

Surgical Management of Osteochondritis Dissecans of the Patellofemoral Joint

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COI Disclosure

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There are no COI with regard to this presentation.

Osteochondritis Dissecans (OCD)

- **9.5 / 100,000 patients**

Kessler, AJSM 2014

- **MFC ; 65 - 85 %**

- **LFC ; 15 - 33 %**

- **Patella ; 2 - 10 %**

Kessler, AJSM 2014

- **Trochlea ; 2 %**

Chau, JBJS Am 2021

MFC, Medial femoral condyle / LFC, Lateral femoral condyle

Surgical indications for OCD

- Failure of conservative treatment in stable lesions
- Unstable lesions

Wall, JBJS Am 2008

There is a paucity of published data regarding the surgical treatment of patellofemoral (PF) OCD.

Purpose

To evaluate the clinical characteristics and outcomes of patients who undergo surgery for PF-OCD lesions

【Method】 Patient Population (2006 - 2020)

- **PF-OCD**
- **Surgical treatment**
- **Follow-up > 1 year**

13 knees / 11 patients

Age	14.5 years (8 - 32)
Sex	Male 11, Female 0
Follow-up	29.9 months (12 - 125)

Surgical Procedure

Stable Lesion

- **Drilling (transarticular)**

Anderson, Arthroscopy 1997



Unstable Lesion

- **Fixation w/ bioabsorbable pins**

Kocher, AJSM 2006



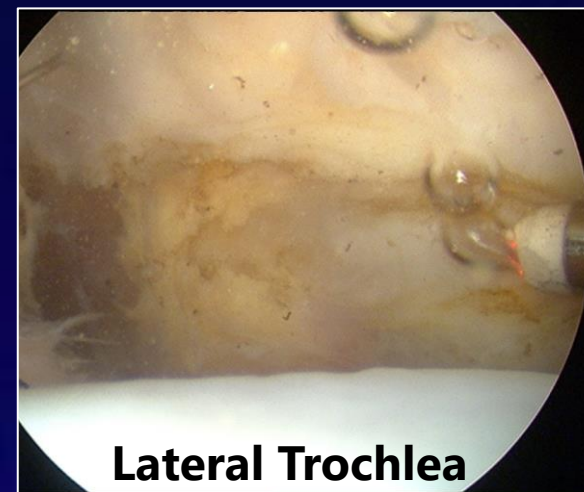
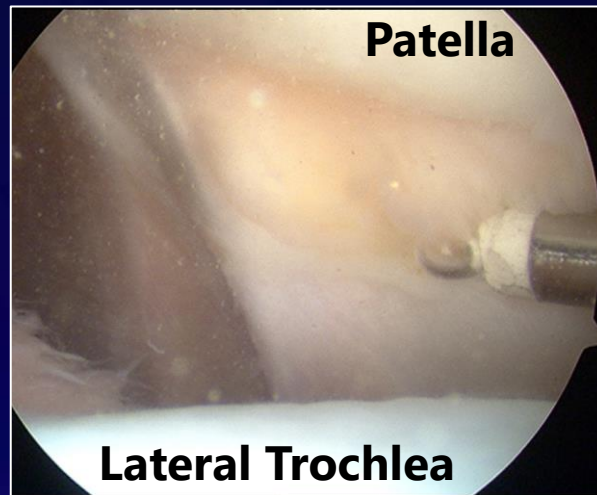
- **Loose-body removal
+ Marrow stimulation**



Additional Procedure

Lateral retinacular tightness

- **Lateral retinacular release (LR)** *Kramer, AJSM 2015*



Radiographic Assessment

- **Healing rate, duration (drilling, fixation)**

PF alignment

- **Congruence angle (CA)** *Suganuma, Arthroscopy 2016*
- **Patellar tilting angle (PTA)** *Grelsamer, JBJS Br 1993*

【Result】 Clinical Characteristics

	n = 13
Location (Trochlea : Patella)	10 : 3
OCD grade (ICRS, 1 : 2 : 3 : 4)	3 : 2 : 1 : 7
OCD size (mm)	27.0 ± 0.9
Duration of conservative treatment (mo)	5.7 ± 4.2
Tegner activity scale	7 (6 - 8)
Surgical procedure	
Drilling	5 (38.5 %)
Fixation	1 (7.7 %)
Loose-body removal	7 (53.8 %)
+ LR	7 (53.8 %)

Return to Sports

- 13 / 13 knees (100 %)
- 4.5 months (range, 1 - 8)

Drilling, Fixation

- 5.7 months (range, 5 - 8)

Loose-body removal

- 3.0 months (range, 1 - 6)

Radiographic Healing (Drilling, Fixation)

- **6 / 6 knees (100 %)**
- **4.9 months (range, 3 - 8)**

Comparison of Pre- and Postoperative Outcomes

	Pre-operative	Post-operative	<i>P</i> value
Lysholm score	74.5 ± 12.0	97.6 ± 3.7	<0.01*
Radiographic parameters			
CA (°)	17.6 ± 8.8	10.3 ± 10.9	<0.01*
PTA (°)	9.7 ± 3.4	9.3 ± 4.0	0.11

Paired t-test (P <0.05*)

No revision surgery

【Discussion】 Surgical Treatment of PF-OCD

- **Post-op Lysholm score, 85 - 93.4**
97.6 (this study)
- **Return to sports, 85 - 94.1 %**
100 %, @4.5 mo (this study)
- **Add LR, 66 - 76.5 %**
54 % (this study)
- **Healing rate, 67 - 100 %**
100 % (this study)

Wall, J Pediatr Orthop 2014

Kramer, AJSM 2015

Price, J Pediatr Orthop 2020

Lee, AJSM 2021

Revision Surgery

- 5 - 14 %

Wall, J Pediatr Orthop 2014

Kramer, AJSM 2015

0 % (this study)

Risk factors for worse outcomes

- Internal fixation
- Female sex

Kramer, AJSM 2015

Male, 100 % / Fixation 7.7% (this study)

Limitation

- **Retrospective design**
- **Short term follow-up**
- **Small sample size**

Conclusion

Surgical treatment of PF-OCD produces satisfactory clinical and radiological outcomes at short-term follow-up.

References

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