

Kyle F. Dickson, M.D. M.B.A.



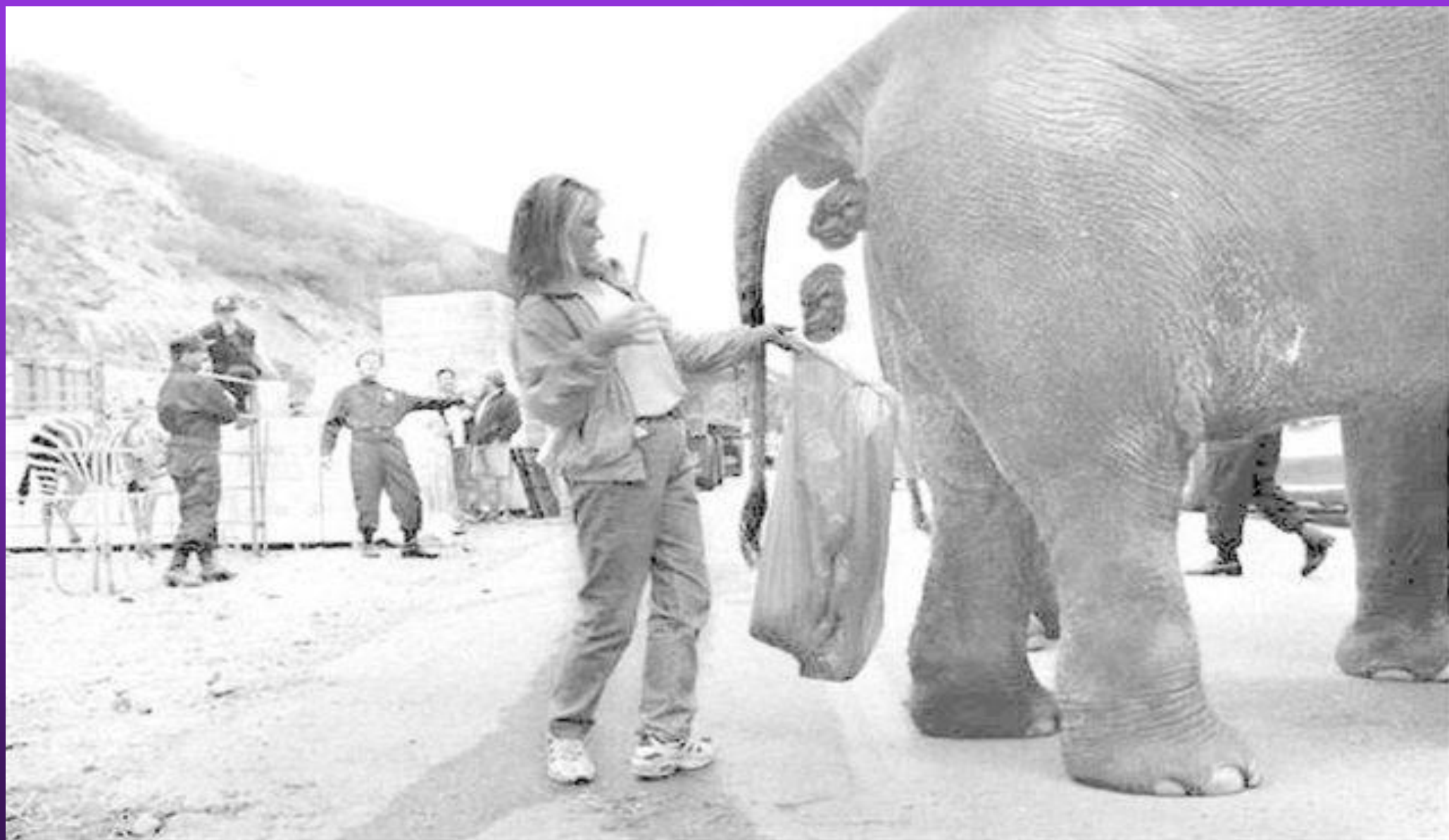
Professor Baylor College of Medicine
Southwest Orthopaedic Group, Houston, Texas
kyledickson99@gmail.com cell 713-208-4168

6 minute THA for Acetabular Fractures



Kyle Dickson MD, MBA
Clinical Professor Baylor University
Southwest Orthopaedic Group, Houston, Texas







“A MAN’S GOT TO KNOW HIS LIMITATIONS”

Arthroplasty Versus Open Reduction Internal Fixation for Posterior Wall Acetabular Fractures in Middle-aged Patients

- Templeman et al, Feb JOT 2019

Methods

- 45-65 yo posterior wall
- Matched controls 2:1 32 ORIF vs 16 THA
- Marginal impaction, >3 fragments, osteoarthritis (narrowing, cysts, osteophytes)

Findings

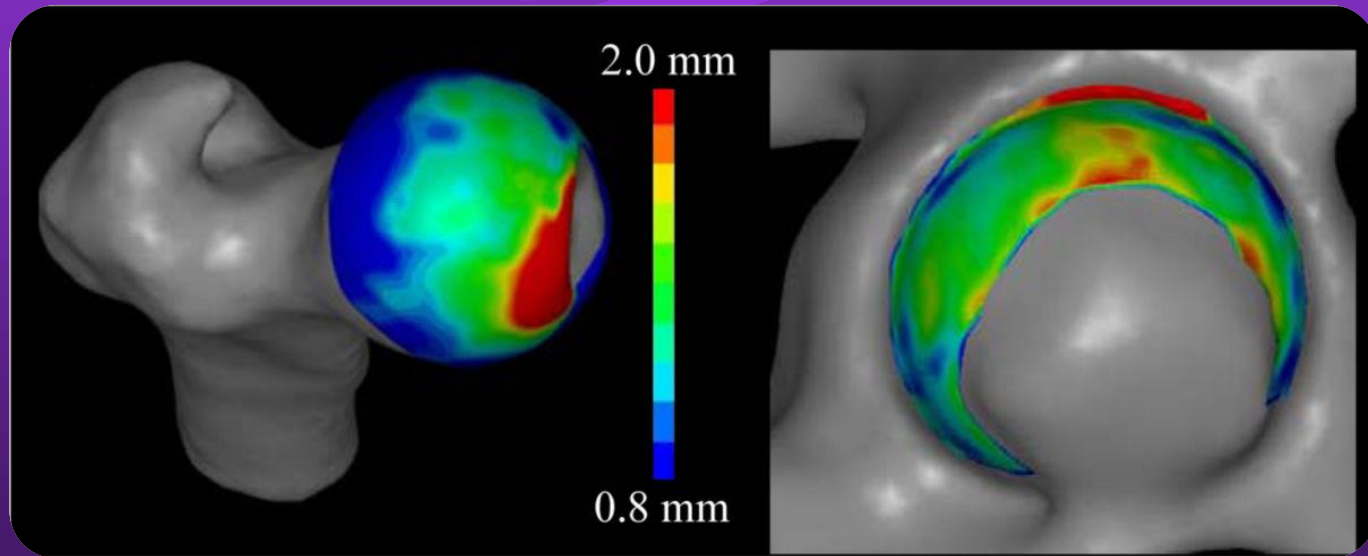
- Similar Oxford Hip Score 44 vs 40 THA vs ORIF
- ORIF 37% conversion to THA (8%-24%)
- THA 13% revision rate (4x ↑ in loosening of cup over OA)
- Better Kaplan- Meier Survival with THA

Summary

- Consider 1° THA – Femoral head damage, dome impaction (**medial or lateral**), pre existing osteoarthritis, ?severe osteoporosis, stable fixation of acetabular fracture
- ORIF is still the gold standard even in the elderly
- Results of 1° THA with acetabular fracture not as good as THA alone



AREAS DE CONTACTO



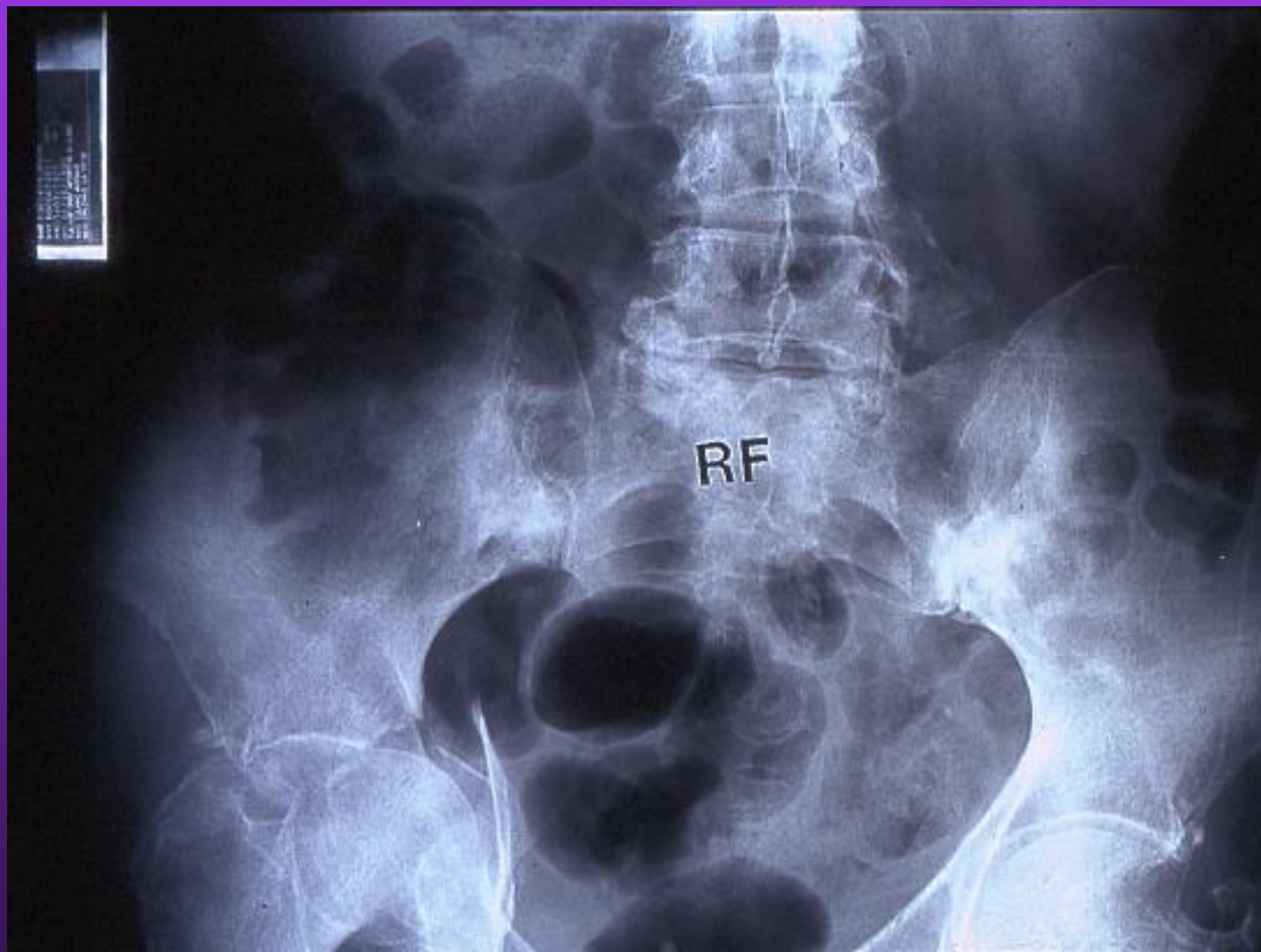


PEAK CONTACT STRESSES IN ABNORMAL HIPs

Author/Year	Normal hips Peak contact stress (MPa)	Dysplastic hips Peak contact stress (MPa)	Dysplastic hips after osteotomy (MPa)	Slipped capital femoral epiphysis after osteotomy (MPa)	Malreduced acetabular fractures Peak contact stress (MPa)
Iglič 1993 (14)	1.2-2.7	3-6	1.2-2.0		
Michaeli 1997 (101)	5-8*	1-2.5*			
Hak 1998 (76)	7.5-9.0				6.0-20.5
Tsumura 1998 (77)	2.5	5.3			
Hipp 1999 (53)	2.1-5.0	2.6-6.5			
Zupanc 2001 (102)				1.1-4.3	
Mavcic 2000 (46, 103)	2.3	4.6			

Anglen 2003 JOT

- 2/3 of the failures in patients with acetabular fractures >60yo had the medial dome impaction “gull sign”





the ilio-ischial surface (delimited by the dotted lines in Fig. 6.11 A). The two separate parts of the ilio-ischial surface as displaced in a parallel fashion produce two ilio-ischial lines on the antero-posterior view. The reduplication of the outline of the roof, of which the posterior segment has accompanied the displaced fragment and has hinged inwards, creates with the undisturbed segment an image like a gull in flight (Fig. 6.11 B). Below, the inferior angle of the detached fragment appears in the superoexternal quadrant of the obturator foramen.

