

CERAMENT[®]

BONE VOID FILLER

CASE TECHNIQUE

Medical Education Series

Intertrochanteric Hip Fracture

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INTERTROCHANTERIC HIP FRACTURE

PATIENT HISTORY

A 64 year old female patient presented with a left hip intertrochanteric fracture after a fall. X-rays show a displaced left hip intertrochanteric fracture, her management plan was closed reduction and internal fixation with an intramedullary nail. She wished to proceed in order to be ambulatory and more functional.

DIAGNOSIS

Left hip displaced intertrochanteric fracture.

CO-MORBIDITIES

None.

TREATMENT

1. Closed reduction and internal fixation of left hip femoral neck fracture
2. Using the Flow-FX™ 2-CAN®, a 450mm double-cannulated side-port delivery system with a radiopaque tip, CERAMENT® BONE VOID FILLER was precisely delivered into the reamed canal over the guide wire under fluoroscopic guidance.

The patient was placed under general anesthesia and positioned supine on a Hana table with a perineal post. The right lower extremity was flexed and abducted out of the field; the left lower extremity was prepped, draped, and secured.

A formal timeout was performed confirming patient identity, procedure, operative site, antibiotic administration, and availability of necessary instruments.

- The left leg was adducted and placed in traction to achieve fracture reduction, confirmed fluoroscopically.
- A proximal incision was made over the greater trochanter. Sharp dissection was carried through the fascia.
- An awl was used to create the entry point at the greater trochanter, and a guidewire was advanced into the femoral canal under AP and lateral C-arm guidance.
- The canal was reamed and a 10 mm intermediate nail was inserted.
- Through a separate lateral incision, a guidewire was placed into the femoral head in a central position above the calcar, with a tip-apex distance <25 mm in both views.
- CERAMENT BONE VOID FILLER was delivered into the reamed canal under fluoroscopy via the 2-CAN.
- A 90 mm helical blade was inserted and compressed following traction release.
- A 36 mm distal locking screw was placed using the Synthes jig.

Final fluoroscopy confirmed satisfactory placement of the implant and satisfactory CERAMENT BONE VOID FILLER distribution within the femoral neck. The patient tolerated the procedure well with no intraoperative complications.

INTERTROCHANTERIC HIP FRACTURE

HARDWARE

Synthes intramedullary nail, and a 10mm trochanteric fixation nail intermediate augmented with CERAMENT BONE VOID FILLER.

OUTCOME

The patient's postoperative course was closely monitored at 3 months, 6 months, and 12 months following closed reduction and intramedullary nailing augmented with CERAMENT BONE VOID FILLER.

By 3 months, the patient transitioned to ambulating with a walker, reporting moderate hip pain (VAS: 4/10), managed with occasional acetaminophen. Physical examination demonstrated an increased motion at the hip and knee, while thigh and calf muscles are supple. An antalgic gait favoring the affected limb was observed, though neurovascular status remained intact, with no numbness or tingling. Radiographic evaluation (AP pelvis, AP hip, and lateral frog-leg views) revealed bridging trabeculae at the fracture site, stable implant positioning, and evidence of progressive healing. The treatment plan emphasized physical therapy to transition toward unassisted ambulation.

