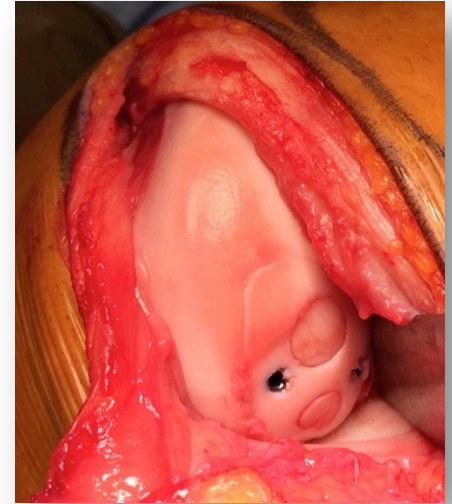


OCD: MANAGEMENT, ALGORITHM



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Introduction

JOCD

Children



Spontaneous healing possible



AOCD

Adult

- Extensive lesion
- Cartilage involved

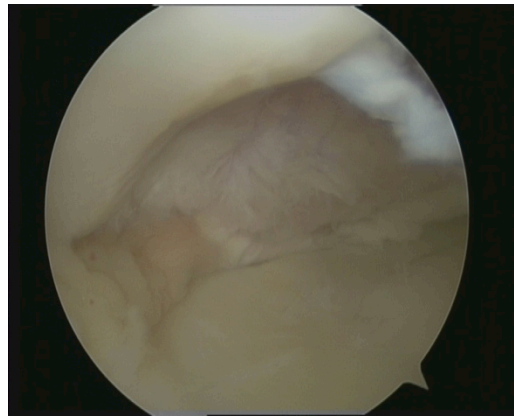
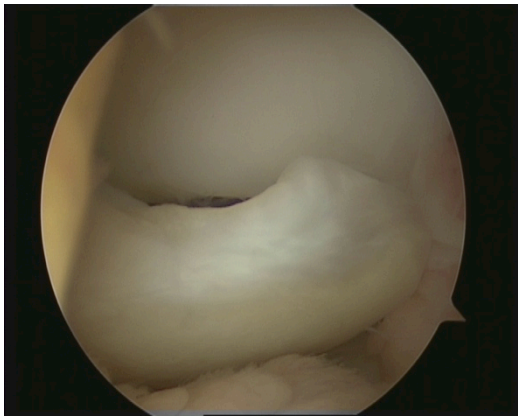


