Surgical technique
Dynamic Simulation
Personalised Solution
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Operative technique

1. Femoral guide placement
Expose the proximal femur, dislocating the hip where required. The femoral guide is designed to sit on the exposed aspect of the proximal femur. Ensure the guide is securely positioned, using the designated pin hole(s).

⚠️ If performing an in-situ osteotomy, a 3D printed model of the femoral head (i) is provided to assist with correct positioning of the femoral guide (ii) on the femoral head. The level of the femoral osteotomy (iii) is marked on the femoral bone model.

2. Neck osteotomy
Perform the femoral neck osteotomy along the open capture of the guide using a standard surgical sawblade. Visual confirmation of the osteotomy can be achieved by reattaching the femoral guide on the resected head.

⚠️ If calcar reaming is intended, the osteotomy should be made proximal to the level indicated by the open capture.

⚠️ If a step cut is required, it is indicated as a warning in the OPS™ Plan.
3. Laser canister assembly

The lasers are supplied non-sterile and are not suitable for sterilisation. The laser must be housed in the sterile laser canister provided. To ensure the sterile field is not breached the following procedure is recommended prior to use:

i. While wearing gloves, wipe the external surfaces of the laser with isopropyl alcohol (70% w/w). Use caution when cleaning as fluid ingress may damage the laser unit.

ii. Inside the sterile field, operating theatre personnel present the laser canister ready to accept the laser.

iii. Theatre personnel outside of the sterile field pass the laser into the sterile field and carefully place the laser into the laser canister, avoiding any contact with personnel or instruments inside the sterile field.

iv. Once the laser is inserted into the canister, the canister cap is screwed on securely by personnel within the sterile field. The laser should now be permanently on, and the laser dot should be visible across the theatre with the naked eye. Two laser canister assemblies are required for the OPS™ procedure. An additional canister assembly is supplied as a spare in case of breach to sterility.

⚠️ Please consult the laser unit safety instructions for the correct handling protocol.
4. Pelvic screw attachment
Assemble the pelvic screw onto the T-handle inserter and place either around the acetabulum within the incision or percutaneously in the iliac crest.

⚠️ The ability of the screw to remain fixed is critical to achieving the intended orientation.
⚠️ Do not use screw for tissue retraction.

5. Acetabular guide and model
Place the guide into the acetabular model. There are five reference markings on the acetabular model to assist with locating the guide.

i. The transverse plane is marked on the back of the acetabular model
ii. Identification of where the guide arms will sit
iii. A projection of the rim of the acetabular component at the planned orientation
iv. A reference line along the top of the fossa which is parallel to the transverse plane
v. A reference line perpendicular to iv
6. Acetabular preparation
Remove the fat pad and remnants of the ligamentum teres from the acetabular fossa. Ensure the thin layer of cartilage is removed from the fossa lip. Identify where the arms of the guide will sit within the acetabulum and ensure all cartilage has been removed from these areas.

7. Acetabular guide insertion
Place the guide into the acetabulum and apply a medial pressure to ensure it is stable.
⚠️ Ensure the guide is fully seated in the fossa.
8. Laser introducer
Attach a laser canister to the end of the curved guide handle. Holding the guide firmly in place, slide the curved guide handle into the guide.

9. Laser alignment
Attach a laser canister onto the adjustable clamp. Lower the assembly onto the pelvic post and secure with dial. Lower the assembly onto the pelvic screw. Adjust the alignment of the pelvic laser (i) to converge with the acetabular guide laser (ii) as projected on the ceiling or wall and secure with dial.

⚠ Ensure that the pelvic laser setting is not accidentally altered between alignment and cup impaction.
10. Acetabular reaming
Ream the acetabulum as per the routine technique.
⚠️ It is recommended to remove pelvic laser assembly from pelvic screw during reaming. Ensure the pelvic laser setting is not altered.

11. Identification of target orientation
After reaming place the pelvic laser assembly back onto the pelvic screw.
⚠️ The position of the pelvic laser on the ceiling or wall may have moved as a consequence of the pelvis moving on the table during reaming and retraction, which can introduce error in terms of obtaining the preoperatively determined acetabular cup orientation.
12. Cup impaction
Screw a laser canister into the magnetic adaptor (iii) and attach to the end of the cup introducer. Place the cup in the acetabulum and adjust the orientation until the laser converges with the pelvic laser (i) on the ceiling or wall. Remove the magnetic adaptor from the end of the introducer and impact. The laser adaptor can be repeatedly attached and removed between mallet blows to control alignment deviation during impaction.

⚠️ Ensure the magnetic adaptor and pelvic laser assembly are always removed during impaction.

⚠️ It may be helpful to impact lightly to achieve purchase in the desired orientation before full impaction.

13. Orientation confirmation
Visual confirmation of the target orientation can be achieved by verifying that similar amounts of native bone surround the rim of the cup by referring to the acetabular bone model.
Description
The Corin Optimized Positioning System (OPS™) consists of patient specific guides and bone models that are designed to fit, or represent, the patient’s anatomy for use in total primary hip arthroplasty.

The Corin OPS™ consists of a femoral guide and femoral bone model (to assist with femoral neck osteotomy) and an acetabular guide and acetabular bone model (to assist with cup orientation).

Indications for use
The Corin OPS™ Acetabular patient specific instruments (PSI) are intended to be used as a patient specific surgical instrument to assist in the alignment of components during primary total hip arthroplasty. The Corin OPS™ Acetabular PSI are intended to assist in the orientation of the acetabular cup intra-operatively. The Corin OPS™ Acetabular PSI are intended to be used with the Trinity™ Acetabular System and the respective compatible components.

The Corin OPS™ Femoral PSI are intended to be used as a patient specific surgical instrument to assist the surgeon in delivering a target femoral osteotomy, based on a pre-operative plan with implant sizing, type and placement. The Corin OPS™ Femoral PSI are intended to be used with the OPS™ Plan and with the Corin TriFit TS™, MetaFix™, TaperFit™, and MiniHip™ Femoral Systems. The Corin OPS™ Femoral PSI are intended for use with the posterolateral, anterolateral and direct anterior surgical approaches.

Corin OPS™ is indicated for use during primary total hip arthroplasty. The patient specific guides and bone models are intended for single use only.

Laser safety warnings and precautions
- Class II and Class IIIa lasers are utilised in the Corin Optimized Positioning System™
- Laser units and batteries are SINGLE USE and are not suitable for re-use
- Clean before use. Refer to LASER ASSEMBLY AND USE instructions.
- DO NOT sterilise the laser units
- Laser radiation is harmful to the eye, avoid direct eye exposure
- Laser protection eyewear should be worn to prevent eye injury
- DO NOT point the laser beam at anyone’s eyes
- DO NOT shine onto reflective surfaces
- To prevent misuse, please ensure lasers are disposed after use
- Use lasers only for the purpose stated in the OPS™ surgical technique
- Refer to the laser unit safety instructions
- This device requires the use of diode lasers