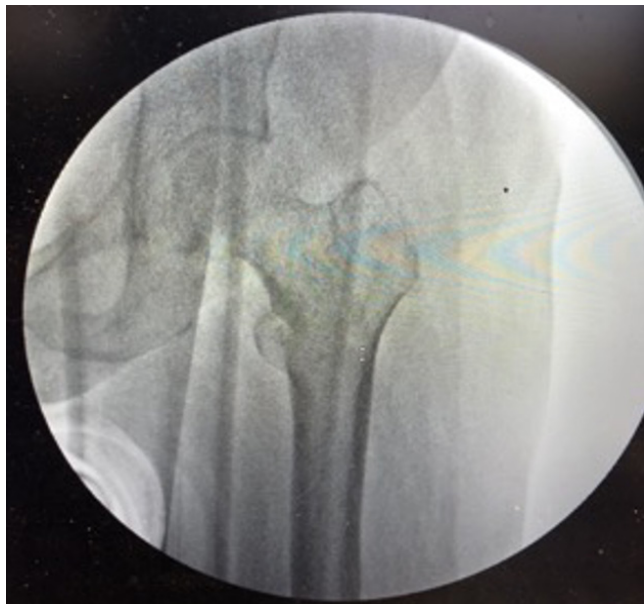
At 6 months, the patient denies any pain in the affected limb (VAS: 0/10), and denies regular analgesic use. Clinical examination demonstrated full hip ROM without tenderness, swelling, or deformity. Range of motion is unremarkable and there is no gross instability, while maintaining normal strength and tone of the thigh and calf muscles. Radiographs (AP pelvis, AP hip, and lateral frog-leg views) confirmed complete fracture union with well-maintained implant alignment and no evidence of complications.

Patient achieved independent ambulation using a cane or walker and transitioned to a home exercise program after discontinuing formal physical therapy.

Serial imaging demonstrated consistent fracture healing, with bridging callus evident by 3 months and complete union by 6 months.



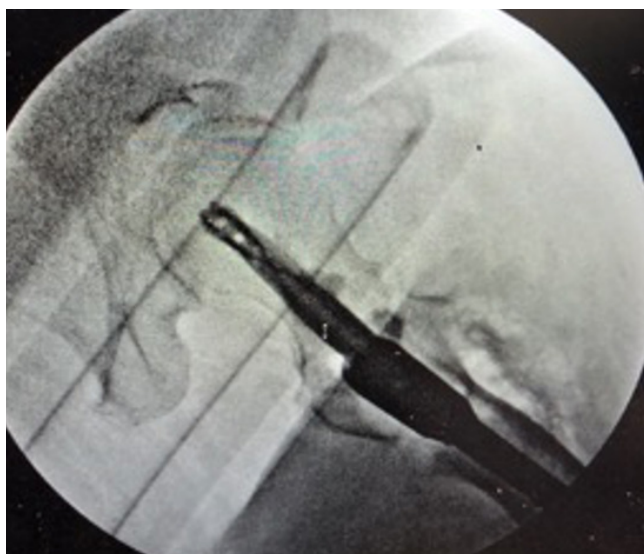
Pre-op image: X-rays show a left intertrochanteric fracture along with the femoral shaft.



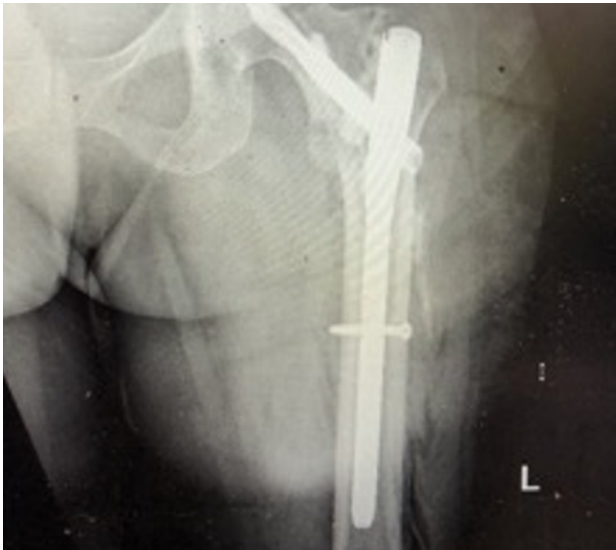
Intra-op: Case intraoperative X-rays showing the left femoral trochanter following a reduction.