No spontaneous healing



Risks of **OCD**

- Release of Loose Body



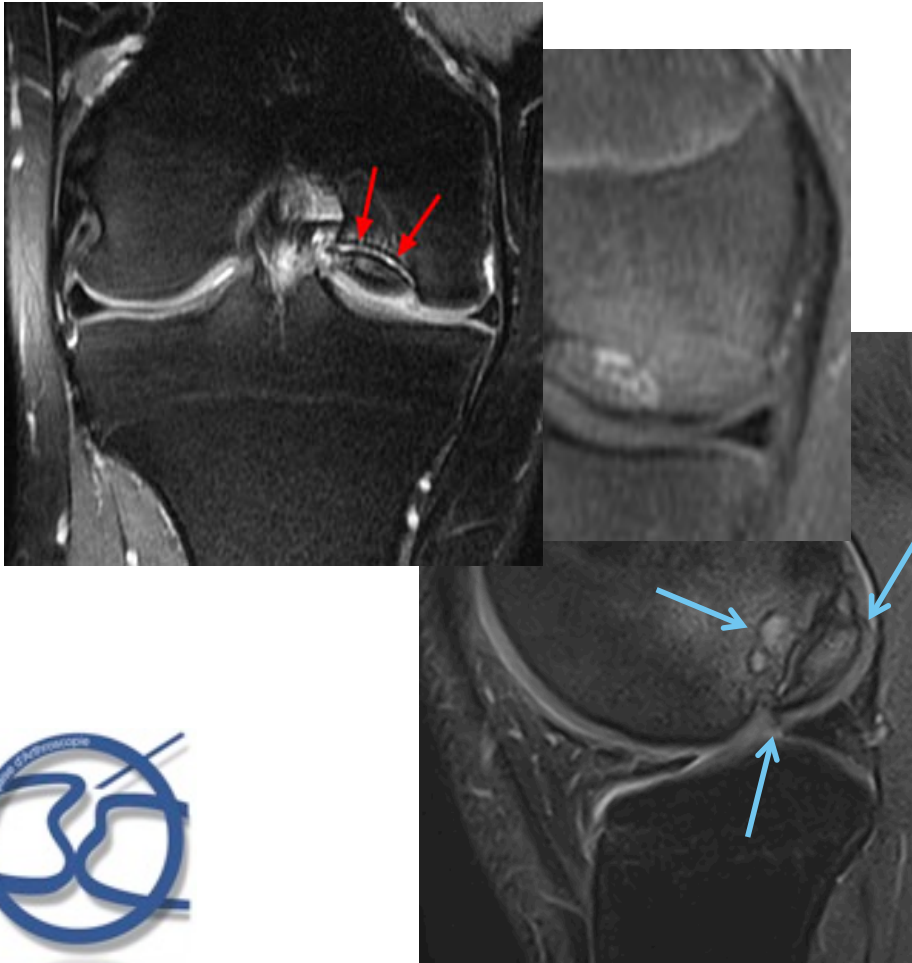
- Secondary OA



Imaging

Which exams ?

▪ MRI



Why?

▪ Vitality⁵ +++

- If no enhancement *T1gado*
= low vascularity

▪ Stability +++

- Instability criteria⁶ *T2*
 - Hypersignal Bone-Fragment
 - Fissuration cartilage
 - Osteochondral Defect
 - Micro bone cysts

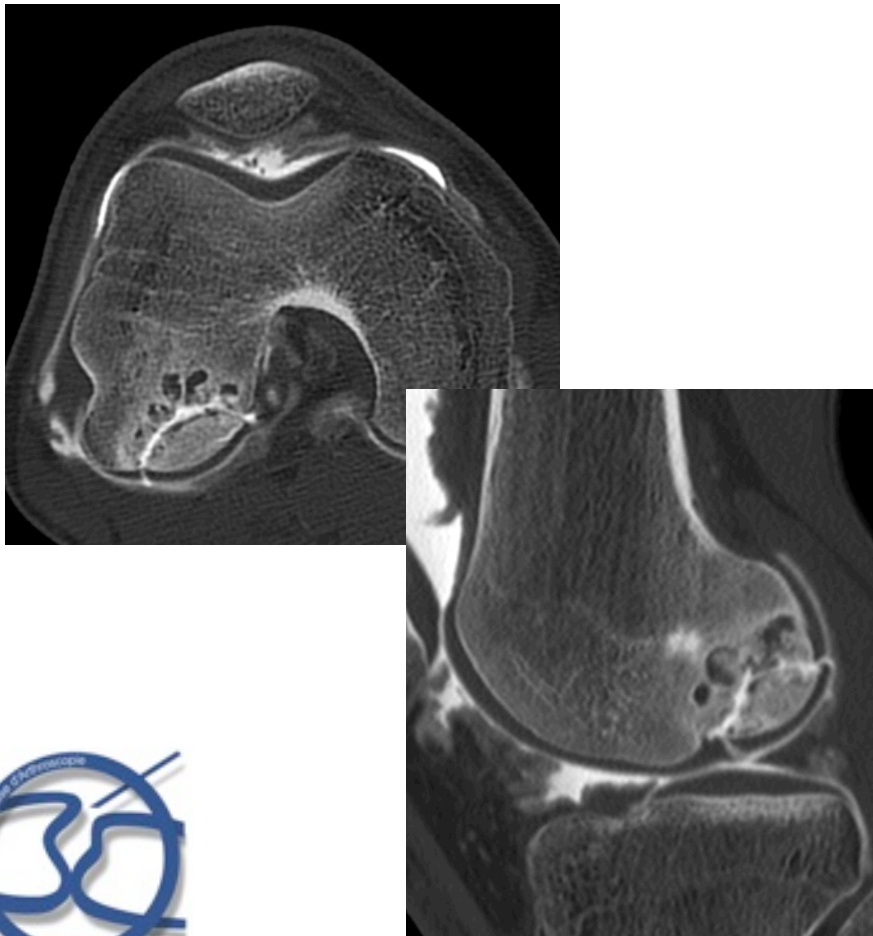
1 criteria = unstable AOCD⁷

5. Adam. FR 1994
6. De Smet. SR 1996
7. Kijowski. Radiology 2008

Imaging

Which exams?

