

Direct Anterior Approach

Surgical Technique

Presented by:



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Direct Anterior Approach Surgical Technique

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Surgical Technique

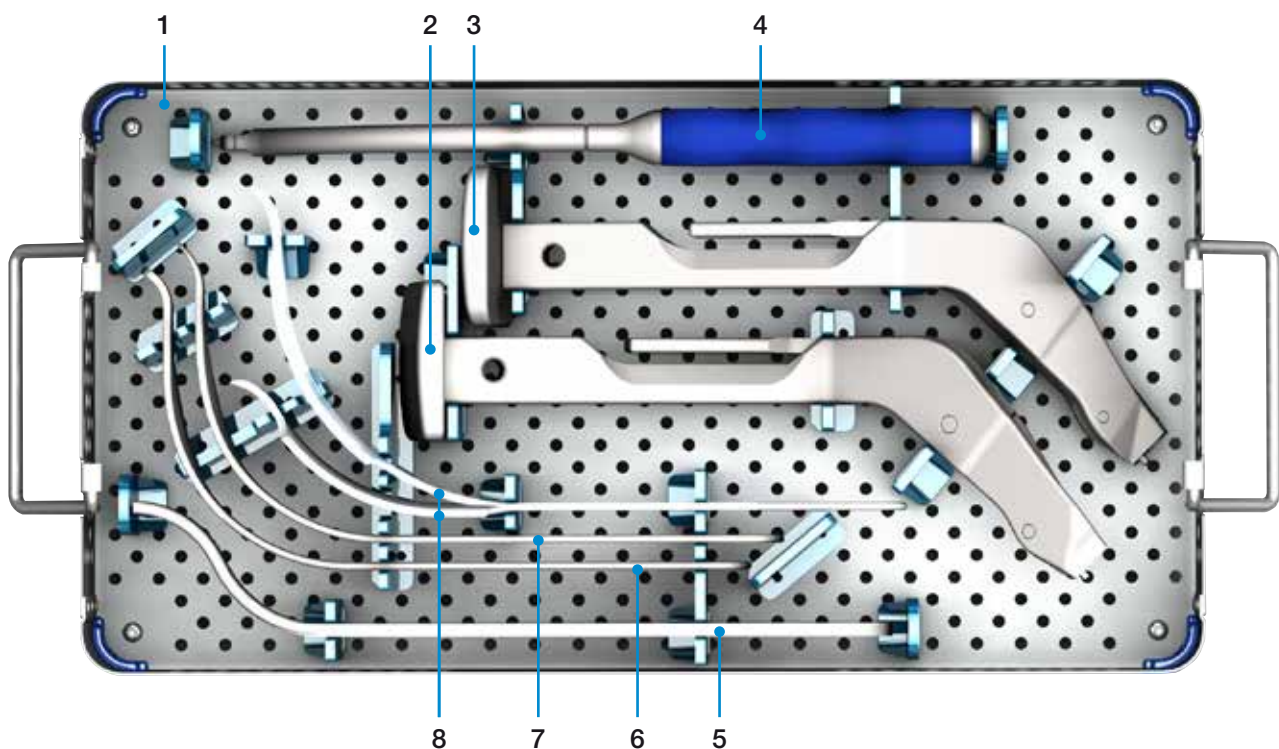
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Important Information

293-100/01 Instrument Set for Direct Anterior Approach (DAA)


Item no.	Description
1 293-100/11	Instrument Tray , only, stainless steel, 485 x 253 x 80 mm
2 130-393/94	Broach Handle , right for bone compressors, double offset
3 130-393/95	Broach Handle , left for bone compressors, double offset
4 130-622/01	Stem Impactor , curved
5 291-301/57	Mueller Retractor , dove tail
6 291-301/70	Cobra Retractor , blunt, curved 90°
7 291-301/71	Cobra Retractor , sharp, curved 90°
8 291-301/75	Retractor , V-tip, curved 60°
Optional (instead of 291-301/75)	
291-301/76	Retractor , V-tip, curved 90°

