

Mosaicplasty of the hip by anterior approach

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Disclosures

No conflicts of interest to declare.

« Promising outcomes of hip mosaicplasty by minimally invasive anterior approach using osteochondral autografts from the ipsilateral femoral head »

Knee Surg Sports Traumatol Arthrosc 2020 Mar;28(3):767-776.

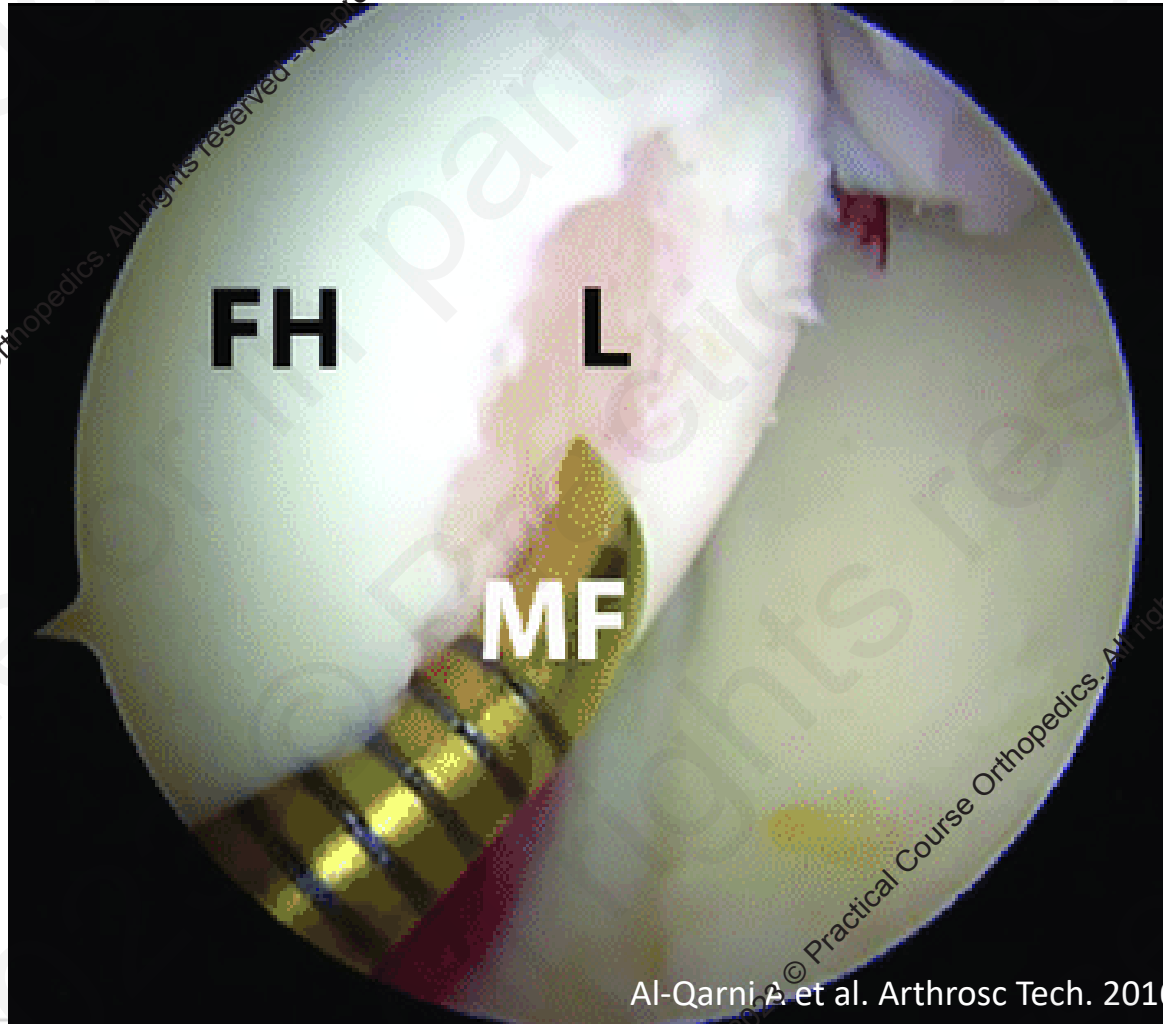
Introduction

Limited isolated osteochondral lesions of the femoral head:
rare



Introduction

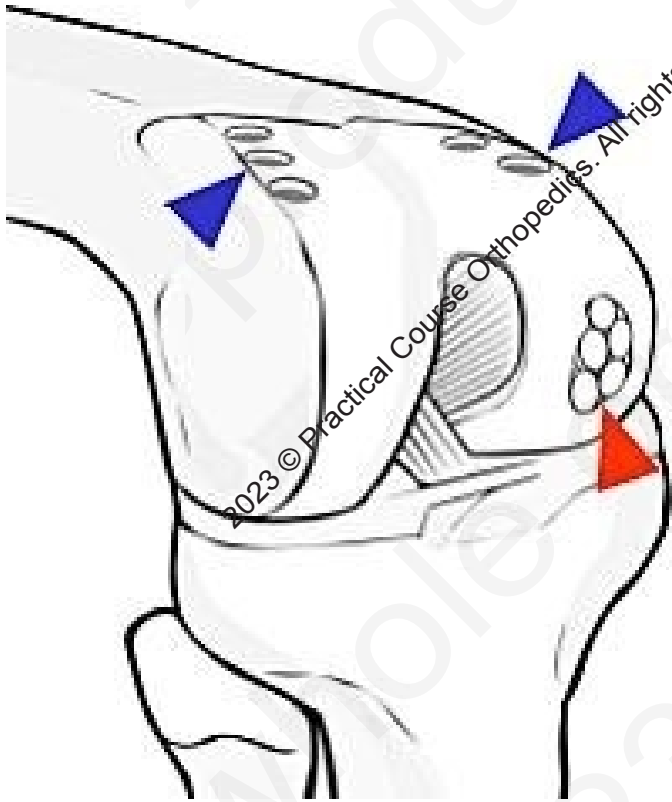
Different surgical strategies to repair chondral lesions



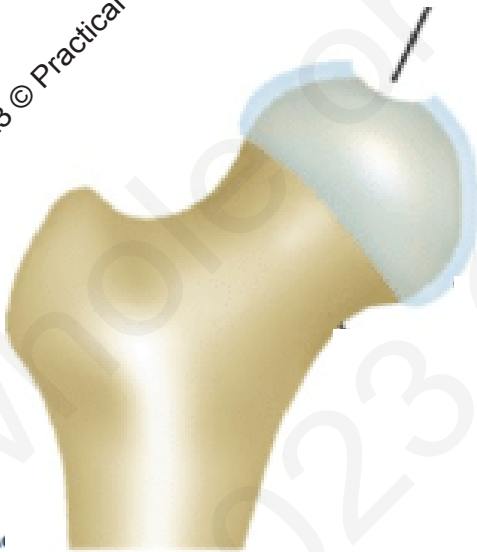
Microfracture FH:
Technically difficult
Poor results

Introduction

Mosaicplasty : satisfactory clinical outcomes in



Introduction



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Research article



Ipsilateral femoral head osteochondral transfers for osteochondral defects of the femoral head

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Tuluhan Yunus Emre, M.D., Hakan Cift, M.D., Bahadır Seynal, M.D., and Macit Uzun, M.D.

Arthroscopic treatment of osteochondral defects: a 1-year follow-up

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Soshi Uchida*, Hajime Utsunomiya, Eisaburo Honda, Shiho Nakai
Cecilia Pascual-Garrido, and Akinori Sakai
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Case report with 8 years follow-up

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Istanbul Faculty of Medicine, Department of Orthopaedics and Traumatology, Istanbul University, Istanbul - Turkey