- **Arthro CT**



Why?

- **Cartilage**

- **Stability +++**

- Criteria of instability

- Fissuration cartilage
 - Ostéochondral Defect
 - Micro cysts

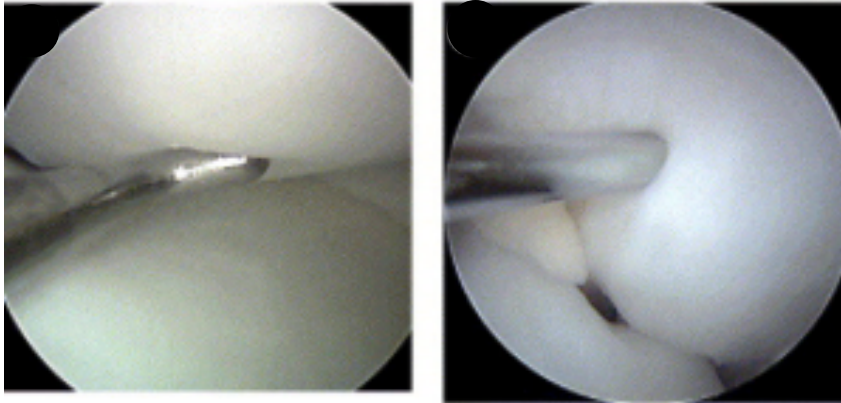
- Contrast between bone-fragment
 - Sclerosis

DIFFERENT TREATMENTS



Techniques - Results

□ PERFORATIONS



- Stable lesions
- ICRS 1

Aim: fibrocartilage

Knee Surg Sports Traumatol Arthrosc. 2003 Jan;11(1):33-9. Epub 2002 Dec 17.

Transchondral drilling for osteochondritis dissecans of the medial condyle of the knee.

Louisia S¹, Beaufils P, Katabi M, Robert H; French Society of Arthroscopy.

**Bad results
for AOCD**

17 JOCD *FU 11 y*

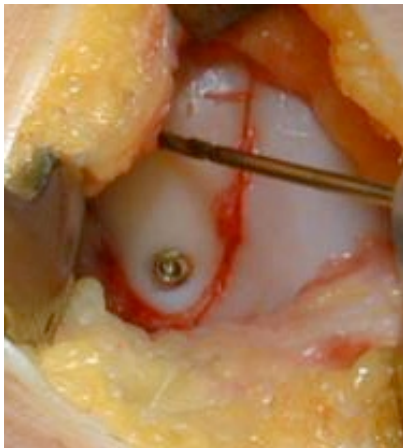
- Clinical exam 82,3%
- Radio 70%

8 AOCD *FU 6 y*

- Clinical exam **50%**
- Radio **25%**



□ FIXATION « ALONE »



- Unstable
- Vitality ++
- ICRS 2-3

Primary stability
Anatomic

Rev Chir Orthop Reparatrice Appar Mot. 2006 Sep;92(5 Suppl):2S97-2S141.

[Osteochondritis dissecans of the femoral condyles: report of 892 cases].

[Article in French]

Lefort G¹, Moyen B, Beaufils P, de Billy B, Breda R, Cadilhac C, Clavert JM, Djian P, Fenoll B, Giacomelli MC, Gicquel P, Gicquel-Schlemmer B, Journeau P, Karger C, Laptou D, Lefort G, Mainard-Simard L, Moyen B, Negreanu I, Prové S, Robert H, Thauinat M, Versier G.

