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Breakout Session #2
Primary Hip – From Simple to Complex

2021 AAHKS Spring Meeting

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Topics to be Covered

- Preoperative optimization
- Pediatric hip disease (LCP)
- Failed hip fracture fixation
- Previous acetabular fracture
- Femoral deformity
- Hip dysplasia

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Format for Case Presentations

- History
- Exam
- Radiographs
- STOP and Discuss
- Post Op X rays
- What was done and Why
- Slide on pertinent literature

History

- 44 year old male with left hip pain
- Diagnosed with Perthes at age 7, underwent hip surgery at 10
- Progressive groin pain for several years
- Problems sleeping, ADLs
- College professor, needs a cane to get around campus
- Ibuprofen
- Smokes ¼ ppd
- PSH notable for previous lumbar spine fusion

Exam

- 6’0”, BMI 22
- Antalgic unassisted
- Pain with internal and external rotation of the hip
- Block testing – felt even with ½ inch block under LLE

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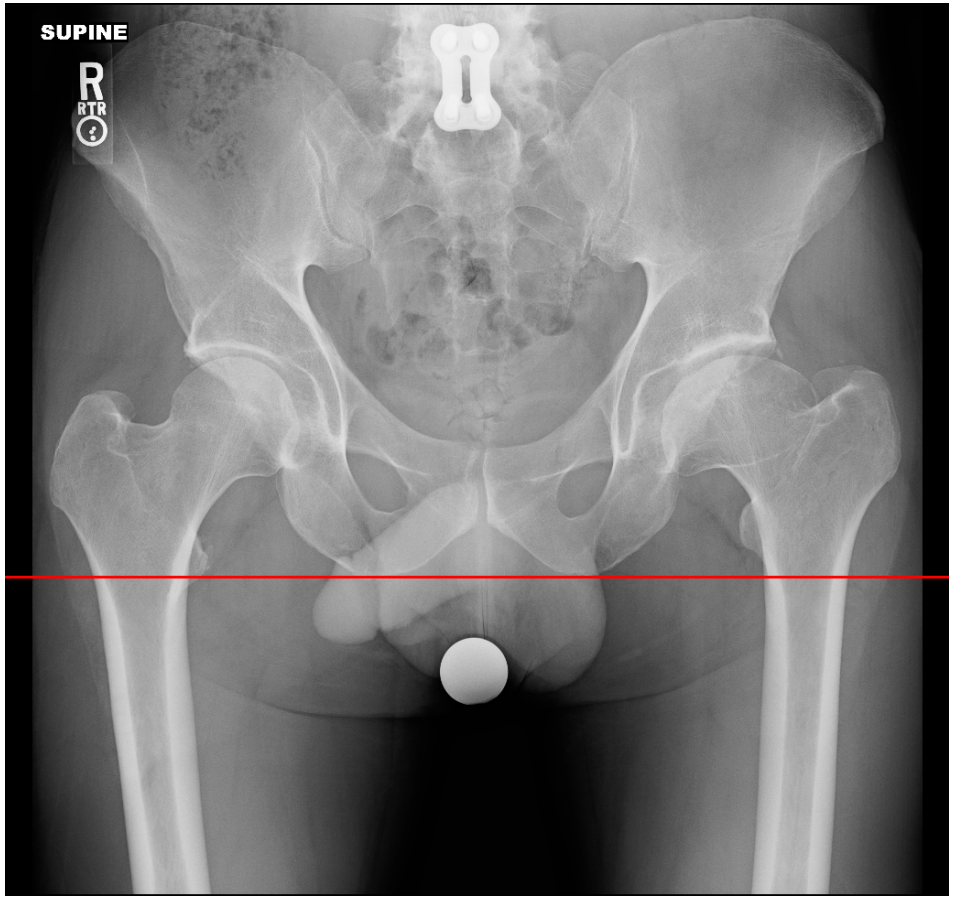
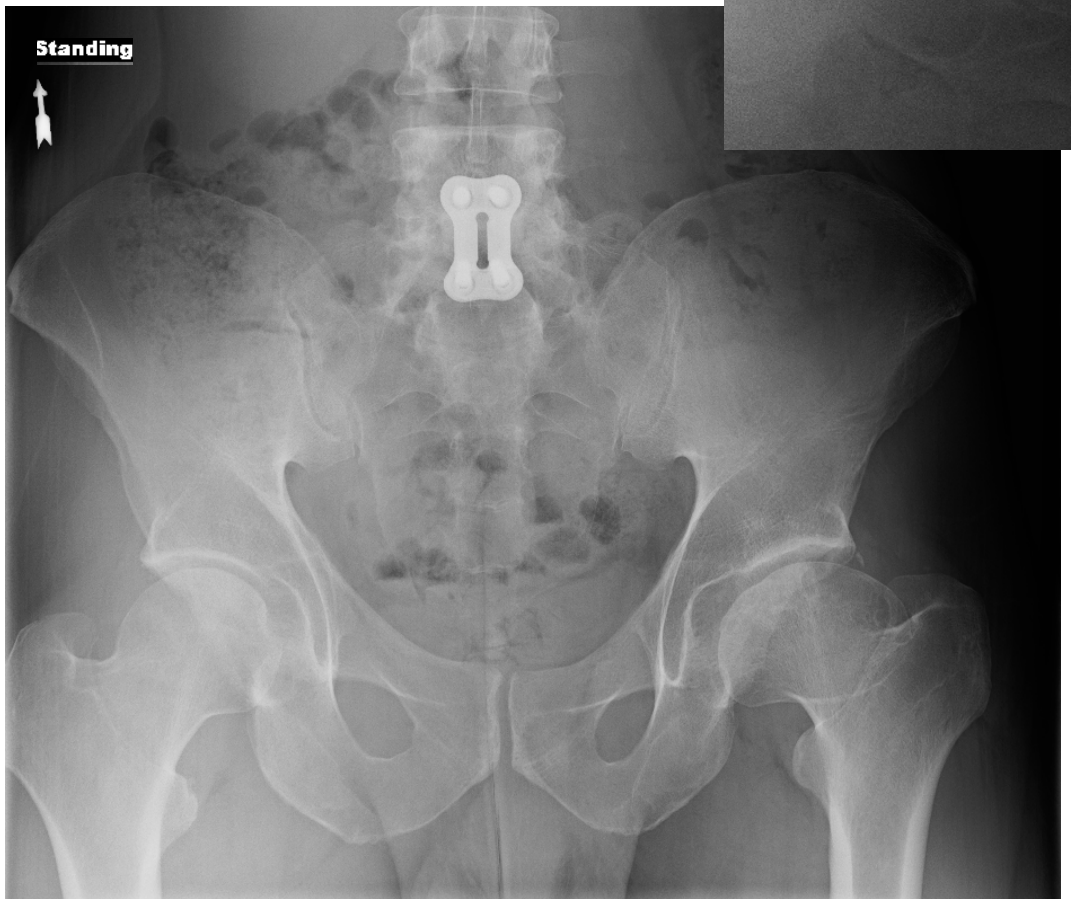
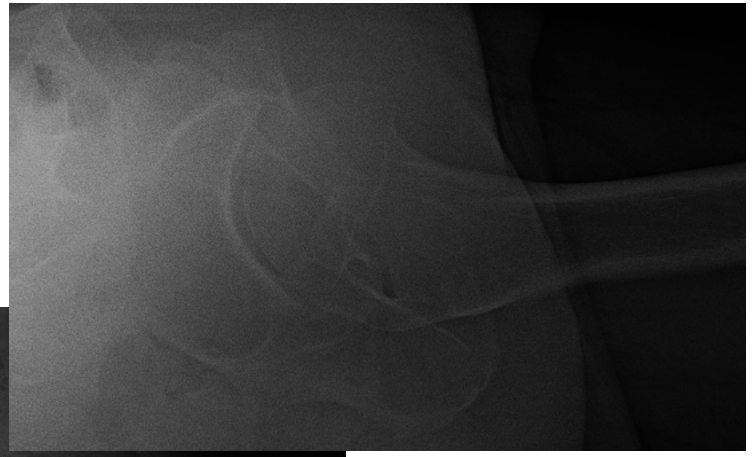
Radiographs







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Considerations

- Approach to smoking?
- Additional preop evaluation given lumbar fusion?
- Evaluation of LLD preop? How much to lengthen?
- Surgical approach
- Femoral component selection

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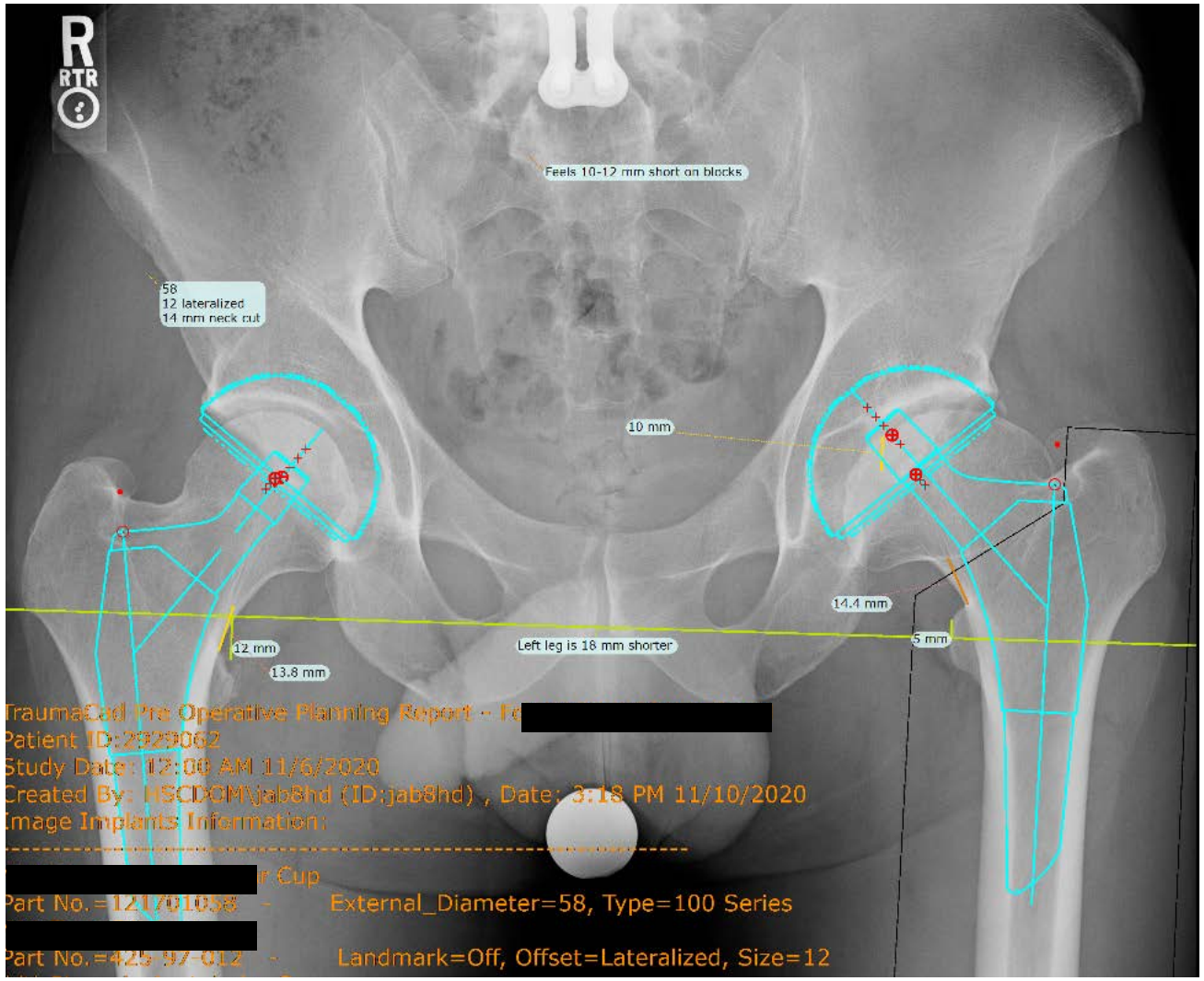
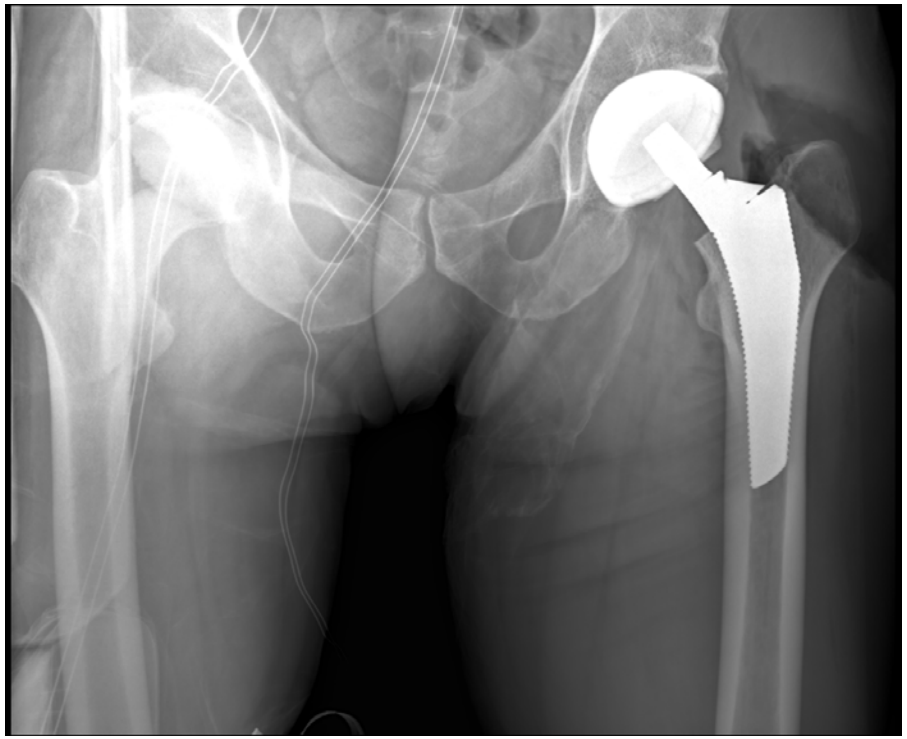
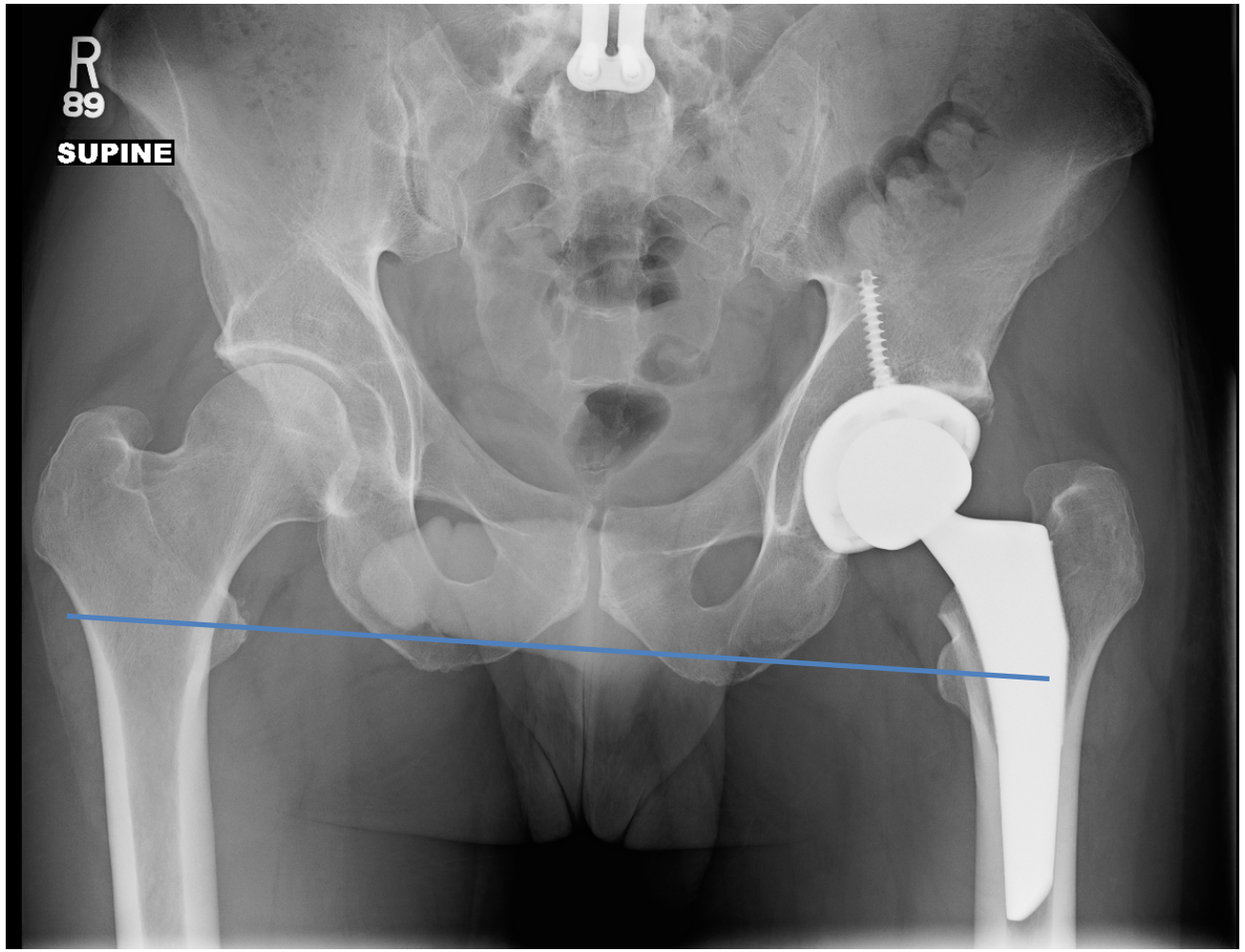
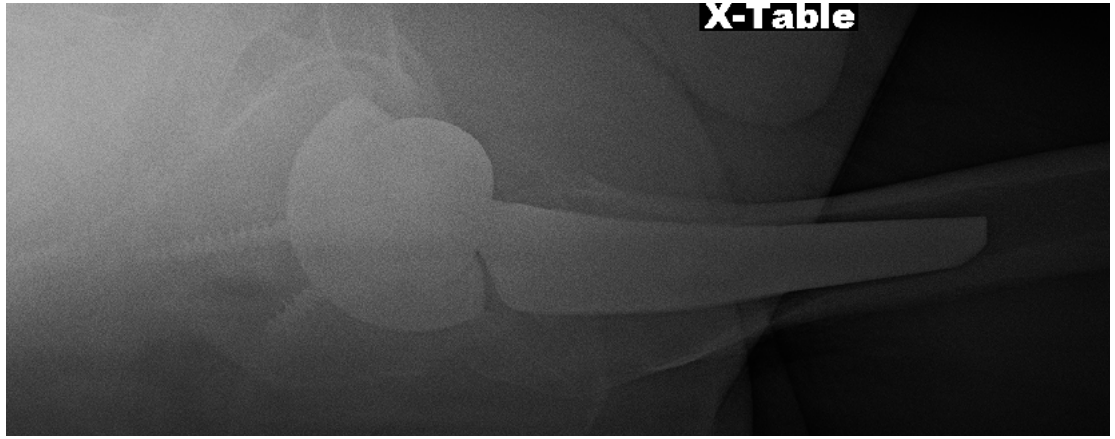
Pre/Intra Op X rays





