

1 Background & Case

- Chronic PJI with **severe acetabular bone loss**: infection eradication and stable fixation must both be achieved.
- Two-stage revision** is the reference strategy in chronic infection.
- 68-year-old woman** — left THA (2001), multiple acetabular revisions; **chronic PJI of the acetabular component** (2025).
- Paprosky IIIB** defect · EBJIS “**infection likely**” [4] → two-stage strategy.

EBJIS definition applied [4]

- Clinical + radiological signs of chronic infection (component failure)
- Pre-op and Stage-1 cultures **negative**

Classification: **INFECTION LIKELY** → managed as chronic PJI; confirmed microbiologically at reimplantation

2 Imaging — Chronic PJI & Acetabular Defect



Last pre-op radiograph — chronic PJI, failed Kerboul reconstruction; **Paprosky IIIB** bone loss.



Interval CT (MIP, Aug 2025) — severe acetabular defect after explantation; CaSO₄ beads in situ.



Interval CT, oblique MIP — defect extent before reimplantation.

2001 Primary left THA	2012 Acetabular revision	2022 Loosening · Paprosky IIIB	2023 Kerboul device + cemented cup	2025 Chronic PJI — EBJIS “likely”	FEB 2025 STAGE 1 · explantation + spacer	12 MO Interval · monitoring + CT	FEB 2026 STAGE 2 · reimplantation	AUG 2026 6-mo FU · infection-free
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3 STAGE 1 — Explantation & spacer

FEB 2025

- Removal of **all components** + **extensive debridement**
- Multiple intra-op samples — **all culture-negative**
- Calcium sulfate spacer (Stimulan)** with vancomycin + gentamicin [2]
- IV **amox-clav** + **vancomycin** 12 d → oral **levofloxacin**



After Stage 1 — resection arthroplasty; antibiotic-loaded calcium sulfate beads in situ.

4 STAGE 2 — Reimplantation

FEB 2026

- Posterior approach** — porous augment (Slice, 2 screws) + **REDAPT revision shell** (4 screws) [1]
- Intra-op cultures: **Staphylococcus capitis** [3]
- Revision stem, 36 mm CoCr head; gentamicin cement at augment-shell interface
- Targeted: IV **vancomycin** 2 wk → oral **cotrimoxazole** 6 wk



Final radiograph — augment + cementless revision shell and stem; stable reconstruction.

5 Microbiology & Antimicrobial Therapy

	STAGE 1	STAGE 2
Intra-op cultures	Multiple samples — negative	<i>Staphylococcus capitis</i>
Susceptibility	—	OXA R · GEN R · VAN S · SXT S
Systemic therapy	Amox-clav + vancomycin IV 12 d → oral levofloxacin	Vancomycin IV 2 wk → cotrimoxazole PO 6 wk
Local delivery	CaSO ₄ beads: vancomycin + gentamicin	Gentamicin-loaded cement

7 Discussion

- EBJIS “**infection likely**” pre-operatively [4]; *S. capitis* identified only at reimplantation — low-virulence CoNS are easily dismissed as contaminants yet cause biofilm-associated PJI [3].
- Porous augments + cementless revision shells: stable fixation even in Paprosky IIIB defects [1]; dissolvable CaSO₄ beads add high local antibiotic levels [2].

6 Outcome

- Infection-free at 6-month follow-up** (last review Aug 2026)
- Pain-free; uneventful wound healing; mobilising with two crutches
- Labs at 2 months: **CRP 5.5 mg/L**, no leukocytosis
- Radiographically stable reconstruction (Fig. 5)

8 Key Messages

- Two-stage revision is effective even with **Paprosky IIIB** bone loss
- Culture-negativity does not exclude PJI** — the organism may declare itself only at reimplantation
- Multidisciplinary (ortho-ID) collaboration** drives the antibiotic strategy

REFERENCES

[1] De Martino I, et al. Acetabular bone defect management in revision total hip arthroplasty: a systematic review. *J Arthroplasty*. 2019.

[2] McPherson EJ, et al. Dissolvable antibiotic beads in treatment of periprosthetic joint infection and revision arthroplasty. *Reconstructive Review*. 2013.

[3] Tevell S, Hellmark B, Nilsdotter-Augustinsson Å, Söderquist B. *Staphylococcus capitis* isolated from prosthetic joint infections. *Eur J Clin Microbiol Infect Dis*. 2017;36:115–122.

[4] McNally M, Sousa R, Wouthuyzen-Bakker M, et al. The EBJIS definition of periprosthetic joint infection. *Bone Joint J*. 2021;103-B(1):18–25.