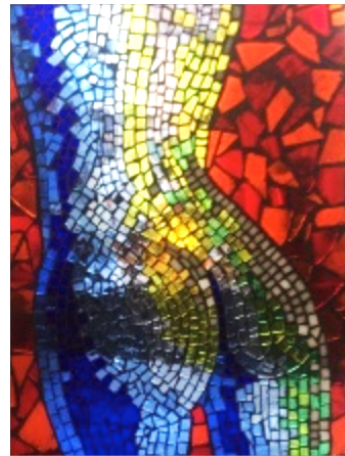
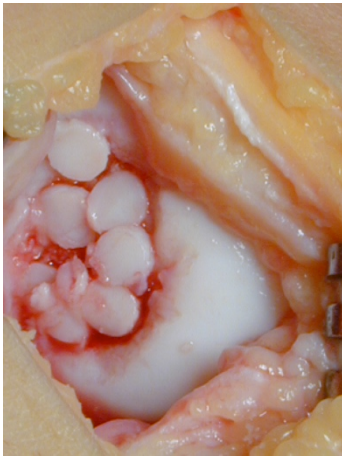
95 AOCD FU 5 y

- Clinical exam **67%**
- Radio **67%**
- Deterioration with time +++++

Poor results



□ Osteochondral autograft



- Unstable
- Vitality --
- ICRS 4

Biologic solution
Anatomy+/-...

Am J Sports Med. 2010 Jun;38(6):1125-33. doi: 10.1177/0363546509360405. Epub 2010 Apr 1.

Clinical experiences with autologous osteochondral mosaicplasty in an athletic population: a 17-year prospective multicenter study.

Hangody L¹, Dobos J, Baló E, Pánics G, Hangody LR, Berkes I.

187 AOCD *FU* 9,6 y lesion 2,5 cm²
 - Clinical exam **91%** Radio **84%**

Good results

Orthop Traumatol Surg Res. 2011 Dec;97(8 Suppl):S160-6. doi: 10.1016/j.otsr.2011.08.005. Epub 2011 Oct 28.

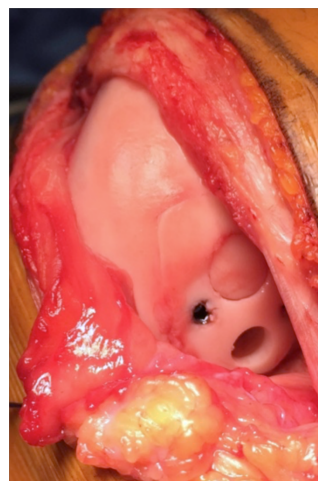
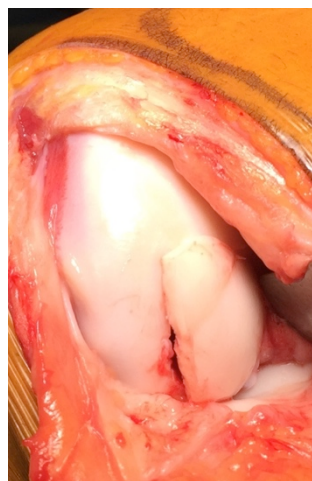
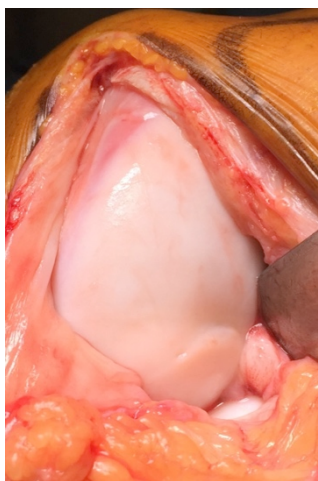
Mosaic osteochondral transplantations in the knee joint, midterm results of the SFA multicenter study.

Ollat D¹, Lebel B, Thaunat M, Jones D, Mainard L, Dubrana F, Versier G; French Arthroscopy Society.