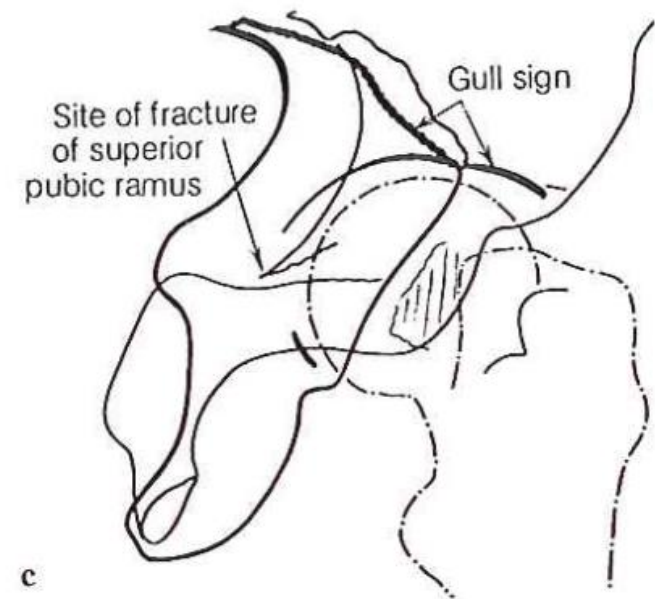
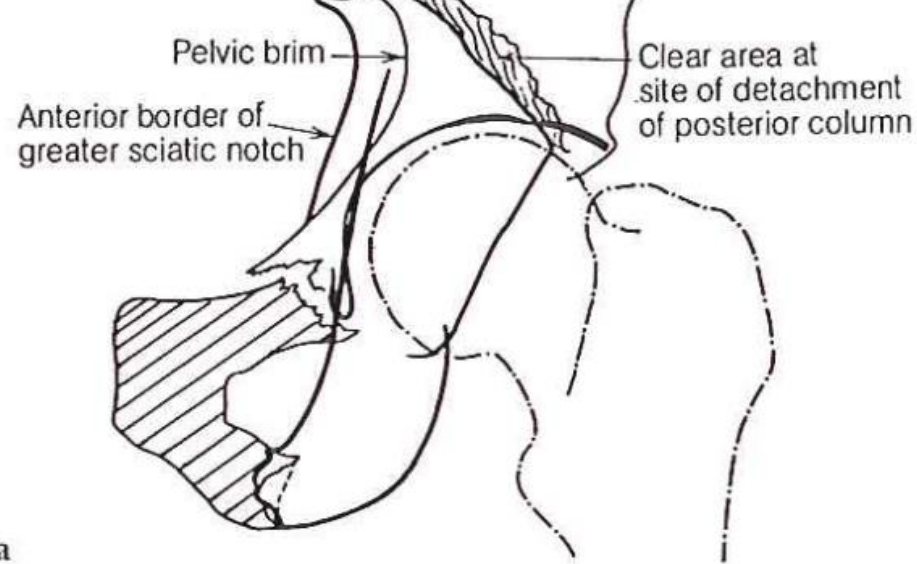
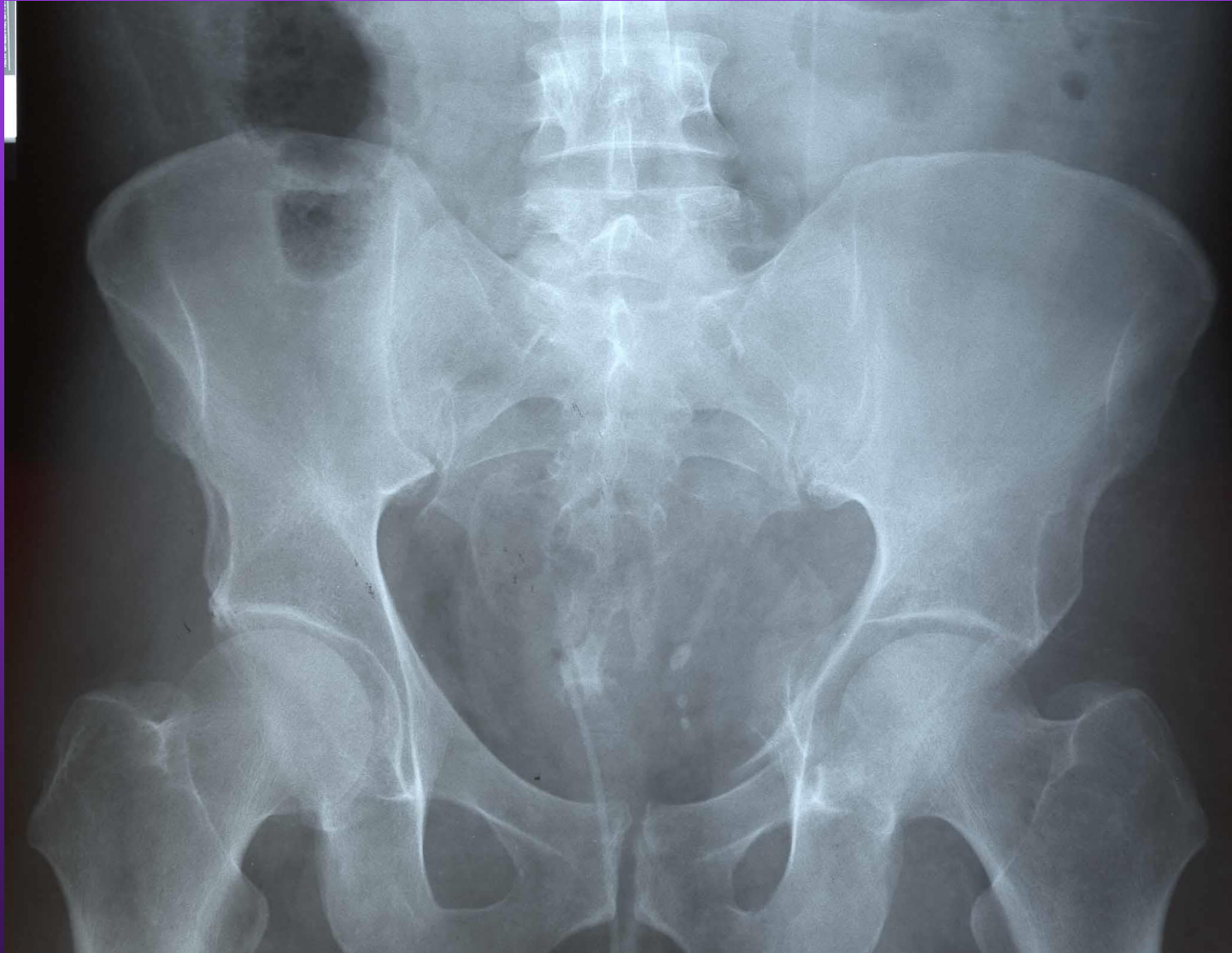


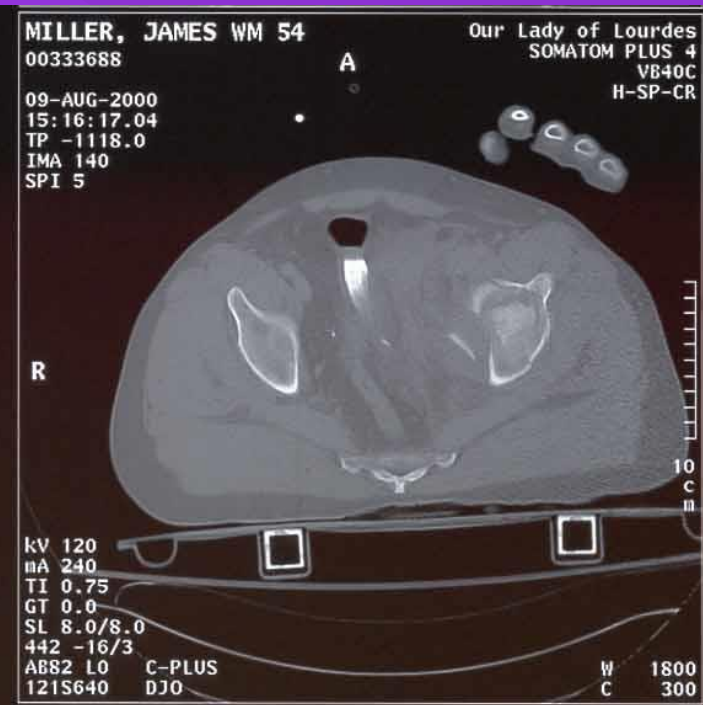
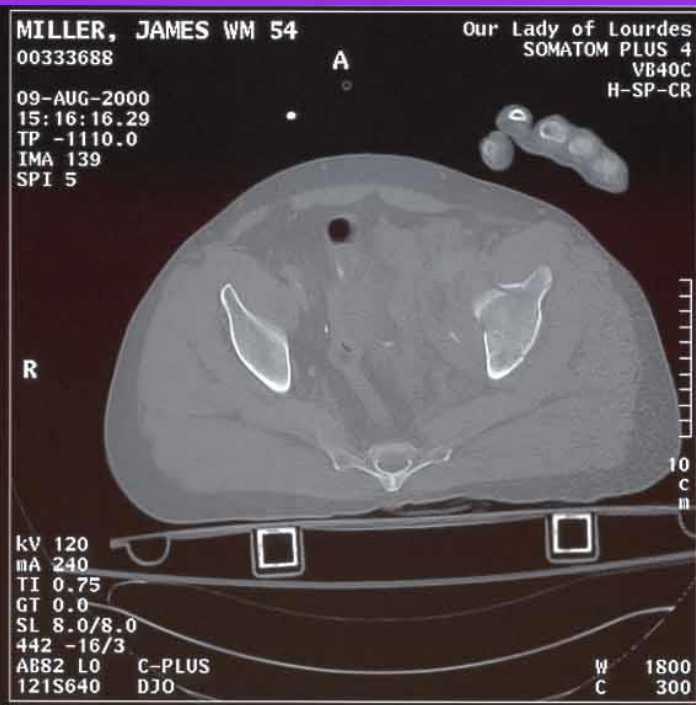
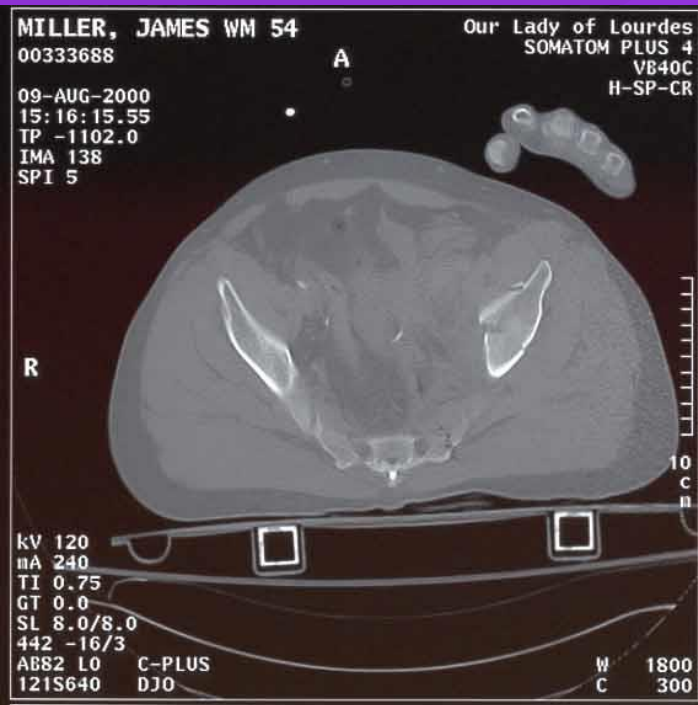
Fig. 6.9A–C. Extended fracture of the posterior column. **A** Antero-posterior radiograph, **a** diagram, **B** obturator oblique radiograph, **C** iliac-oblique radiograph, **c** diagram. In this case there is an associated fracture of the superior pubic ramus which could cause difficulty in interpretation; with the fracture of the inferior ramus, an essential component of the posterior column fracture, it resembles a vertical fracture through the obturator ring

1974vs2003

JM - 8/10/00

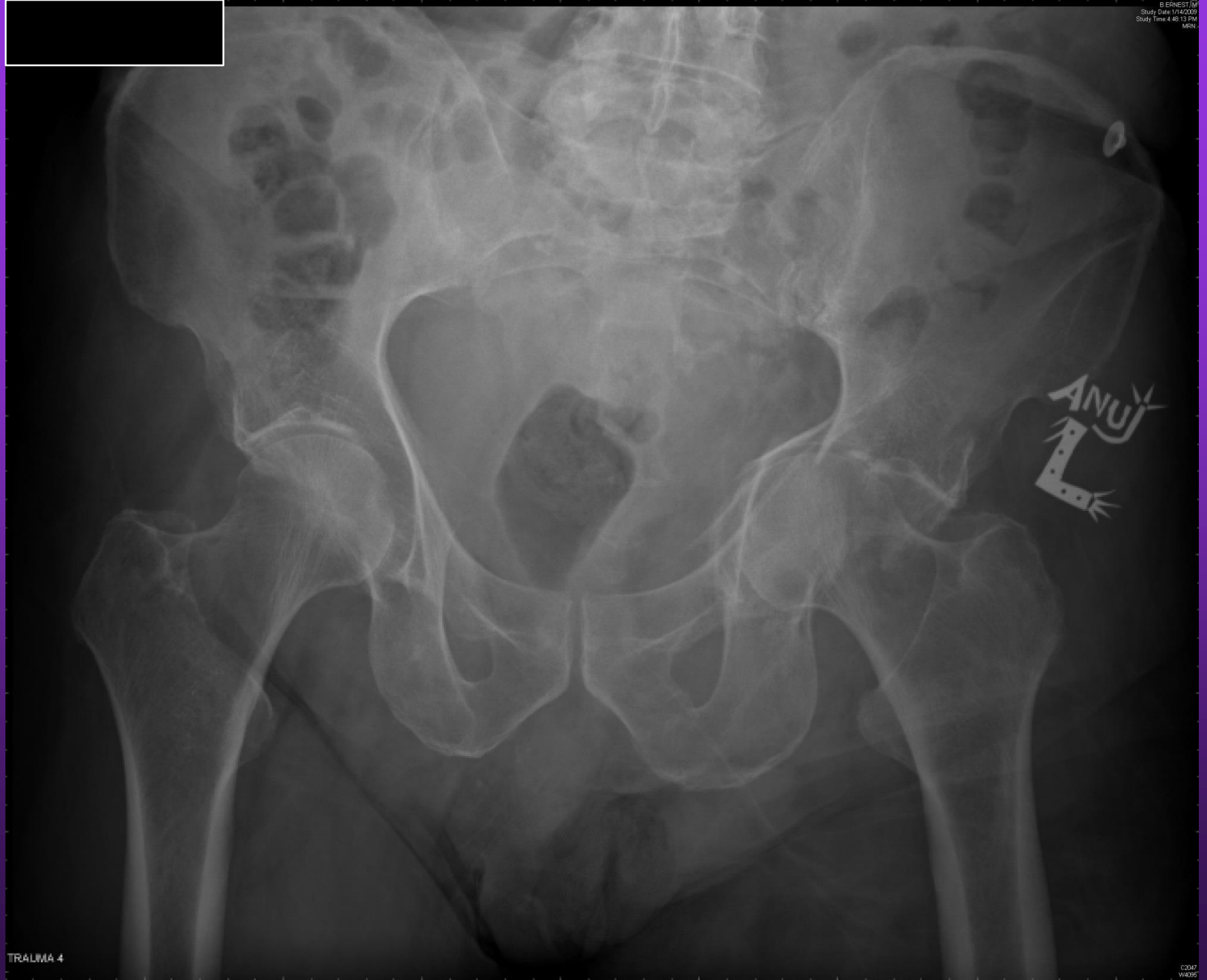


JM - 8/9/00



EB

- 72 yo with “T” type acetabulum with central dome impaction
- Poorly reduced with post op subluxation
- Anterior THA using the femoral head as medial bone graft







Se:4
Im:106

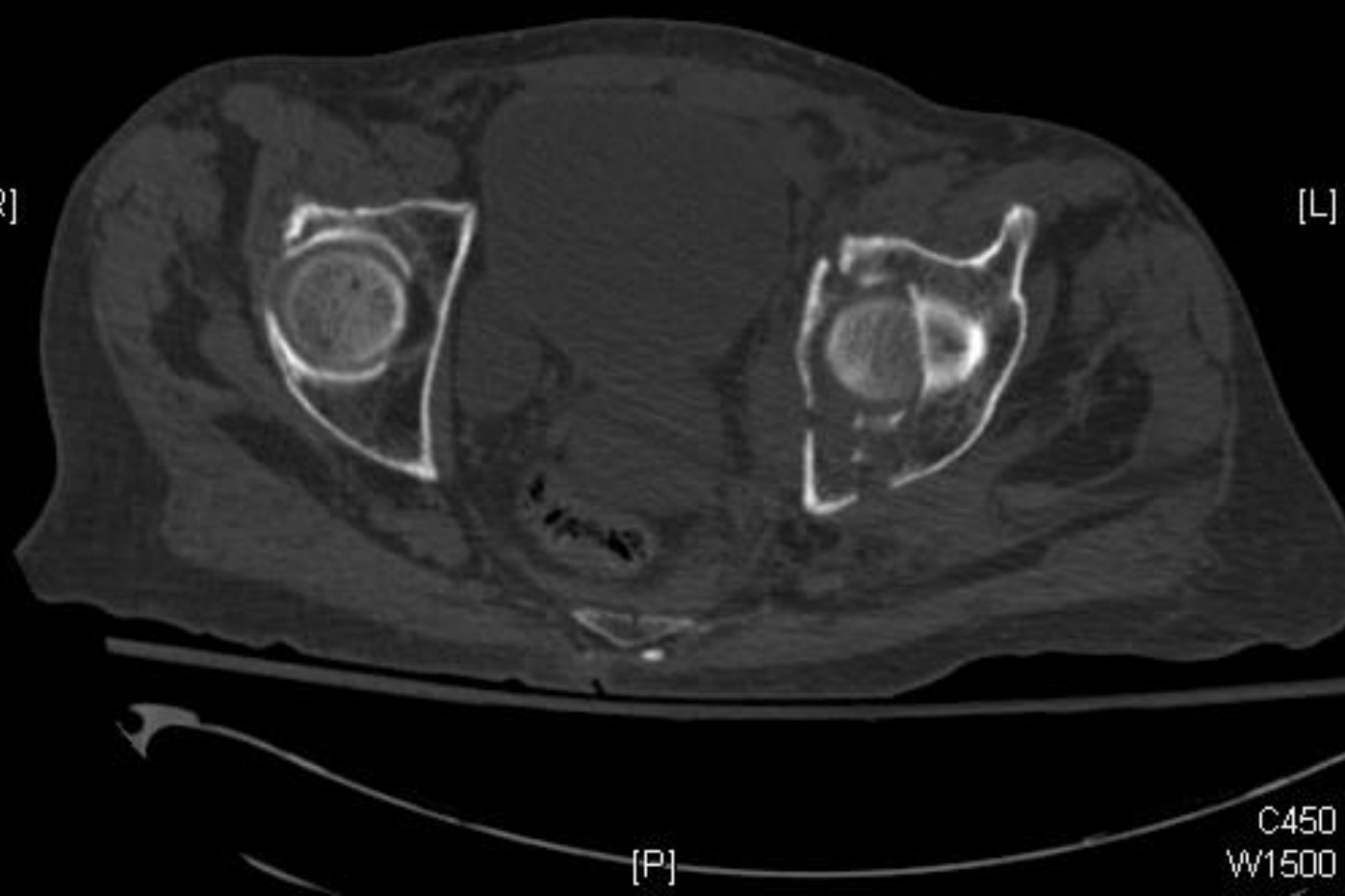
[A]

