



AMANDEEP
HOSPITALS



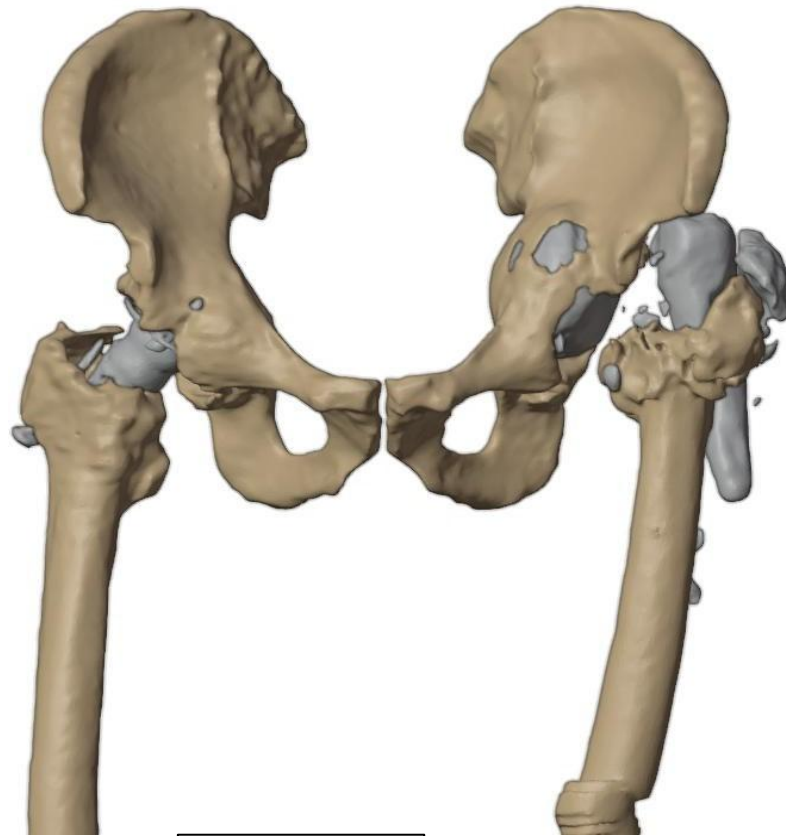
IN PARTNERSHIP WITH
Ujala Cygnus
— HOSPITALS —
Excellence Made Affordable