Post Op X rays





40-mm ceramic head

Literature Review

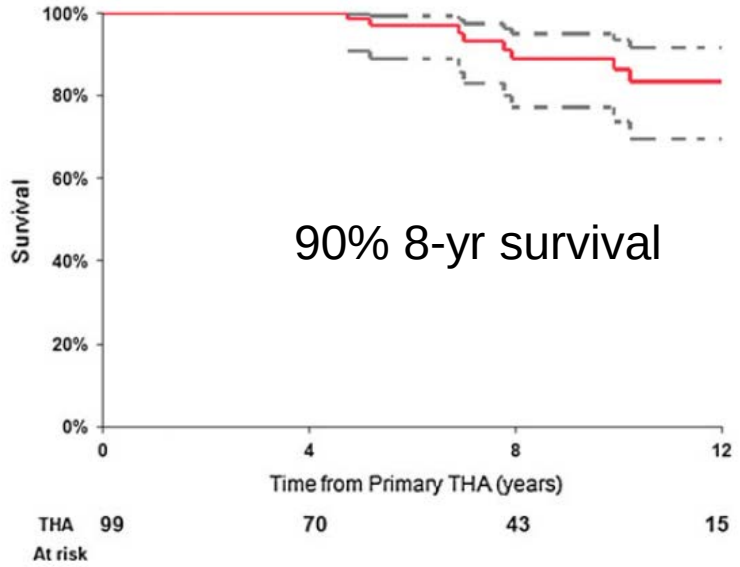
Clin Orthop Relat Res (2013) 471:2980–2986
DOI 10.1007/s11999-013-3006-7

Clinical Orthopaedics and Related Research®
A Publication of The Association of Bone and Joint Surgeons®

CLINICAL RESEARCH

Total Hip Arthroplasty for the Sequelae of Legg-Calvé-Perthes Disease

Yaser M. K. Baghdadi MD, A. Noelle Larson MD,
Anthony A. Stans MD, Tad M. Mabry MD



- n=99 hips
- 16% complication rate (intraop femur fx #1)
- Three sciatic nerve palsies after mean lengthening of 2.2 cm (vs 1.4 cm in those with intact nerves)

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Case 2

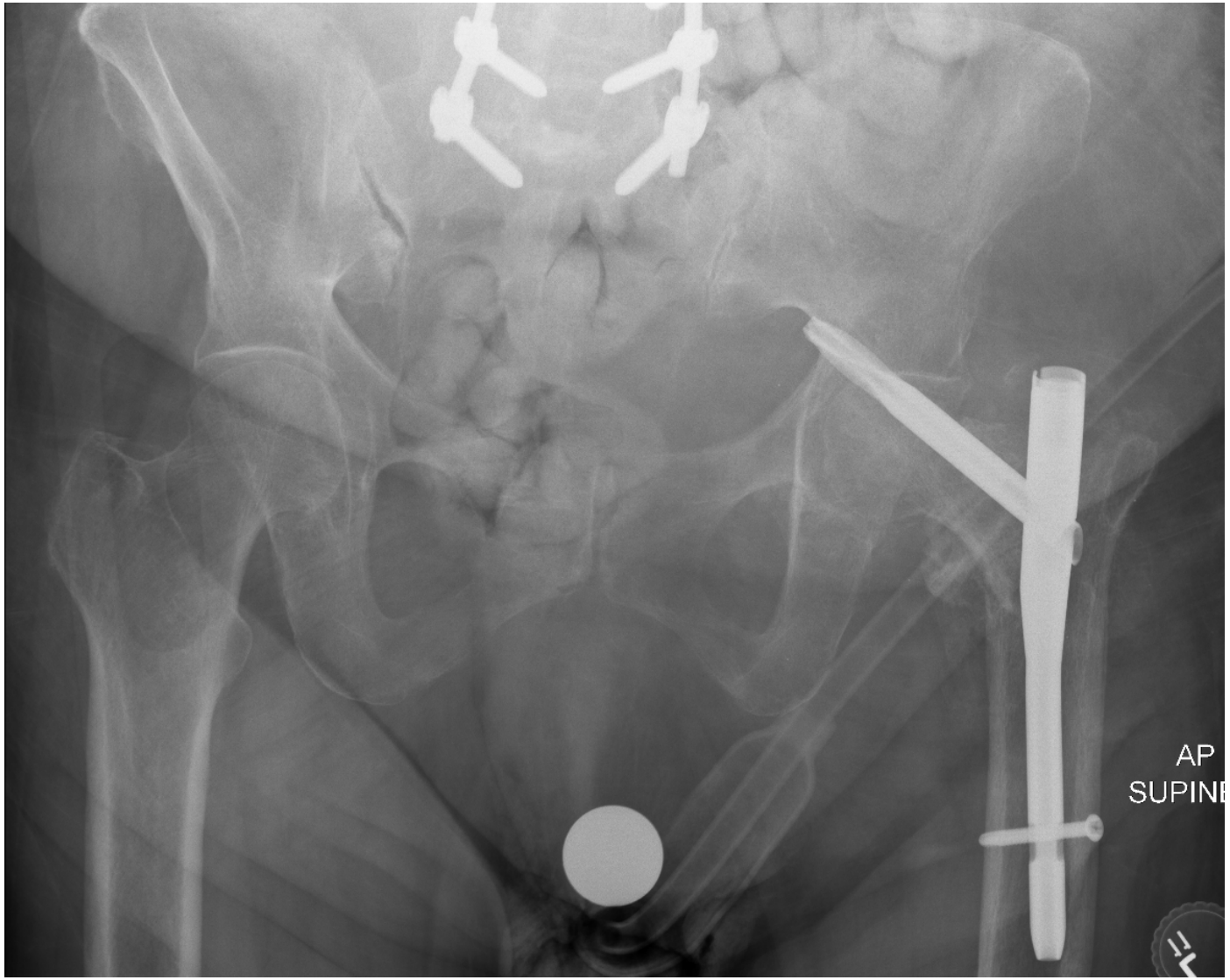
History

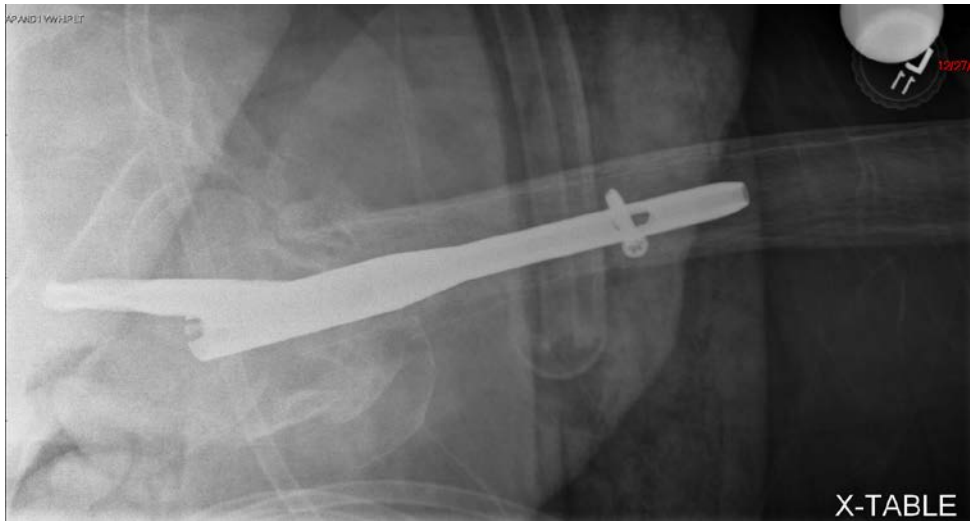
- 71 year old female with left hip pain
- Fell onto left hip when trying to get off toilet
- Six months prior had left hip fracture surgery, was able to return to baseline function (community ambulator, gardening)
- Mild COPD, atrial fibrillation on rivaroxaban, well controlled diabetes (A1c 6)

Exam

- BMI 36
- Wheelchair
- Well healed lateral hip incisions
- Any attempts to move left leg cause severe pain
- Left leg appears short
- ESR and CRP normal

Radiographs





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Considerations

- Aspiration?
- Plan for hardware removal
- Femoral component selection
- Acetabular defect management?
- Bearing selection – dual mobility?
- VTE prophylaxis?