Individual Instruments

130-393/94 Broach Handle, right, double offset

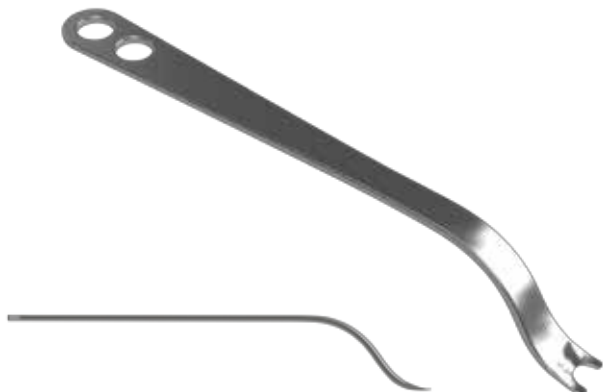
130-393/95 Broach Handle, left, double offset



130-622/01 Stem Impactor, curved



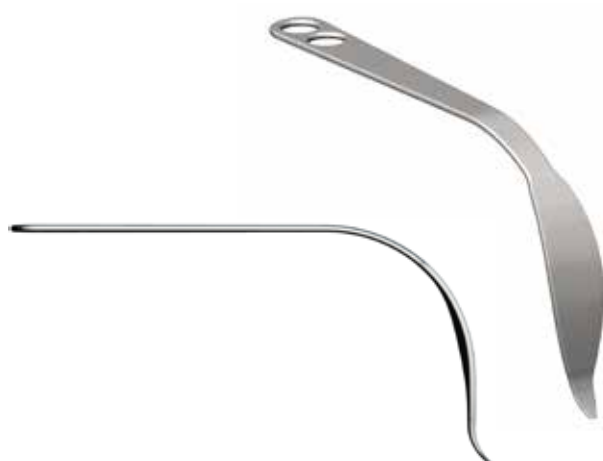
291-301/57 Mueller Retractor



291-301/70 Cobra Retractor, 90°, blunt



291-301/71 Cobra Retractor, 90°, sharp



291-301/75 Retractor, 60°, V-tipped



291-301/76 Retractor, 90°, V-tipped



Additional Instruments

291-301/30D

Offset Acetabular Reamer



130-394/02 **Universal Handle**

for rasp stems and compressors, angled, right

130-394/03 **Universal Handle**

for rasp stems and compressors, angled, left

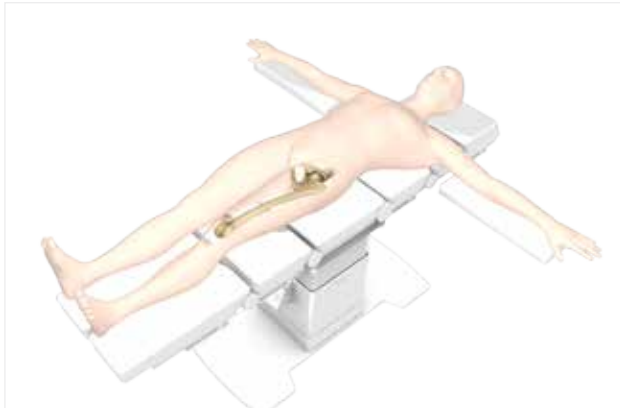


Note:

Dedicated MIS/curved instruments for the Acetabular Cup System are listed in the separate Acetabular Cup System surgical technique.

Preoperative Planning

It is important to plan the procedure preoperatively in order to select the correct implant type and size and its final intraosseous position based on the patient's individual anatomy. The surgeon should perform a careful evaluation of the patient's clinical condition and consider the level of physical activity before performing a hip replacement.



Patient Positioning

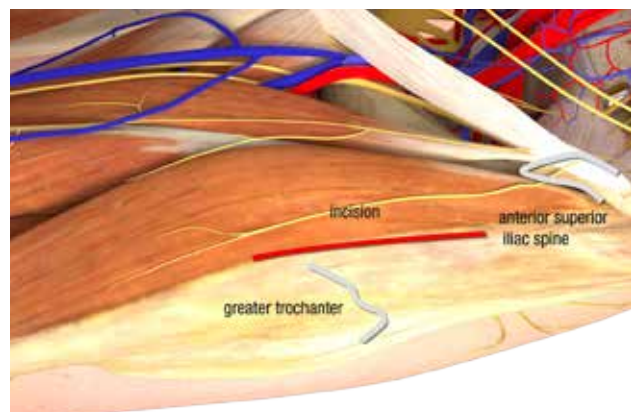
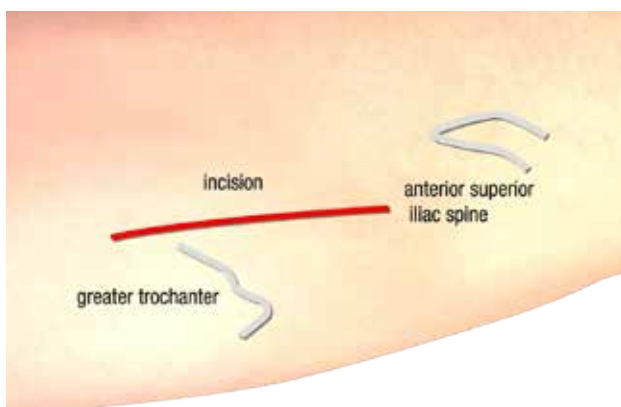
The patient is positioned in supine position with standard hip arthroplasty draping. Support the opposite non-invasive hip close to the top of the greater trochanter to create a stable pelvis position. The patient should be positioned such that the trochanteric line is parallel to the breaking axis of the leg segment of the operation table.