[R]

[L]

[P]

C450
W1500



Se:5
Im:43

[H]

[R]

[L]

[F]

C350
W2000



Se:5
Im:58

[H]

[R]

[L]

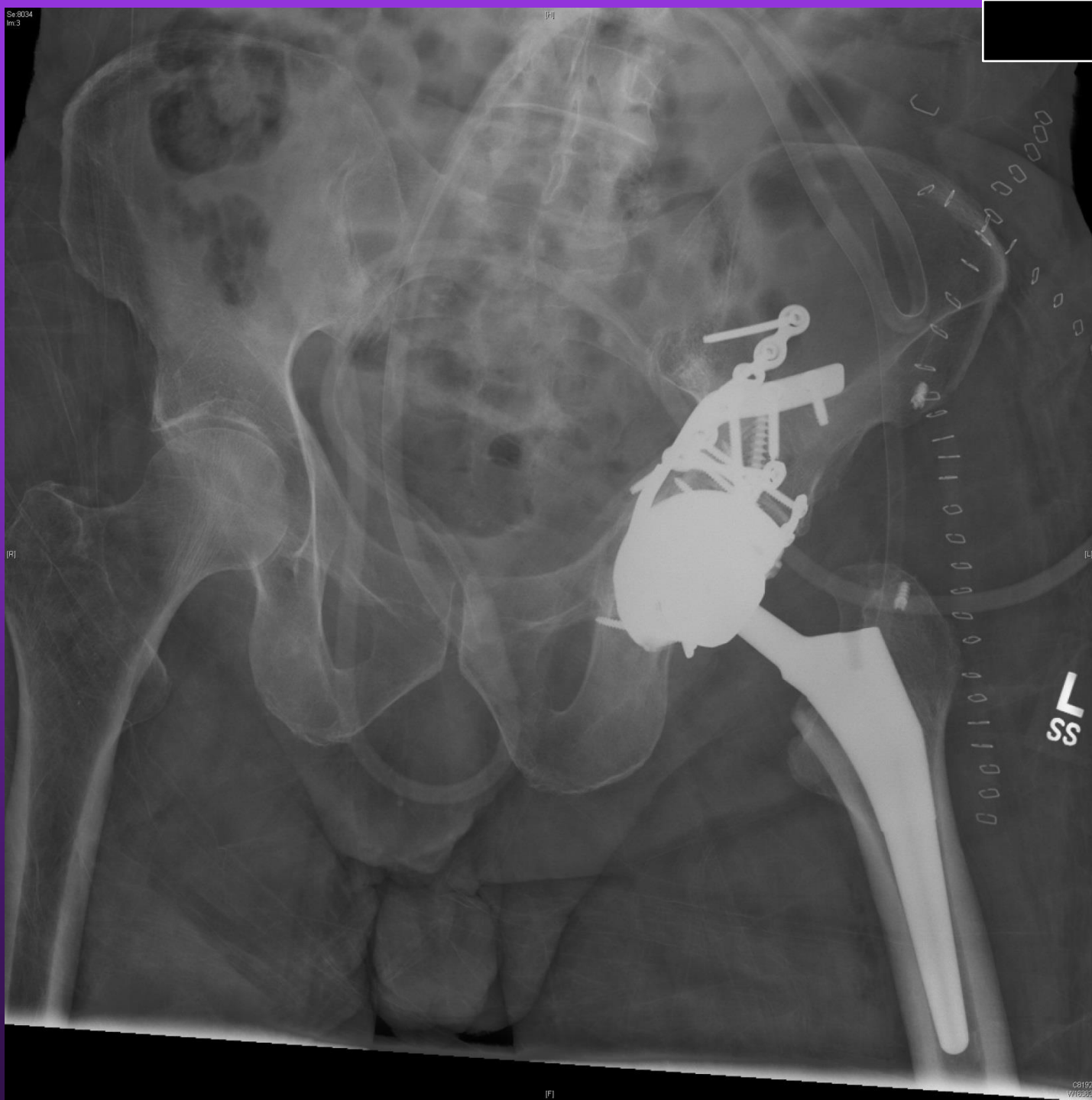
[F]

C350
W2000



R
2 2





Sa 8034
Im 3

[R]

[F]

08192
W16260

RB

- 71 yo fall
- Htn, DM, CAD, s/p CABG
- L AC/AW elevation and
impaction of dome vs elevation
of AW or AC



RB

B ROBERT
Study Date 11/12/2005
Study Time 10:44:05 PM
MRN:

Right

TRALW4 1

C068
W4143

RB

Right

Se:8
Im:94

[A]

S
St

RB

MIRN.

[R]

[L]

[P]

C450
W1500



Se:286
Im:48

[H]

Se
Stud

DD

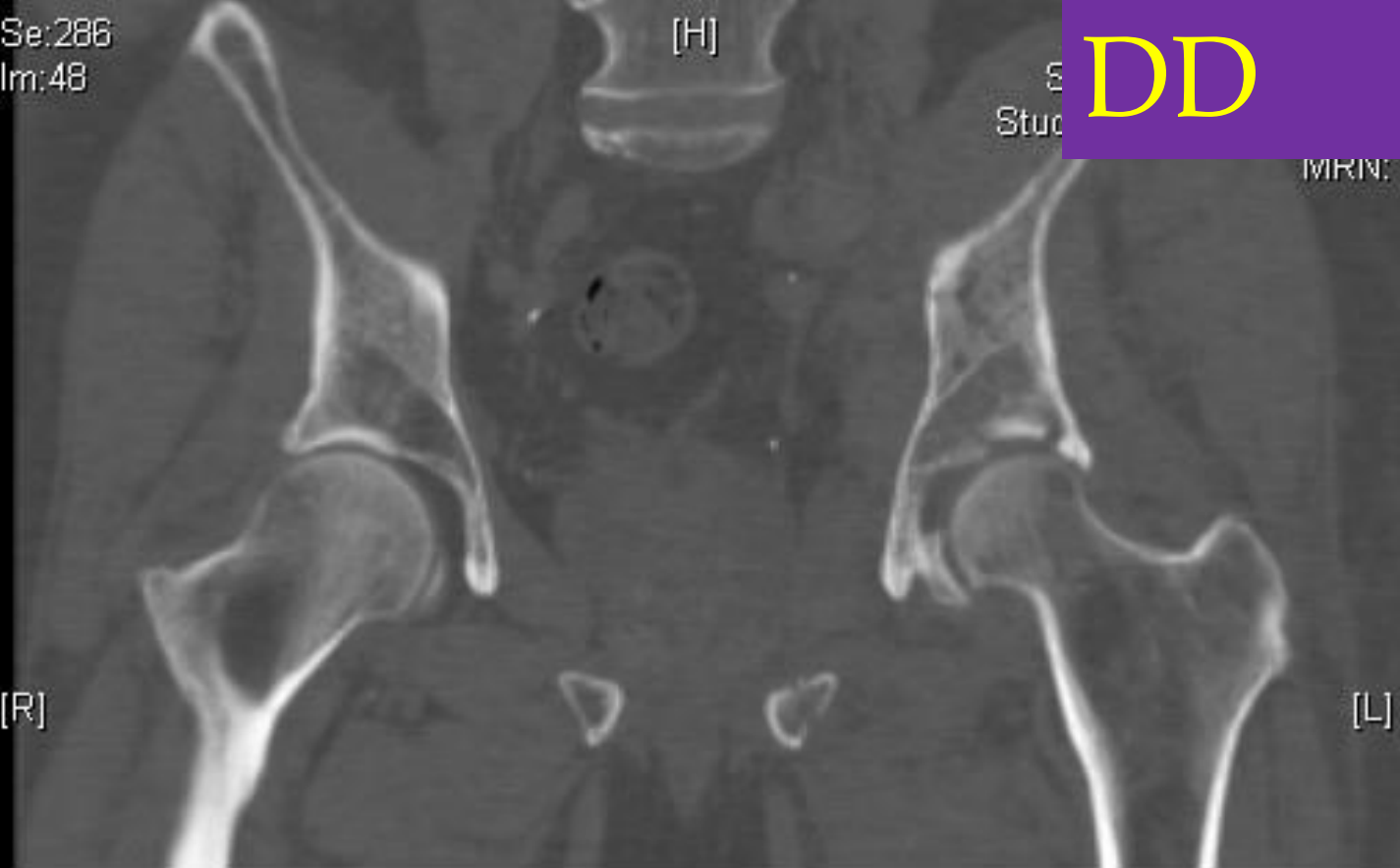
WIRN:

[R]

[L]

[F]

C350
W2000



Se:9
Im:45

[H]

Study
Study

RB

MRN:



[F]

C450
W1500

Se: 2955
m: 3

[H]

B. ROBERT
Study Date: 11/25/2008
Study Time: 12:25:52 AM
MRN:

R
03

[R]

[L]

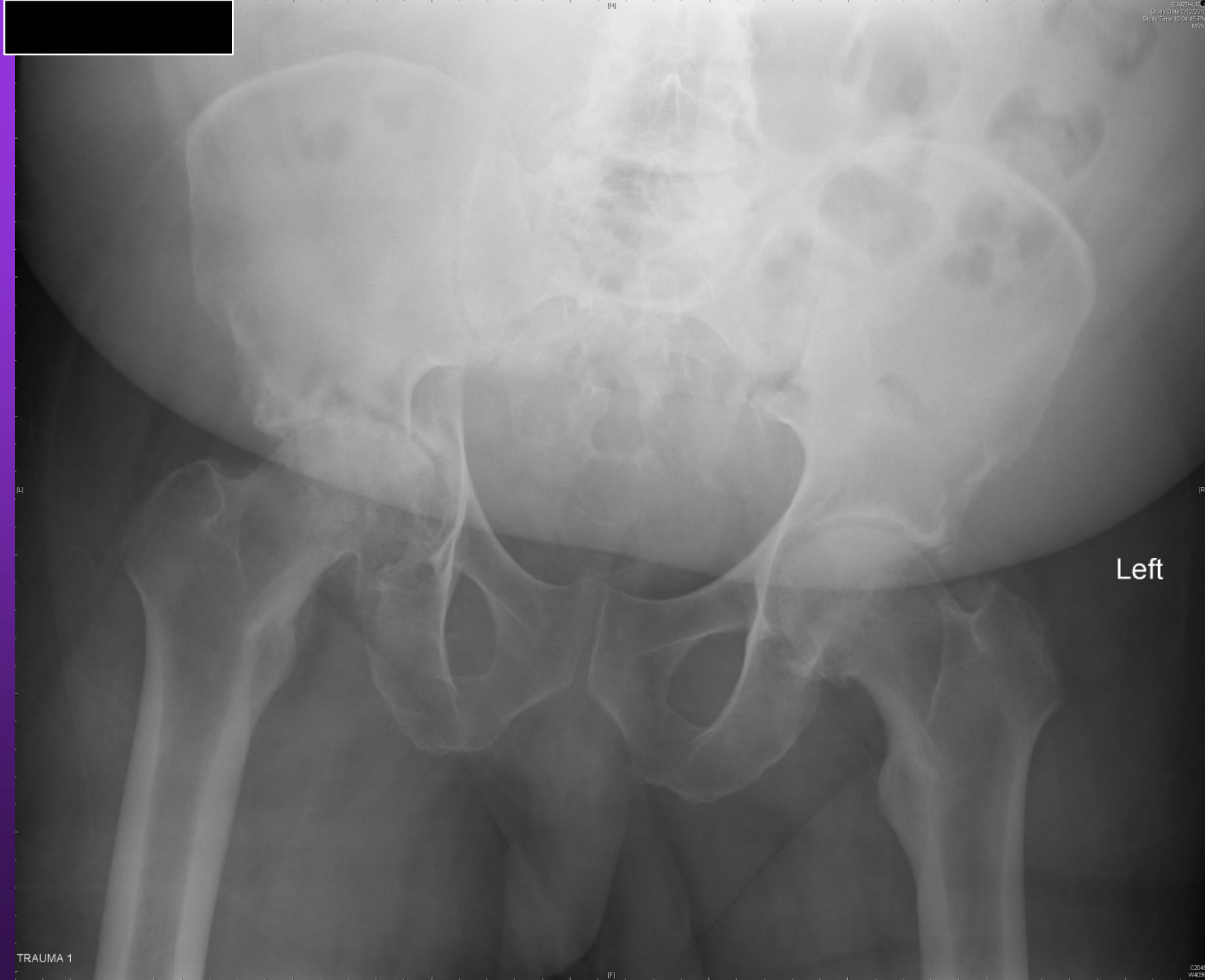
[F]

C8281
W10345



AS

- 62 yo with “T” type acetabulum
preop MI and preexisting OA



Left

Se:3
Im:104

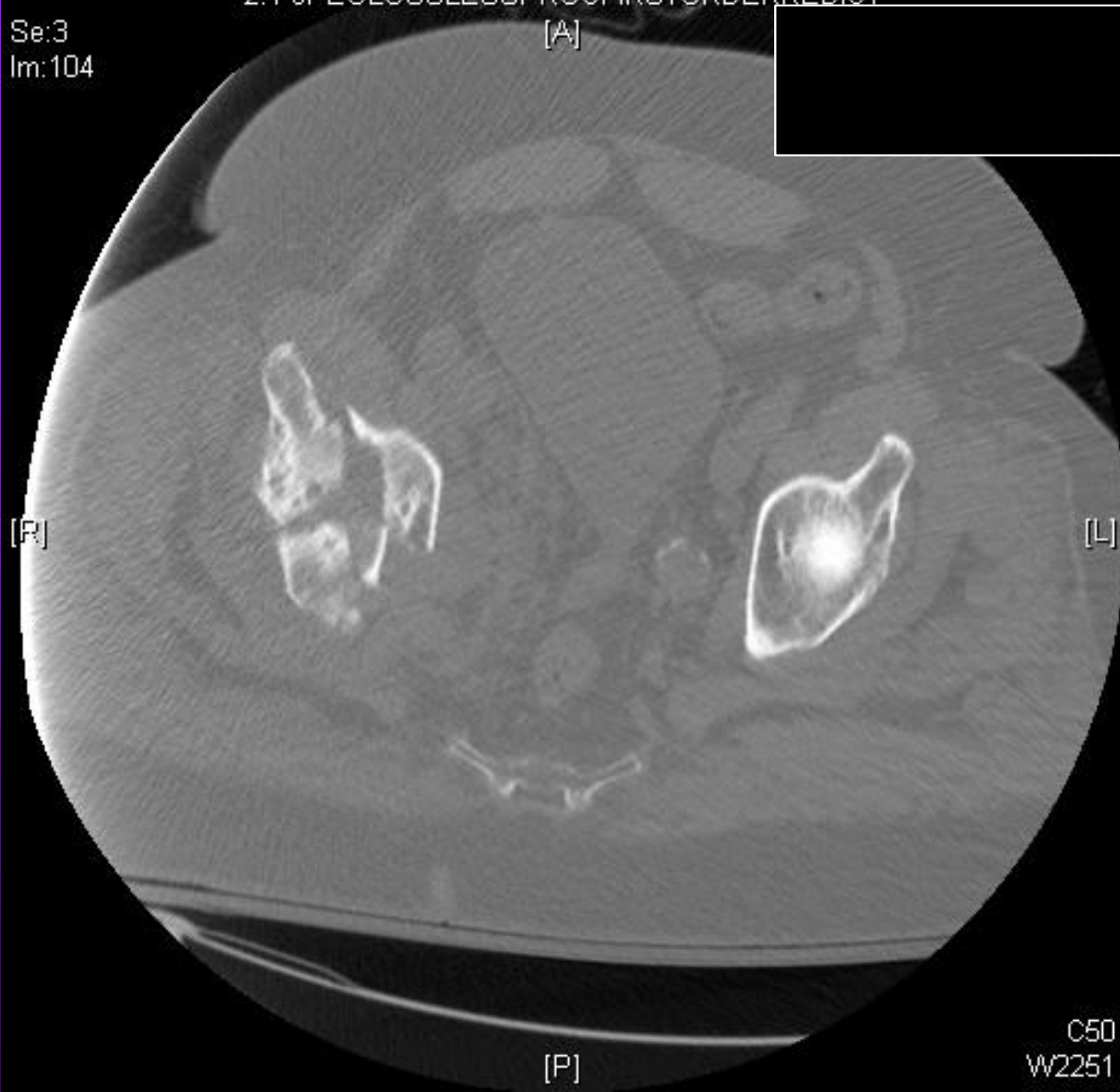
[A]