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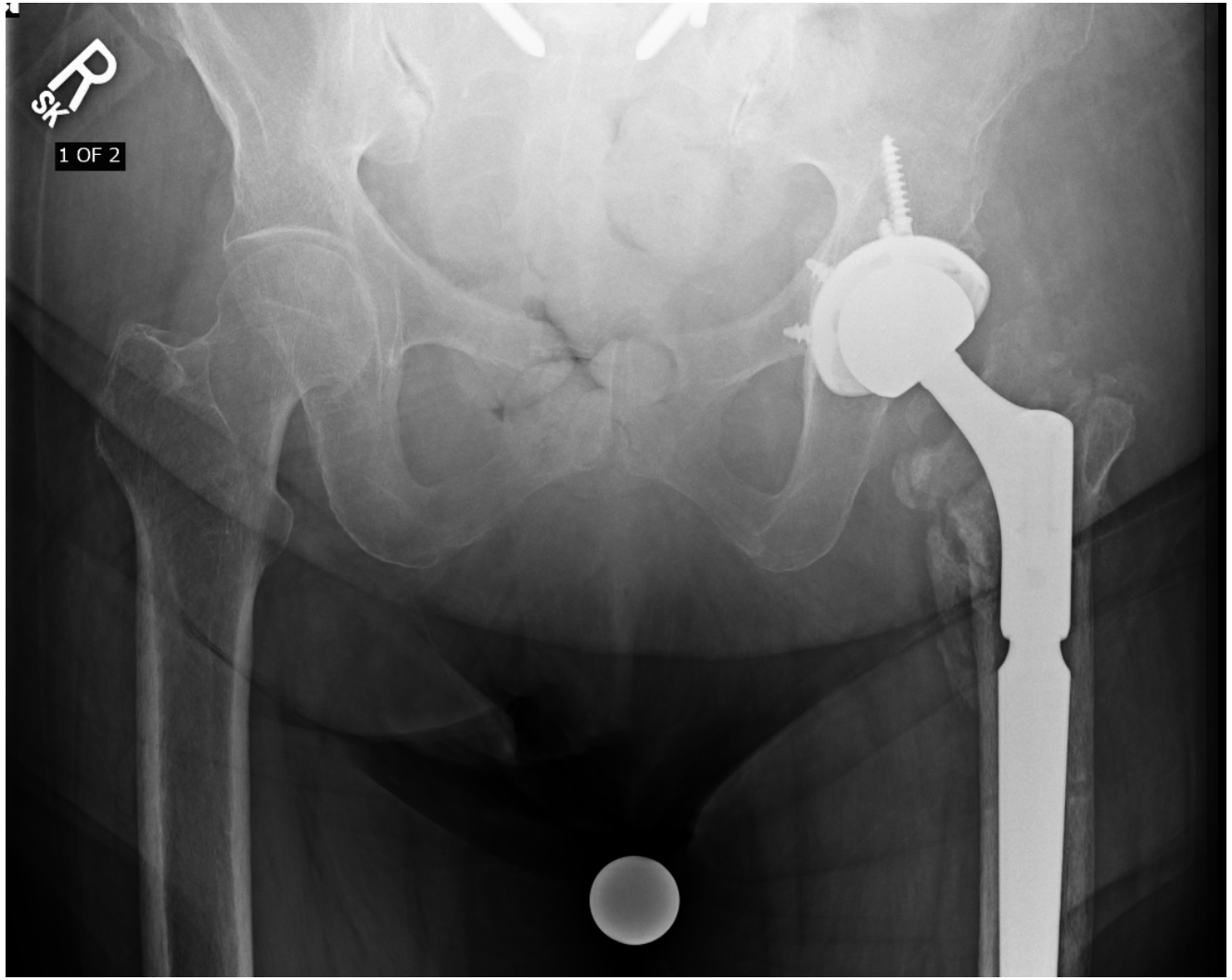
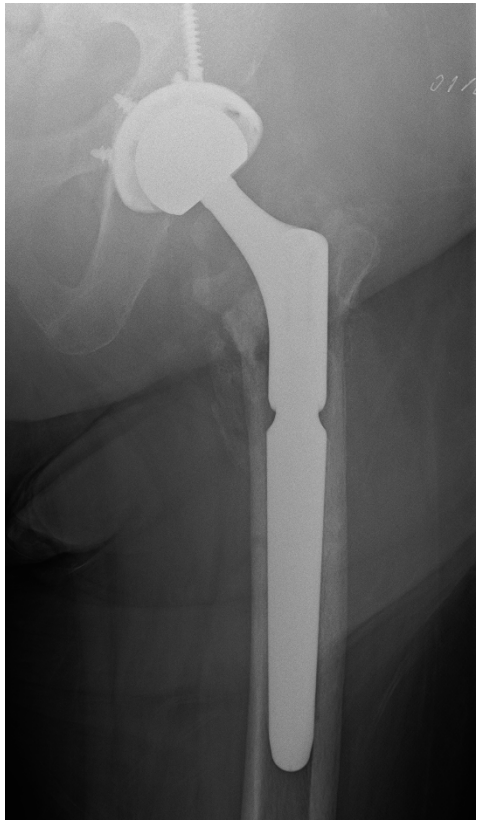
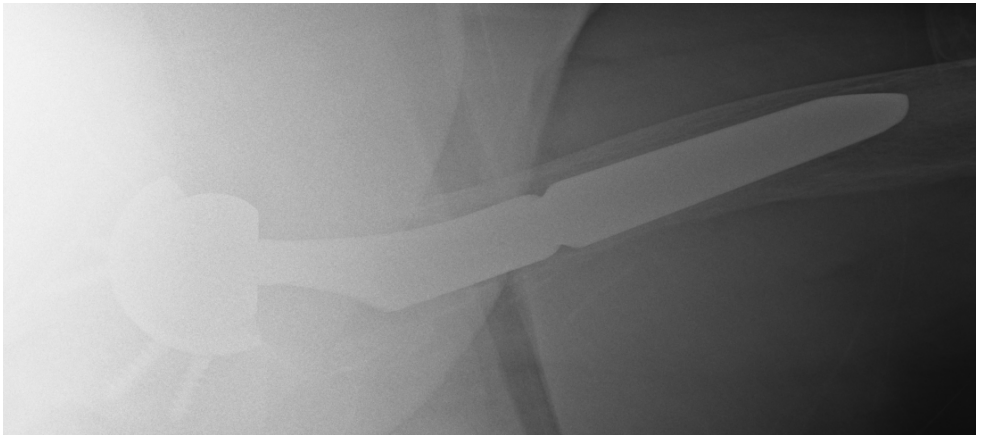
Post Op X rays



56-mm cup
40-mm head





Literature Review

The Journal of Arthroplasty 32 (2017) 3438–3444

Contents lists available at ScienceDirect

The Journal of Arthroplasty

journal homepage: www.arthroplastyjournal.org

Primary Arthroplasty

Hip Arthroplasty After Surgical Treatment of Intertrochanteric Hip Fractures

Brandon J. Yuan, MD *, Matthew P. Abdel, MD, William W. Cross, MD, Daniel J. Berry, MD

Department of Orthopedic Surgery, Mayo Clinic, Rochester, Minnesota

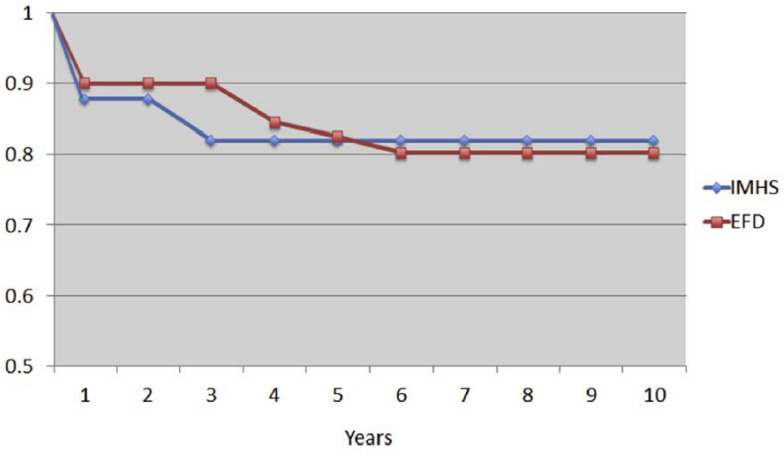


Fig. 3. 10-Year survivorship free of complication was similar between those patients converted from a plate and from a nail.

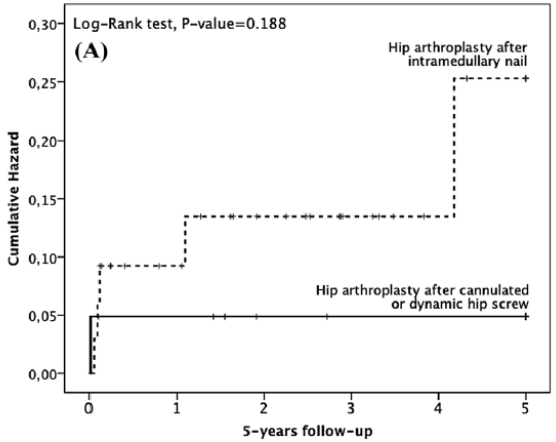
**Intraop fx rates higher with IMN vs EFD*

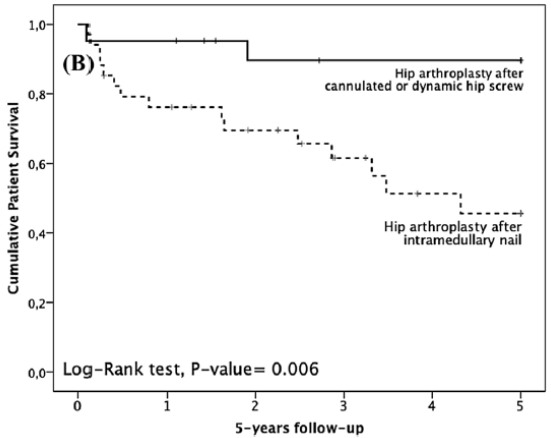
Archives of Orthopaedic and Trauma Surgery (2021) 141:333–339
https://doi.org/10.1007/s00402-020-03692-0

HIP ARTHROPLASTY

Outcomes of hip arthroplasty with concomitant hardware removal: influence of the type of implant retrieved and impact of positive intraoperative cultures

Salvador Madariaga[1] · Caribay Vargas-Reverón[1] · Eduard Tornero[1,2] · Alfonso Alías[1] · Bruno Capurro[1] · Andreu Combalia[1,2] · Jenaro Ángel Fernández-Valencia[1,2] · Ernesto Muñoz-Mahamud[1,2]





History

- 44 year old male with left hip pain
- MVC with polytrauma 14 years ago
- PE with IVC filter (now removed)
- Pain medications (including methadone), injections, PT
- Unable to sit in a chair or put on socks
- Works as a tile installer

Exam

- 5’9”, BMI 29
- Antalgic gait with external rotation of LLE
- Well healed posterolateral incision (Kocher-Lagenbach)
- Flexion contracture with extremely limited motion
- Positive FADIR, Stinchfield
- ESR and CRP normal

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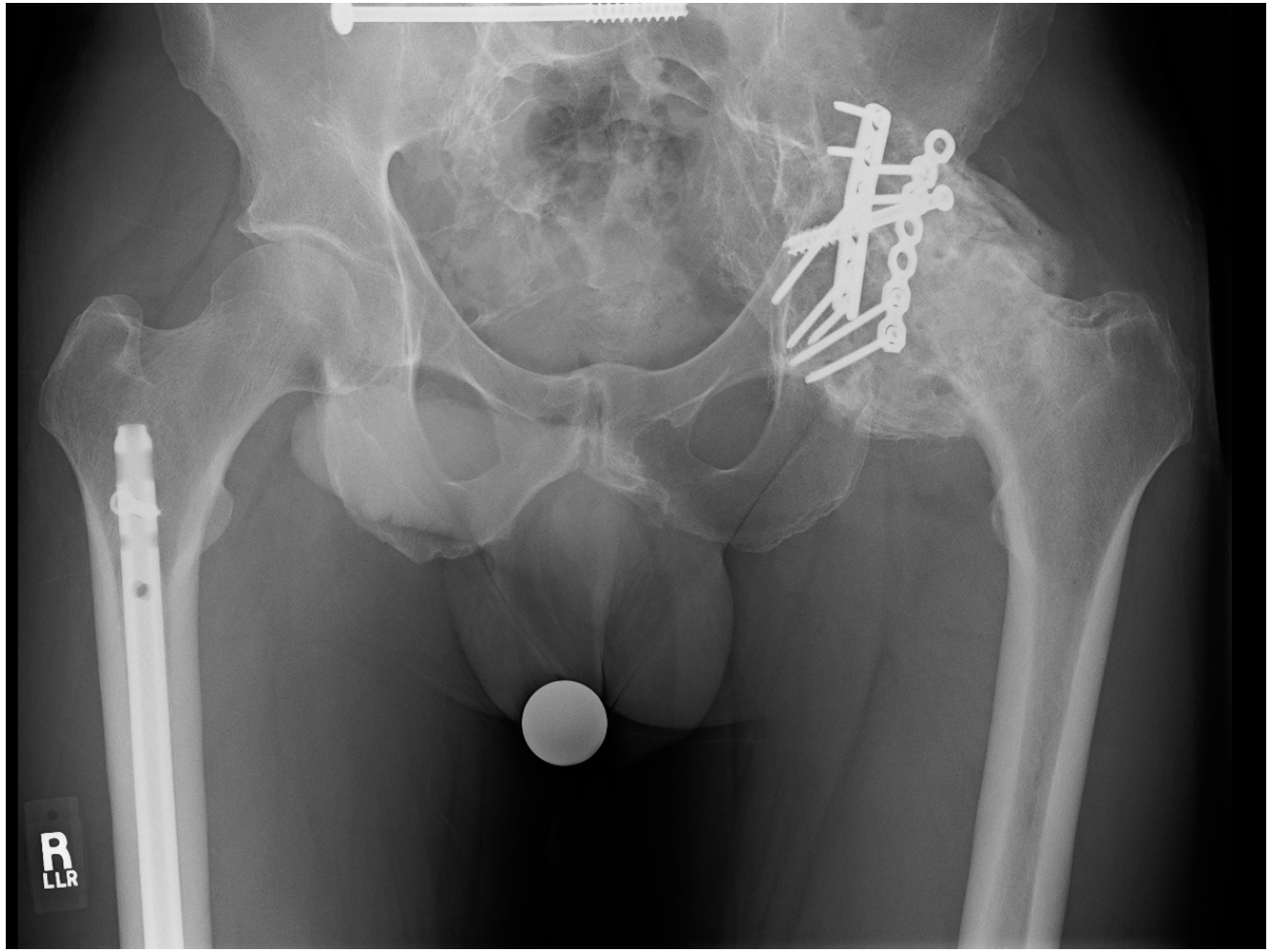
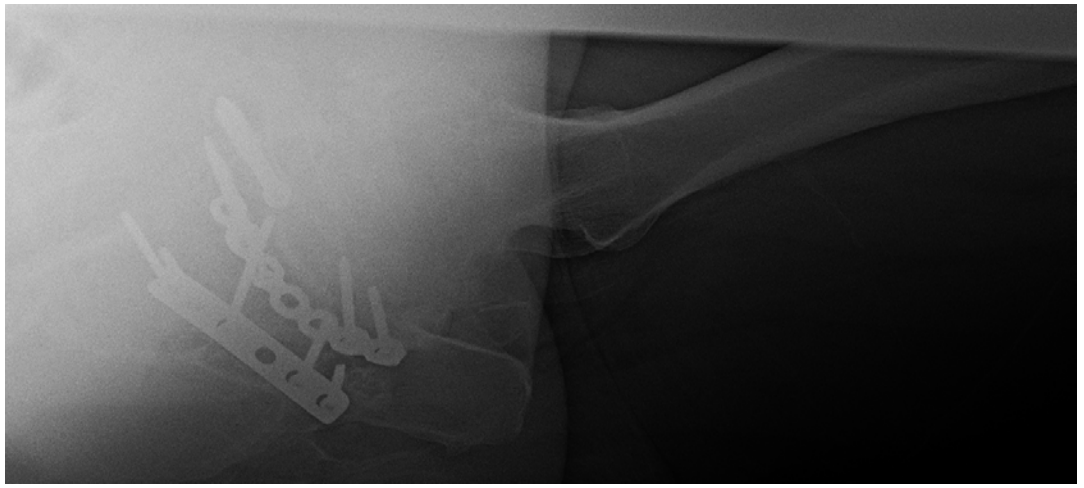
Radiographs





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Considerations

- Approach to the patient on chronic opioids
- Preoperative imaging – Judet views? CT scan?
- Approach to the hip? How to dislocate safely?
- Approach to acetabular hardware?
- Intraoperative imaging?
- TXA? VTE prophylaxis?
- Heterotopic ossification prophylaxis?