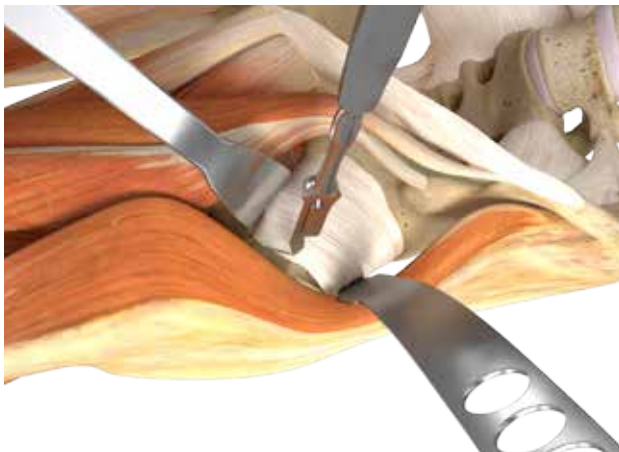
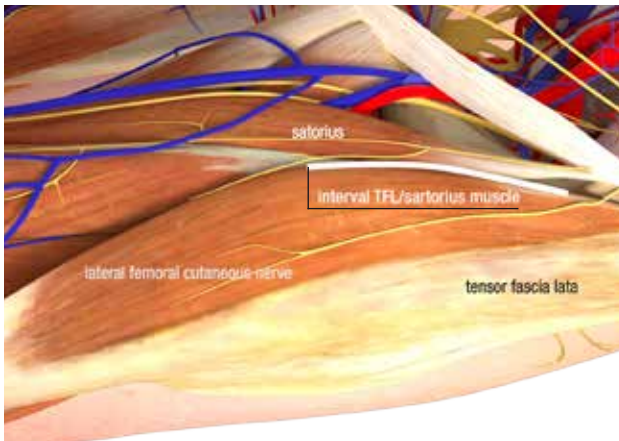


Incision Planning

Identify the greater trochanter and the anterior superior iliac spine (ASIS). Start the skin incision ~3 cm lateral and 3 cm (3 fingers) distal from ASIS. Extend it diagonally and distally towards 2-3 cm below the greater trochanter.

Note: In order to avoid damaging the lateral femoral cutaneous nerve (LFCN), stay lateral from the interval between the tensor fascia latae and sartorius muscle.





Skin Incision

After the initial skin incision divide the subcutaneous tissue in line with the incision. Incise the fascia of the TFL in the medial-distal part of the incision and continue along the fibres of the muscle. Bluntly dissect the fascia from the TFL. Palpate and enter the interval between the tensor fascia latae (TFL) and the sartorius muscle with your finger staying in the sheath of the TFL.