Technical note

Mosaicplasty for femoral head defects: a case report

M. Czyszynska, Krzysztof Gawęda

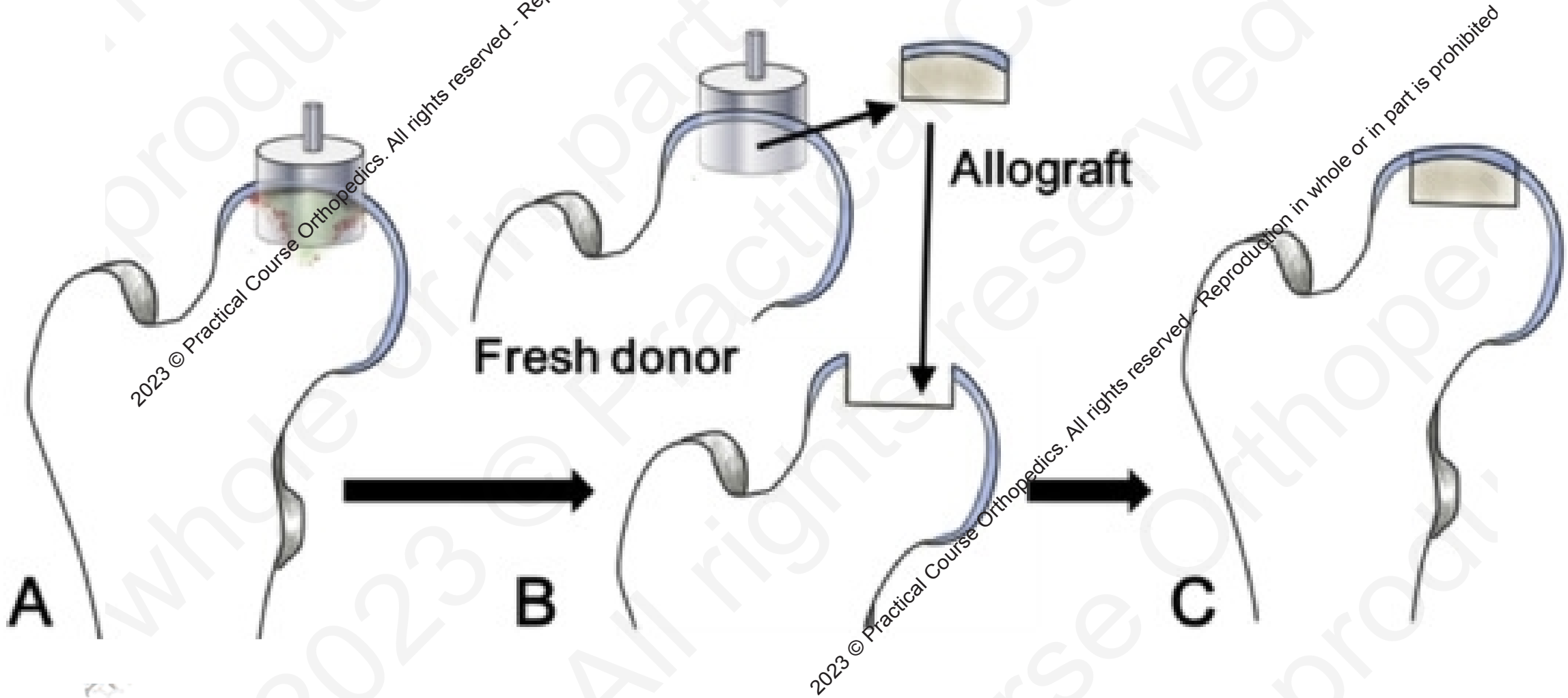
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Introduction

Allograft Transplantation

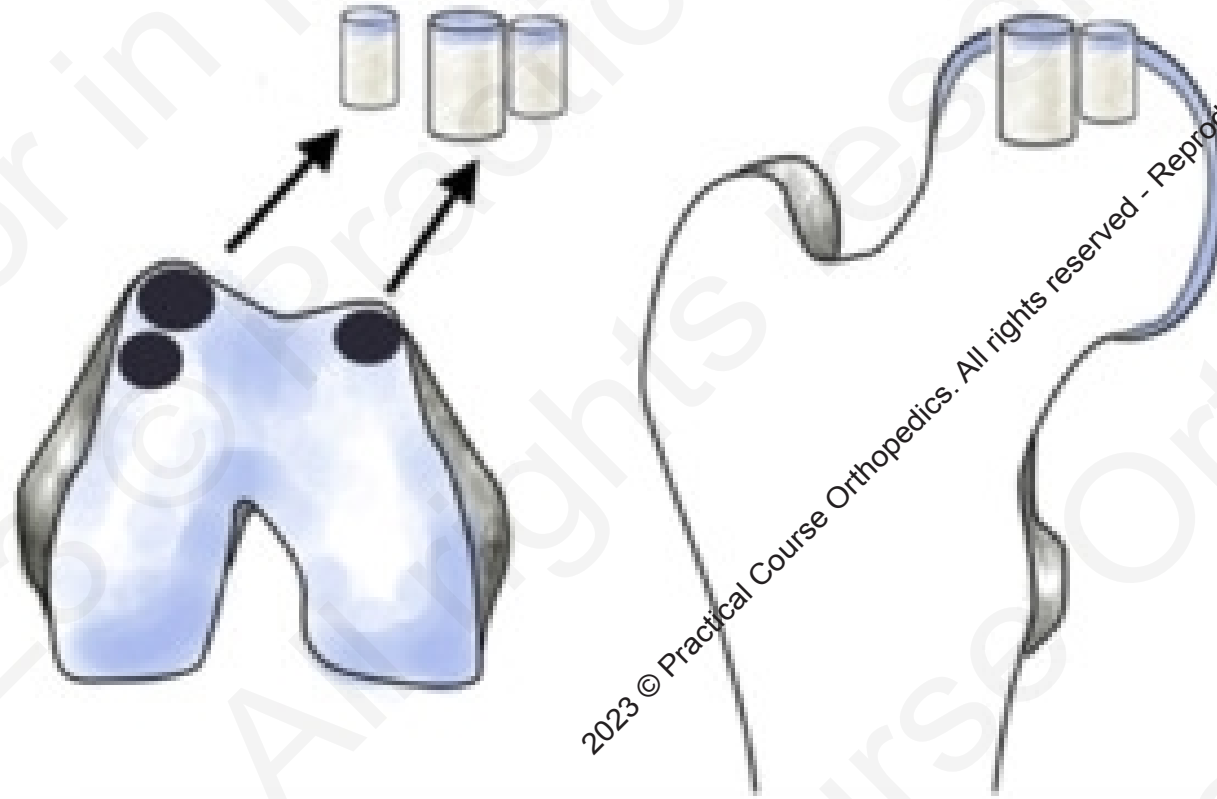


Introduction

osteocondral autograft
Transplantation

 MOSAICPLASTY

Autografts



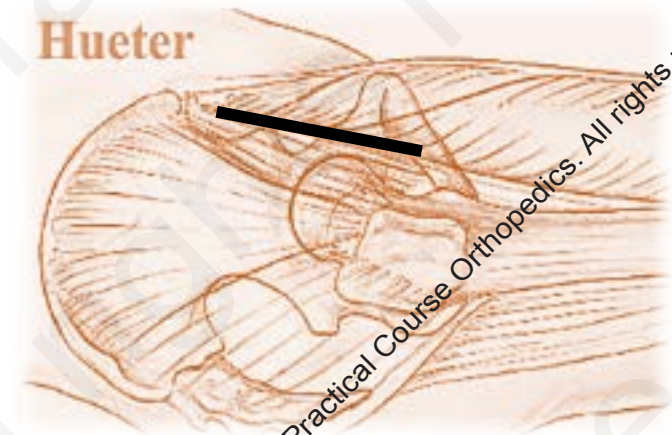
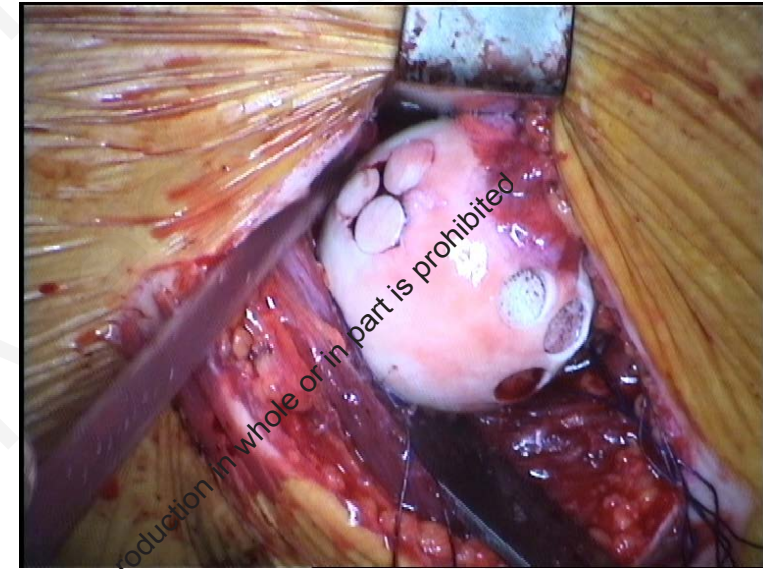
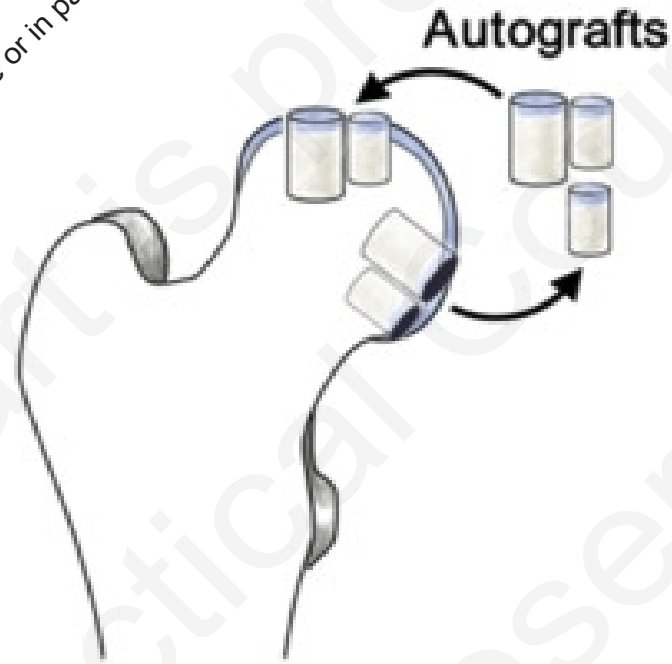
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PURPOSE

To evaluate early outcomes of patients presenting osteochondral lesions of the femoral head

Treated with hip mosaicplasty by minimally invasive anterior approach (Hueter), using osteochondral autografts from the ipsilateral femoral head.



Material and Methods

(2010 – 2016)

- 3 surgeons
- N = 27 patients
- Hip mosaicplasty by Anterior Approach

All patients:

- Osteochondral lesions of FH
- MRI, MRA or CTA



Material and Methods

Inclusion criteria:

- symptomatic lesions,
- NO acetabular osteochondral lesions,
- persistent pain and functional impairment

Exclusion criteria:

- concomitant reconstructive bone procedures

PAO (n = 2)

shelf (n = 1).