[R]

[L]

[P]

C50
W2251



Se:3
Im:110

[A]

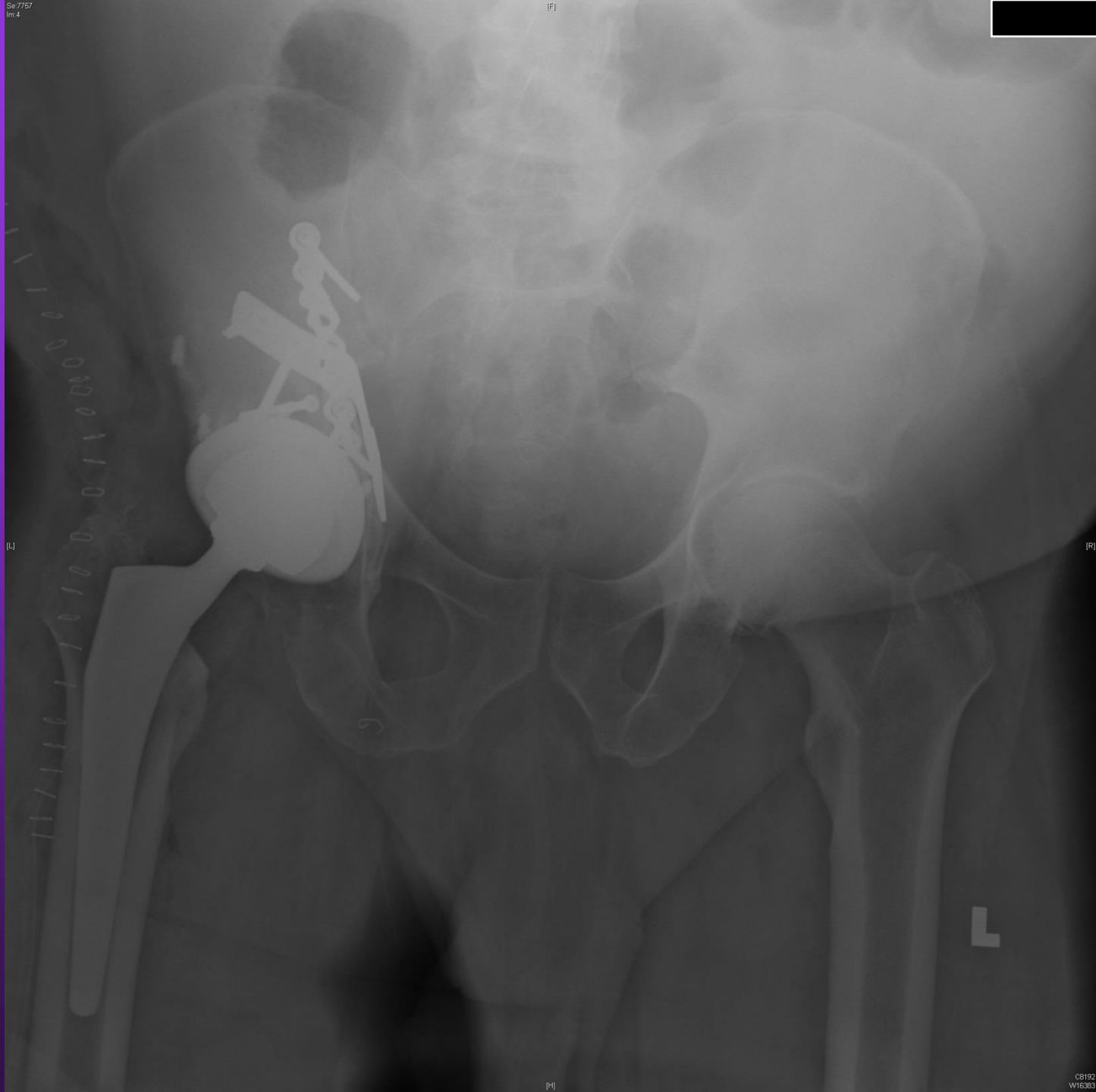


[R]

[L]

[P]

C50
W2251



Se7757
Im:4

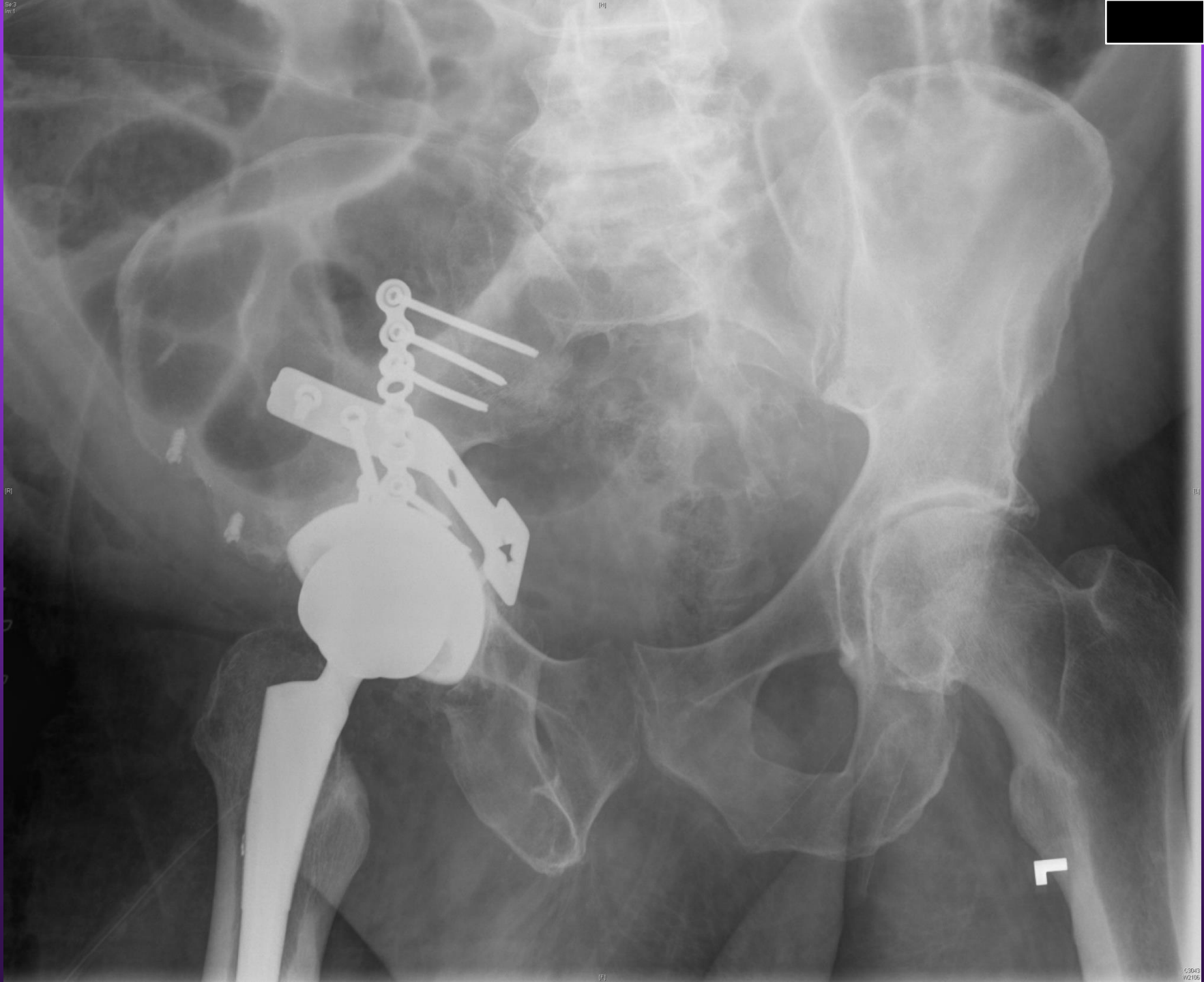
[P]

L

R

[P]

CB192
W16383





R

63/27

HM

- 35 yo previous MVA and a R THA after a failed femoral neck and bilateral pelvic injuries (previous IS screws)
- New MVA with a L distal femur and acetabulum fracture and R pelvis injury



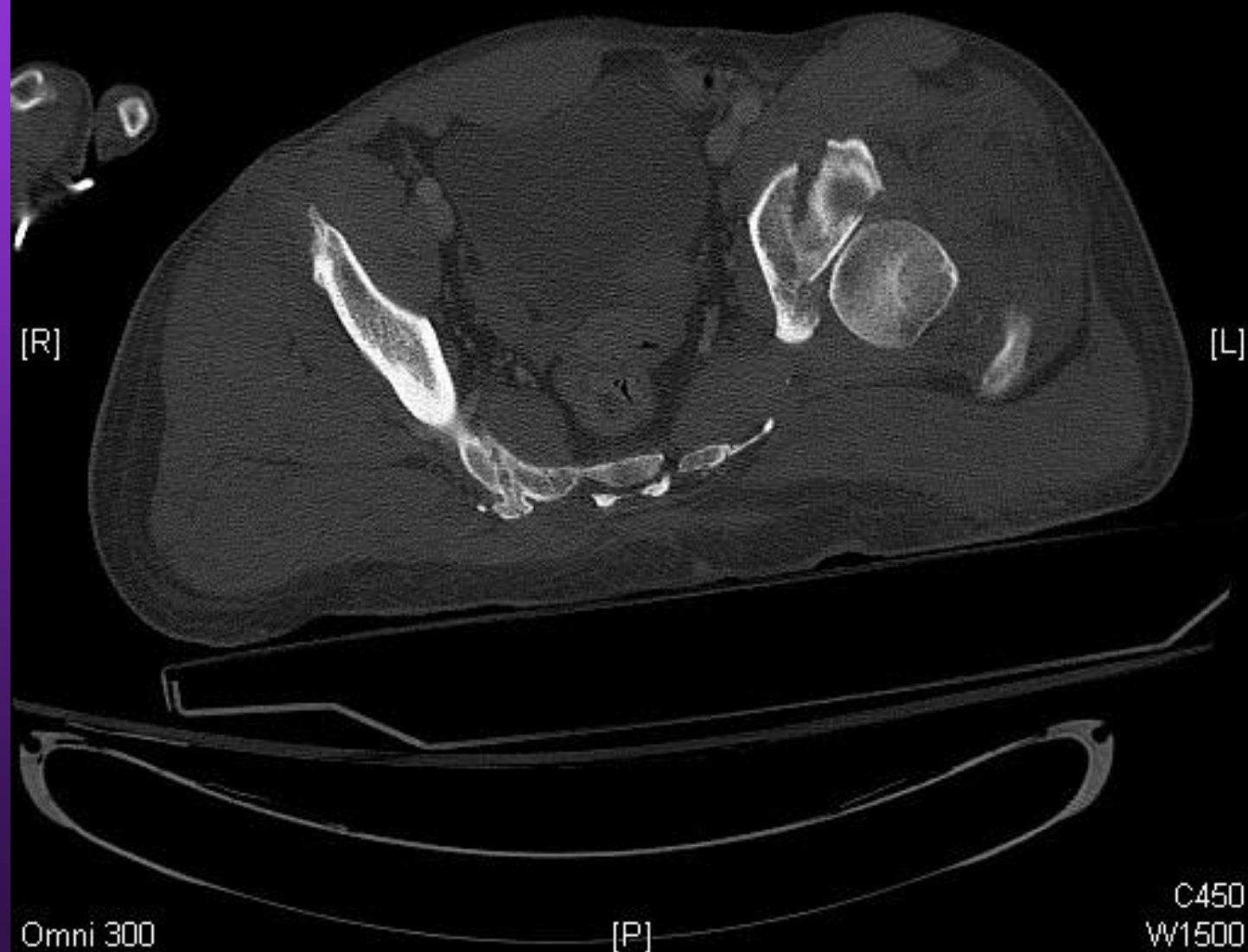
R



Se:17
Im:90

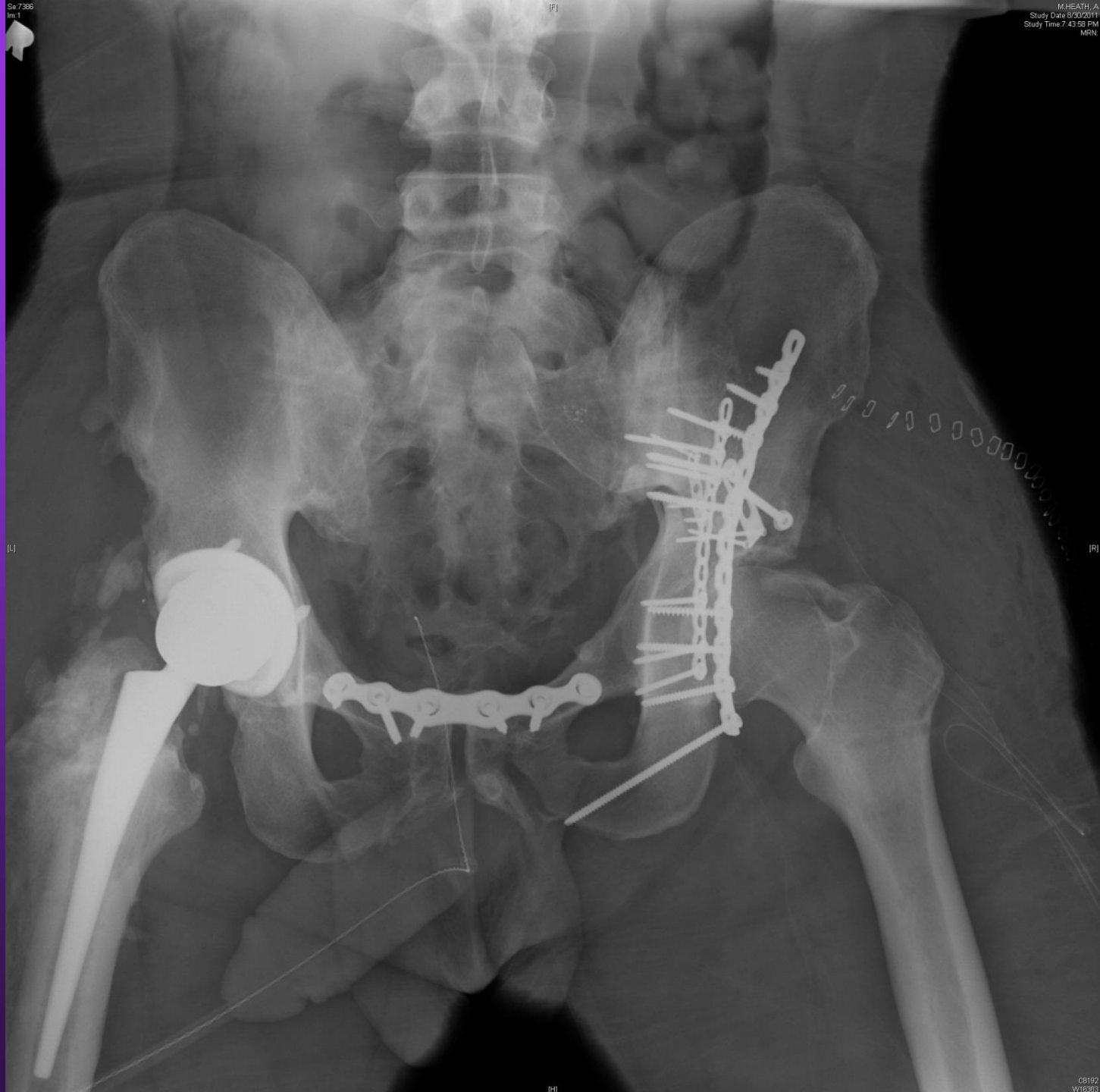
[A]

M. HEATH, A
Study Date: 8/28/2011
Study Time: 4:55:35 AM
MRN:



Both Column with PW (ACPHT with a PW)

- Approach?
 - EIF
 - Dual or Simultaneous II and KL
 - II
 - KL



?

