

OsteoChondral Allografts

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Disclosures

- Consulting with Smith&Nephew
- Consulting with ConMed-Linvatec
- President of ESSKA (2024-26)
- Past-President of Spanish Arthroscopy Association (2011-13)
- Editorial Committee of KSSTA and Arthroscopy

No conflict of interest related to this presentation









Are all Treatment Options the Same?





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Our Current Algorithm

Small injuries (< 2cm²)















OsteoChondral Allograft Transfer

- Fresh frozen / cryopreserved / fresh
- Adequate for <u>massive defects</u>
 Avoid donor site morbidity



- Orthotopic
- Requires young donors / Tissue Bank
- Success rate about 63-77%









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#Clinical Case 1

2000' Frozen OsteoChondral Allograft Transfer + AMT



Fresh OsteoChondral Allograft Transfer

STRENGTHS

- One only procedure
- Bone to bone fixation
- Mature hyaline cartilage
- No size limitations (??)



Excellent long-term results (fresh allografts)







Fresh Osteochondral Allograft Transfer

LIMITATIONS

- Limited supply & logistics
- Disease transmission
 - partially mitigated by cold storage
- Viability of chondrocytes
 - 23 to 99% ???
- Subtle immune reaction
- Non-union









Parc de Salut MAR



Clinical Case 2

Massive Fresh Osteochrondral Allograft Combined with Valgus Tibial Osteotomy for Osteochondral medial condyle femoral injure

J.C. MONLLAU, MD, PhD

Gonzalo Rojas C, MD; Ricardo Espinoza B, MD; Alex Coelho L, MD

#Clinical Case 3

Massive Fresh Osteochrondral Allograft Combined with Varus femoral Osteotomy for early Lateral Femorotibial Osteoartrhitis

J.C. MONLLAU, MD, PhD

Gonzalo Rojas C, MD; Ricardo Espinoza B, MD; Simone Perelli P, MD



- OA (Kellgren-Lawrence) @ 2 y FU
 - Better functional results in lower degrees of OA
 - 65% No signs of OA (1/3 medial << 2/3 lateral)

Bad pronosticators → graft collapse > 3mm & joint line < 50%









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Biological Knee Reconstruction for Combined Malalignment, Meniscal Deficiency, and Articular Cartilage Disease

oshua D. Harris, M.D., Kristen Hussey, B.S., Hillary Wilson, B.S., Kyle Pilz, M.M.S., PA-C., Anil K. Gupta, M.D., M.B.A., Andreas Gomoll, M.D., and Brian J. Cole, M.D., M.B.A.

Saik	Propensive	2 Years Postoperatively	Rnal Follow-up	P Value (2 Years/Final Follow-up)
CDC subjective	29.1 ± 11.1	48.3 ± 23.0	49.2 ± 15.3	.126/.001
005				
Fain	45.9 ± 17.2	66.6 ± 26.7	69.2 ± 20.2	.123/.003
Symptoms	51.0 ± 15.8	53.0 ± 21.4	57.8 ± 16.4	.806/.277
Activities of daily living	59.8 ± 21.1	75.3 ± 22.6	77.2 ± 15.6	.153/.025
Sport	16.3 ± 16.4	32.5 ± 34.0	33.3 ± 17.9	.305/.014
Quality of life	15.2 ± 16.0	37.5 ± 20.5	41.6 ± 22.9	.014/.001
ysholm	35.6 ± 17.7	64.0 ± 22.3	67.2 ± 17.3	.005/<.001
P-12				
Physical component	37.8 ± 8.00	37.5 ± 9.49	39.1 ± 6.23	.996/.603
Mental component	48.8 ± 11.1	51.9 ± 12.7	46.5 ± 14.5	.578/.629

Improvement in PROMs





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Low rate of cartilage and/or meniscal revision and TKR
 High-rate of reoperation









Knee Surg Sports Traumatol Art DOI 10.1007/s00167-013-2828-x

KNEE



Distal femoral varus osteotomy combined with tibial plateau fresh osteochondral allograft for post-traumatic osteoarthritis of the knee

Michael Drexler · Allan Gross · Tim Dwyer · Oleg Safir · David Backstein · Hasaan Chaudhry · Anna Goulding · Yona Kosashvili

FUNCTION

Good Results @10 y FU Progressive decline









SURVIVORSHIP

10 y →	89 %
15 y 🗲	71%
20 y →	24%



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Varus producing DFO -> Isolated vs combined with FOCA

♦ DFO → 1/3 conversion to TKR @ 12 y F-Up

◆ DFO + FOCA → improves clinical results & delays the need for TKR







OCA Transfer

Fresh vs Fresh Frozen

Fresh OCA 2018-2024

46 cases → 1 to 6 years FU

Mean age→ 32.1 yo

CAUSES

- Early OA → (Postmeniscectomy synd) 12 cases
- OCD →13 cases
- Post-trauma / -surgery →12 cases

FF OCA 2000-2017

22 cases → 6 to 24 years FU

Mean age → 42.3 yo

CAUSES

- Postrauma (tibial plateau Fx) → 18 cases
- Post ACLR (rapid chondrolysis) → 1 case
- Bone tumor →3 cases

Survival Rate

76% @ mean FU 3 y

54.5% @ mean FU 13y

Monllau et al unpublished data 2023

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The Use of Osteochondral Allograft for the Ankle, Knee, and Shoulder: Clinical Effectiveness and Cost-Effectiveness. <u>Canadian Agency for Drugs and Technologies in Herrory</u>

- Improve pain & functional outcom/
- High level of patient satisfaction
- High rates of complications, rec

For the knee, decreasing survival rathe largest drop estimated to occur betwee

VALUE

PRICE



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Take Home Message

- **UNIPOLAR FOCA in the KNEE**
- Graft survival @ mid-term FU → 70-80%
- PROMs significantly improved @ 10 years
- Rate of RTP→ 80% (average time 9.5 months)
- Worth it in young people









Take Home Message

BIPOLAR GRAFTS

FOCA +/- MAT

- FP combined grafts
- * Both can result successful @ short-term
- * The bigger the grafts the worse the outcomes

Bad Pronosticators

Failure rate 50%









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22nd ESSKA CONGRESS

Join Us in Prague 20th - 22nd May 2026 esska.org



History Inspires Science