INSTRUMENTS

Standard Blunt
Hohmann Retractor*

*not included in set configuration

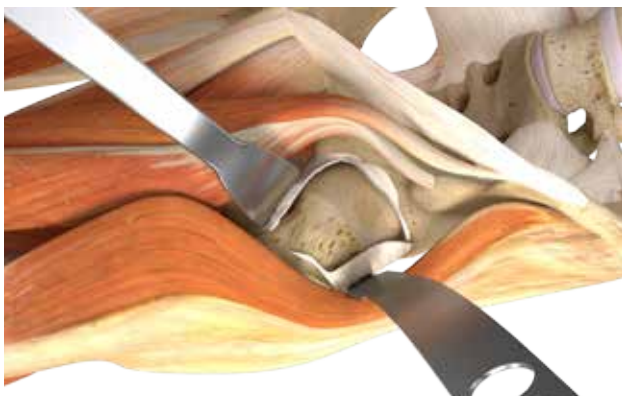


291-301/70

90° Blunt Cobra Retractor

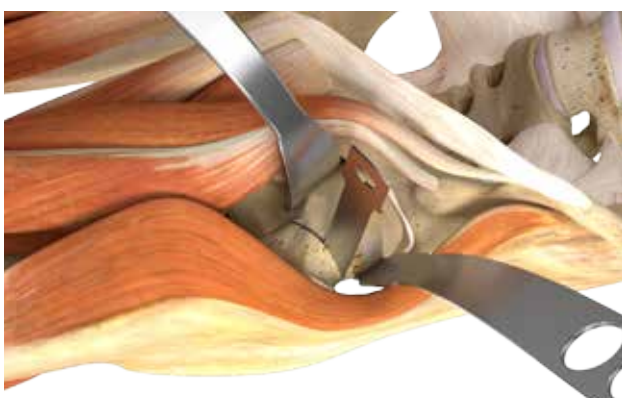
Capsular Exposure

Place a Standard Blunt Hohmann Retractor deep to the gluteus medius and minimus musculature over the capsule over the superolateral part of the femoral neck. Coagulate the lateral femoral circumflex vessels (three sisters). Incise the deep fascia between the rectus femoris and the TFL. Remove the fat pad under the rectus femoris which will reveal the anterior capsule. A 90° Blunt Cobra Retractor can be placed deep to the rectus femoris over the capsule on the medial side proximal to the trochanter minor. Alternatively place a second 90° Sharp Cobra Retractor over the anterior rim of the acetabulum. Be aware of the neurovascular structures. This will allow a good exposure of the capsule.



Capsule Incision

Different options exist to incise the capsule depending on the anatomy and stiffness of the capsule. Perform a L, H or inverted T-shaped capsulotomy. Start with your incision near to the acetabulum and extend it to the intertrochanteric line in line with the femoral neck. Afterwards reposition your retractors intracapsular on both sides of the femoral neck.



Removal of the Femoral Head

Mark the level of resection according to your preoperative planning and the used femoral implant. Cut the femoral neck according to your marking and remove the femoral head with the help of a corkscrew instrument.

Note:

To cut and take out a slice of the femoral neck can facilitate the removal of the femoral head. Also remove any anterior osteophyte from the acetabulum to ease the femoral head removal. If you still have difficulties, cut the labrum and remove more antero-superior capsule.



Acetabular Exposure

Enter a 90° Sharp Cobra Retractor over the labrum and anterior rim of the acetabulum (11 o'clock for the left hip, 1 o'clock for the right hip). Place a Mueller Retractor between the labrum and posterior capsule over the posterior rim of the capsule.

Note:

The femoral nerve and psoas tendon are approximately 2 cm medial of the anterior rim of the acetabulum which can be damaged in case the retractor is placed in an incorrect way. Do not place the retractor on soft tissues. It should be directly placed on the wall of the acetabulum.



INSTRUMENTS

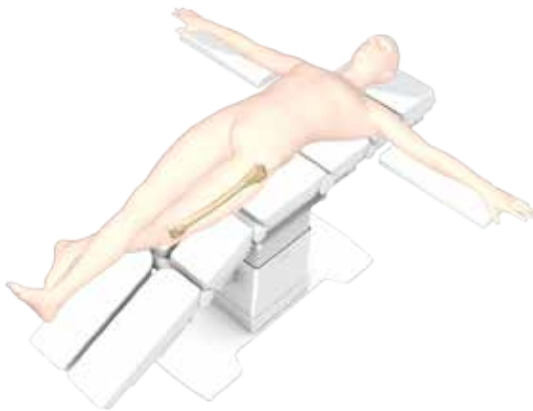


Implantation of Acetabular Cup System

Please refer to the surgical technique of the respective cup system.

Note:

With the anterior approach specific attention should be placed towards the inclination and anteversion of the cup as the femur tends to push the cup into increased inclination and/or anteversion while impacting.



Positioning of the Leg

Positioning of the leg is a very important step for the femoral exposure during the direct anterior approach. By lowering the leg part of the operation table, hyperextend the hip by approximately 20°. Additionally rotate the leg externally by 60° - 90° with a knee flexion of 10° - 30°. To better expose the femoral neck, adduct the operated leg slightly.