Se:7
Im:139

[H]

M. HEATH, A

Study Date:8/31/2011

Study Time:4:02:42 AM

MRN:

[A]

[P]

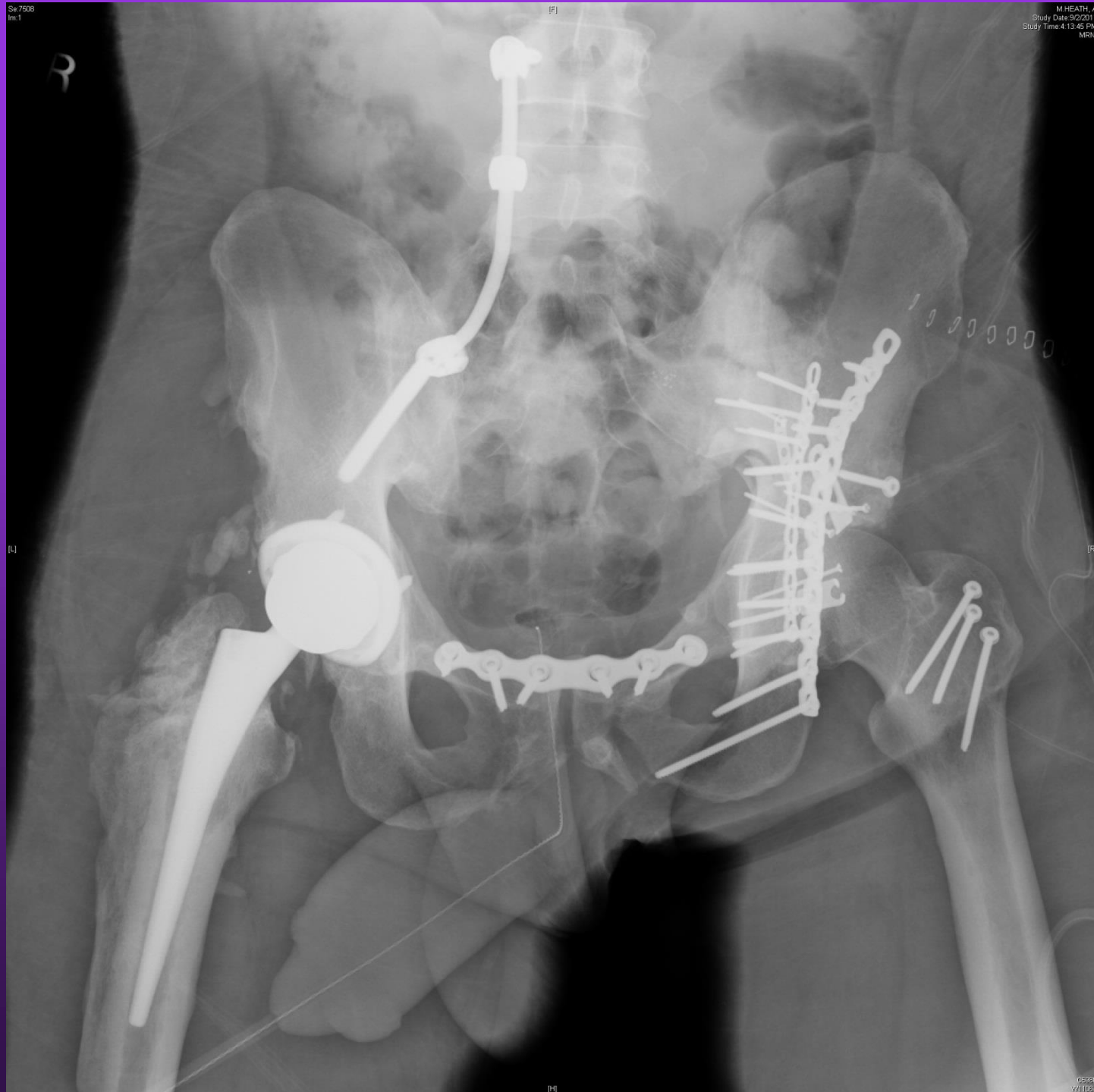
[F]

C450
W1500



Sr:7508
Im:1

M HEATH, A
Study Date:9/2/2011
Study Time:4:13:45 PM
MRN:



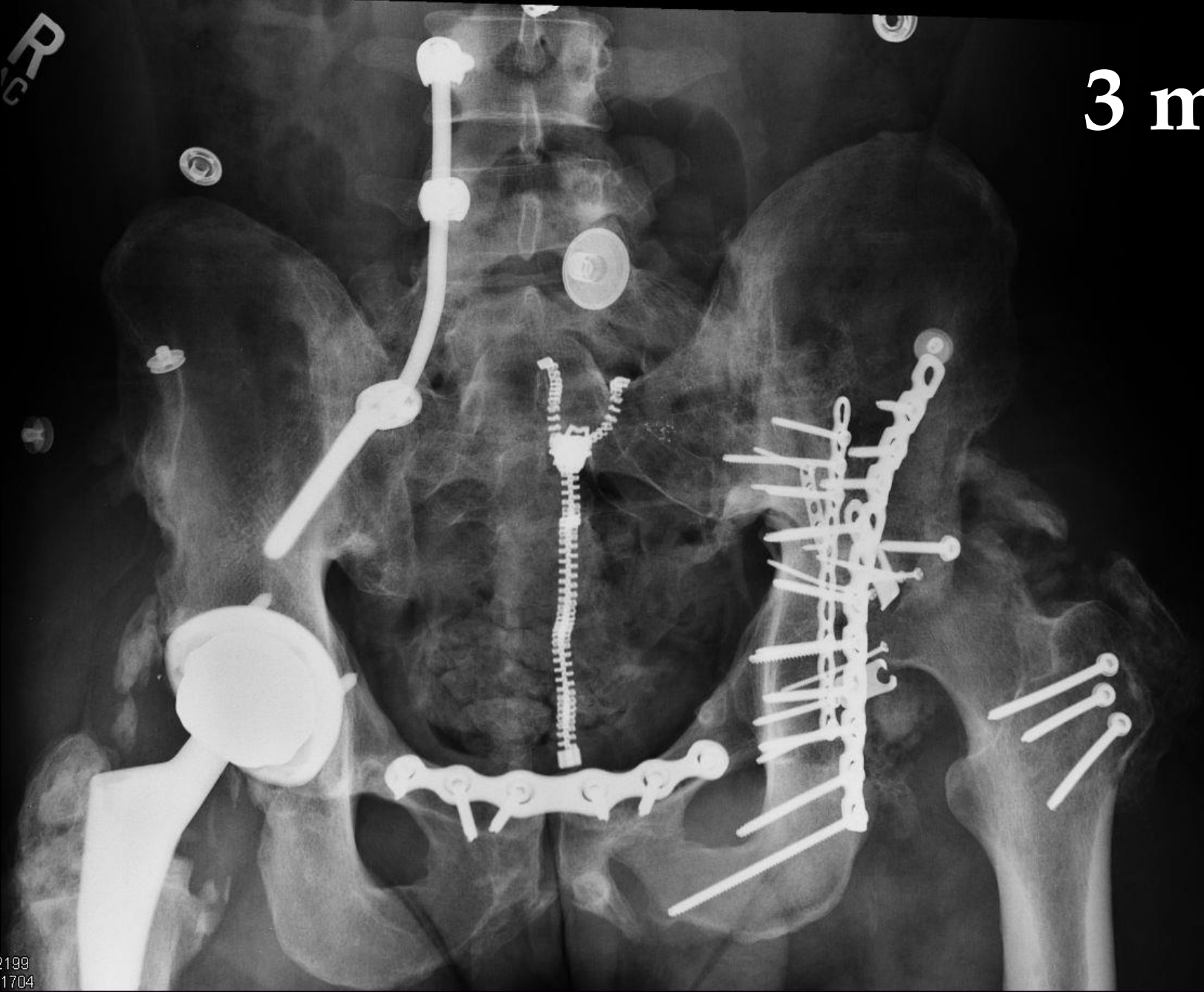
05220
VY11094

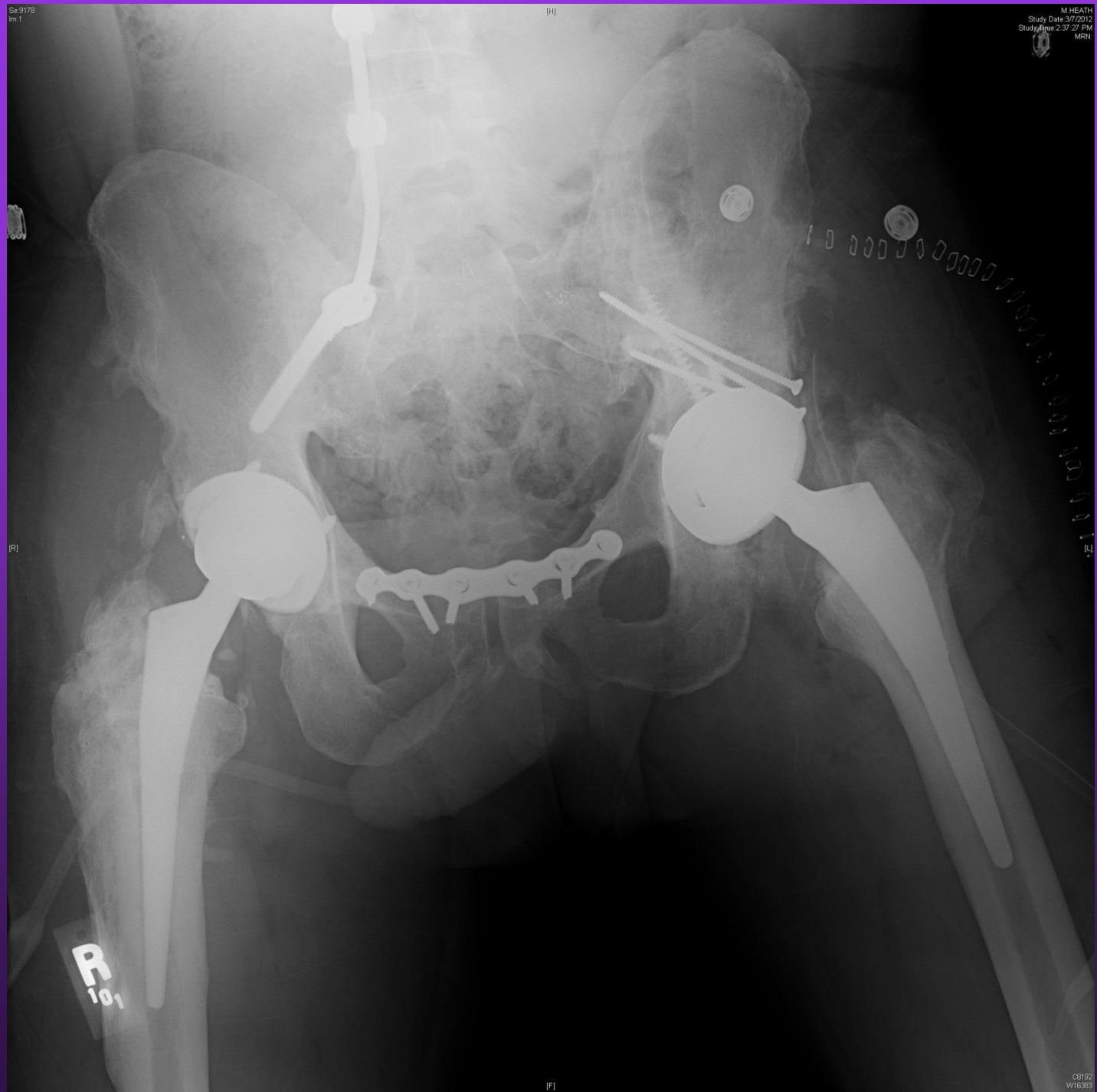
MOORE HEATH
35Y3M,M,SW186735
1-1
PELVIS
View Pos: AP

Lassy

SOUTHWEST ORTHOPEDIC
KODAK CR0850A
Dec 30, 2011 8:12:43 AM
Study Desc: HIP - 2 VIEWS LEFT

3 mo fu





R
101

**Does Total Hip Arthroplasty
Reduce the Risk of Secondary
Surgery Following the
Treatment of Displaced
Acetabular Fracture in the
Elderly Compared to ORIF**

Vrahas et al

Findings

- 30% reoperation rate with ORIF
- 14% THA
- SF – 36 – 39 vs 48





MEDCOM RESAMPLED
[H]

Se:603
Im:2

M.RANDALL, J
Study Date:6/1/2013
Study Time:6:25:05 PM
MRN:



[PL]

[AR]

[F]

C128
W256

Se:17
Im:84

[A]

M.RANDALL, J
Study Date:6/1/2013
Study Time:6:25:05 PM
MRN:



Omni 300

[P]

C477
W1488

Se:5
Im:105

Shift Overlay from 60xx to 7FE0
[H]

M.RANDALL, J
Study Date:6/11/2013
Study Time:1:44:21 AM
MRN:

[R]

[L]

[F]