61 AOCD *recul 8 ans* lesion 2,29 cm²
 - Clinical exam **73%** Radio **80%**



□ FIXATION PLUS



Preop



M +3

Primary Stability
+ Biological healing enhancement

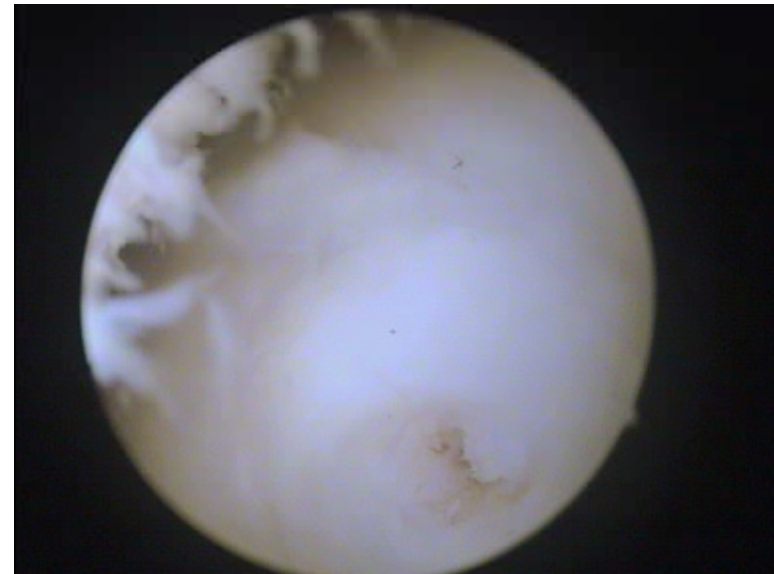
□ FIXATION PLUS



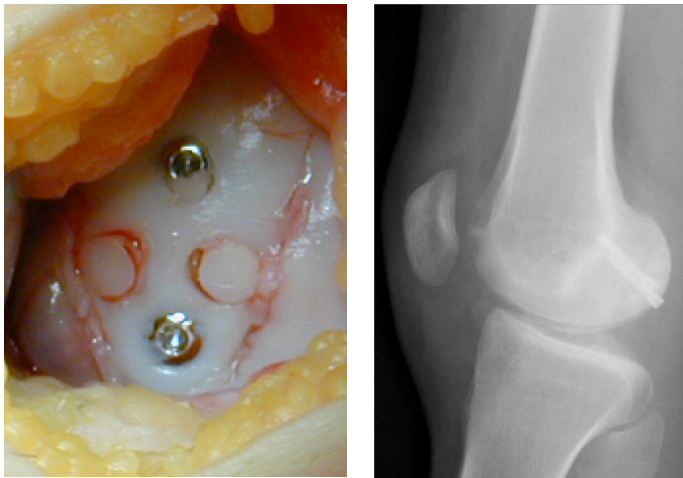
Hybrid fixation: evaluation of a novel technique in adult osteochondritis dissecans of the knee

Francois Lintz · Nicolas Pujol ·
Christophe Pandeirada · Philippe Boisrenoult ·
Philippe Beaufils

- 8 cases / 21 y (15-29) / Bedouelle 2b ou 3
- FU 27 months
- IKDC : 76 ; no failure
- X rays and Second look Arthroscopy



□ FIXATION PLUS



- Unstable
- Vitality ++
- ICRS 2-3

Primary stability
Biology
Anatomy

[Orthop Traumatol Surg Res.](#) 2017 Nov 15. pii: S1877-0568(17)30320-1. doi: 10.1016/j.otsr.2017.10.005. [Epub ahead of print]

Hybrid fixation in adult osteochondritis dissecans of the knee.

[Chadli L¹](#), [Steltzlen C¹](#), [Toanen C¹](#), [Boisrenoult P¹](#), [Beaufils P¹](#), [Pujol N²](#).

17 AOCD *FU 7 ans*

- Clinical examination **88,2%**
- Arthroscopy at 3 months Good healing
- 2 Partial failures Removal of a Mosaicplasty,
Partial removal of the OCD

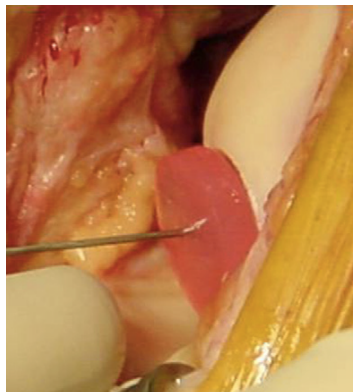
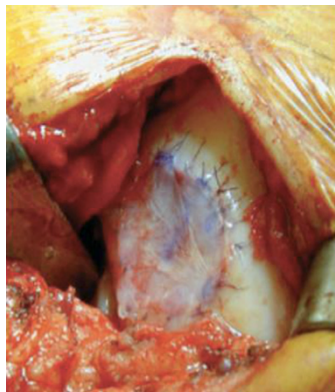
Good results