REVISION TOTAL HIP REPLACEMENT

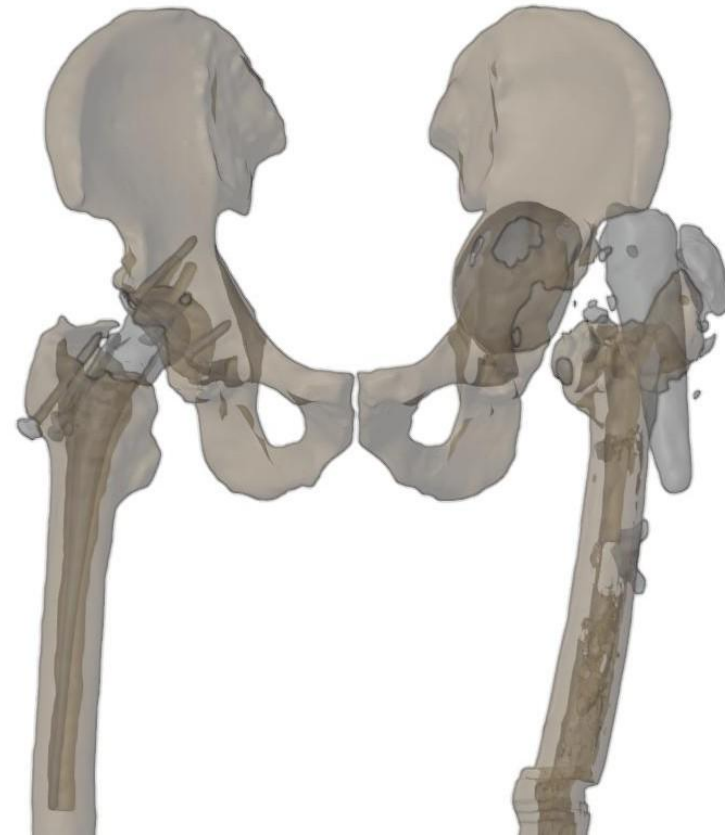


Flange Triaxial Locking Cup

About case



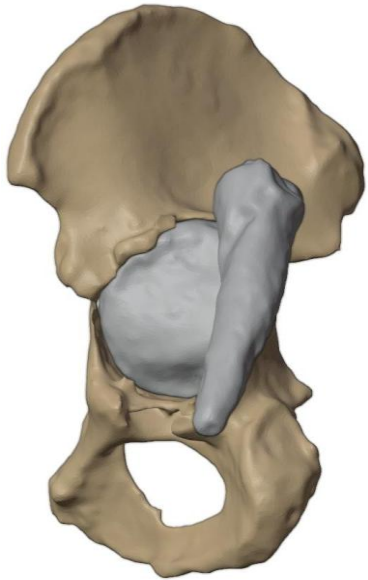
Anterior view



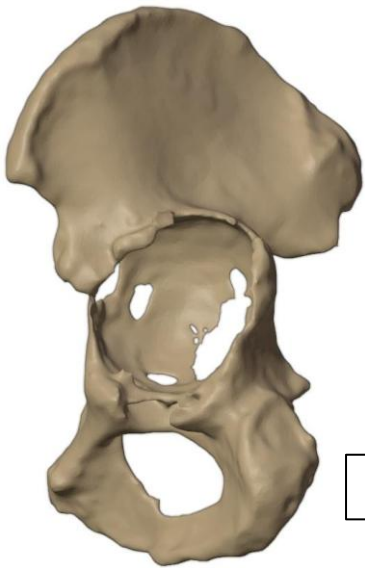
See through view

- 62 years old male operated with Cement Spacer arthroplasty for Infected Left Total Hip Replacement, now planned for revision THR.
- CT imaging revealed significant acetabular bone loss, making a custom hip cage implant a more suitable reconstructive solution.

Clinical challenges



With bone cement



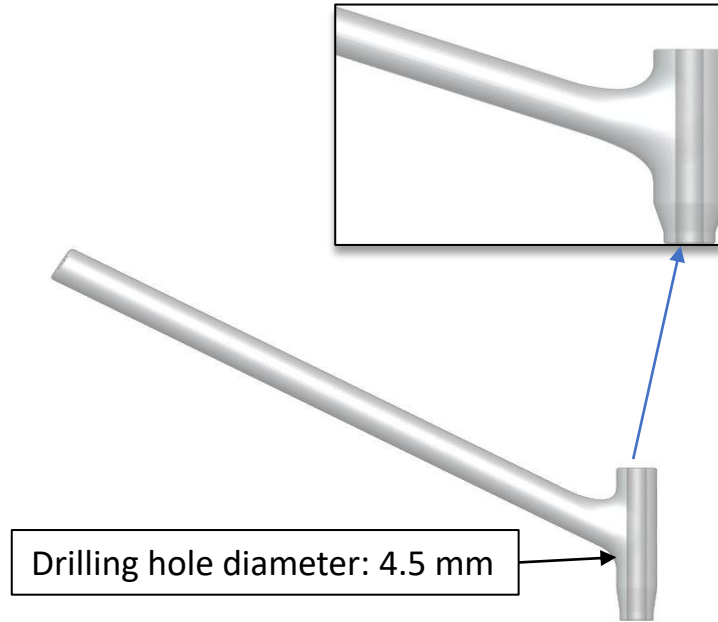
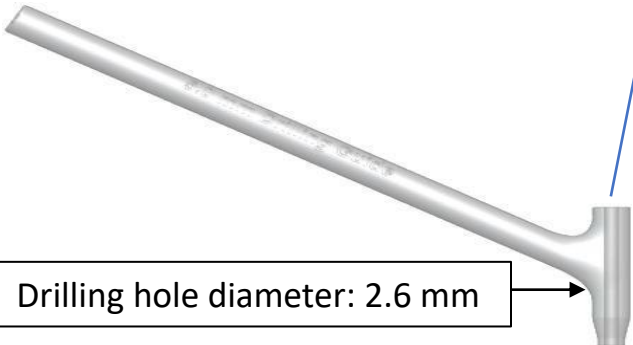
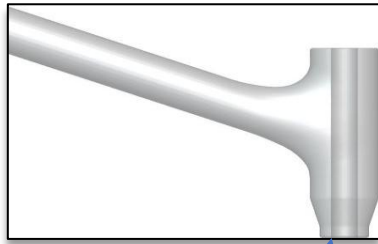
Lateral view