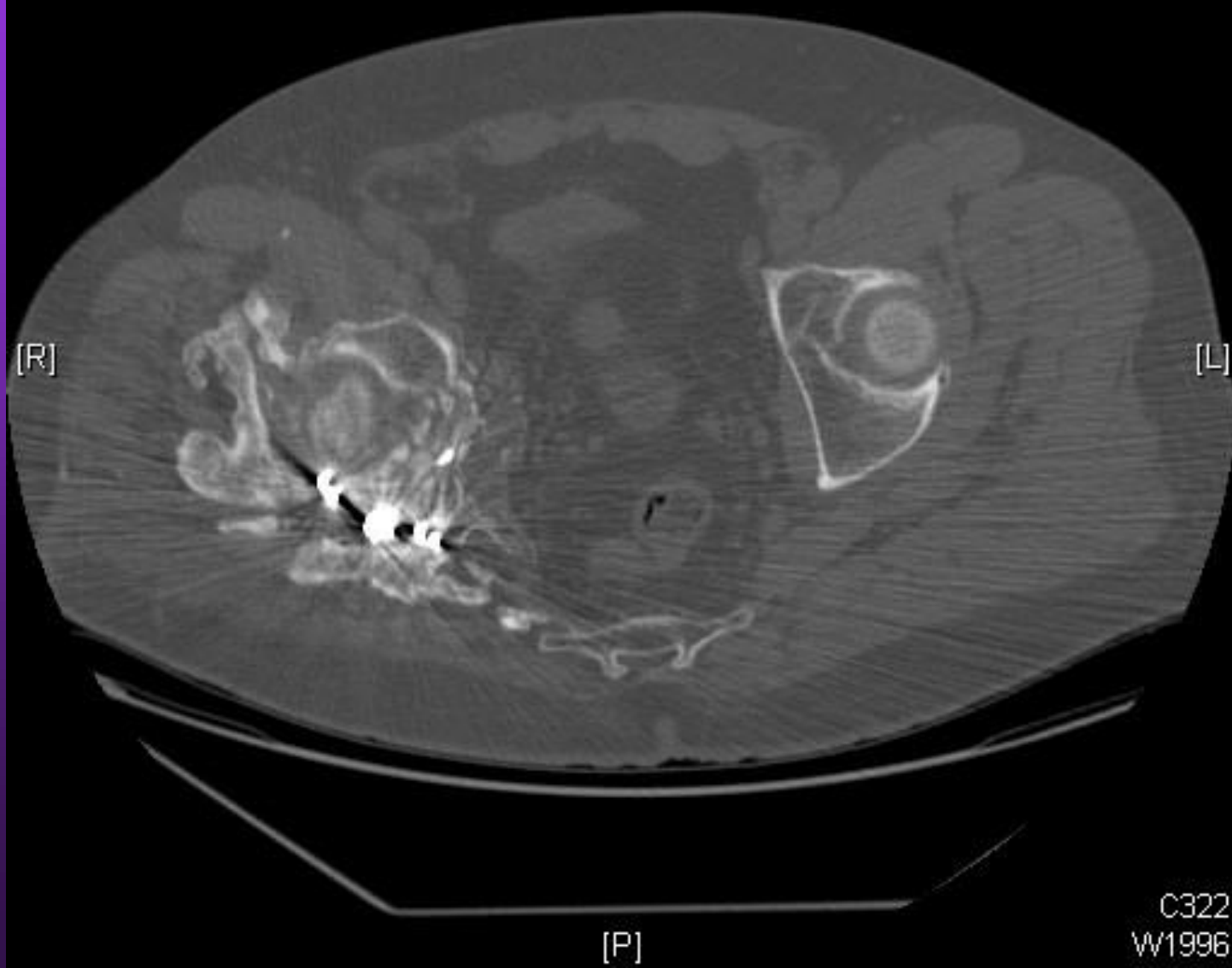
C421
W1502



Se:3
Im:119

[A]

M.RANDALL, J
Study Date:9/12/2014
Study Time:10:23:55 AM
MRN:



Se: 400
Surface 7
Im: 8: 6142
Se: 4
Volume Rendering No cut

(H) Memorial Hermann OPID Clear Lake
S 96 MCI Study Date: 9/12/2014
Study Time: 10:23:55 AM
DoB: Apr 06 1958
Ex: Sep 12 2014

DFOV 44.0 cm
STND
400/8

L
[L]
0
5



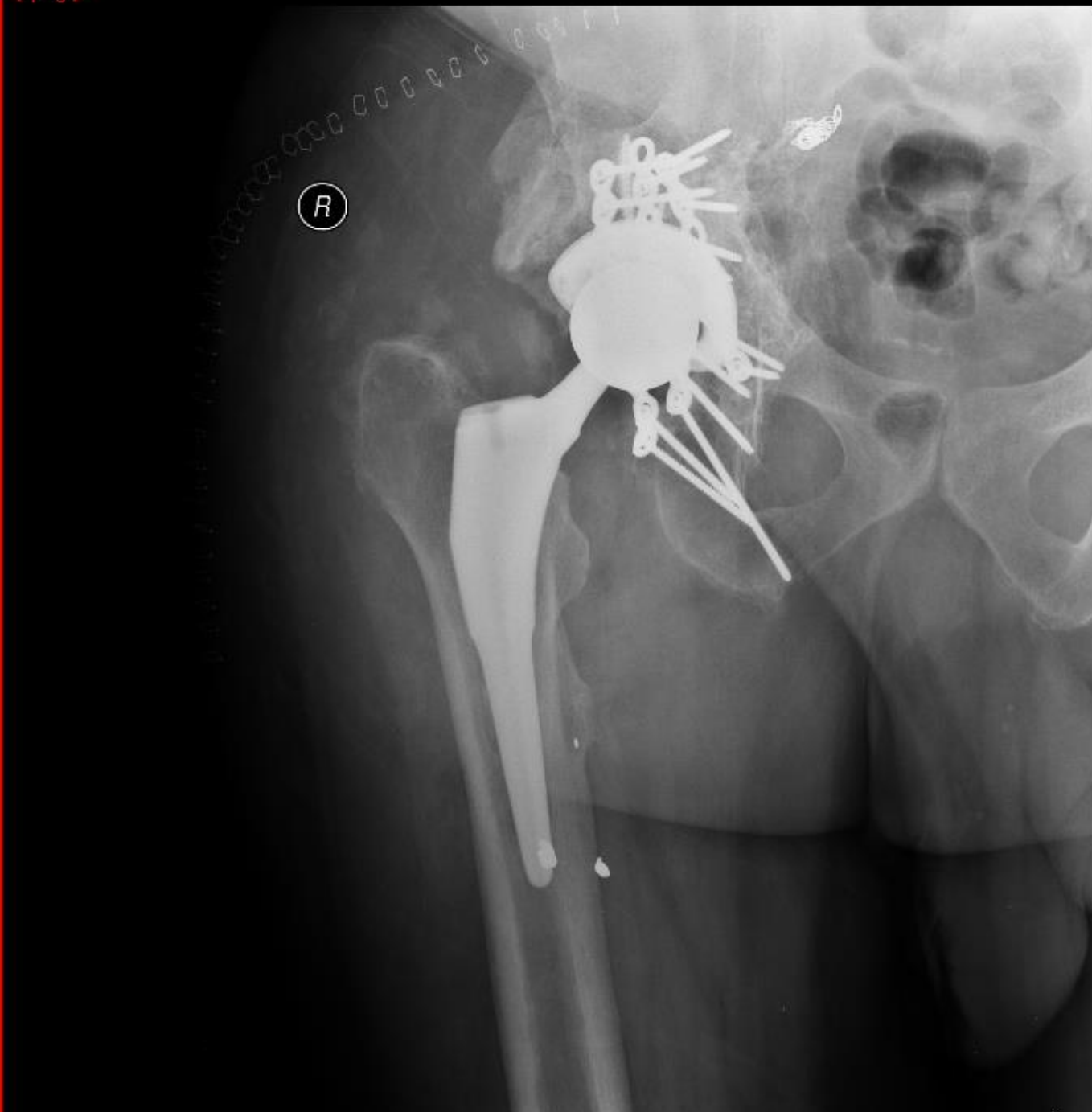
R
[R]
3
4

No VOI
kv 120
mA 440
Rot 0.80s/HE 27.5mm/rot
1.2mm 1.375:1/0.6sp
Tilt: 0.0
10:26:04 AM
W = 594 L = 41

I 344
[F]



0128
W256



Geriatric Acetabular Surgery: Letournel's Contraindications Then and Now – Data From the German Pelvic Registry

Pohleman et al, JOT 2019 Feb

Findings

- Letournel's initial 129 pts 30 years ago – no patients over 60 yo
- Registry 50% > than 60 yo



Make it perfect

MT

- 52 yo car accident
- Obese, HTN, Diabetes, Fibromyalgia
- Crushed Foot
- Both column posterior wall acetabular fracture
- Options?

Se:1
Im:1

T.MARIA
Study Date:10/11/2006
Study Time:4:02:07 AM
MRN:



[R]

[L]

[F]

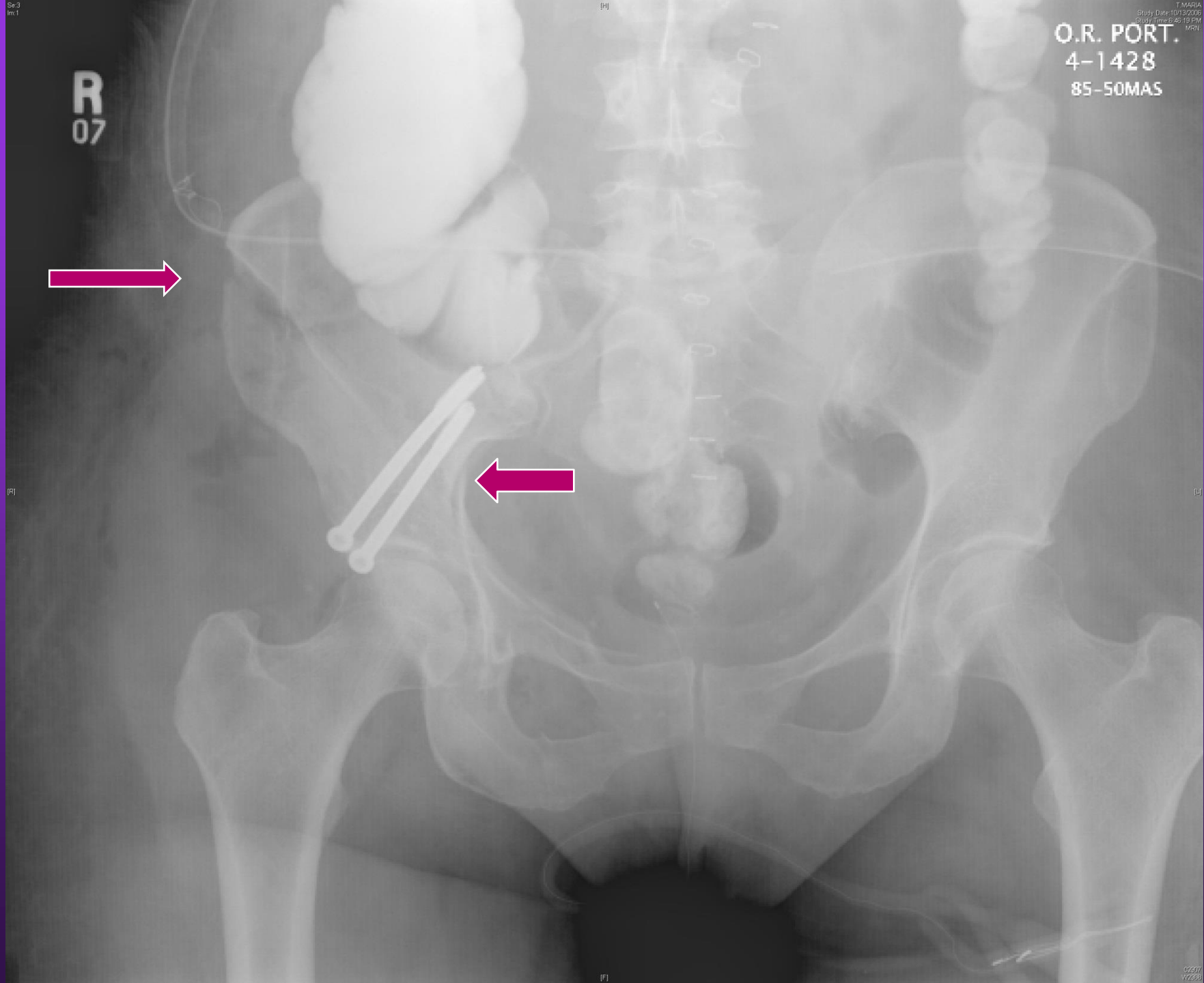
C50
W350

LITIMET STUDY
OUTLET

Surgeon

- 4 years medical school, 5 year orthopaedic residency, and 1 year trauma fellowship all at Southwestern in Dallas
- Proclaimed that he wanted to do all pelvis and acetabular fractures at the hospital

R
07



Se-1

MR1

R
07

[H]

T-MARIA
Study Date: 10/19/2016
Study Time: 6:40:19 PM
MRN



O.R. PORT.
4-1428
85-50MAS

[H]

[H]

[F]

C2188
W2225

O.R. PORT.