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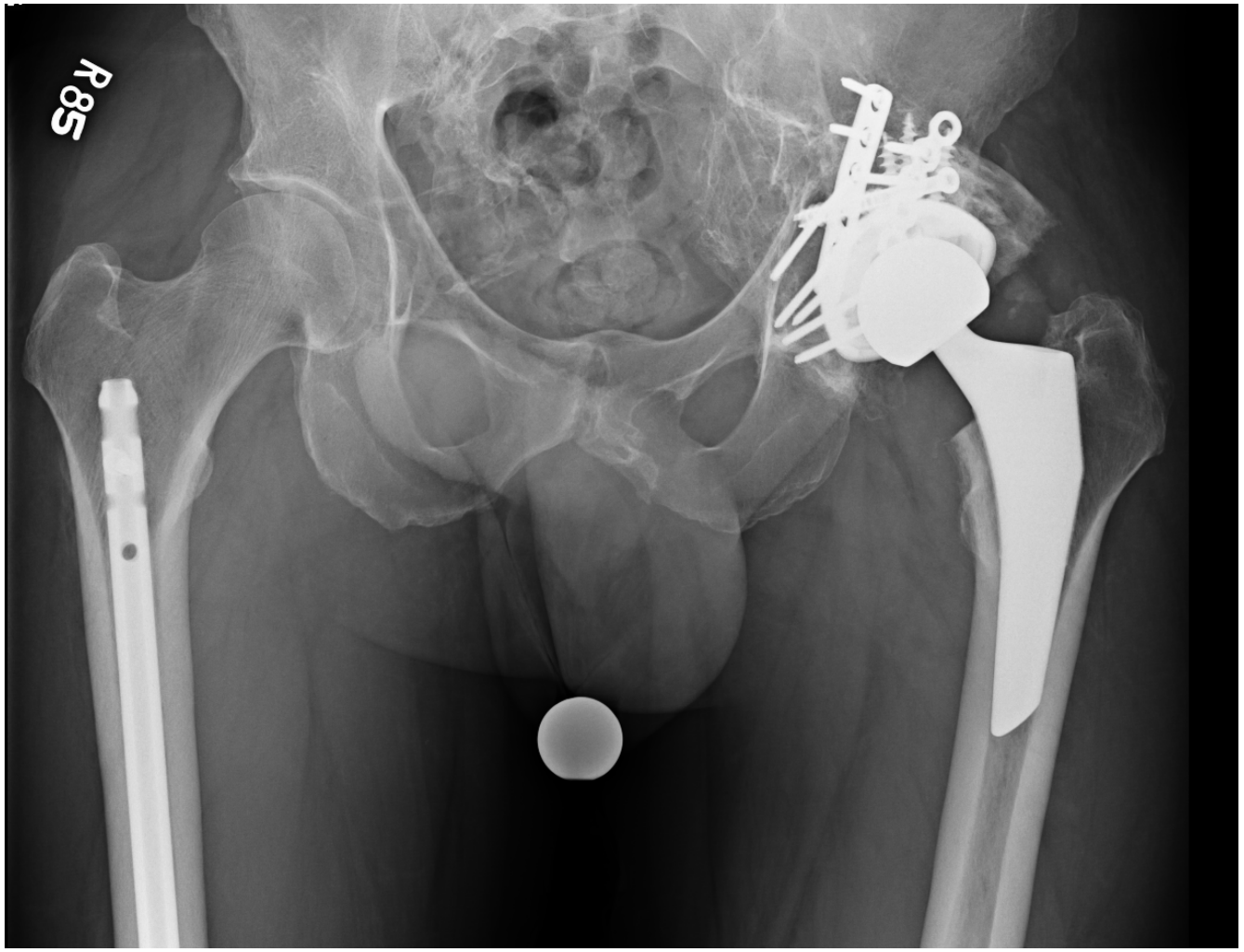
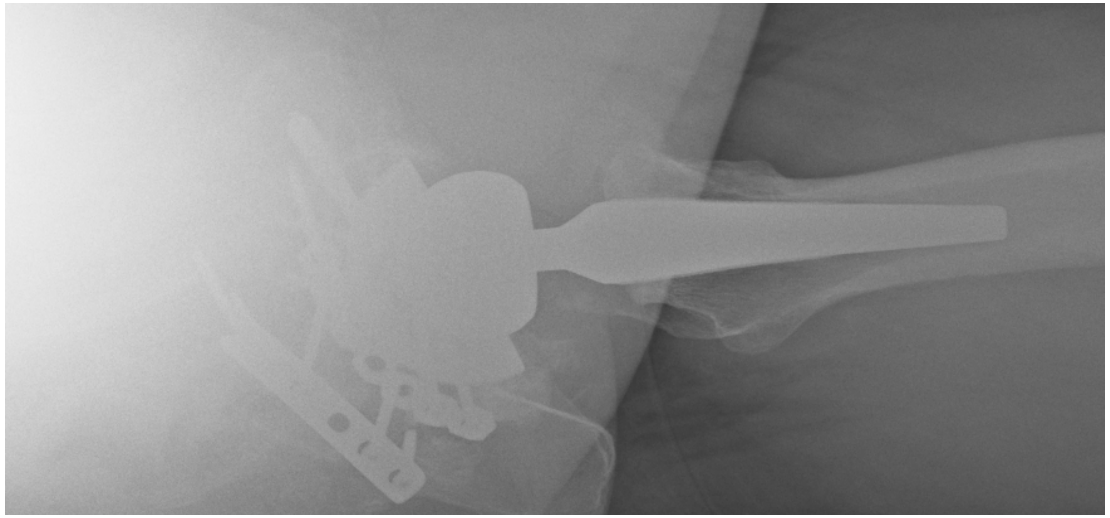
Post Op X rays





Literature Review

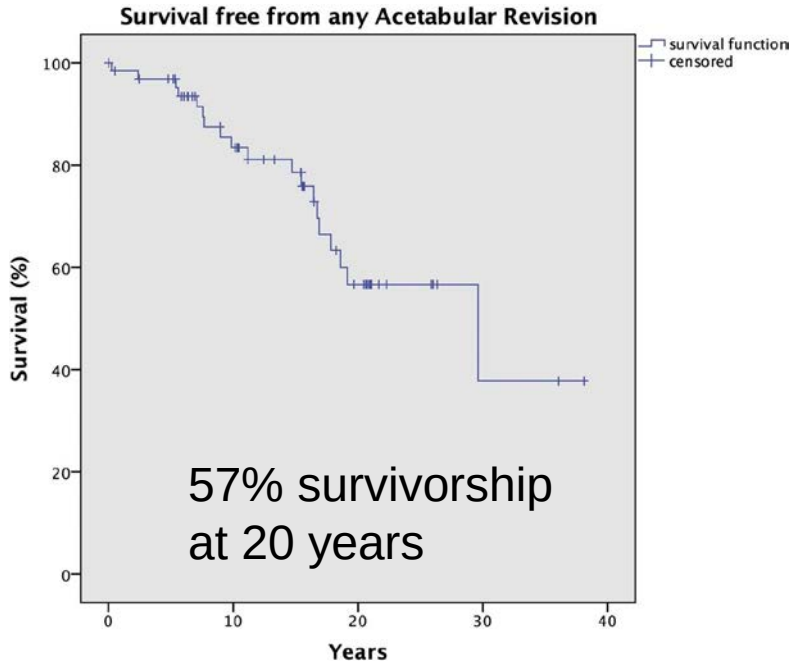
Total Hip Arthroplasty After Operatively Treated Acetabular Fracture

A Concise Follow-up, at a Mean of Twenty Years, of a Previous Report*

Philipp von Roth, MD, Matthew P. Abdel, MD, W. Scott Harmsen, MS, and Daniel J. Berry, MD

Investigation performed at the Mayo Clinic, Rochester, Minnesota

JBJS 97(4):288-291, February 18, 2015



- Twenty year survivorship inferior to THA for DJD, although modern implants expected to improve these results (most common reason for failure was loosening of cemented cups and osteolysis)

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Case 4

History

- 46 year old male with right groin and lateral pain
- Born with solitary kidney, transplant at 12 years of age
- Osteotomy of right hip in childhood
- HIV from transfusion
- Multiple rounds of PT and an intraarticular injection

Exam

- 5’6”, BMI 41
- Crutch for ambulation
- Healed lateral incision
- Pain reproduced with FADIR
- + Stinchfield
- Right shoe lift 0.75 inches (19 mm)
- ESR and CRP normal

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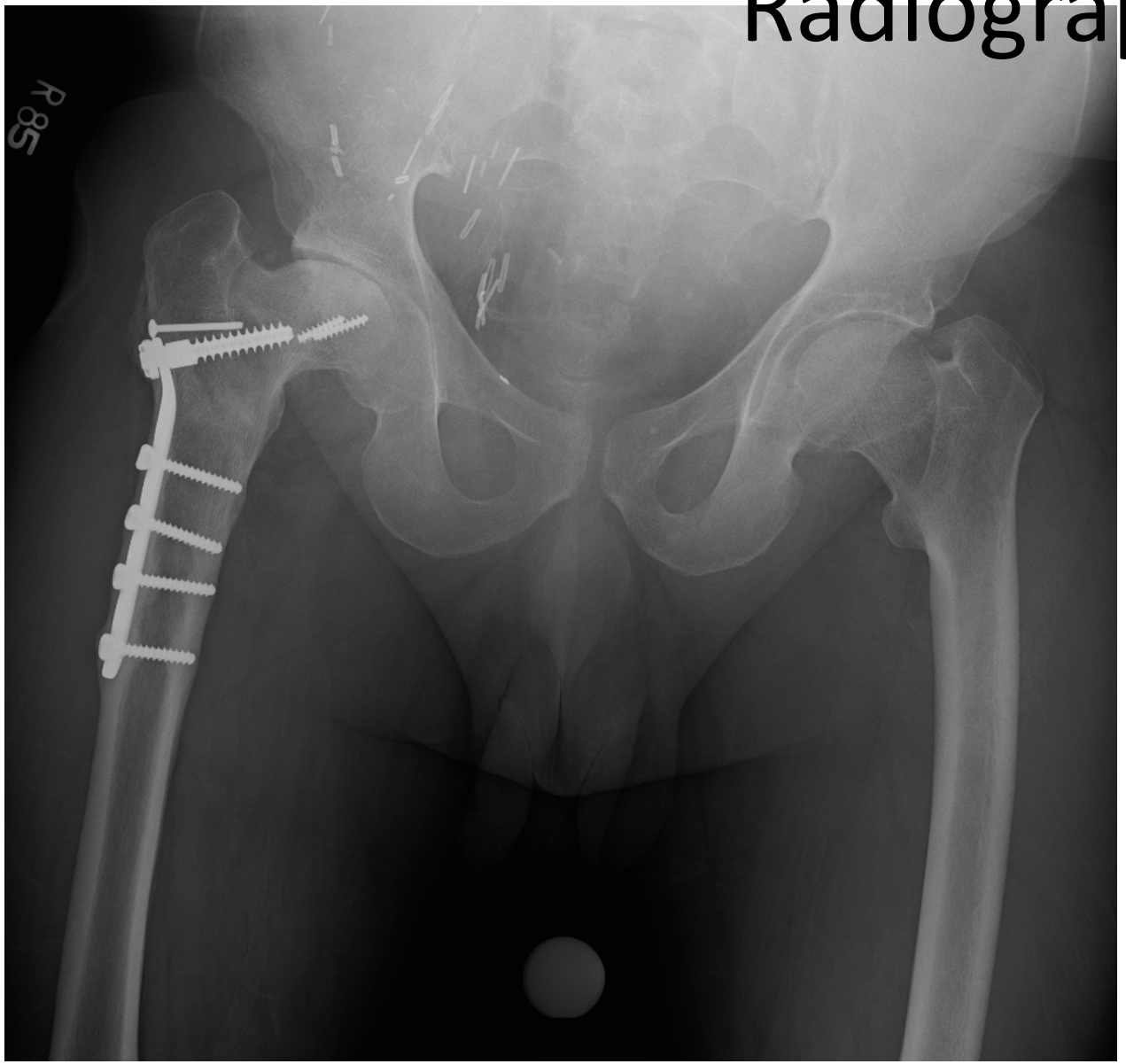
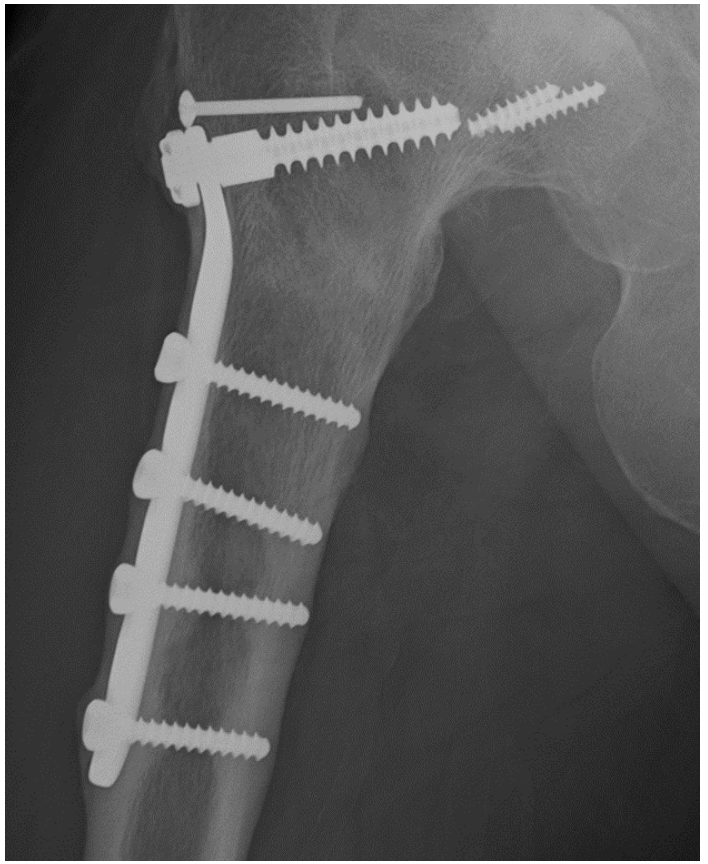
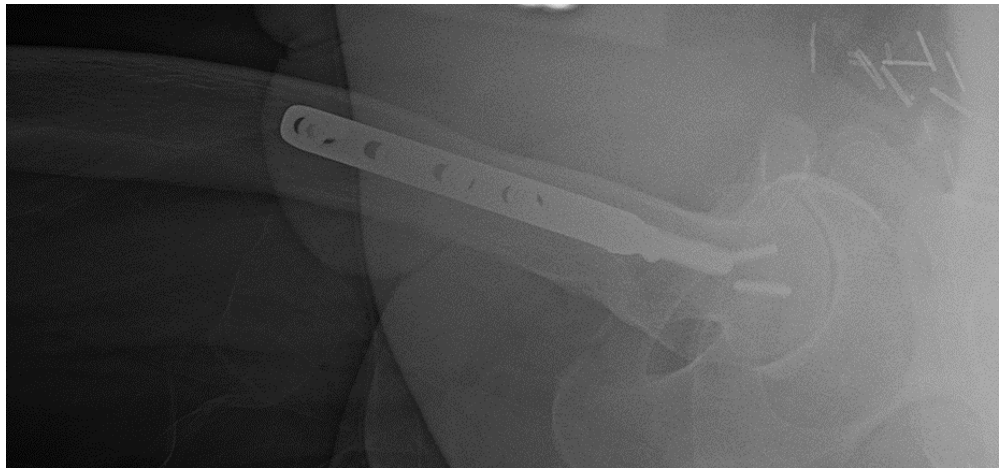
Radiographs