ACI

Autologous Chondrocytes Implantation



chondrocytes

Periosteal Mb

Cartipatch^R

Clinical result **84%**²

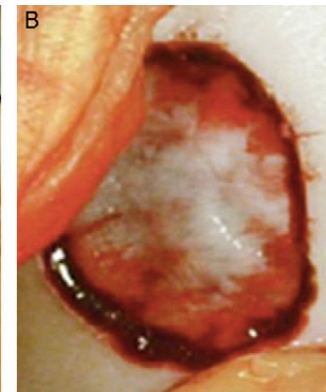
- Unstable
- Vitality --
- ICRS 4

Induction
« Hyaline
cartilage »



AMIC

Autologous Matrix Induced Chondrogenis



Microperforations

Collagen Mb

Clinical result **87%**³

Good results
ACI: Nb, Cost

J Bone Joint Surg Am. 2012 Jan 4; 94(1):2106/JBJS.K.00748.

How to treat osteochondritis dissecans of the knee: surgical techniques and new trends: AAOS exhibit selection.

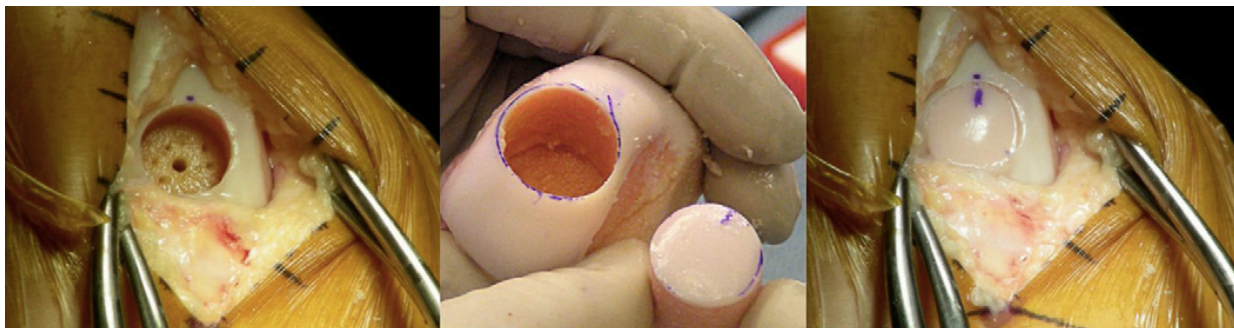
Kon E¹, Vannini F, Buda R, Filardo G, Cavallo M, Ruffilli A, Nanni M, Di Martino A, Marcacci M, Giannini S.



- Mailles
Arthroscopie
Orthopédie
- Robert. RCO 2007
 - Gille. AOTS 2013



□ ALLOGRAFTS



- Unstable
- Vitality --
- ICRS 4
- Size +

Am J Sports Med. 2016 Nov;44(11):2870-2875. Epub 2016 Aug 5.

Osteochondral Allograft Transplantation in Patients With Osteochondritis Dissecans of the Knee.

Sadr KN¹, Pulido PA², McCauley JC², Bugbee WD³.

149 AOCD *FU 6,3 ans* lesion 7,3 cm²
 Fresh Allografts

- Clinical results **78%**
- Failures **8%** Removal, Uni, TKR

Good results
 Availability?