Material and Methods

Study cohort = 24 patients

Preoperative assessment:

demographic
data

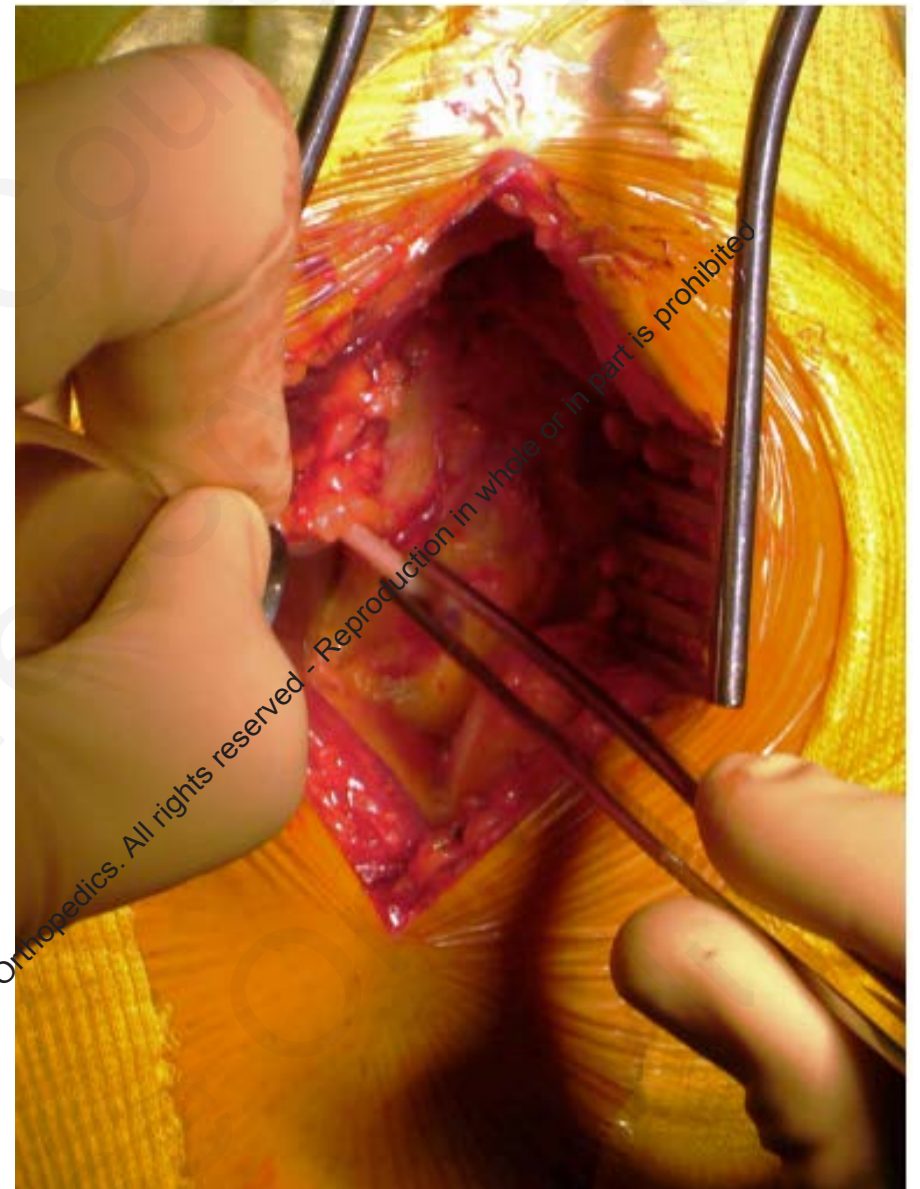
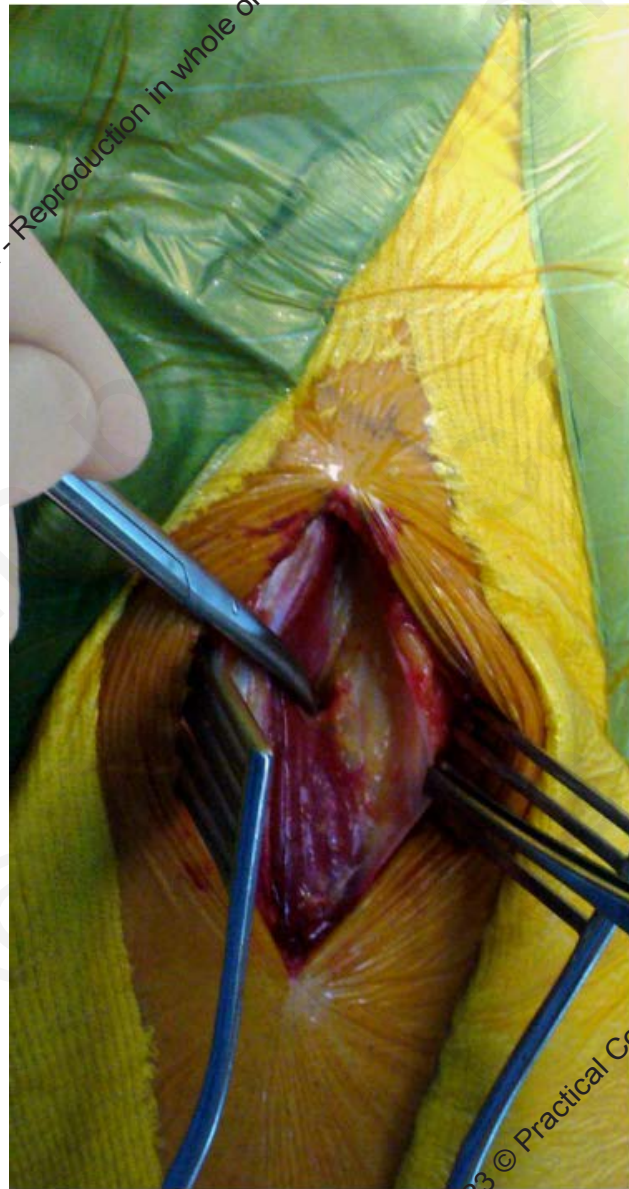
activity level
(Devane scale)