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Considerations

- BMI cut-offs? No/yes (hard/soft/variable?)
- Approach to retained hardware
- Femoral component selection
- Avoidance of LLD

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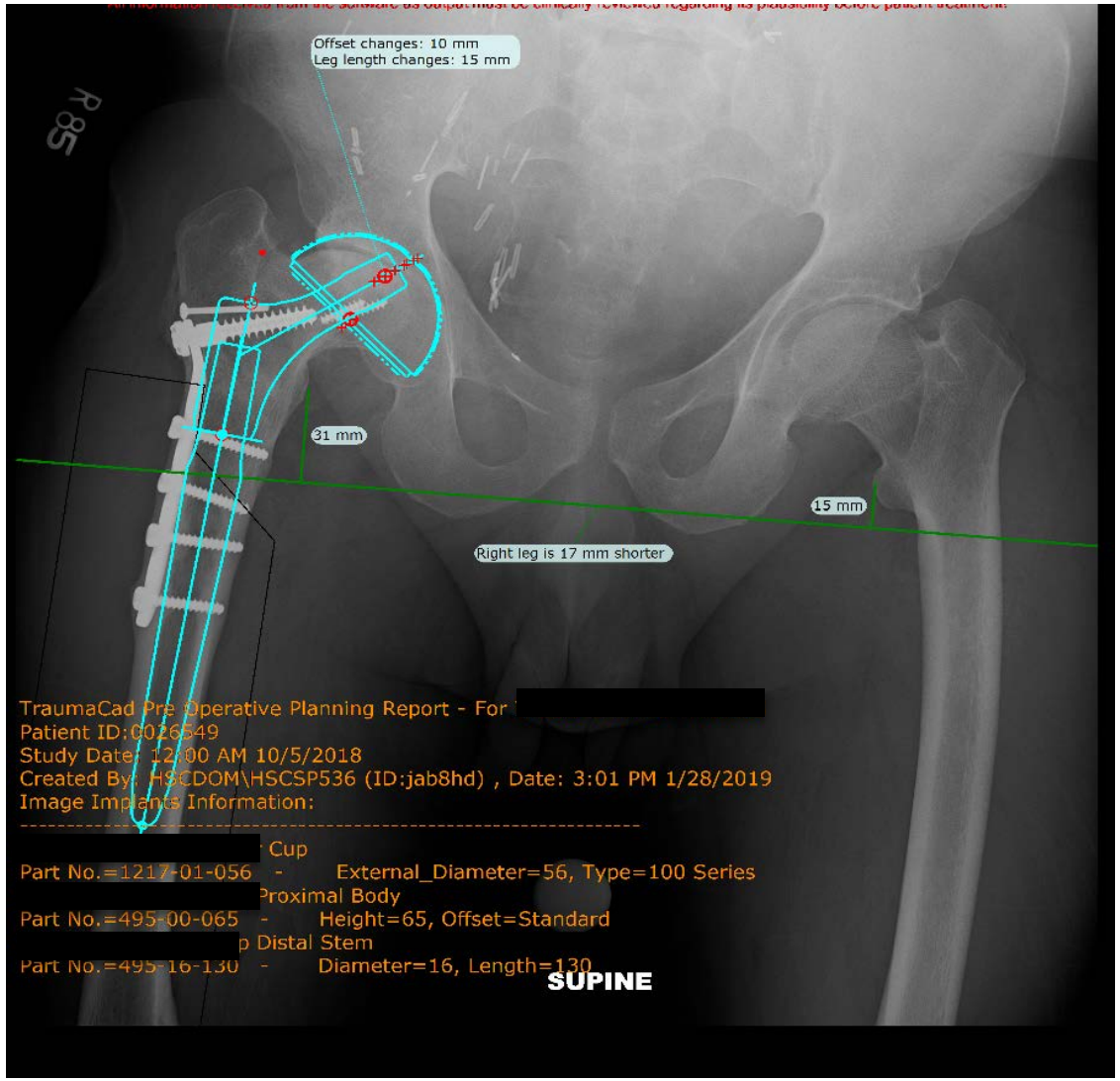
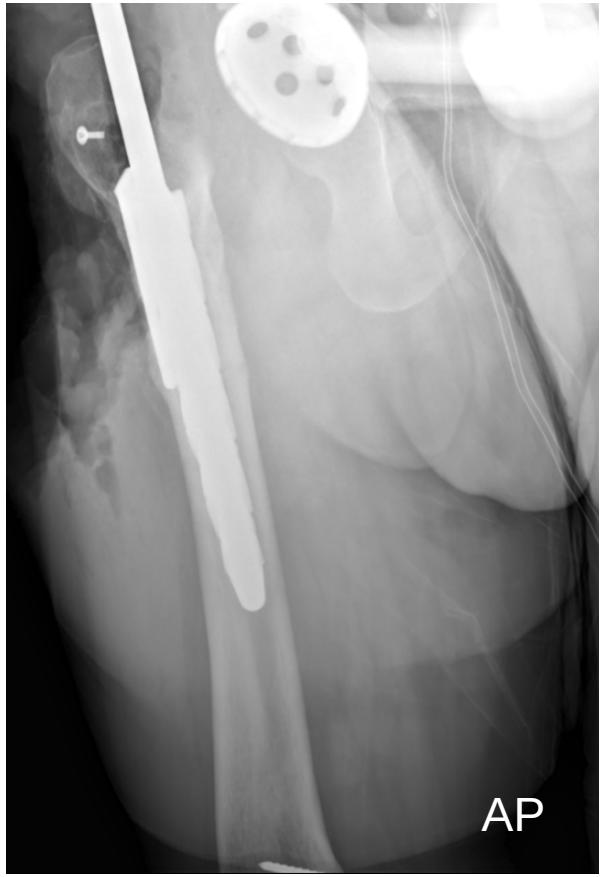
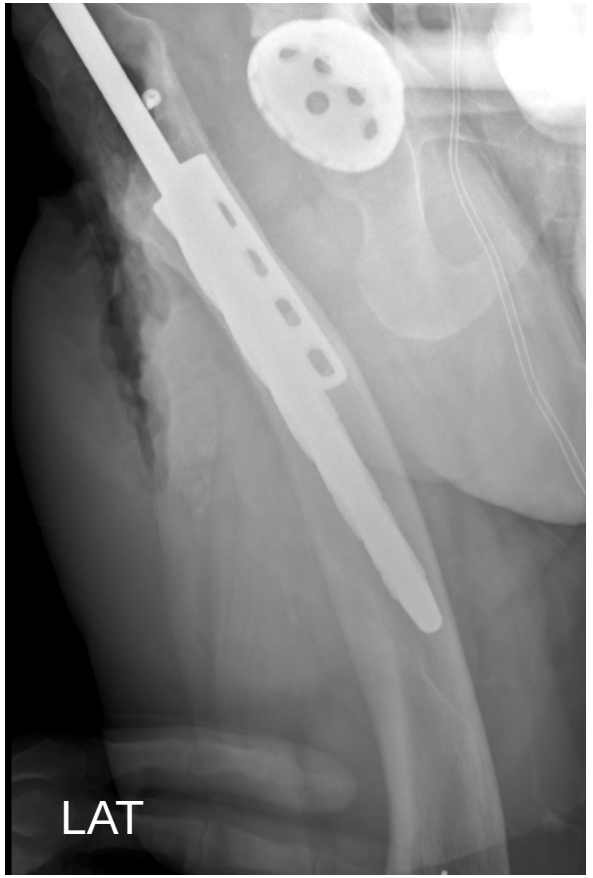
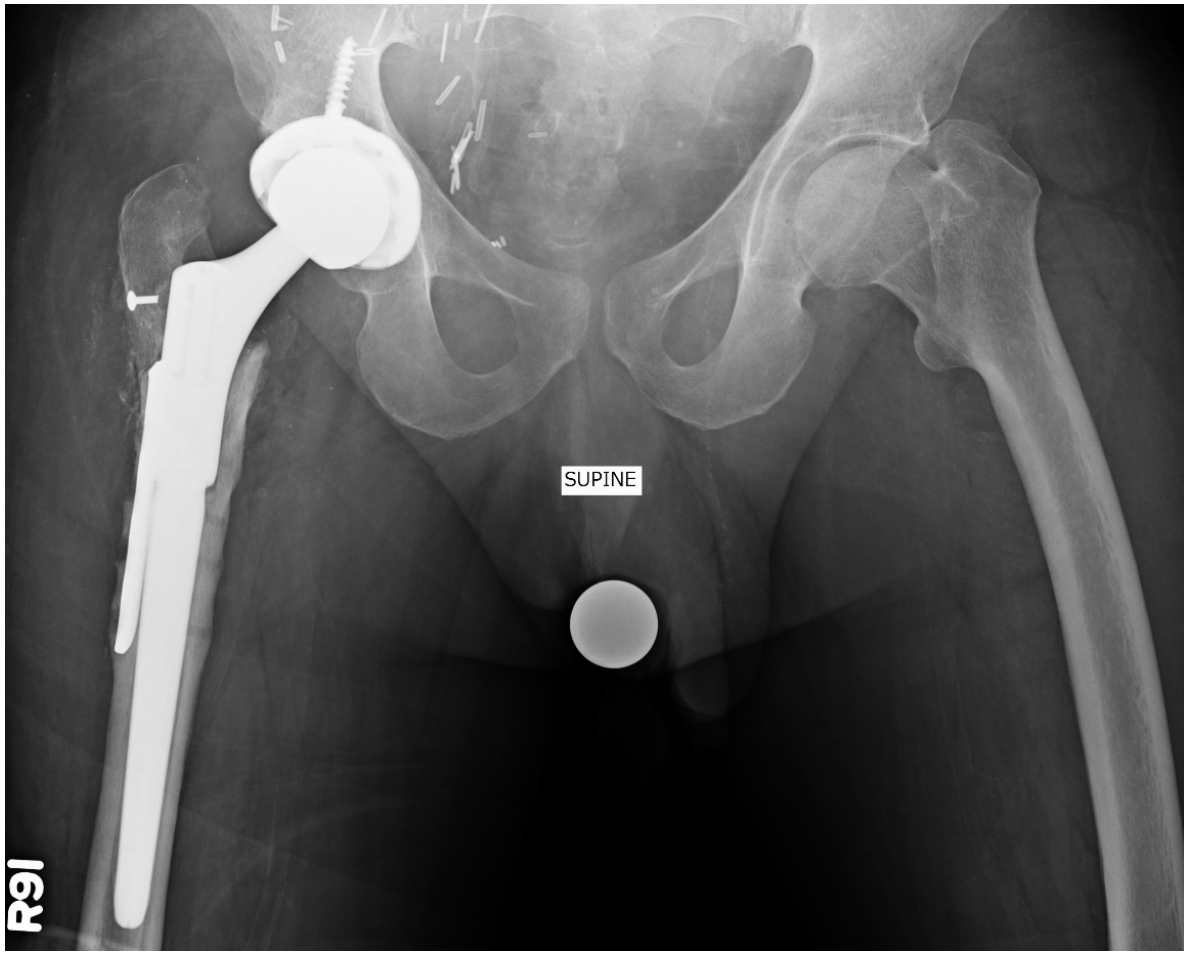
Pre/Intra Op X rays