Anterior view

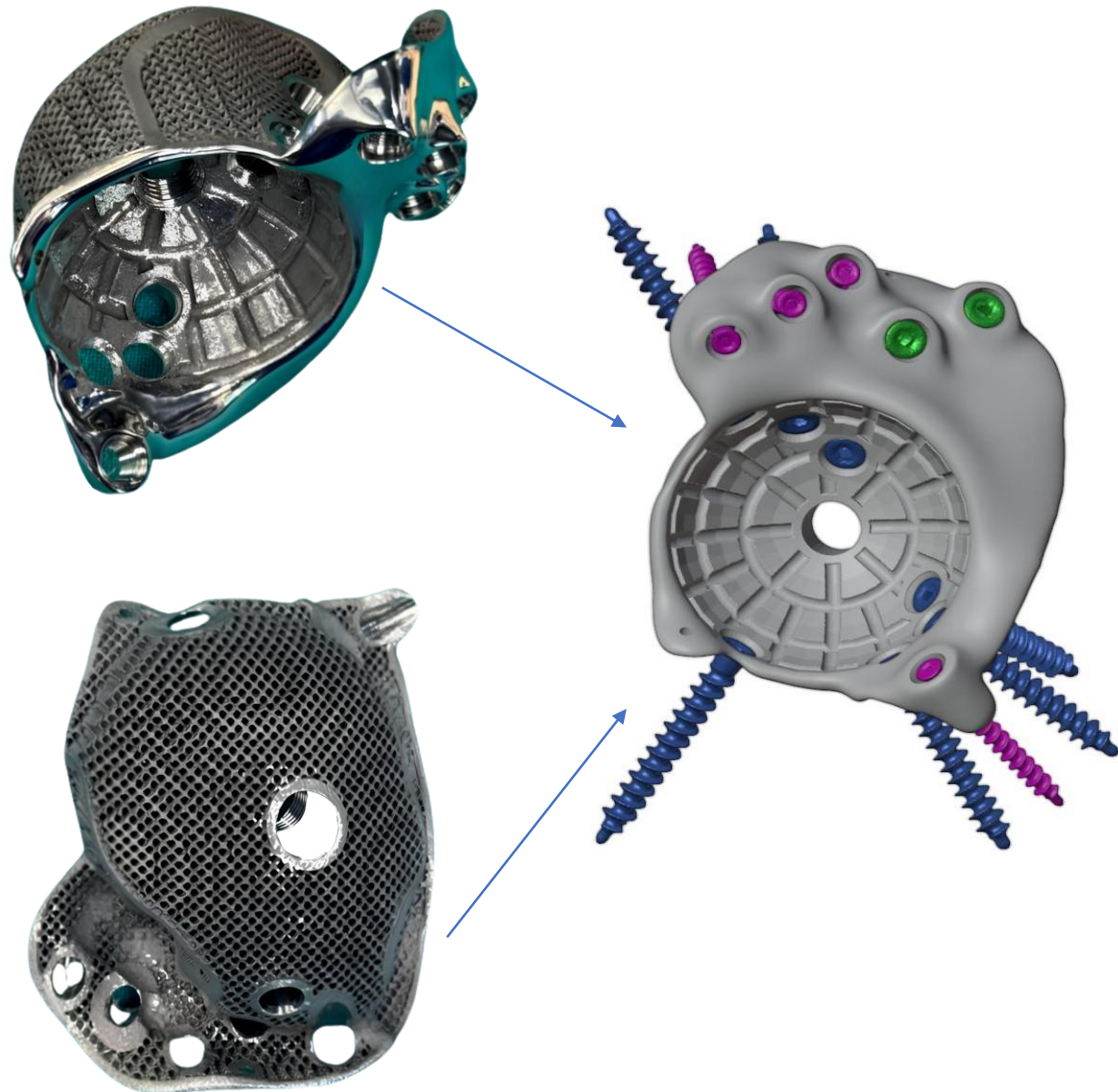
- Managing extensive bone loss while achieving durable implant fixation remains challenging, often requiring specialized implants and advanced reconstruction techniques.
- Restoration of soft tissue and maintenance of joint stability, often complicated by prior surgical disruption and compromised anatomical structures.
- Periprosthetic joint infection remains one of the most critical concerns, necessitating a structured, multidisciplinary approach for effective eradication and prevention of recurrence
- Restoring proper hip biomechanics in THR becomes particularly complex when proximal femoral bone stock is significantly compromised, demanding advanced planning and personalized implant selection.