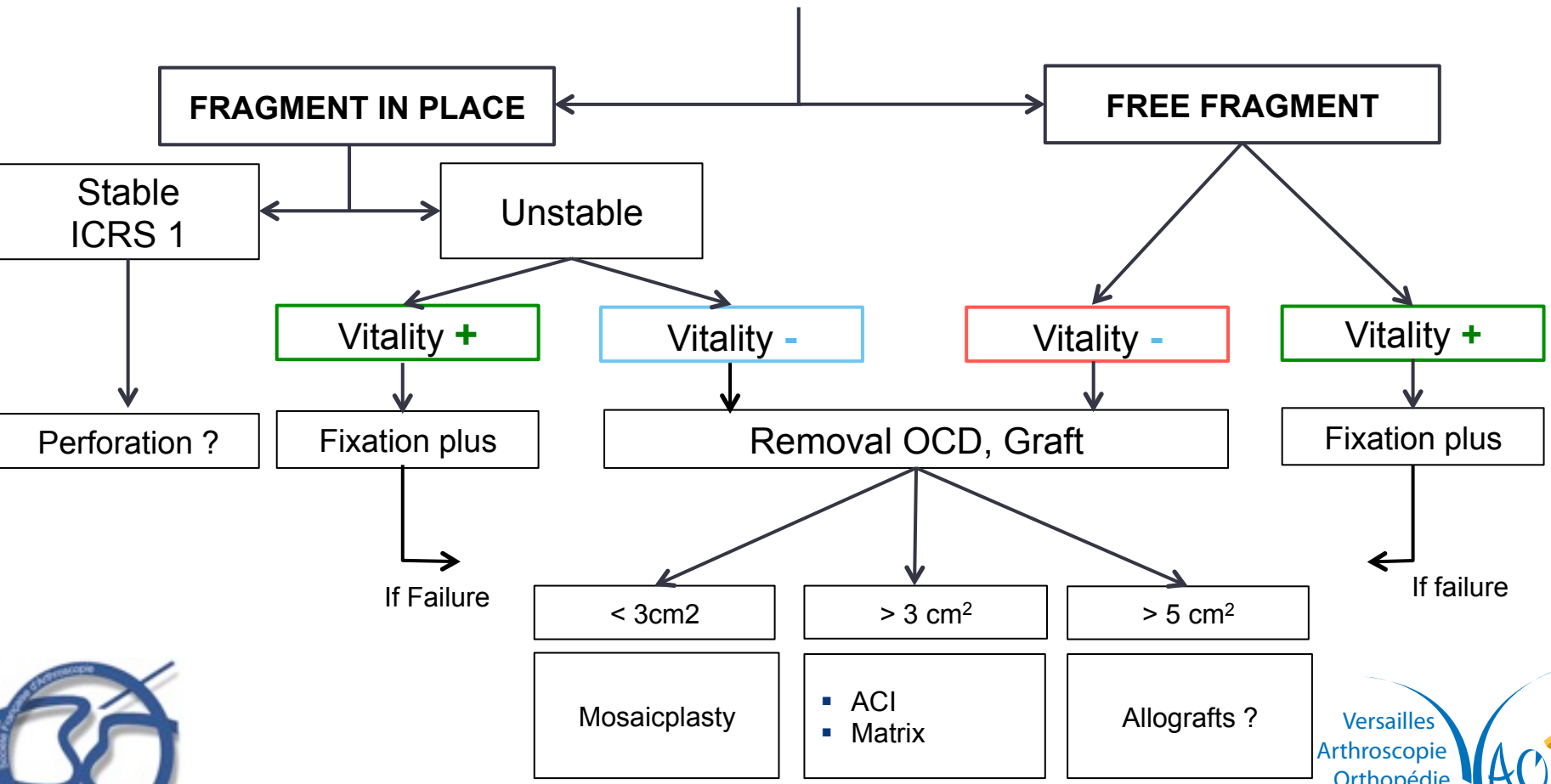


AOCD

symptomatic

Surgery

Radio + MRI ± ArthroCT



Conclusion

- ADULT OCD:
- Closed Physis = No spontaneous healing possible
- Treatment depending on:
 - stability
 - vitality
- If viable fragment (Even if released) = Fixation
 - Fixation alone: risk of failure
- If necrosis of the fragment= Removal of OCD, and filling with something



SFA



2018

STRASBOURG

PALAIS DES CONGRÈS
13 > 15 DÉCEMBRE

PRÉSIDENT DU CONGRÈS :
PHILIPPE CLAVERT

Rupture du LCA après 50 ans. *S. Lustig (Lyon), J.C Panisset (Echirolles)*
Conflit postéro-supérieur. *J. Grimberg (Paris), Y. Lefebvre (Strasbourg)*
Traitement arthroscopique de l'arthrose du coude. *Y. Carlier (Mérignac), P. Desmoineaux (Versailles)*



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