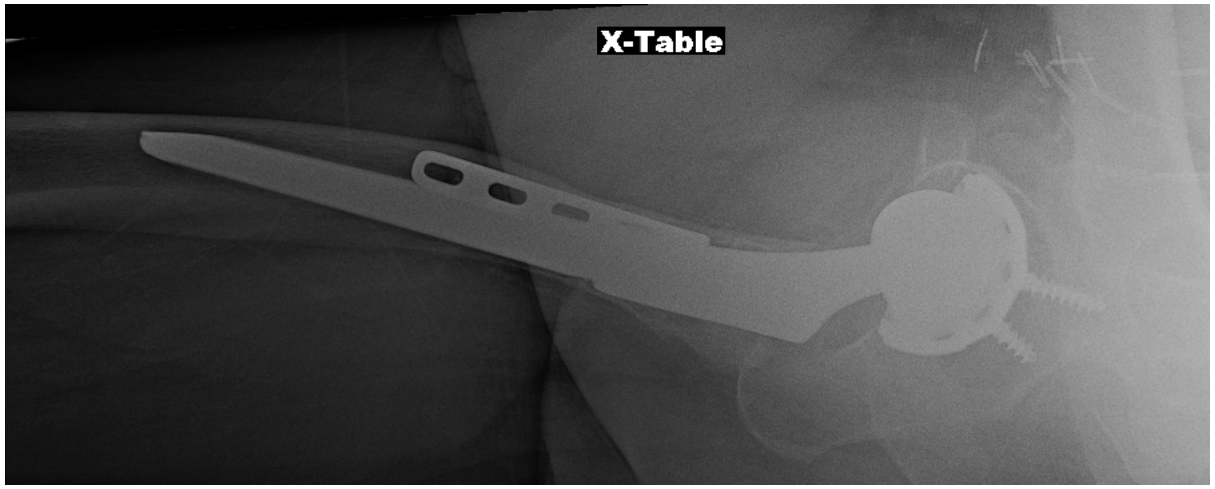






Post Op X rays





Literature Review

"Sunken stem technique"

Arthroplasty Today 7 (2021) 29–36

Contents lists available at ScienceDirect

Arthroplasty Today

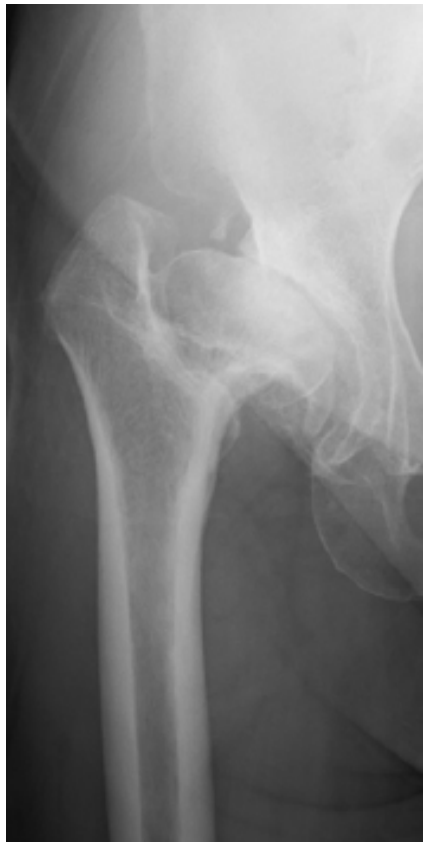
journal homepage: http://www.arthroplastytoday.org/

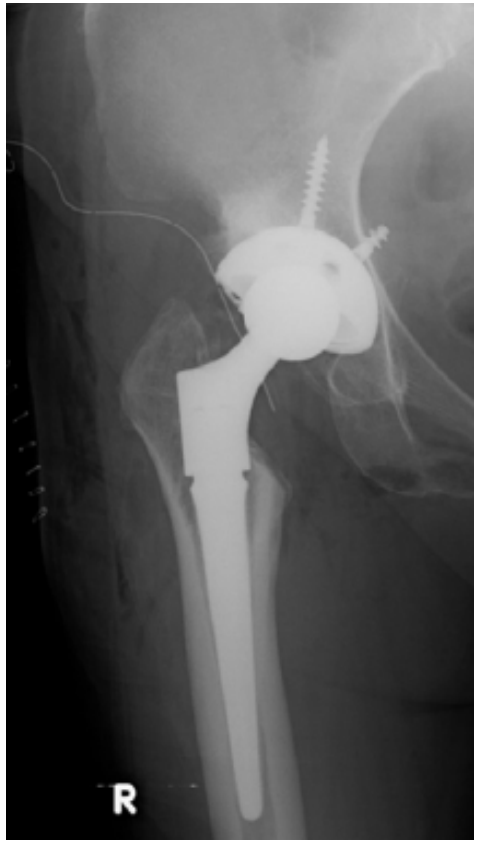
Original research

Satisfactory Outcomes in Patients Operated With Primary Total Hip Arthroplasty for Perthes-like Deformities: Results From a Surgical Technique Utilizing a Conical Stem, an Elevated Hip Center, and No Shortening Femoral Osteotomy

Eiji Takahashi, MD, PhD [a, b, *], Ayumi Kaneuji, MD, PhD [a], Isabella Florissi, BA [b], Charles R. Bragdon, PhD [b, c], Henrik Malchau, MD, PhD [b, d], Norio Kawahara, MD, PhD [a]

[a] Department of Orthopedic Surgery, Kanazawa Medical University, Kahoku-gun, Ishikawak, Japan
[b] Harris Orthopaedic Laboratory, Massachusetts General Hospital, Boston, MA, USA
[c] Department of Orthopaedic Surgery, Harvard Medical School, Boston, MA, USA
[d] Department of Orthopaedics, Sahlgrenska University Hospital, Mölndal, Sweden



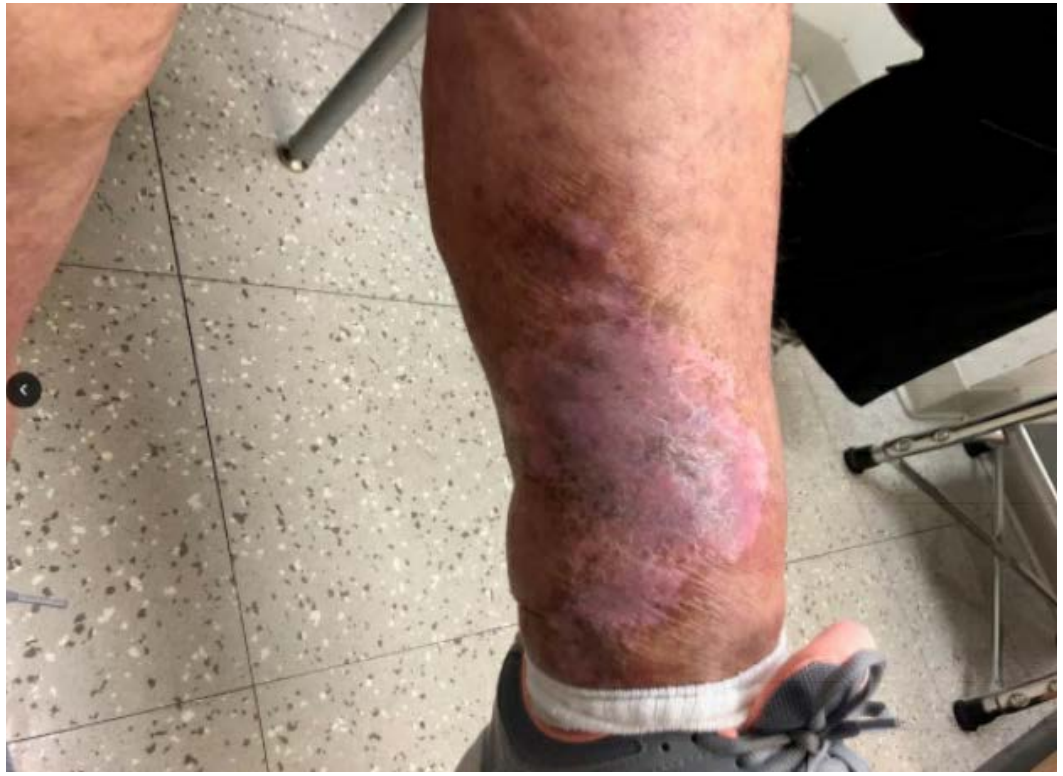


History

- 72 year old female with left hip pain
- PMH HTN, PE, bilateral LE lymphedema/venous stasis disease
- NSAIDs, PT, intraarticular injection
- Remote history of broken femur treated in traction

Exam

- BMI 36
- Antalgic gait unassisted (walker)
- Hip ROM reproduces pain
- 4/5 abductor strength
- Previous LE ulcers healed



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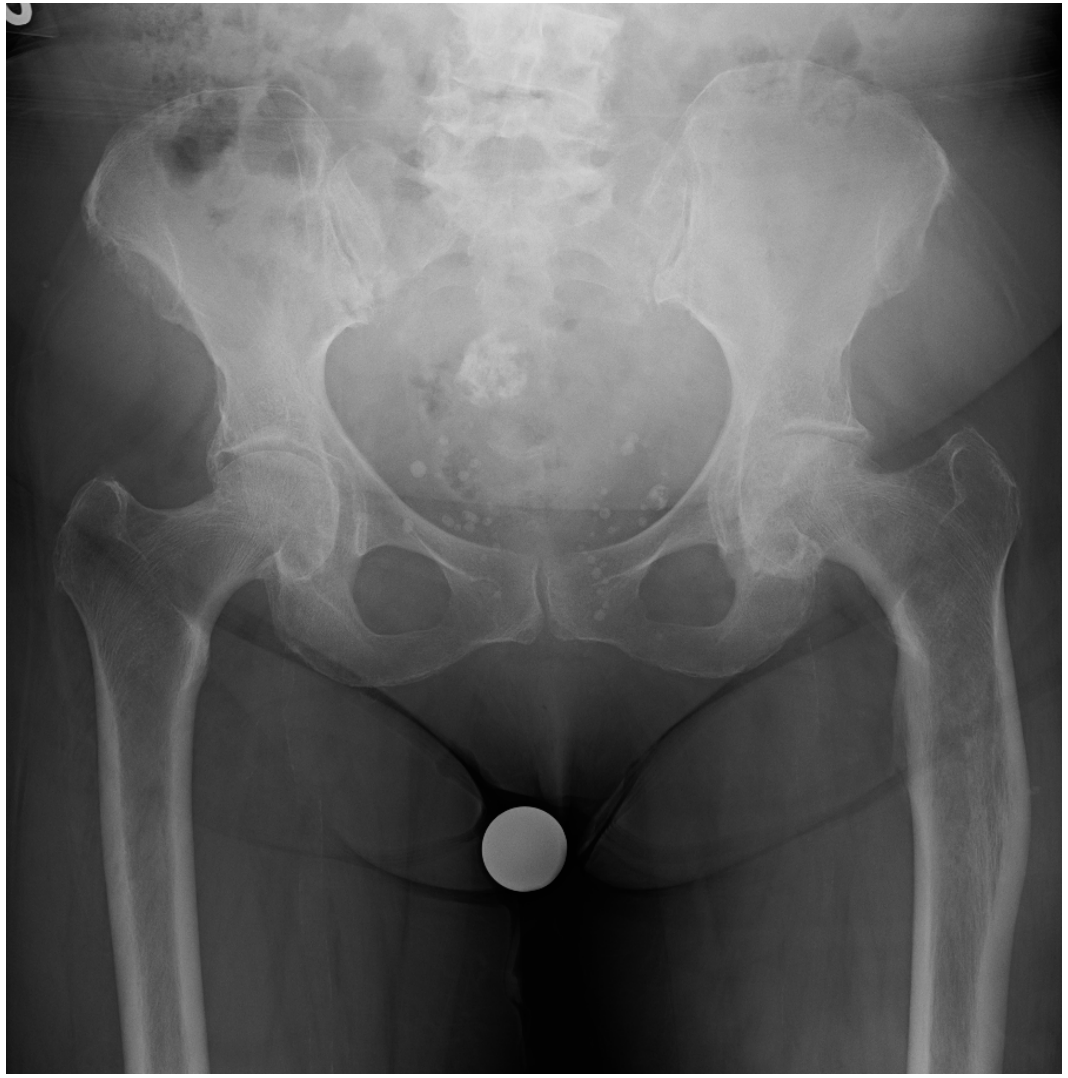
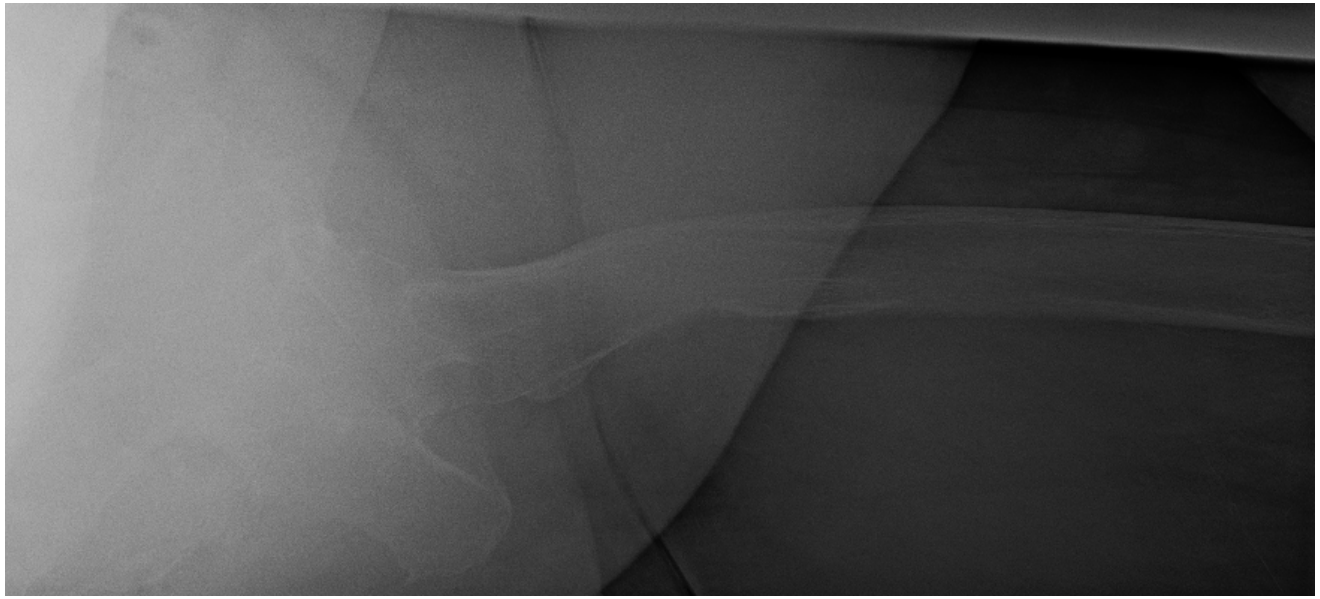
Radiographs





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Considerations

- Management of lymphedema/venous stasis disease
- Implant choice for femur in deformity
- When to perform an osteotomy for deformity

