:

- Avoid extreme or sudden changes in temperature.
- Sterile implants in their original, intact protective packaging may be stored in permanent buildings up until the “Use by” date indicated on the packaging.
- They must not be exposed to frost, dampness or direct sunlight, or mechanical damage.
- Implants may be stored in their original packaging for up to 5 years after the date of manufacture. The “Use by” date is indicated on the product label.
- Do not use an implant if the packaging is damaged.

6. **Traceability is important.**
   Please use the documentation stickers provided to ensure traceability.

7. **Further information** on the material composition is available on request from the manufacturer.

Follow the instructions for use!

LINK ITALIA S.P.A., Milano

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