



Indications

Large osteochondral defects > 3cm in young people not suitable for endoprosthetic replacement Revisions

Bad outcomes:

older patients, bipolar transplants, improper loading, steroid induced avn

Contraindication:

Osteoarthritis

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Basic science

Long term sucess dependent on:

- Preservation of hyaline cartilage surface
 - Chondrocyte survival drops after 15 20 days
- Healing of osseous base to host bone
 Bone is replaced by creeping substitution over years
- Maintenance of structural integrity during remodelling



Malinin et al. J Bone Joint Surg Am 2006

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Analysis of fresh osteochondral allograft retrievals

Conclusion:

- A small percentage of fresh osteochondral allografts fail (precise cause unknown).
- Theories for failure: immunologic rejection, failure of bony incorporation, and chondrocyte death causing breakdown of the cartilage matrix.
- We show that chondrocytes remain viable many years after transplantation, allograft bone incorporates, and immune rejection does not seem to play a primary role in failure.
- Clinical Relevance: Our findings support the paradigm of fresh osteochondral allografting. The reasons for failure (n=14 pat.) of a small percentage of grafts remain unclear.

Williams et al. Am J Sports Med 2007





with flush articular surface	Decour	1.4	111 10 1	
	Pressure Measurements in Intact, Defect, and Osteochondral Grafted Knees			
Small incongruities, can lead		Peak Pressure (kg/cm ²)	Percentage Change Compared to Intact	P value
to significantly increased pressure. Importance of articular surface congruity.	Intact Defect Plug elevated 1.0 mm Plug elevated 0.5 mm Plug sunk 0.5 mm Plug sunk 1.0 mm	$\begin{array}{c} 9.77 \pm 0.54 \\ 12.00 \pm 0.90 \\ 15.31 \pm 0.51 \\ 14.46 \pm 1.21 \\ 9.08 \pm 0.97 \\ 10.54 \pm 1.04 \\ 10.84 \pm 0.89 \end{array}$	N/A +23 +57 +48 -7 +8(-12% versus defect) +11%(-10% versus defect)	N/A P < .001 P < .001 ns P < .01 P < .01



Outcome: Syster	matic Review	13			
Outcomes of Osteoch	ondral Allograft Tra	nsplantation in the Knee			
N=19 studies (644 kn	ees) with mean follo	w up of 58 months			
Mean defect size 6.3 cm ²					
Source:					
Fresh	61%				
Prolonged fresh	24%				
Fresh frozen	15%				
Overall satisfaction ra	te 86%				
Short term complication rate 2.4%					
Failure rate 18%		Ghahal,, Cole. Arthroscopy 2013			
		Universitätsmedizin Rostock			