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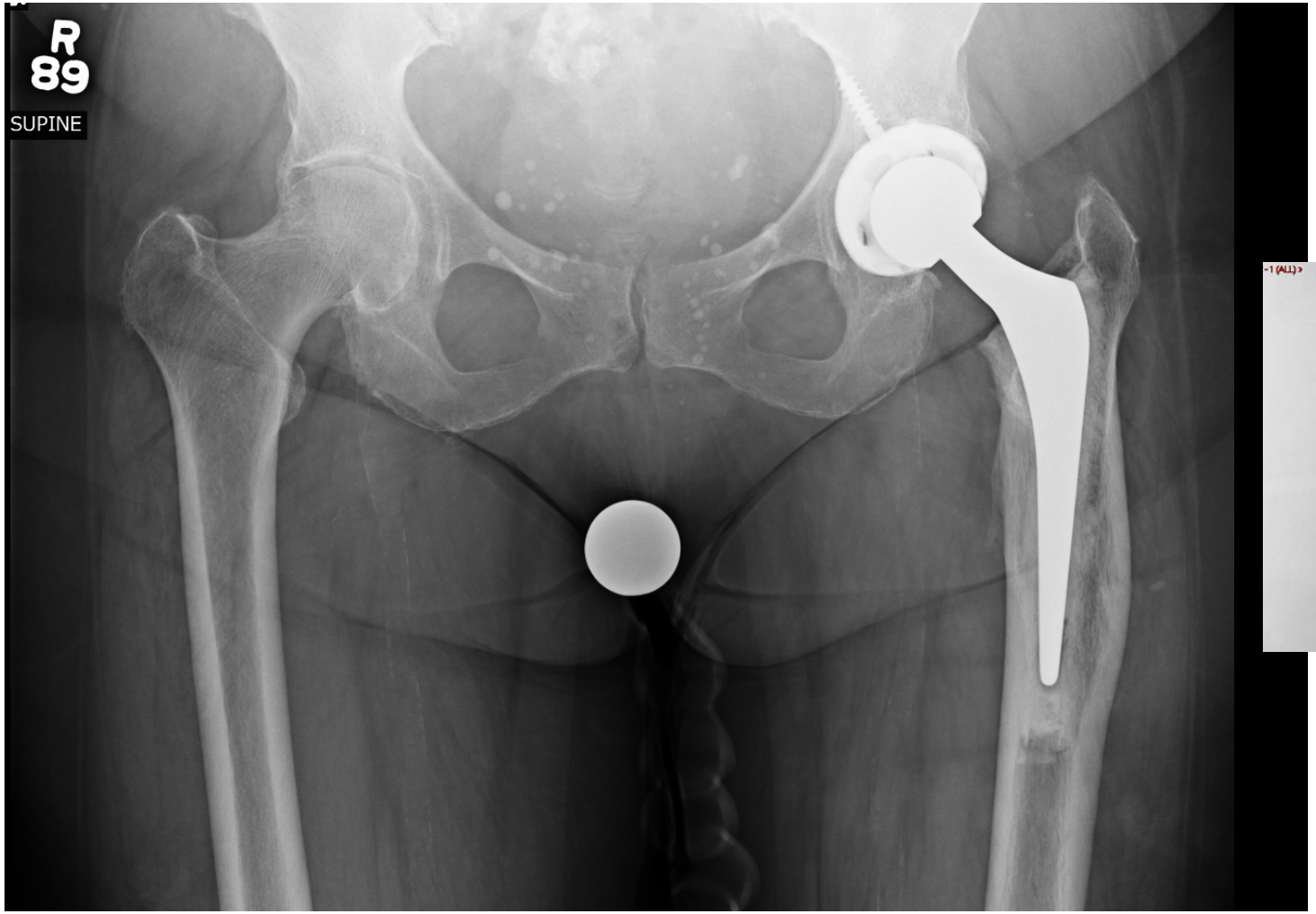
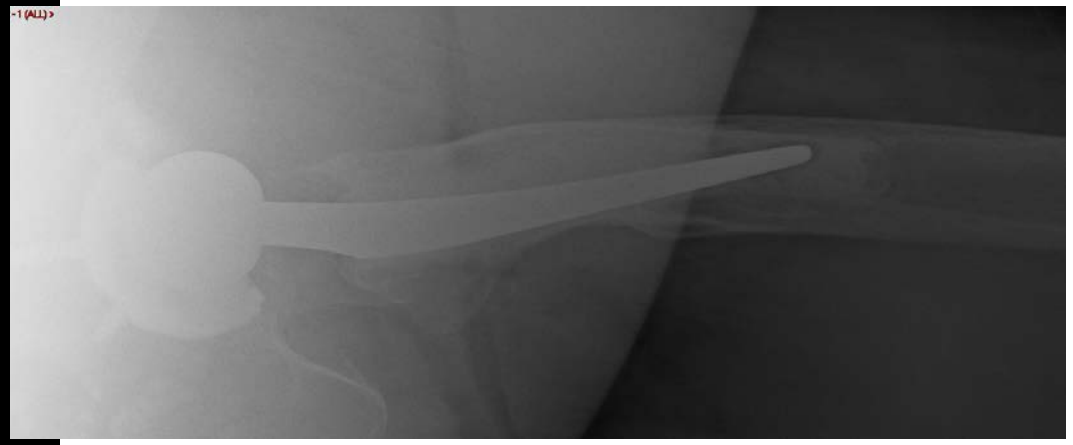
Post Op X rays





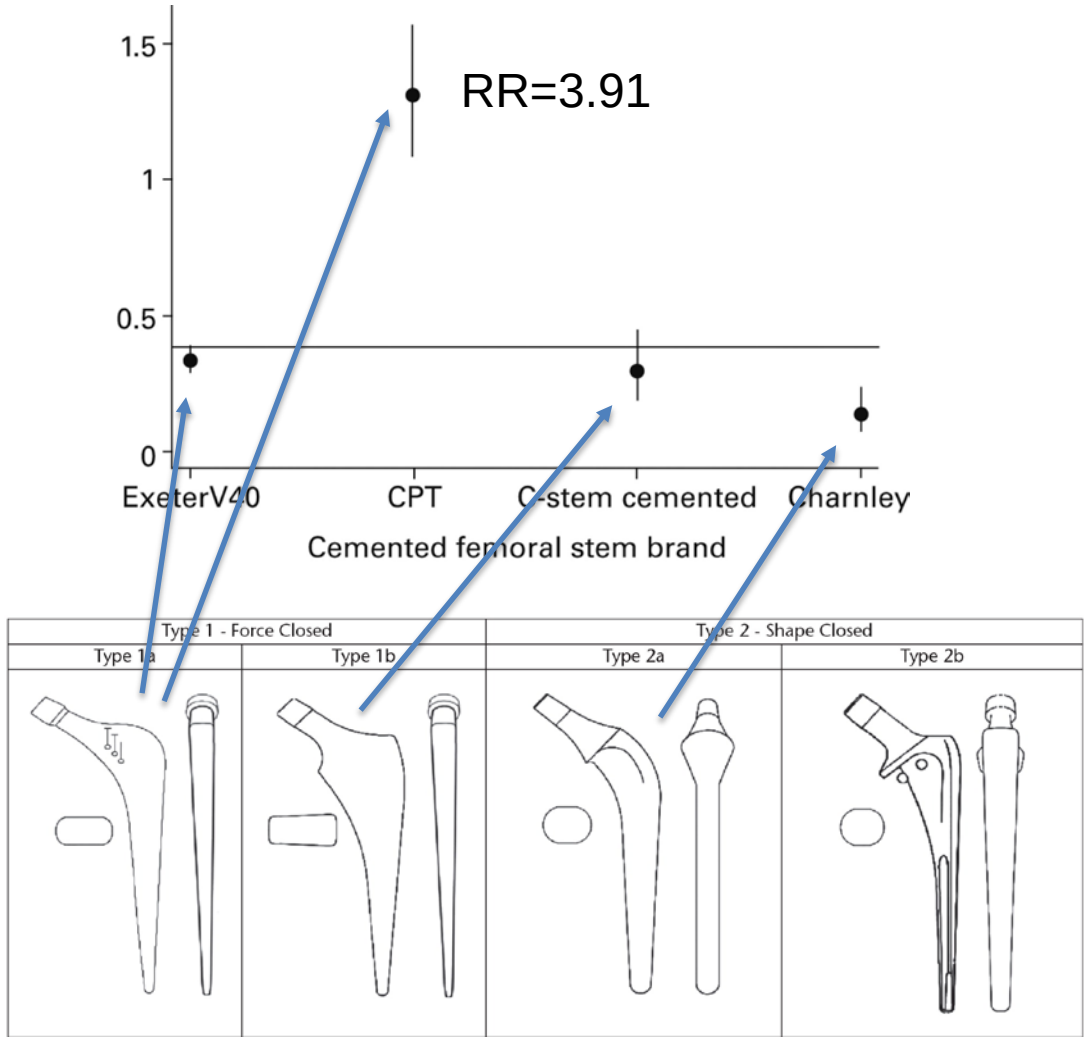
Literature Review

■ HIP

The influence of cemented femoral stem choice on the incidence of revision for periprosthetic fracture after primary total hip arthroplasty

AN ANALYSIS OF NATIONAL JOINT REGISTRY DATA

J. Palan,
M. C. Smith,
P. Gregg,
S. Mellon,
A. Kulkarni,
K. Tucker,
A. W. Blom,
D. W. Murray,
H. Pandit



History and Exam

- 25 year old female with bilateral hip pain
- Cleft palate, short stature, mild CP, scoliosis, bilateral femoral dysgenesis
- Femoral osteotomies in childhood (9-10 years of age)
- 4’4”, 139 lbs (BMI 36)
- Uses two sticks to ambulate with waddling gait

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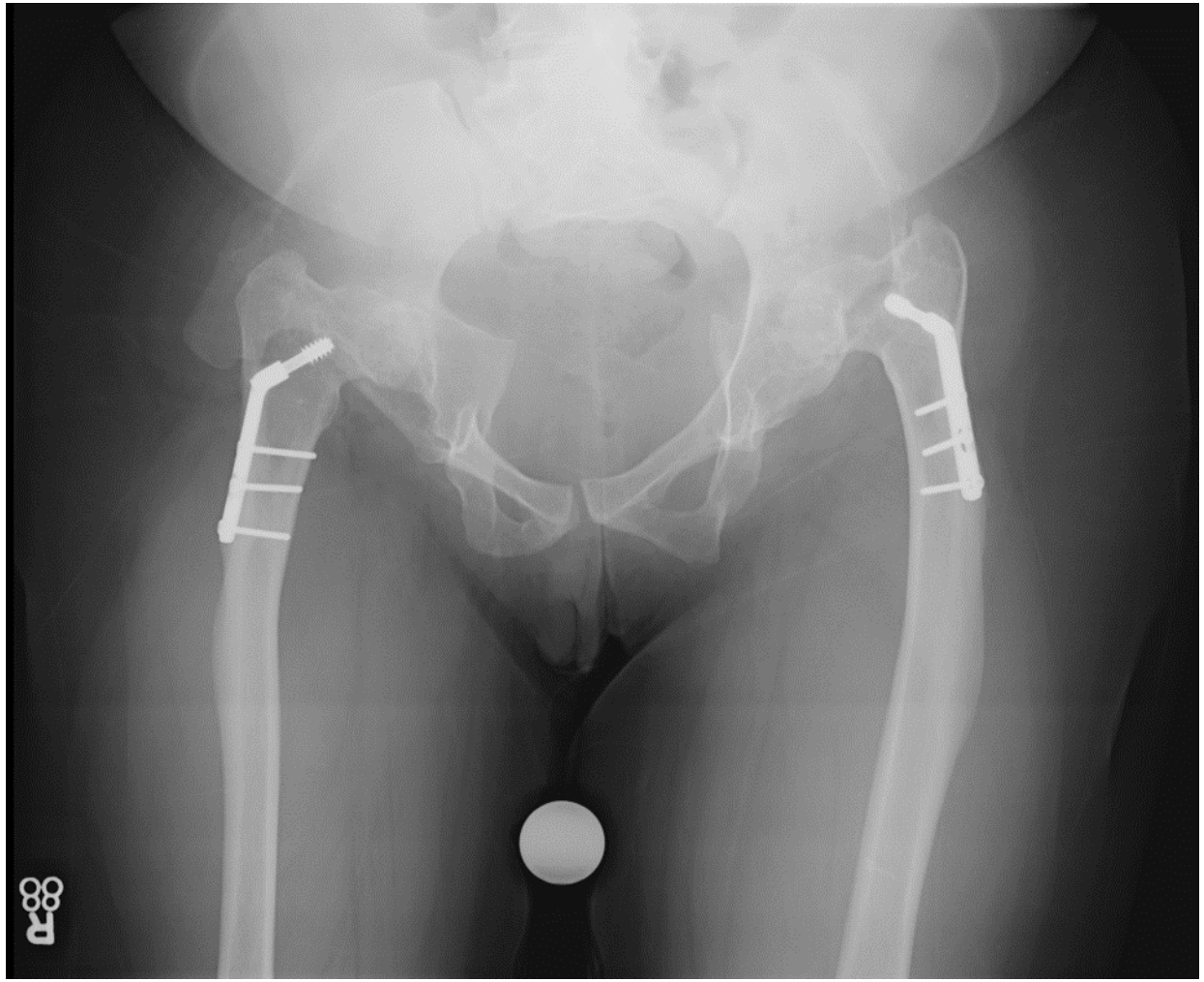
Radiographs