mHHS,
WOMAC

concomitant hip
pathologies

Material and Methods

Surgical technique



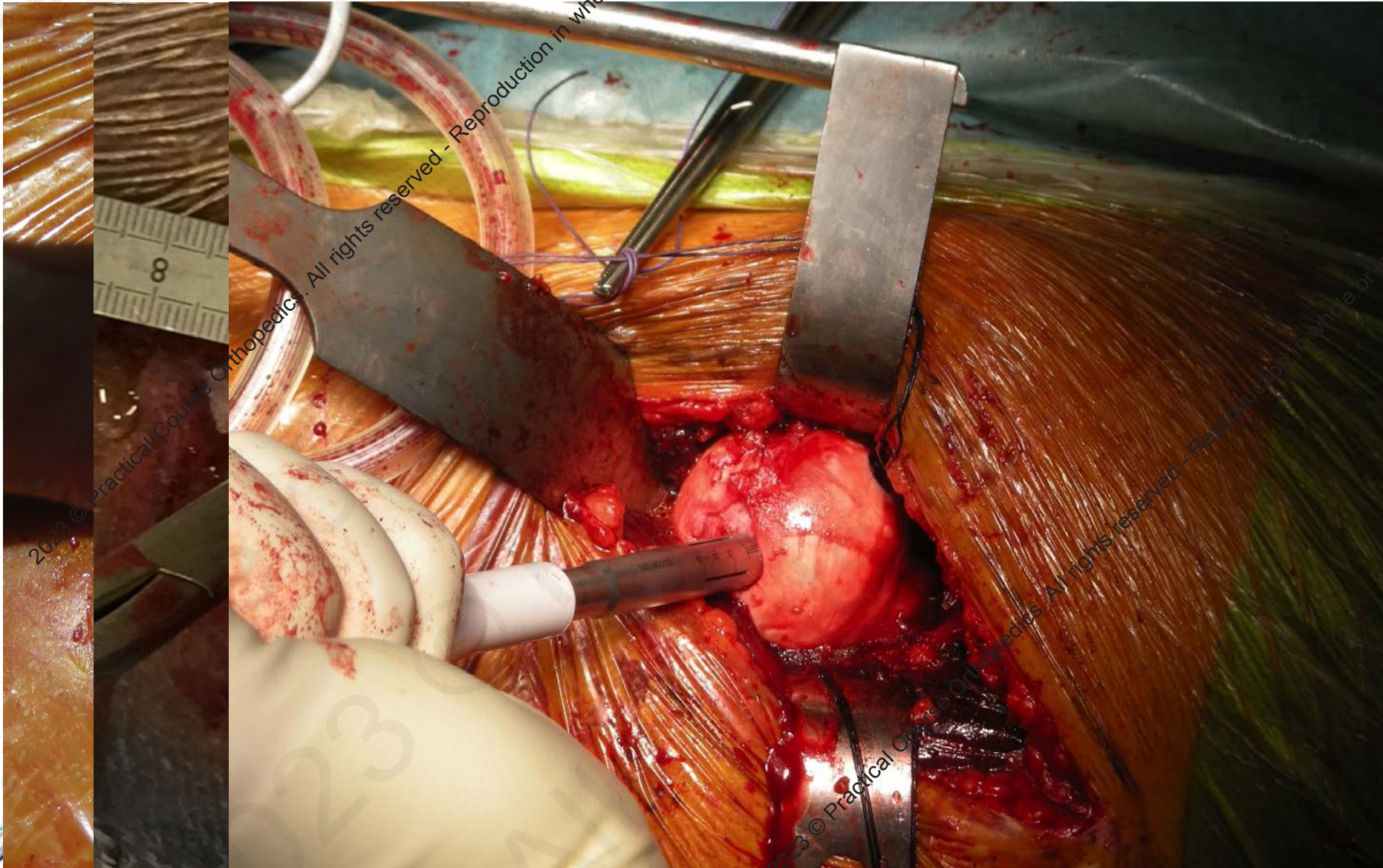
Material and Methods

Surgical technique



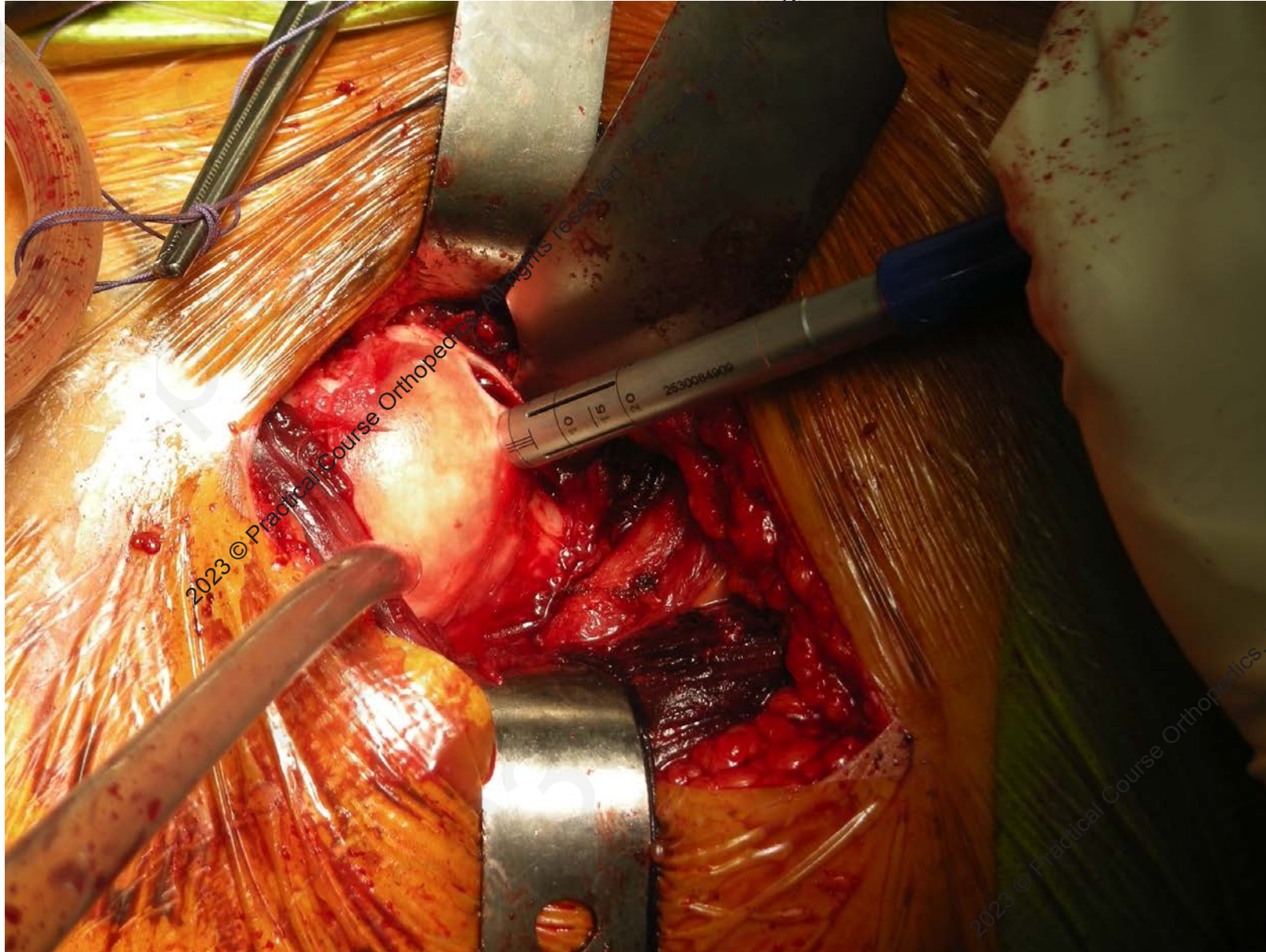
Material and Methods

Surgical technique



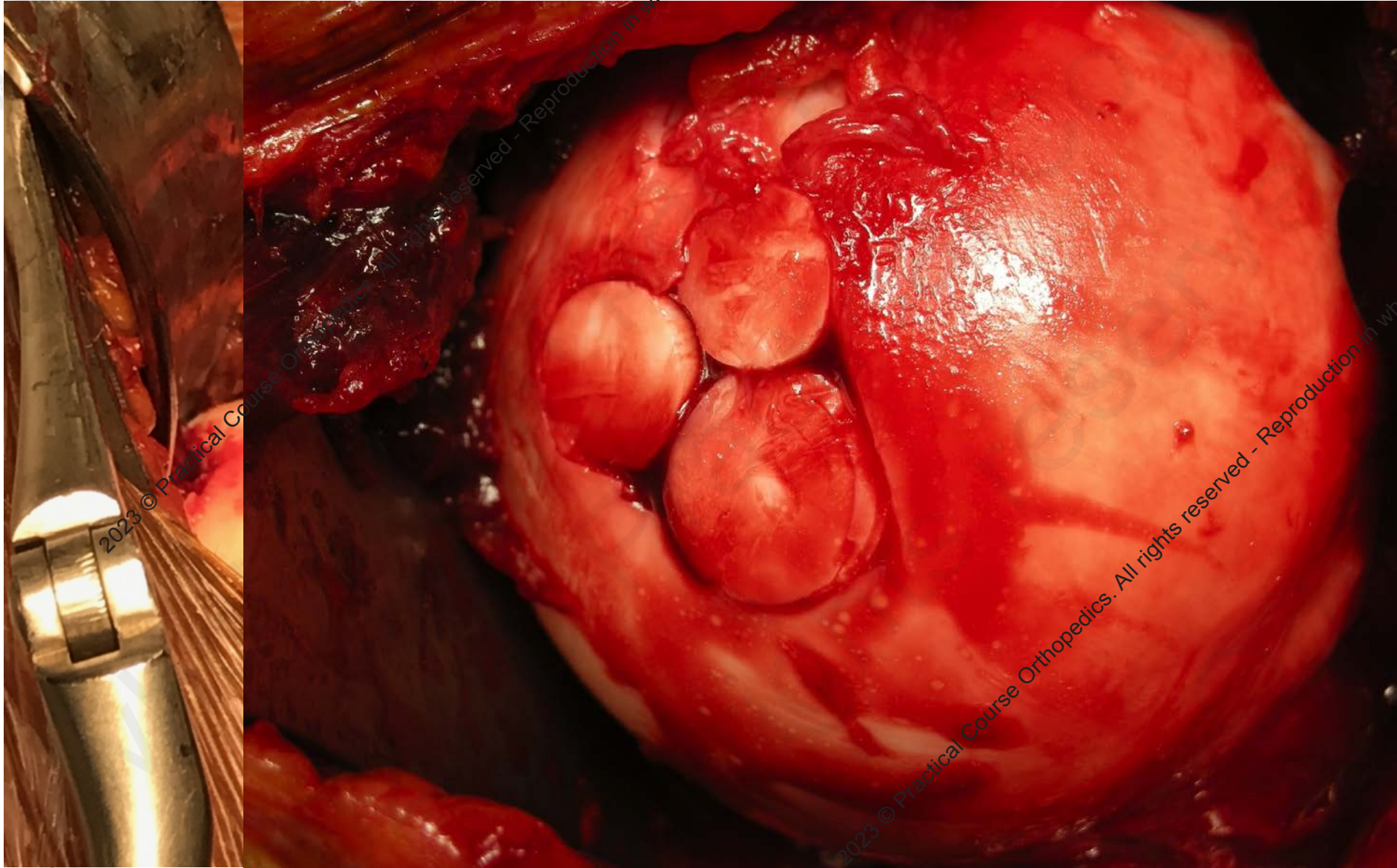
Material and Methods

Surgical technique



Material and Methods

Surgical technique



Material and Methods

Postoperative assessment:

mHHS,
WOMAC

satisfaction
level

complication or
reoperation

Results

- Age at surgery: 28.7 ± 7.4 ys

- BMI: 23.3 ± 2.8

- Male Gender: 17 (71%)

- Right hip: 10 (42%)

Results

Devane scale (activity level)

3 → 3 (13%)

4 → 12 (50%)

5 → 9 (38%)

Results

FAI 11 (46%)

cam-type 11 (46%)

pincer-type 4 (17%)

Post-traumatic sequelae 7 (29%)

Avascular necrosis 4 (17%)