Precision Through Case Planning – Drill jigs & guides



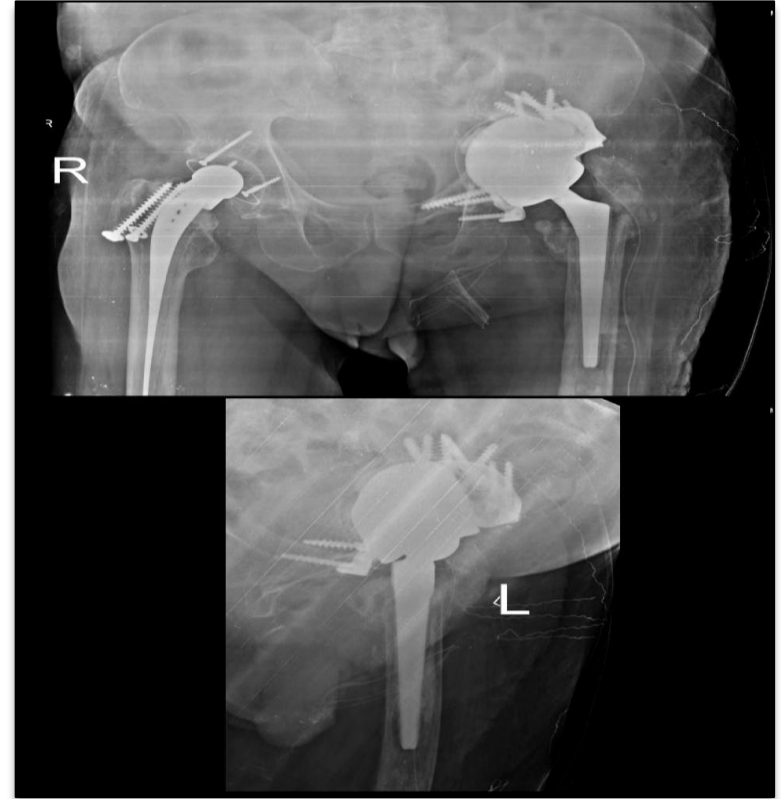
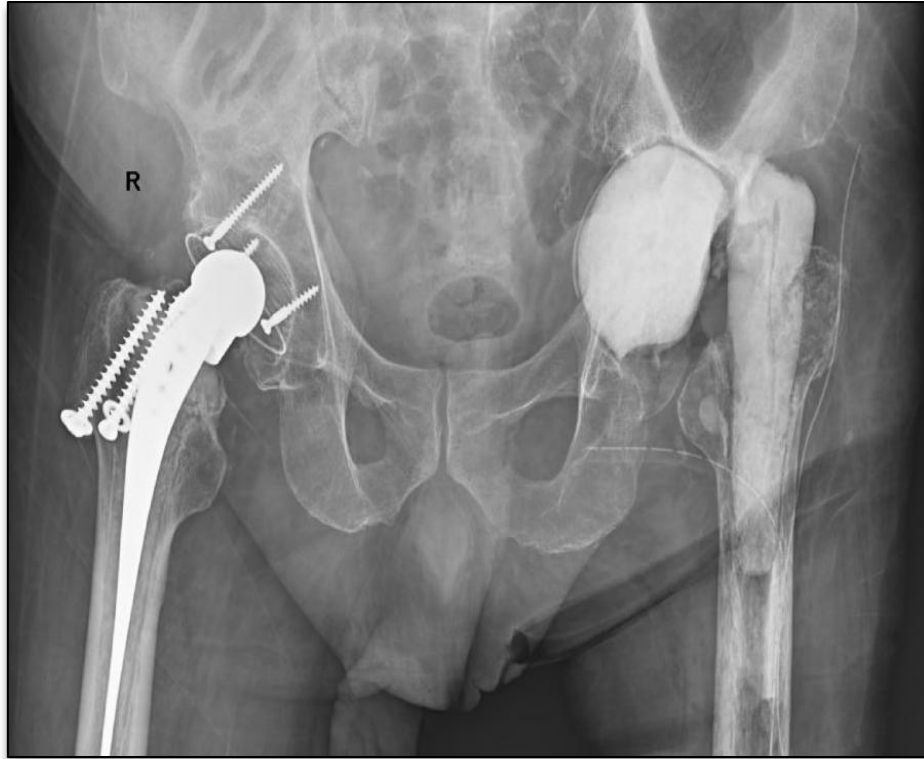
- These customized guides ensured faithful intraoperative execution of the preoperative plan, enabling precise implantation of the hip cage and screws with high reproducibility and accuracy.
- Patient-specific drill guides and surgical jigs were designed to facilitate accurate hip cage implant positioning, along with precise screw placement and optimal trajectory alignment.

Engineering a Patient-Specific Implant



- Guided by detailed 3D analysis, a patient-specific 3D-printed titanium hip cage implant was meticulously designed to address the unique acetabular defect.
- The implant was engineered to restore the deficient acetabular anatomy while ensuring optimal fixation within the existing bone structure.
- Flange geometry and contact surfaces were customized to achieve optimal conformity with the host bone.
- Screw hole positioning and angulation were strategically planned to maximize fixation in the best available bone regions.

Clinical outcomes



- The patient-specific implant was successfully implanted, achieving stable primary fixation with precise anatomical reconstruction of the acetabulum, along with accurate seating and alignment as per the preoperative plan.