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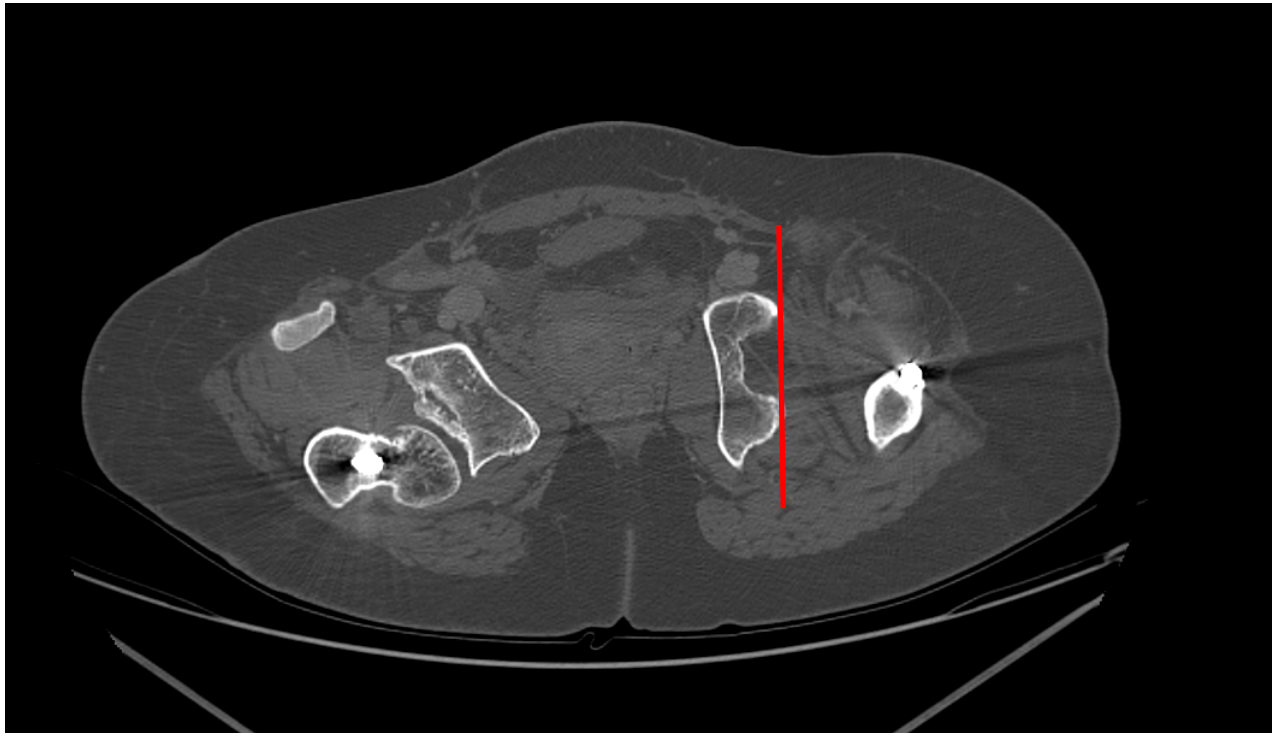
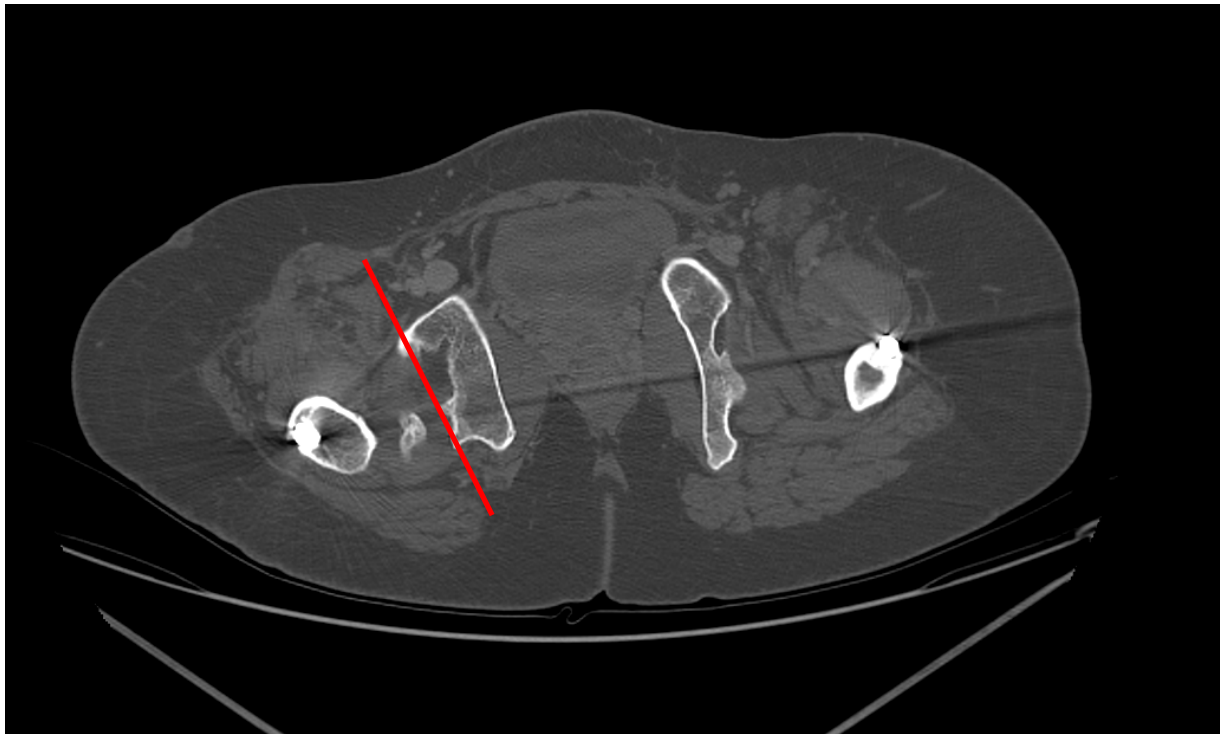
CT Scan





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Considerations

- Acetabular considerations in Crowe 4
- Femoral considerations in Crowe 4
- When to perform a subtrochanteric shortening osteotomy

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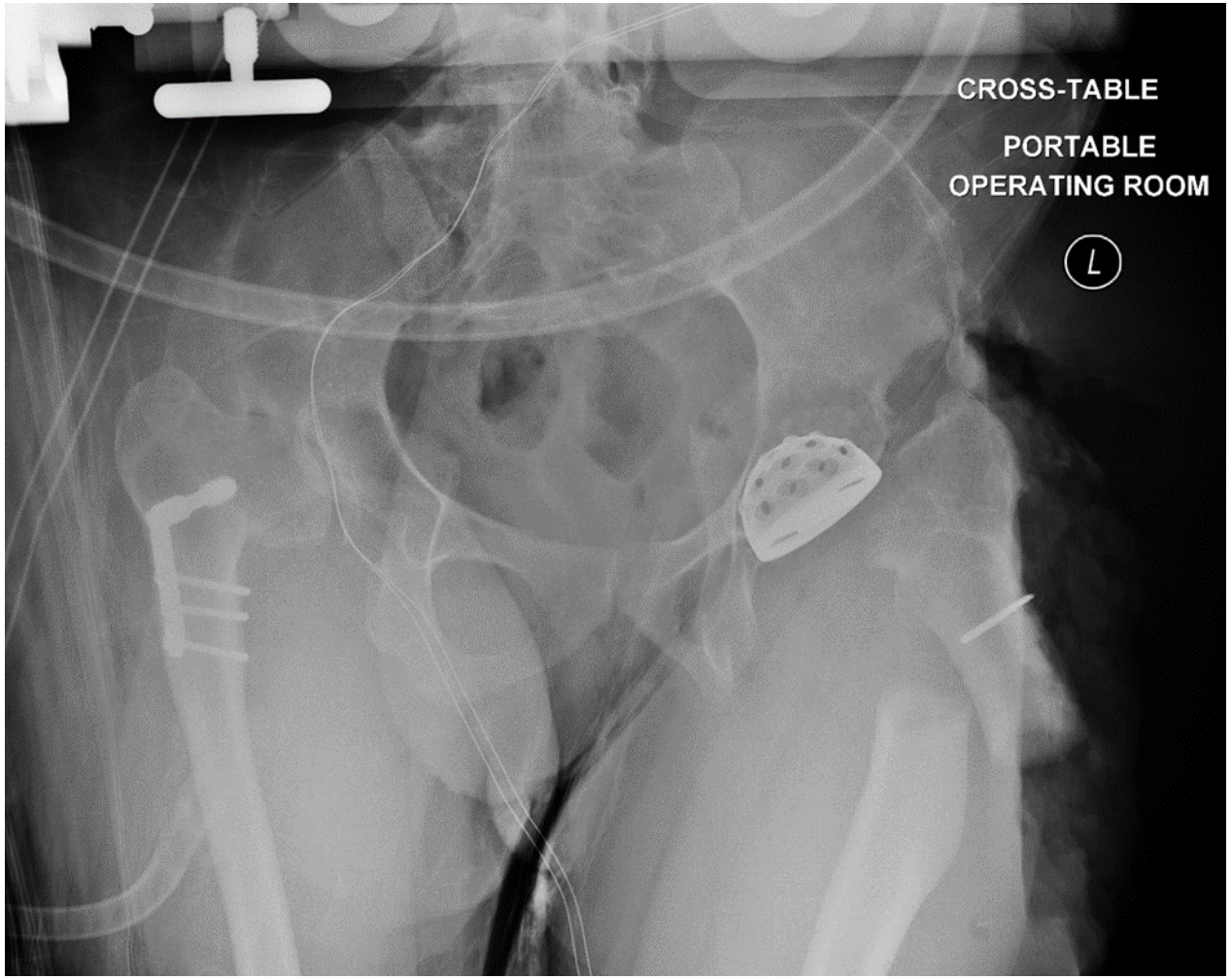
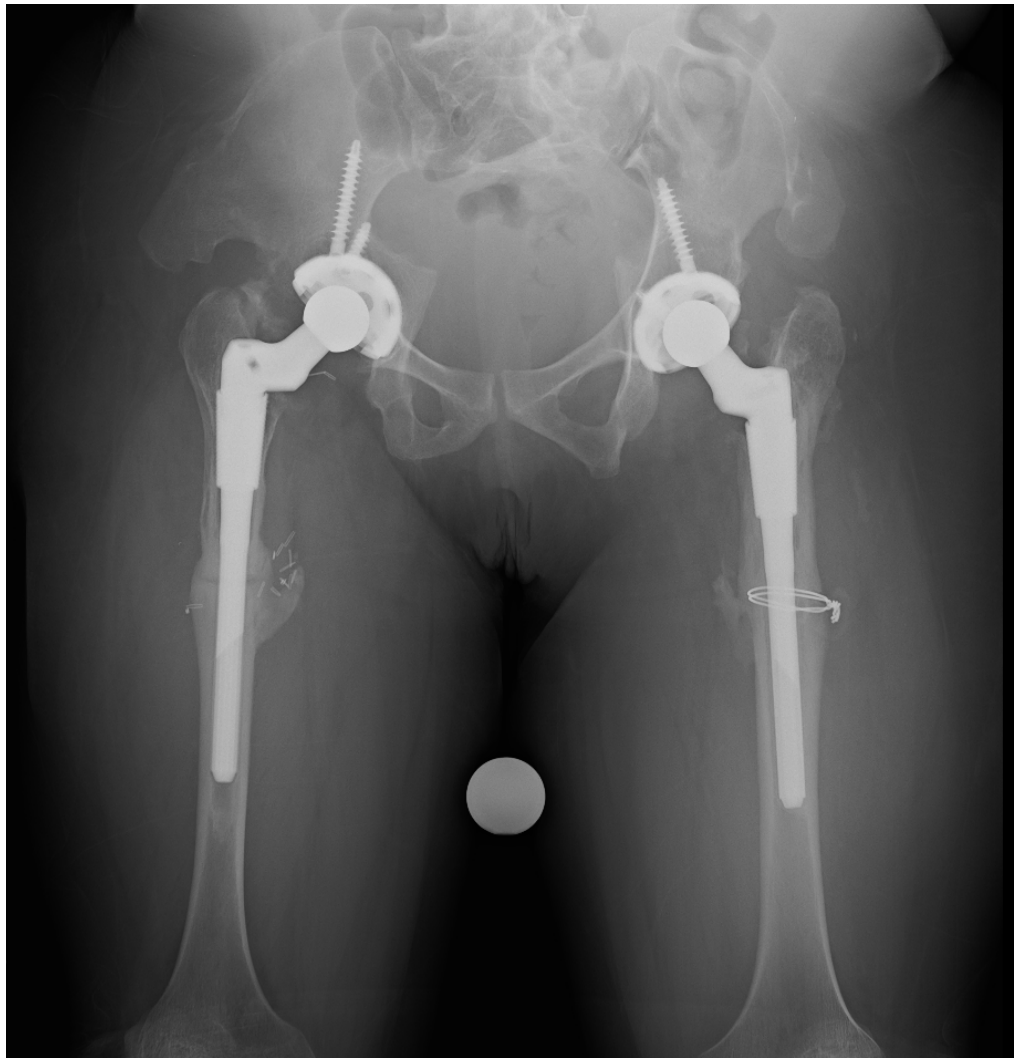
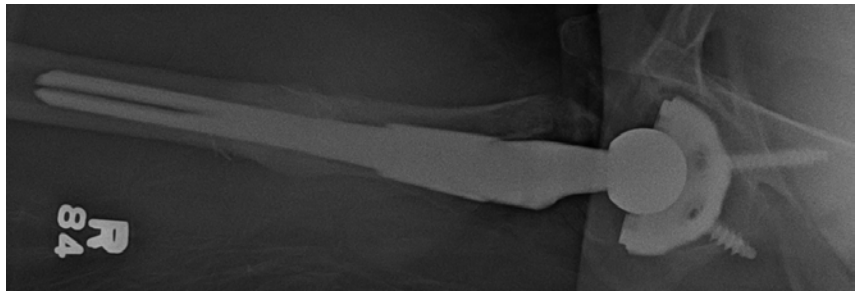
Post Op X rays

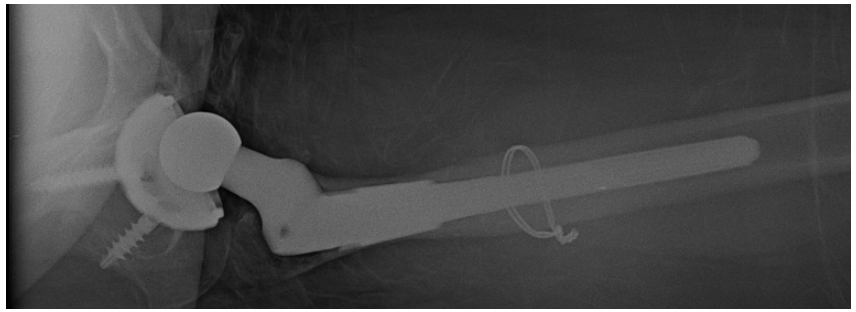


Post Op X rays



4/5 years postop





40/42 mm cups, 22 mm heads, 14x9 stems

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Literature Review

J Bone Joint Surg Am. 2010;92 Suppl 1 (Part 2):176-187 • doi:10.2106/JBJS.J.00061

Total Hip Arthroplasty with Shortening Subtrochanteric Osteotomy in Crowe Type-IV Developmental Dysplasia

Surgical Technique

By Aaron J. Krych, MD, James L. Howard, MD, Robert T. Trousdale, MD, Miguel E. Cabanela, MD, and Daniel J. Berry, MD