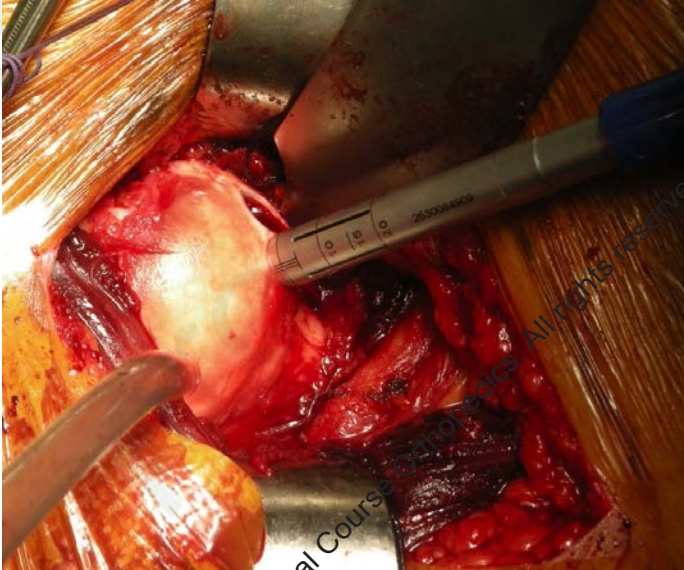
Osteochondritis 2 (8%)

Results



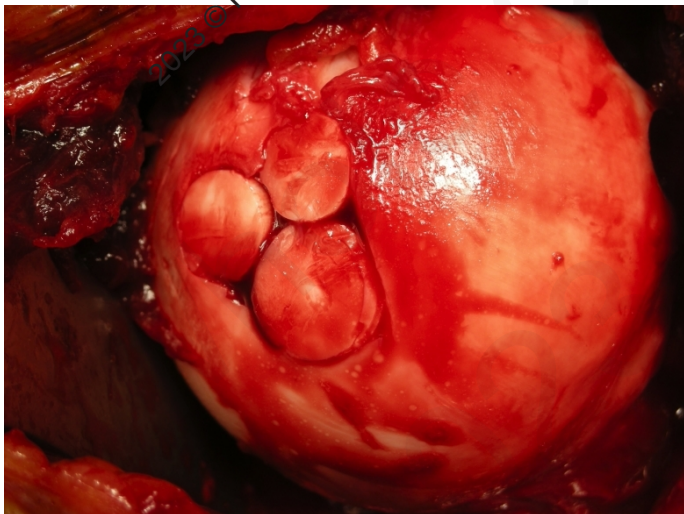
- Lesion size: 1.6 ± 0.7 cm (range, 0.8 – 4.0)

Results



GRAFTS:

- Diameter: 8.3 ± 1.3 mm



- Number of plugs:

1 → 2 (8%)

2 → 7 (29%)

3 → 7 (29%)

4 → 5 (21%)

5 → 2 (8%)

8 → 1 (4%)

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Results



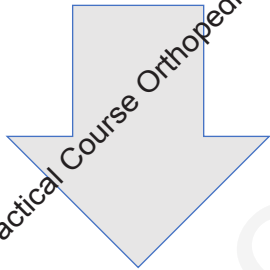
- **Surgery duration**

78.4 ± 20.2 min

Results

Final follow-up:

- 1 not reached
- 1 converted to THA



22 patients

Follow-up: 39.4 (range 12 – 120)

Results

mHHS

Preoperative: 56.3 ± 12.6

Postoperative: 88.4 ± 9.9

Net improvement: 32.2 ± 14.1

WOMAC

Preoperative: 45.1 ± 16.9

Postoperative: 80.6 ± 13.0

Net improvement: 35.5 ± 16.0



SATISFACTORY RESULTS

Results

Patient satisfaction

Very satisfied 10(45%)

Satisfied 10(45%)

Disappointed 2 (9%)

Dissatisfied 0 (0%)