R 07

4-1428
85-50MAS



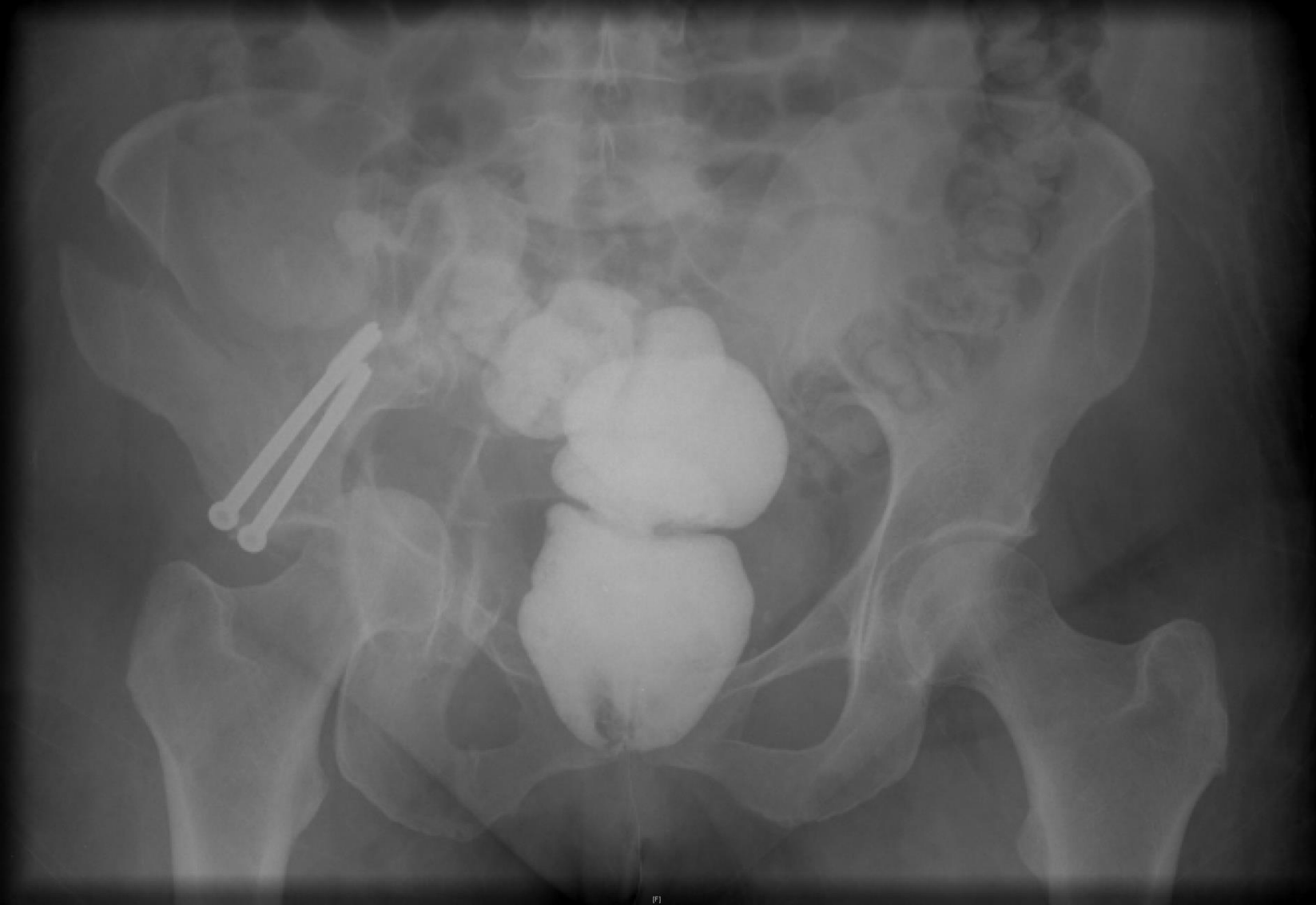
R
19

11d post op

J657 PORT

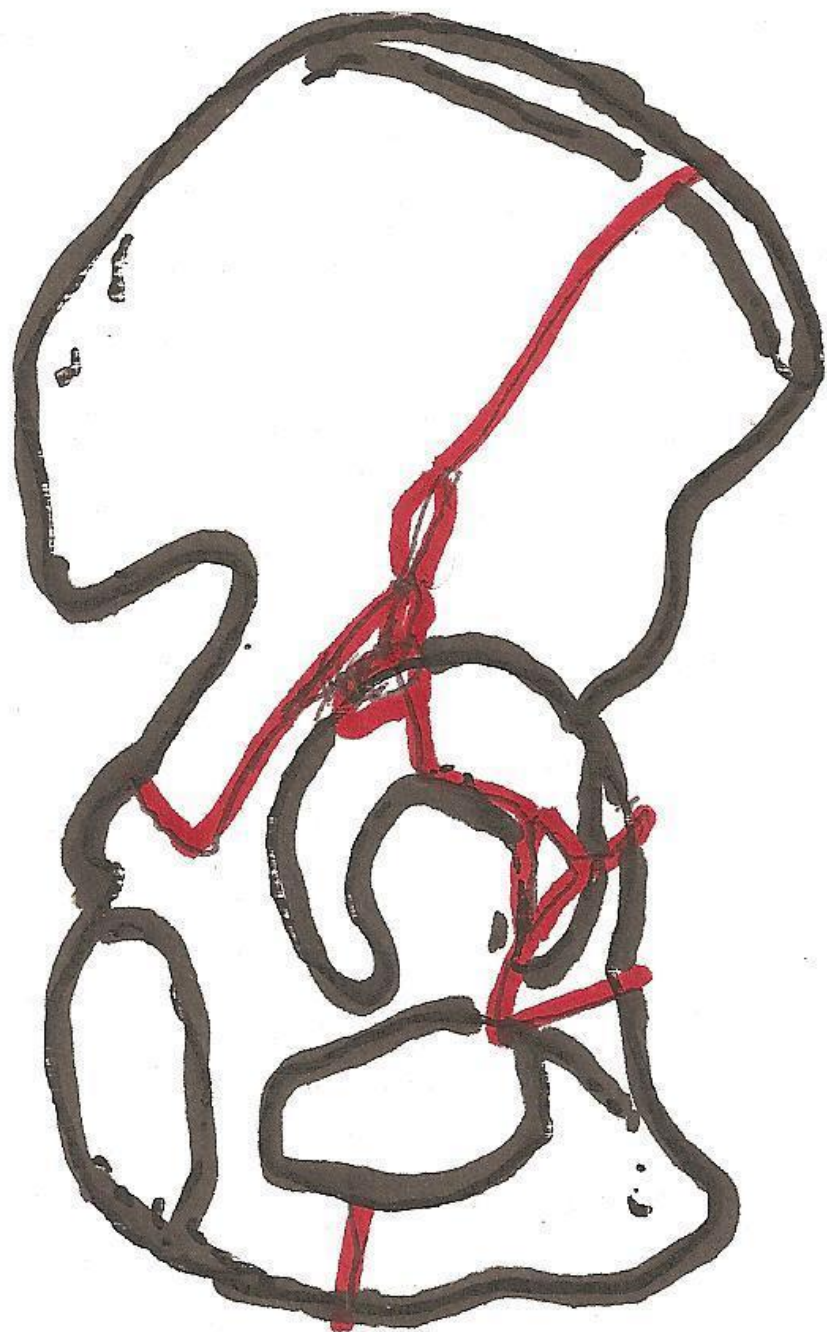
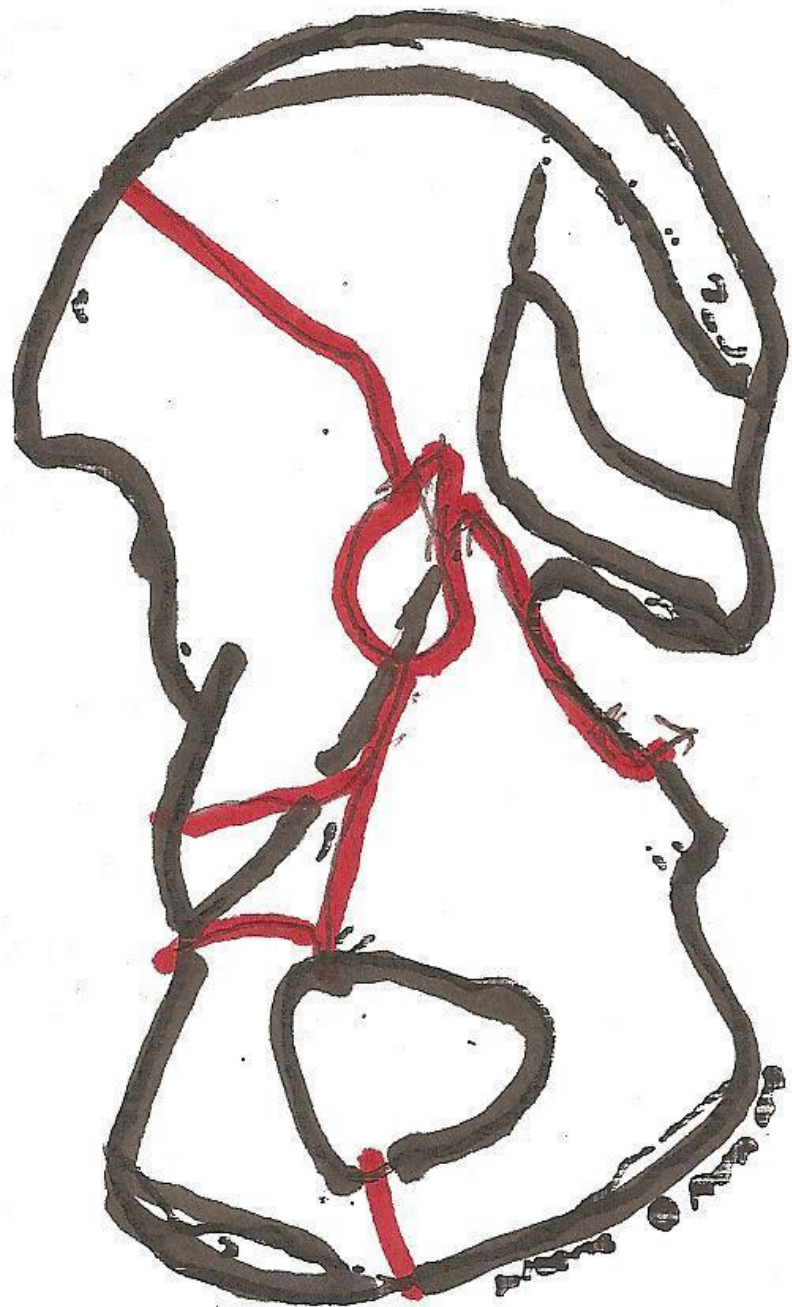
[F]

[F]



[F]

C3016
W1660





R
32 23

R

L

R
32 /23

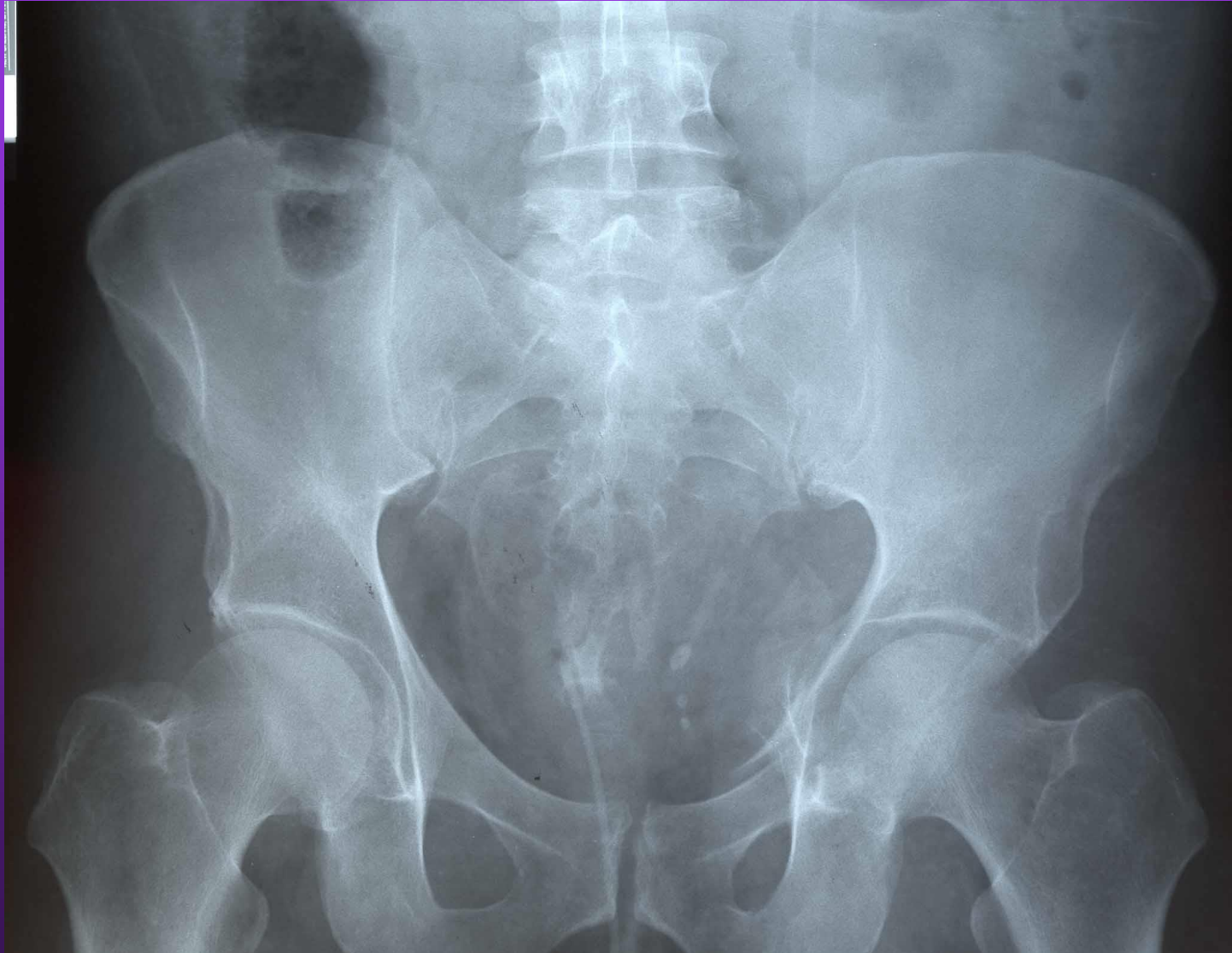


3 yr fu

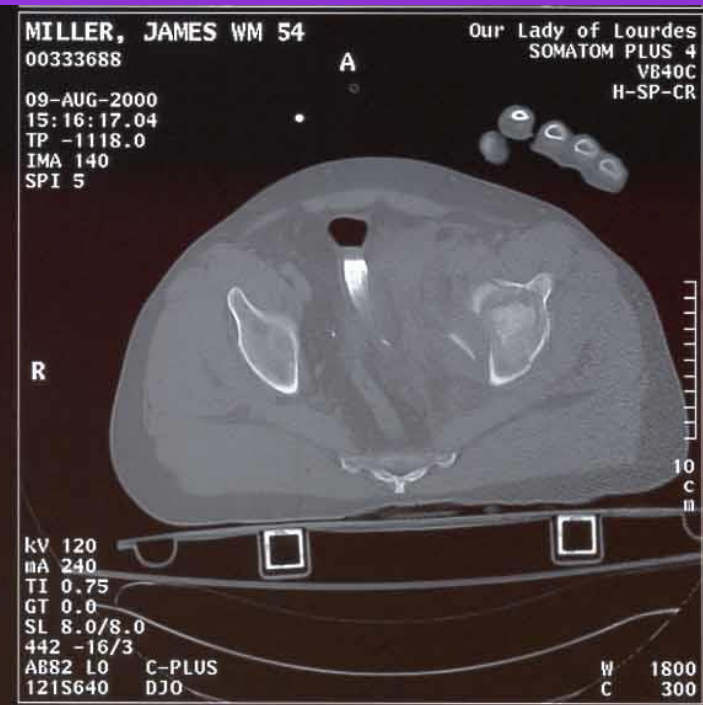
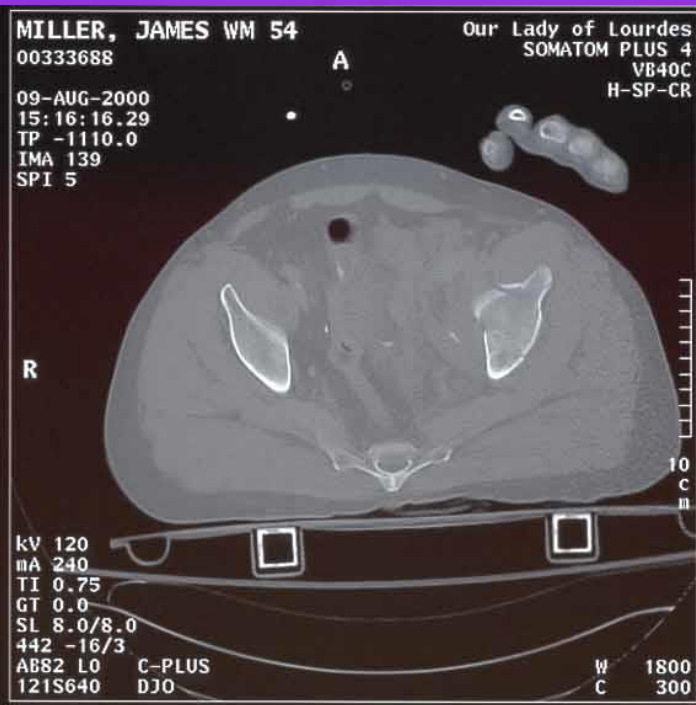
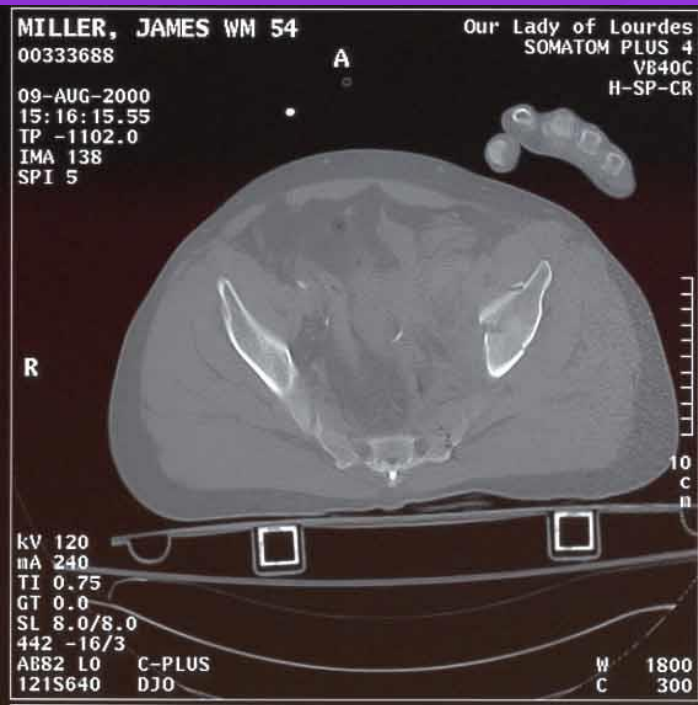