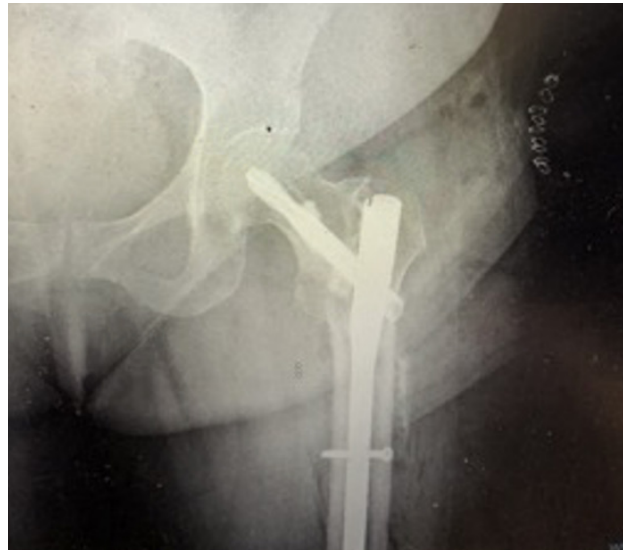
Intra-op: Case intraoperative x-rays showing intramedullary nail being placed after CERAMENT BONE VOID FILLER.



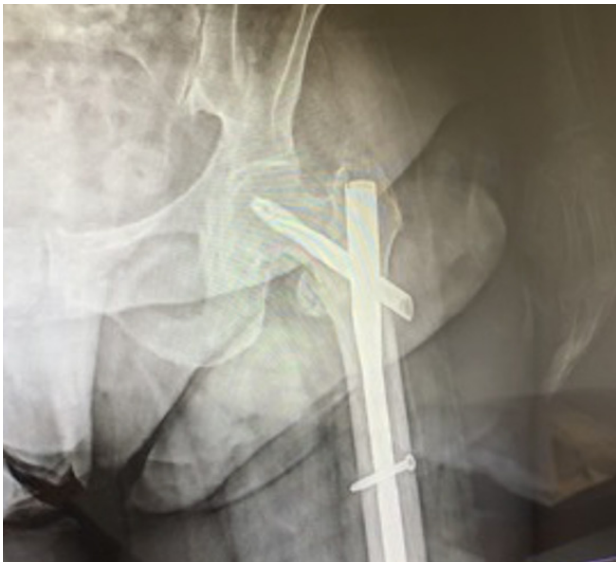
Intra-op: Case intraoperative X-rays showing nail placement in the left femur.



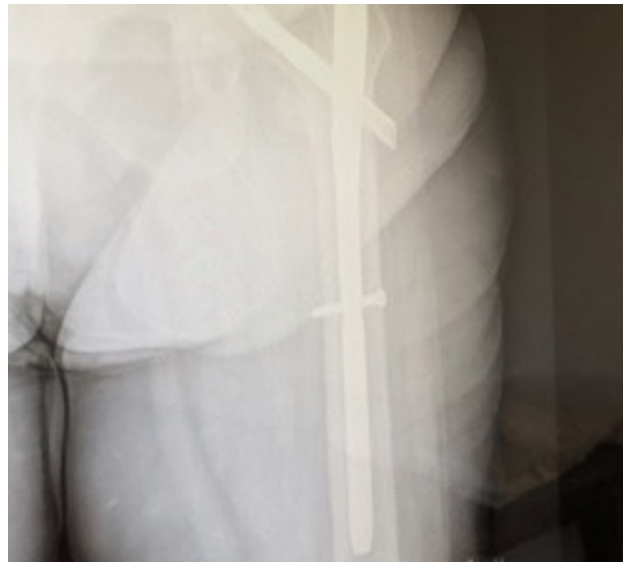
Post- op: Same day post-operative x-ray showing the entire intramedullary nail and femoral shaft.



Post- op: Same day post-operative x-ray highlighting the intramedullary nail implant.



Post- op: One month follow-up post-operative x-ray.



Post- op: Three-month follow-up post-operative x-ray.



Post- op: Six-month follow-up post-operative x-ray.



Post- op: Six-month follow-up post-operative x-ray illustrating the entire intramedullary nail.

TO ORDER

order@bonesupport.com

Availability of CERAMENT® and FlowFX™ 2-CAN® is dependent on regulatory status in individual markets, contact your local representative. For complete product information, including indications, contraindications, warnings, precautions and potential adverse events, see package insert.



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