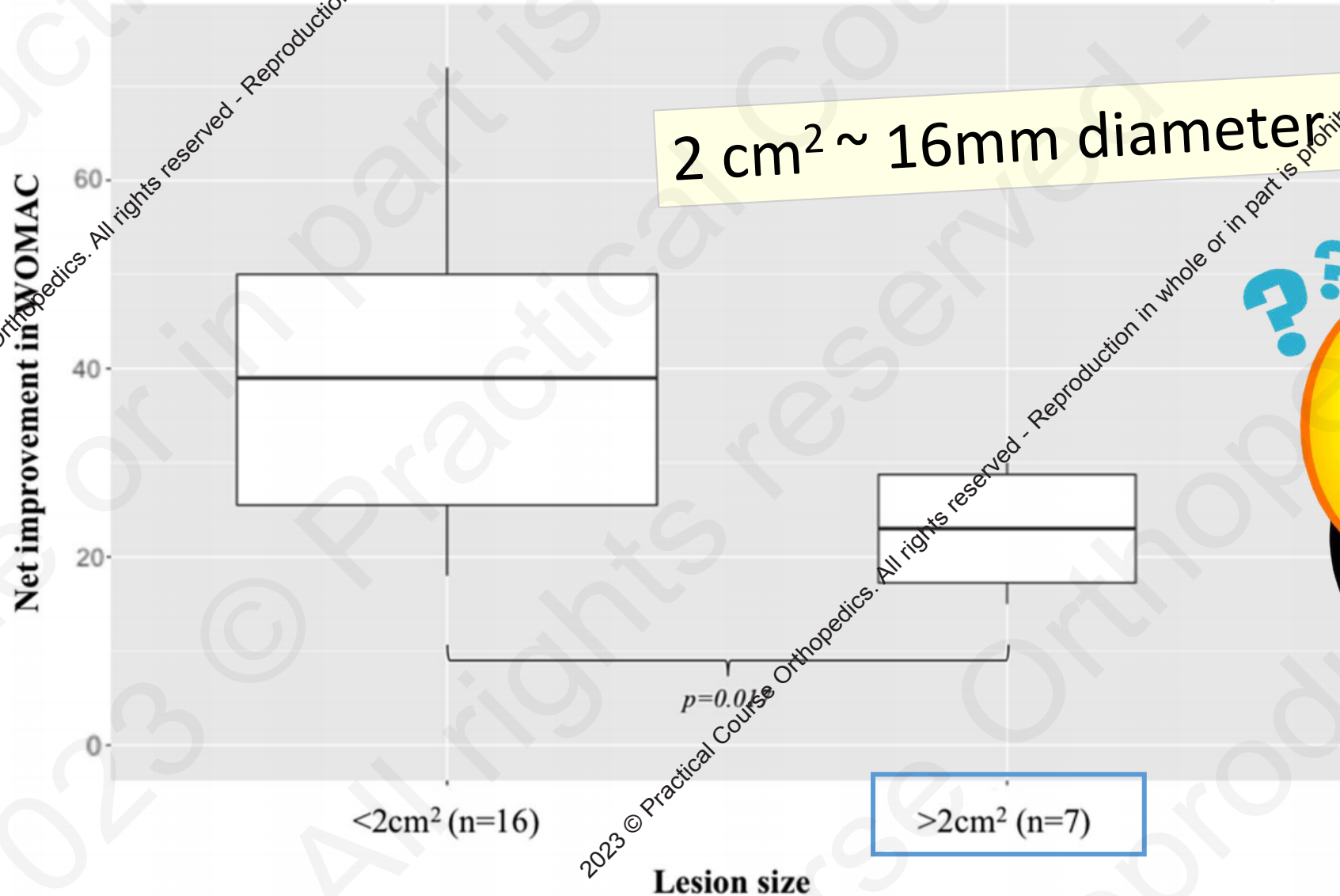
Results

Regression analyses of WOMAC net improvement

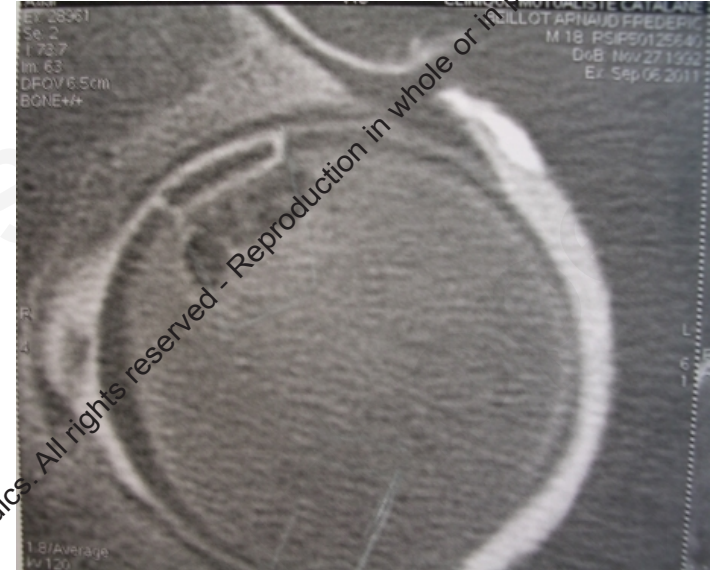
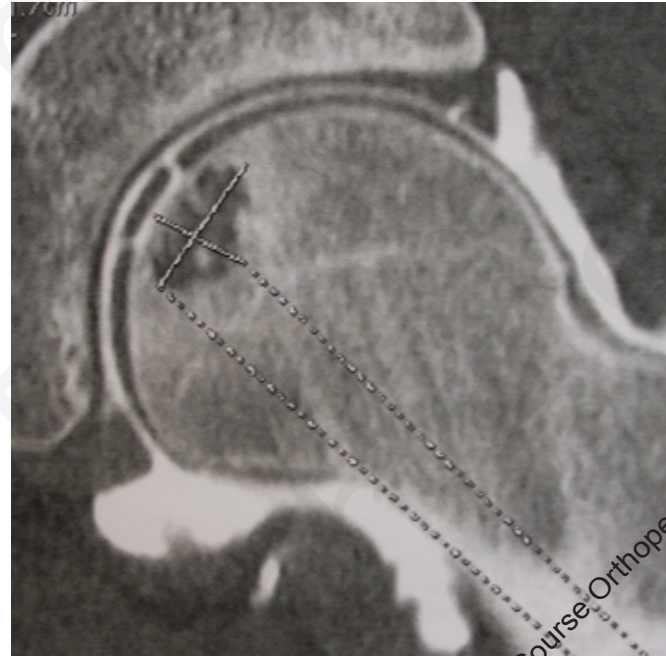
	Univariable analyses (<i>n</i> = 22 hips)		Bivariable analyses (<i>n</i> = 22 hips)	
	Regression coefficient (95% CI)	<i>p</i> value	Regression coefficient (95% CI)	<i>p</i> value
Age at surgery (years)	- 0.43 (- 1.43–0.56)	n.s		
Body mass index (BMI)	- 0.02 (- 3.33–2.08)	n.s		
Male gender	3.15 (- 19.41–13.12)	n.s		
Right hip	- 7.42 (- 21.61–6.77)	n.s		
Devane activity level	3.98 (- 6.72–14.68)	n.s		
Etiology				
Femoro-acetabular impingement	Ref.			
Post-traumatic	1.50 (- 19.17–22.17)	n.s		
Avascular necrosis	15.50 (- 14.75–45.75)	n.s		
Osteochondritis	3.50 (- 19.05–26.05)	n.s		
Labral lesion	0.32 (- 14.80–15.44)	n.s		
Lesion size (cm ²)	- 11.80 (- 20.48 to - 3.12)	0.010	- 12.50 (- 19.73 to - 5.36)	0.002
Surgery duration (minutes)	5.97 (- 8.20–20.14)	n.s		
Graft diameter (mm)	- 1.95 (- 7.40–3.51)	n.s		
Graft site				
Antero-inferior	Ref.			
Superior	- 6.48 (- 22.53–9.57)	n.s		
Number of graft(s)	- 4.30 (- 8.66–0.05)	0.053		
Follow-up (months)	0.32 (0.04–0.61)	0.028	0.35 (0.12–0.57)	0.004

Results

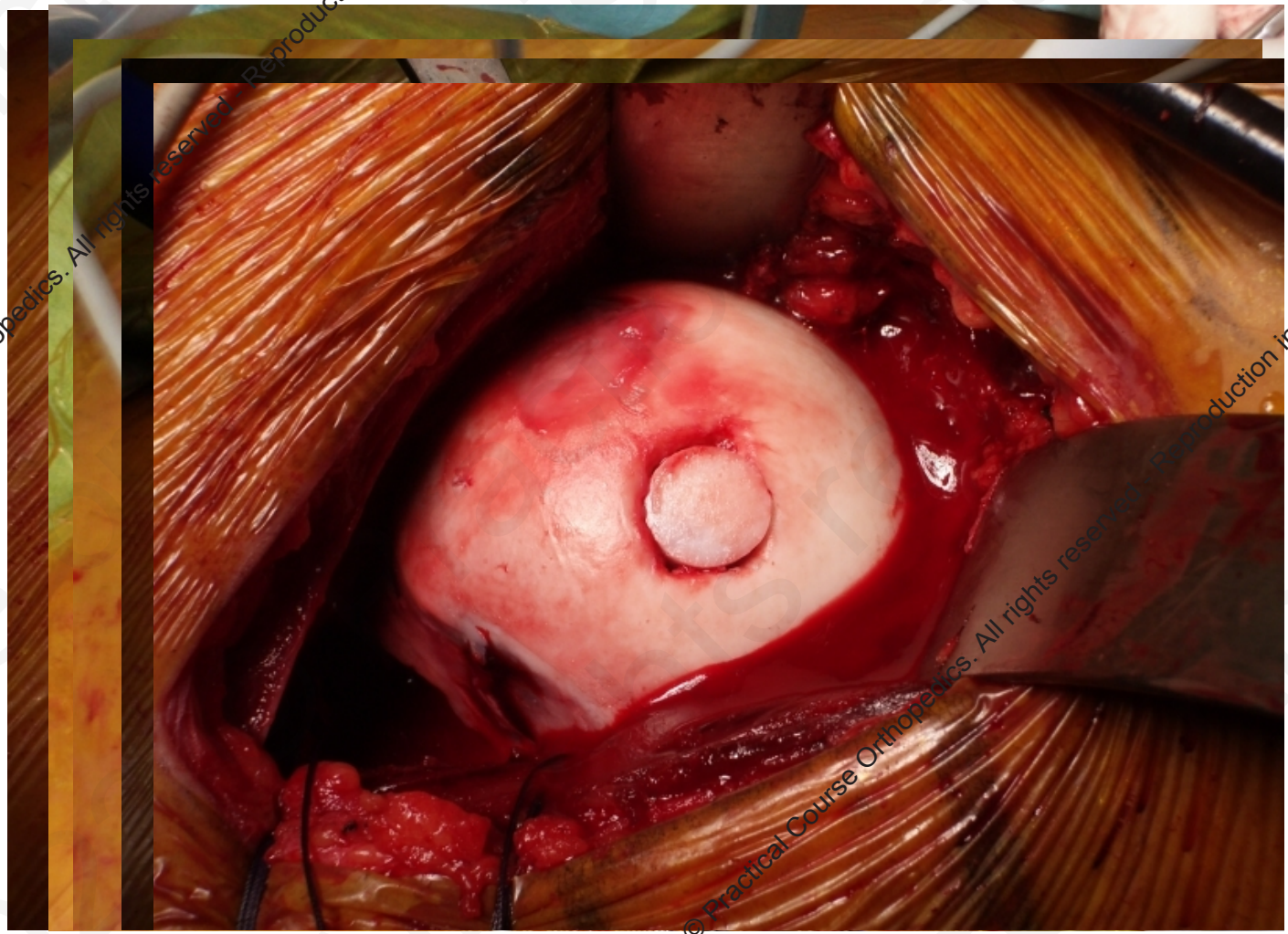
Net improvements in WOMAC depending on initial lesion size



CASE 1: Male 20 yo post trauma (Dislocation-Rugby)