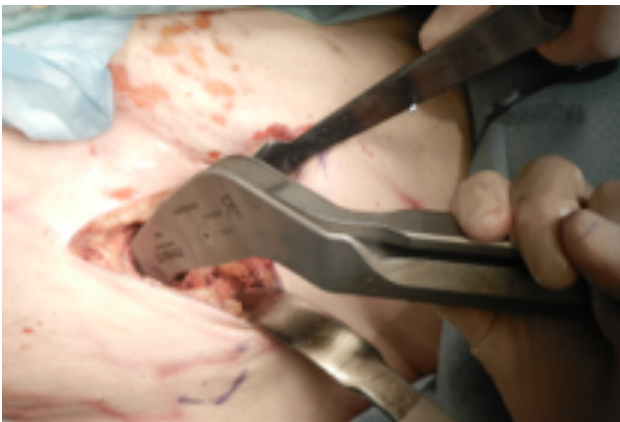
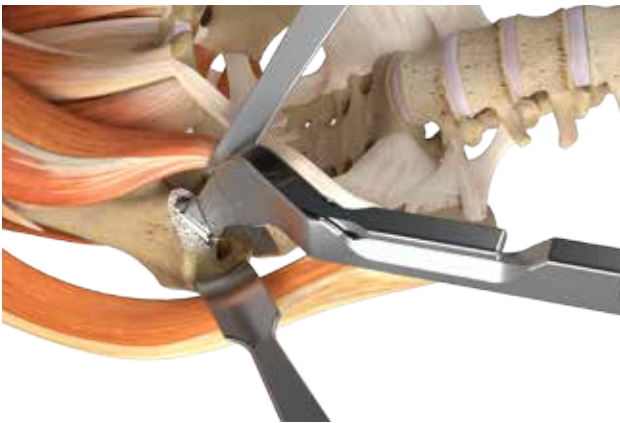
Femoral Exposure

Place a Mueller Retractor around the postero-medial calcar and a 90° Sharp Cobra Retractor or 60° V-tipped Retractor over the tip of the greater trochanter.

To lift up the femur, release the capsule from the neck osteotomy line to the top of the trochanter. Be careful not to release the piriformis tendon. The fat pad should be visible.

INSTRUMENTS





Implantation of Hip Stem System

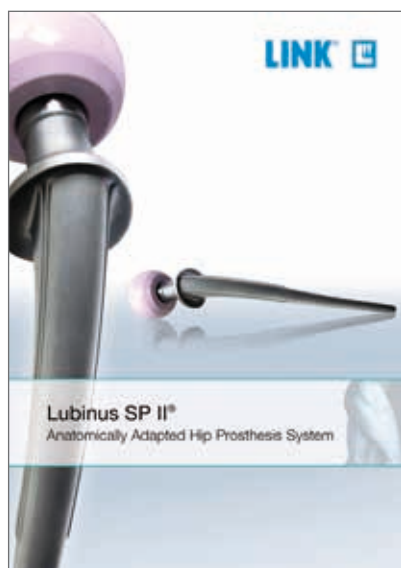
Please refer to the surgical technique of the respective stem system. The Double Offset Broach Handle and the Curved Prosthesis Inserter facilitate the Direct Anterior Approach.

INSTRUMENTS



Additional Information

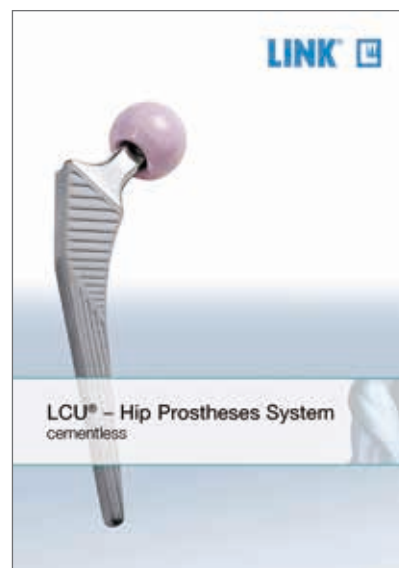
Compatible hip stem systems



643_SP II_Impl Instr OP_en



644_SP-CL_HX_Impl Instr OP_en



640_LCU_Impl-Instr-OP_en

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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!

Waldemar Link GmbH & Co. KG, Hamburg

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The Surgical Technique described has been written to the best of our knowledge and belief, but it does not relieve the surgeon of his/her responsibility to duly consider the particularities of each individual case.

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