R
32/23

JM - 8/10/00



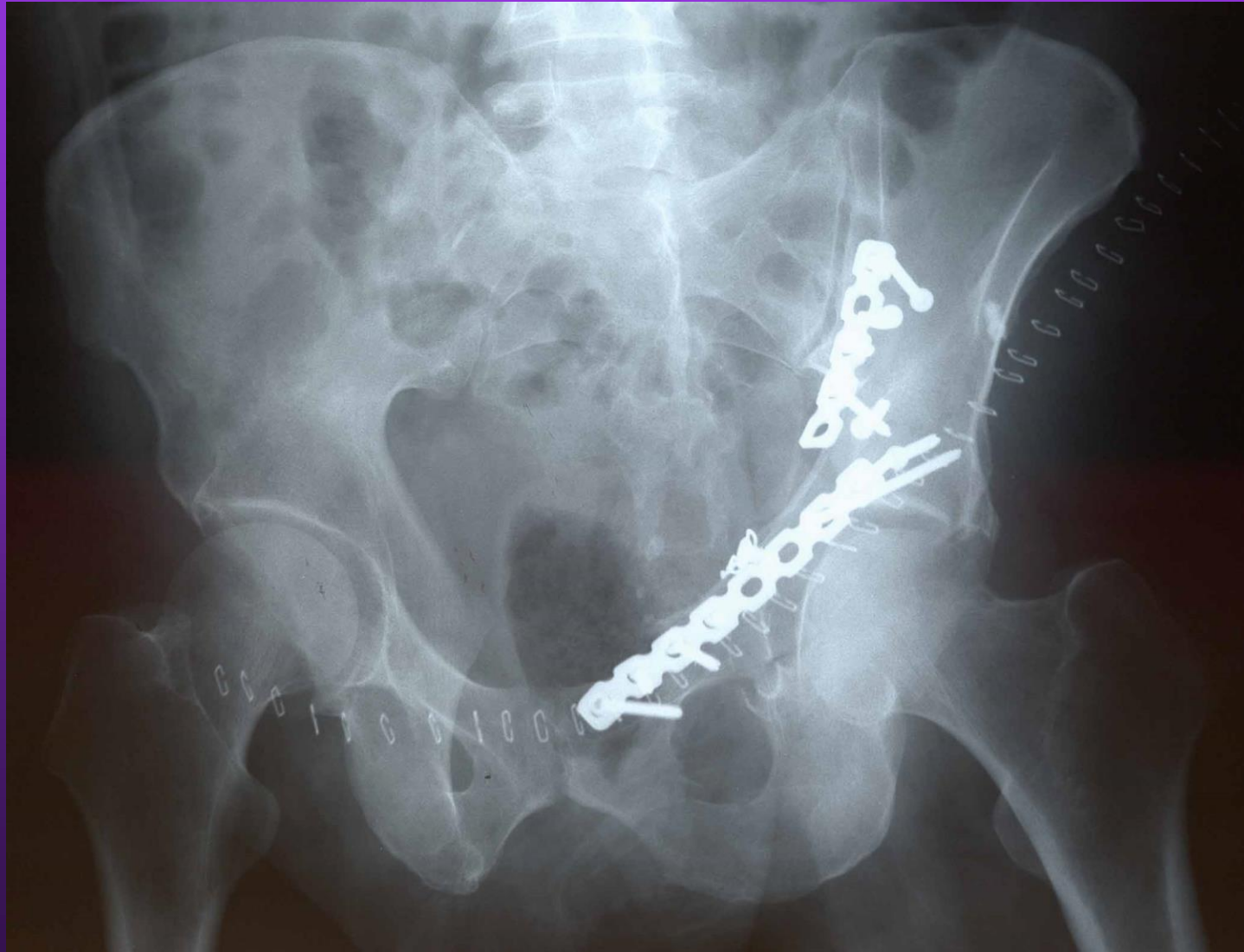
JM - 8/9/00



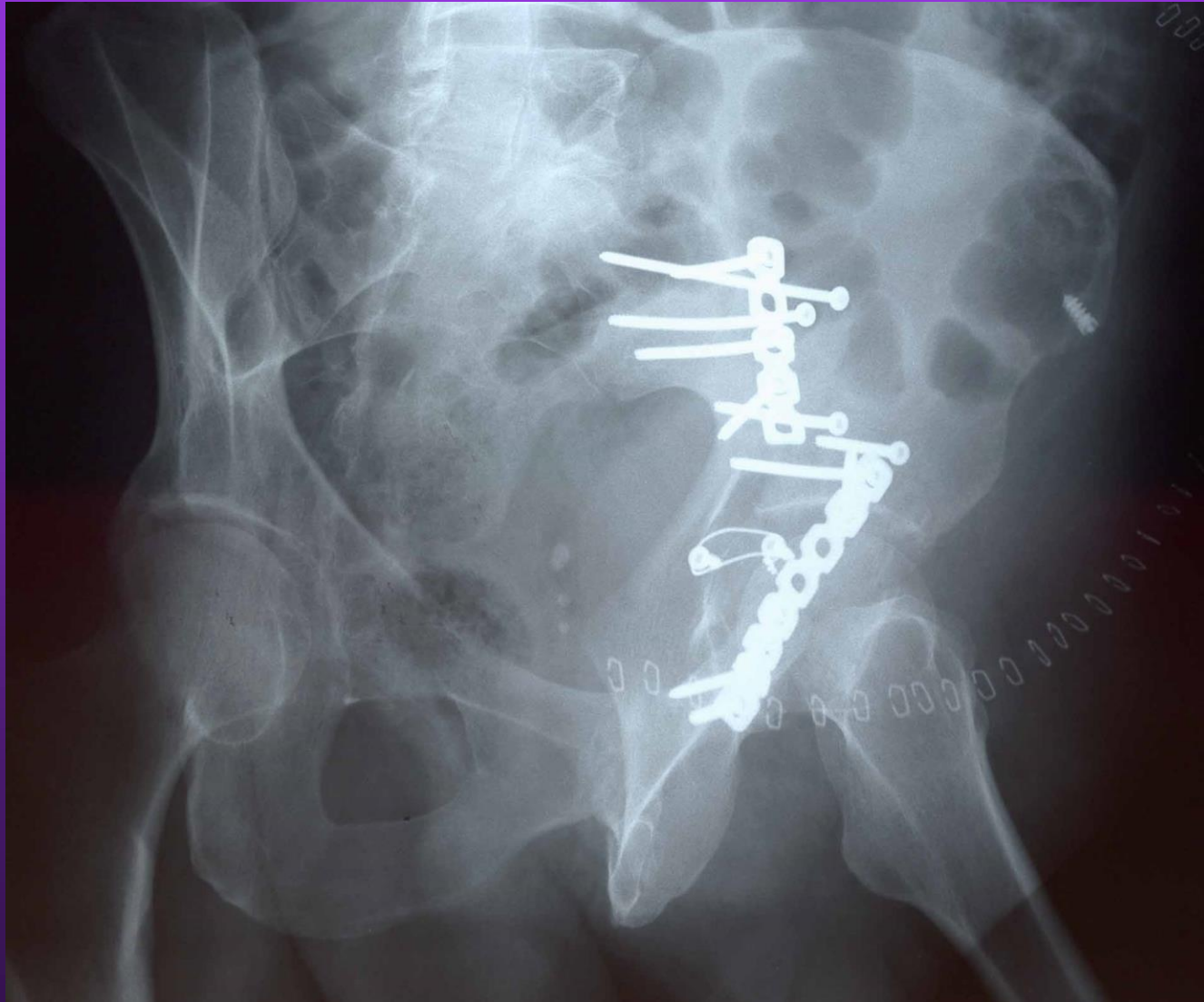
JM - 9/21/00



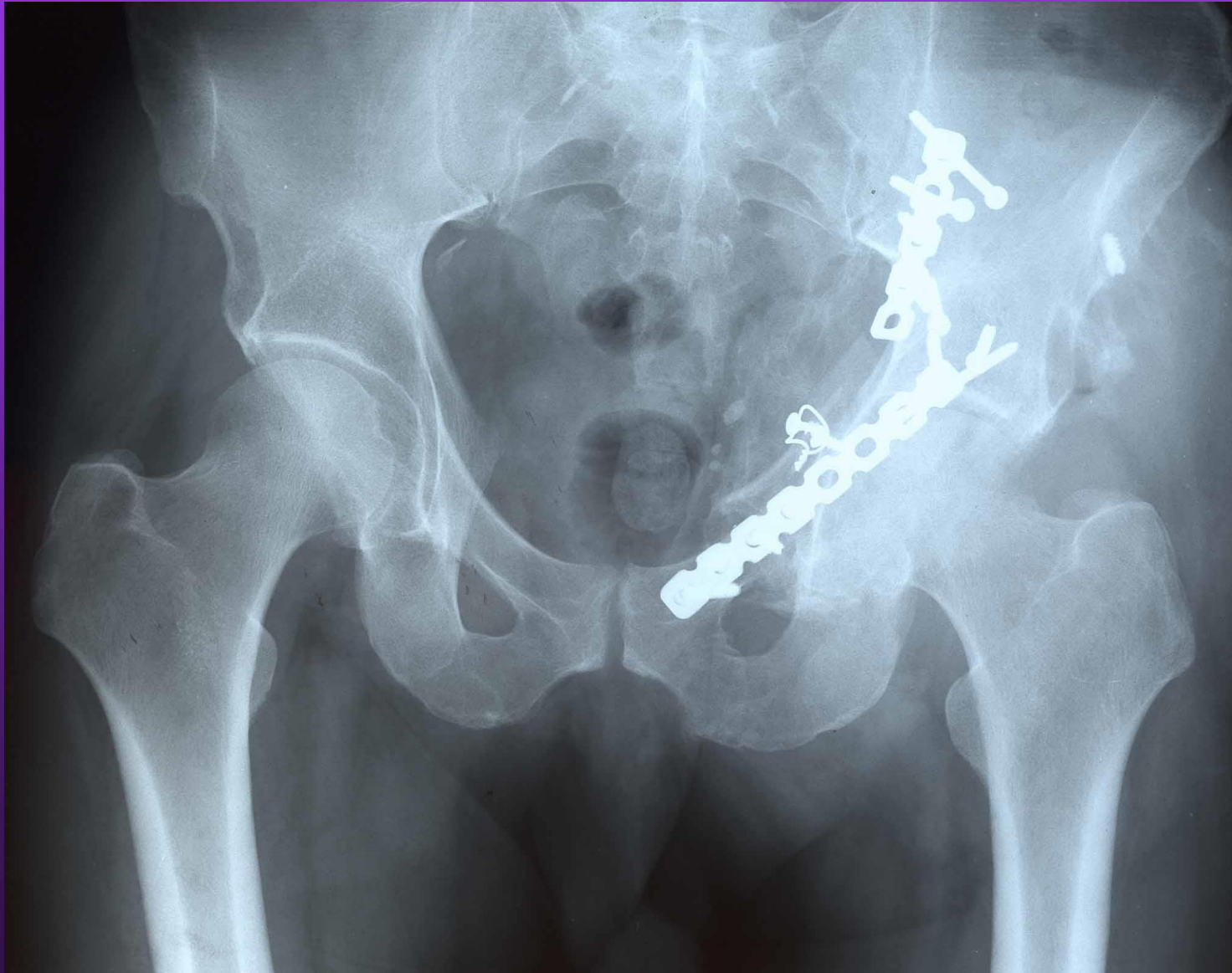
JM - 8/24/00



JM - 8/24/00



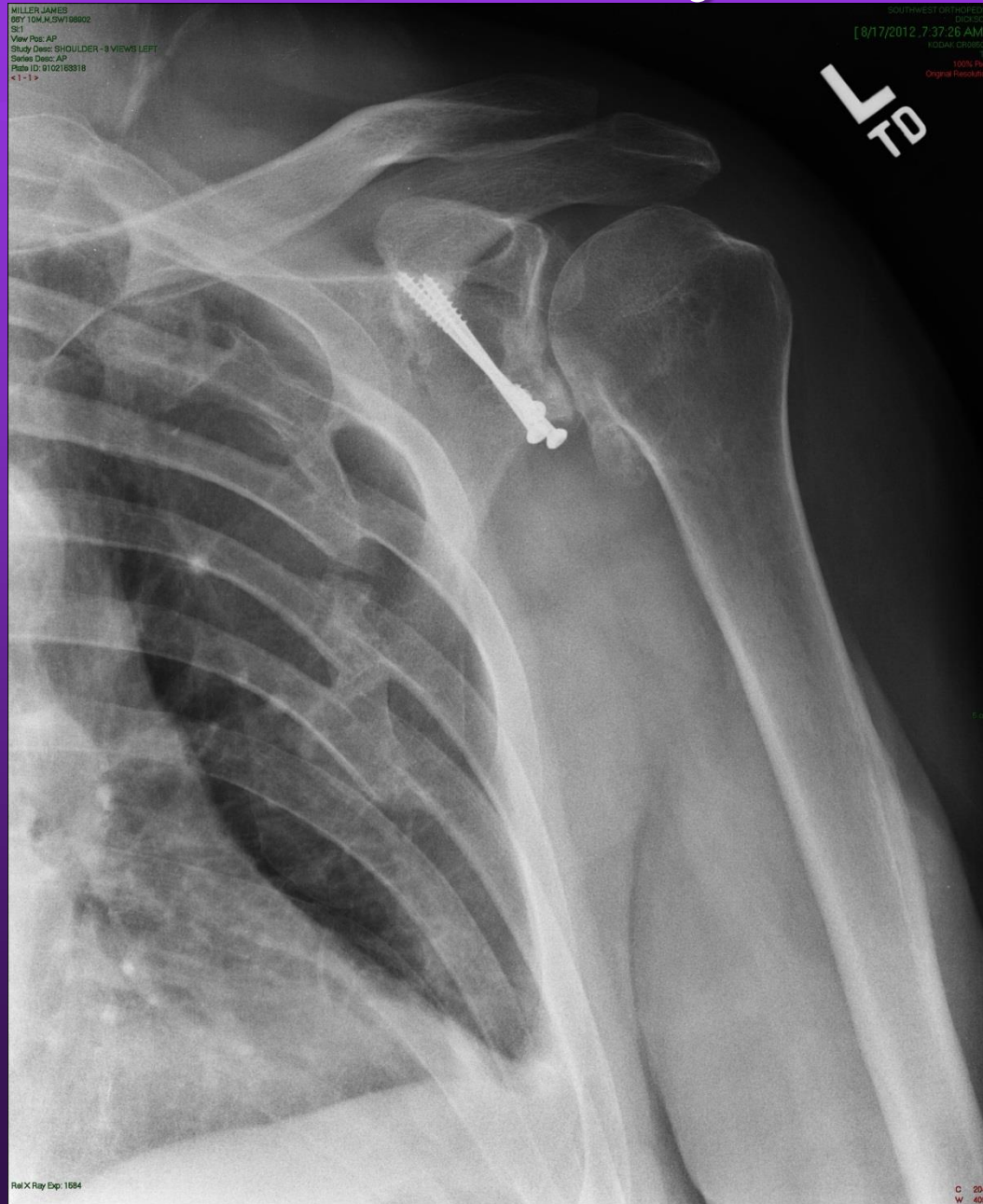
JM - 10/19/02 - 2 yr F/U



JM 8/17/2012 10 year FU



JM 8/17/12 10 year FU



Thank You

Charity Hospital, New Orleans