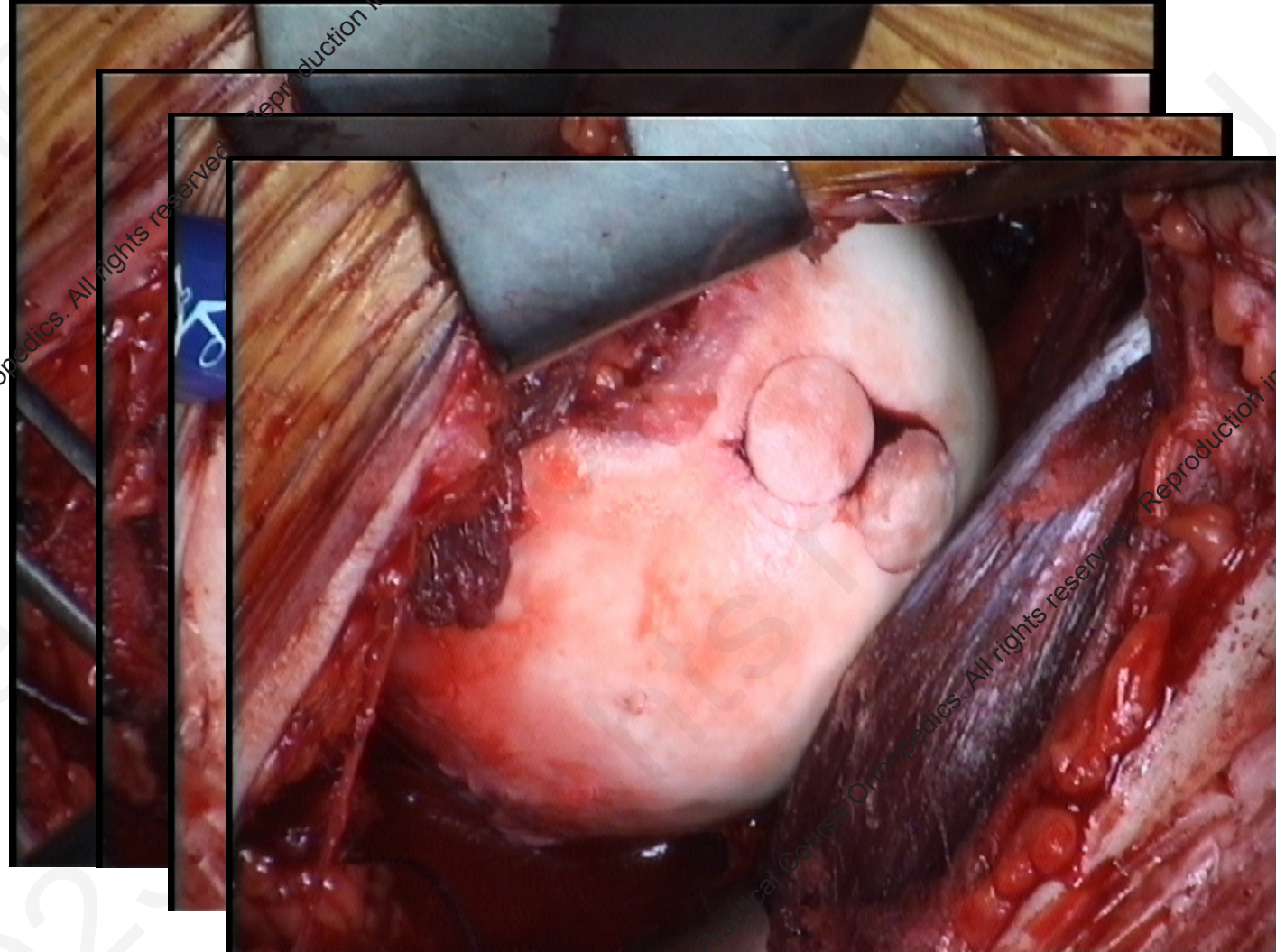


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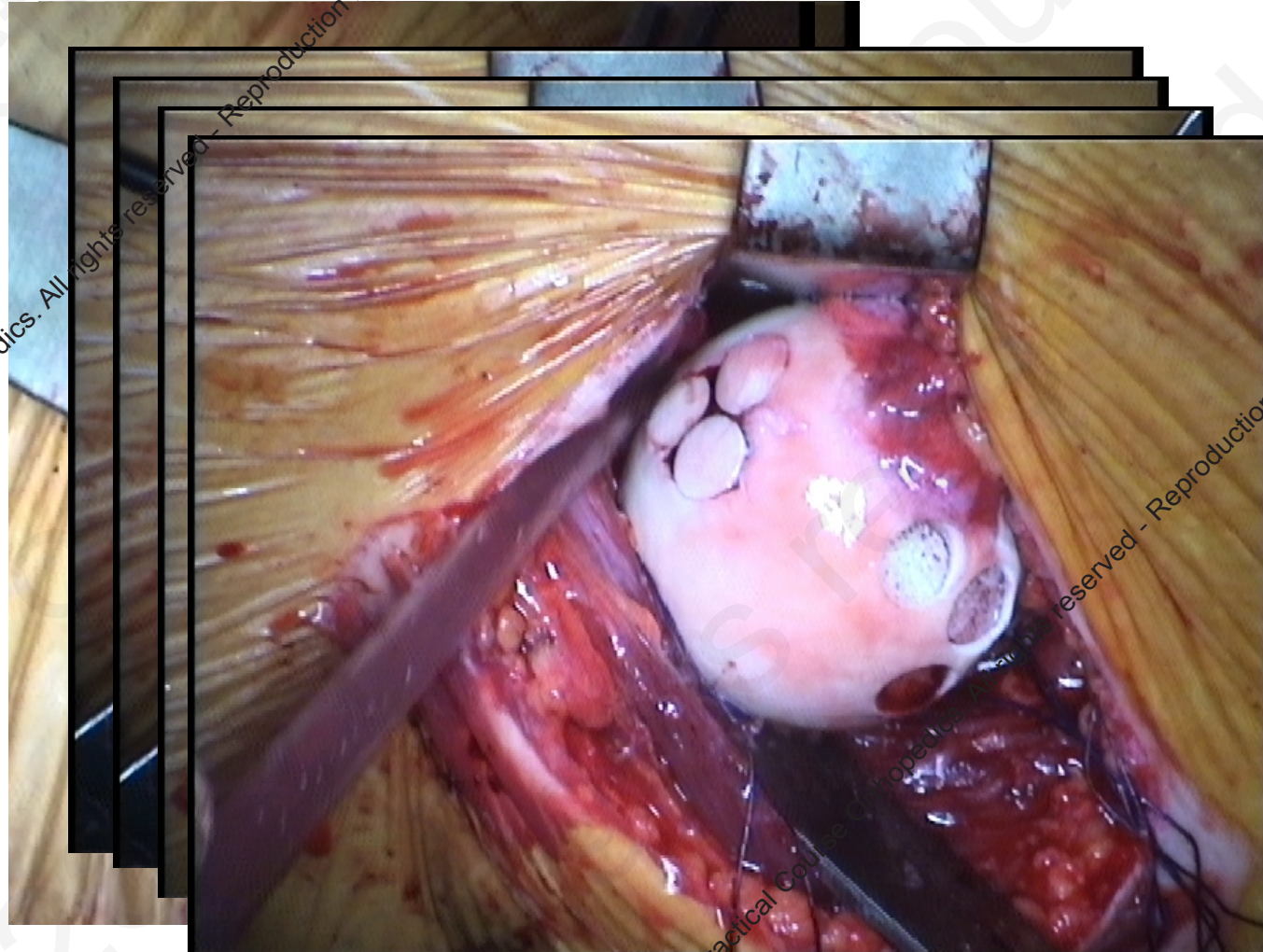


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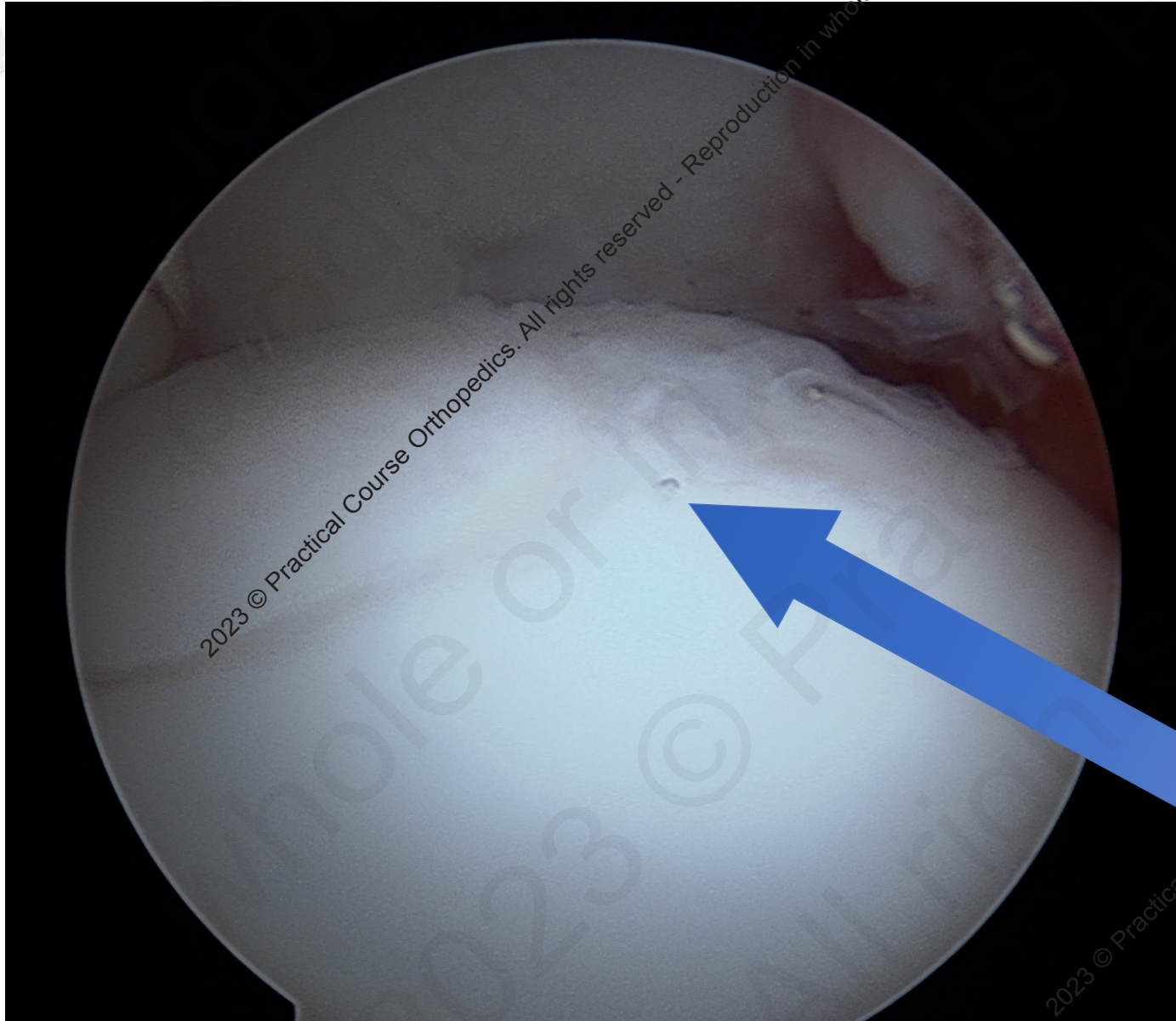
CASE 3: Male 42 yo idiopathic AVN



CASE 4: Male 39 yo idiopathic AVN



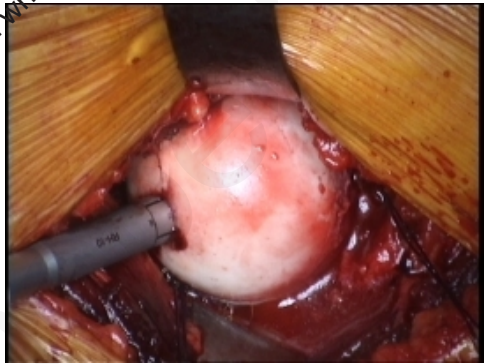
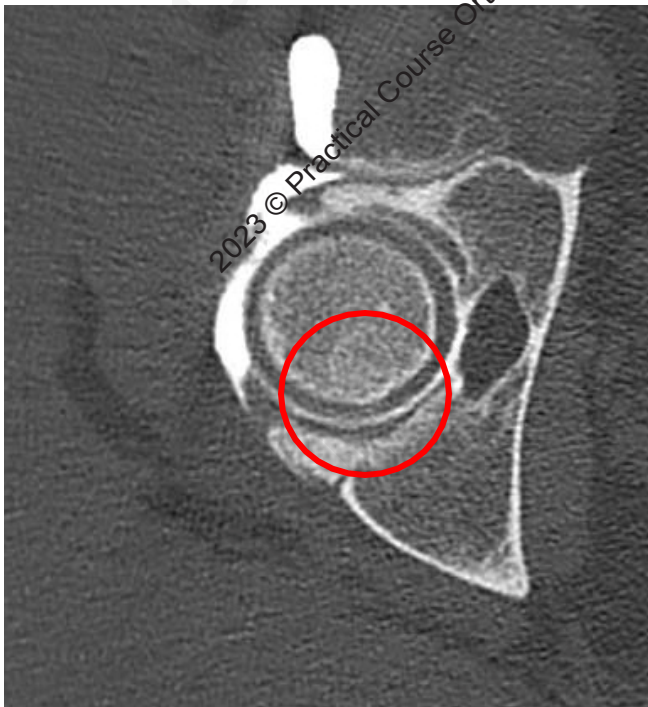
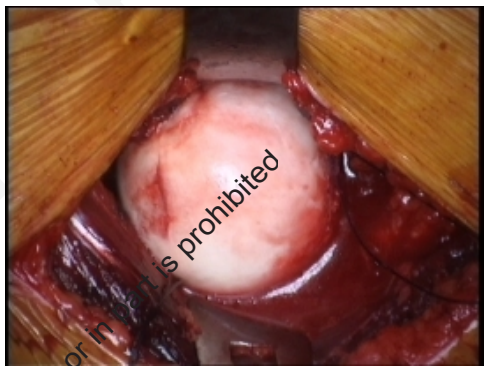
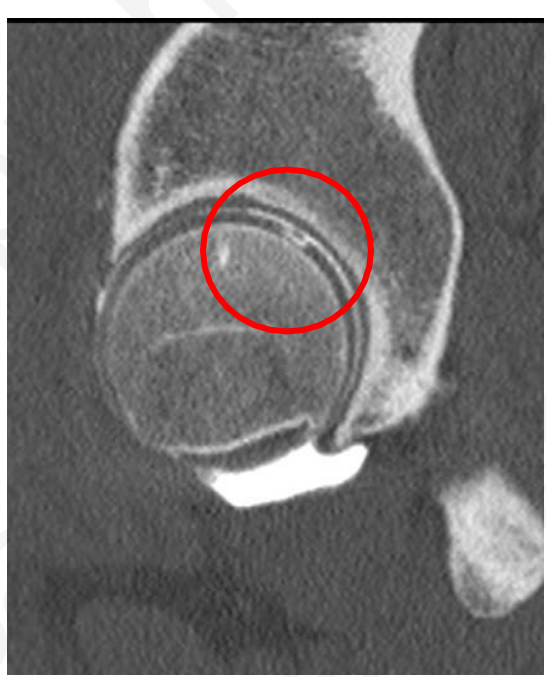
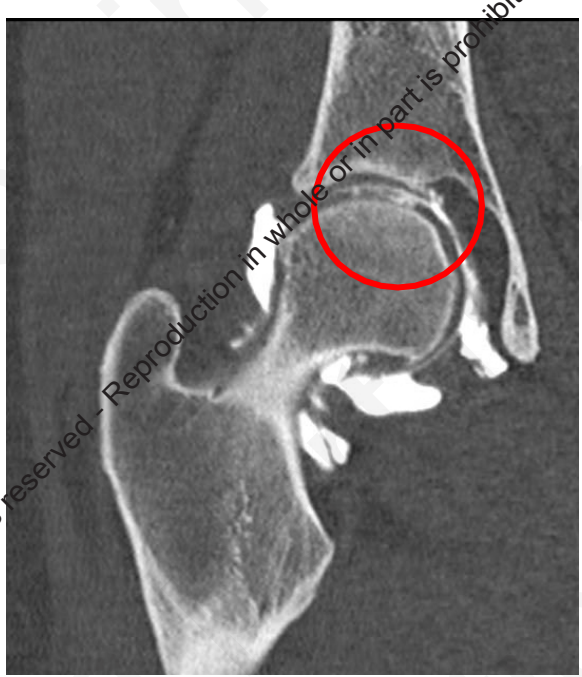
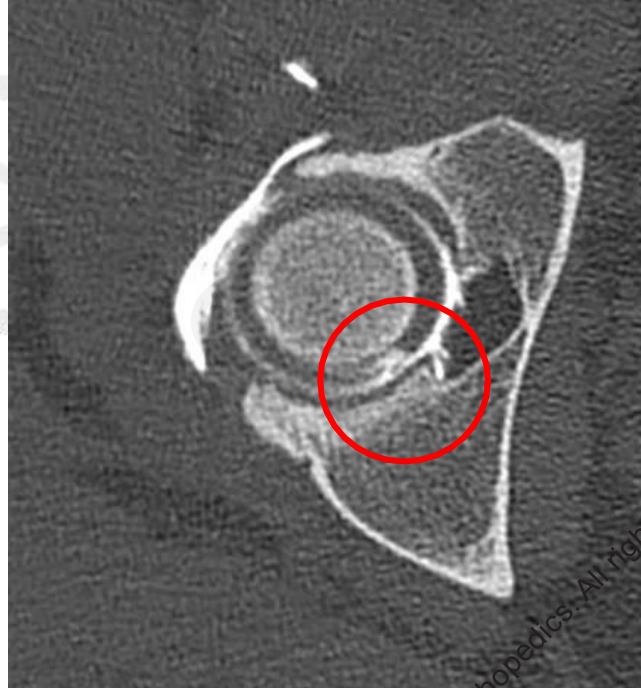
Results



1 case needed
subsequent arthroscopic
removal of painful cam

cartilage
healing

CASE 4: Female 28 yo
traumatic lesion + FAI

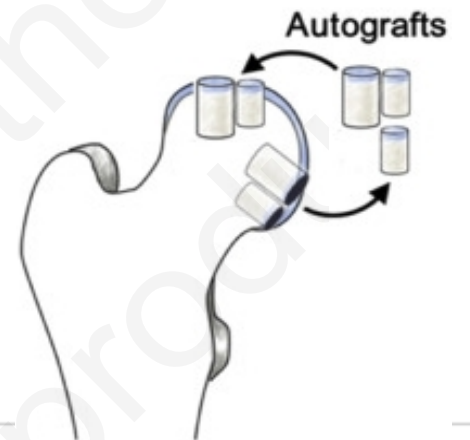
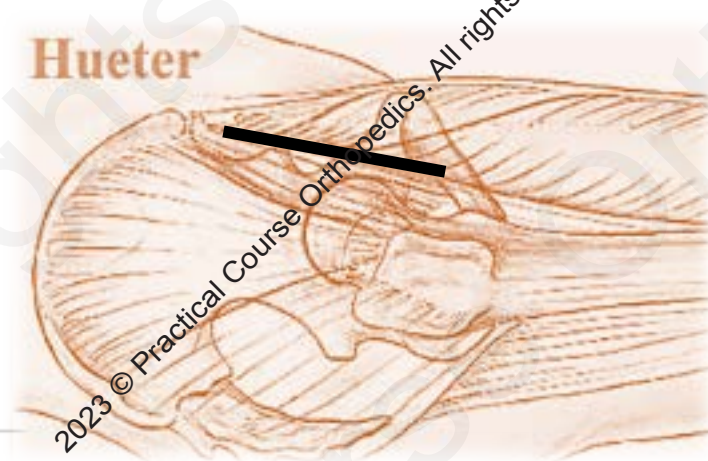
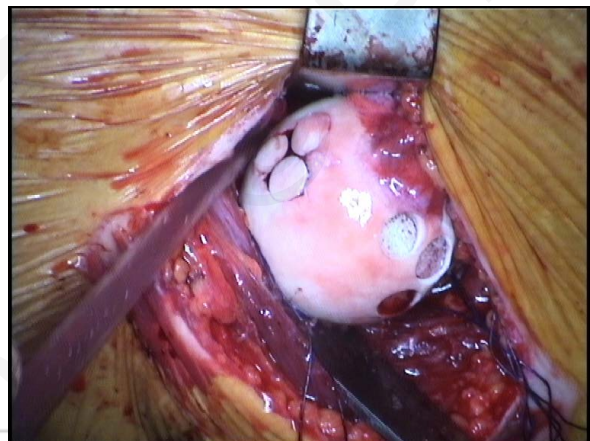
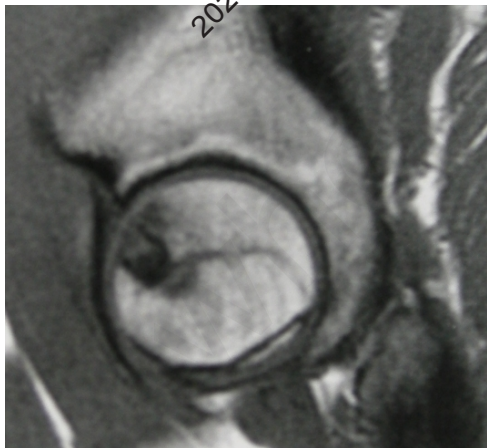


CONCLUSION OATS of Femoral Head

Granted satisfactory early clinical outcomes

OATS is a time buying procedure for young patients as it may defer total hip replacement

These results have to be confirmed by bigger series





Thank you