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Boston
Massachusetts
June 18–June 21

*“Clinical result of the two stage
ACL reconstruction and meniscus
allograft transplantation, is it
comparable to the meniscus
allograft transplantation alone?”*

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Disclosure

- We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no financial support for this work that could have influenced its outcome.



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Introduction

- The purpose of this study was to introduce a two-stage approach to ACL reconstruction and meniscus allograft transplantation (MAT), using a stepwise technique where patients first undergo MAT and later undergo an ACL reconstruction and compare functional outcomes of this technique to functional outcomes of MAT alone.



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Materials and Methods

- Six patients undergoing the two stage ACL reconstruction and MAT were compared with 16 patients undergoing MAT alone.
- Comparison was achieved using three surveys: Western Ontario and McMaster Osteoarthritis Index (WOMAC), International Knee Documentation Committee (IKDC), and the Tegner Lysholm Knee Scoring Scale (Lysholm) evaluated before MAT and at final follow-up.

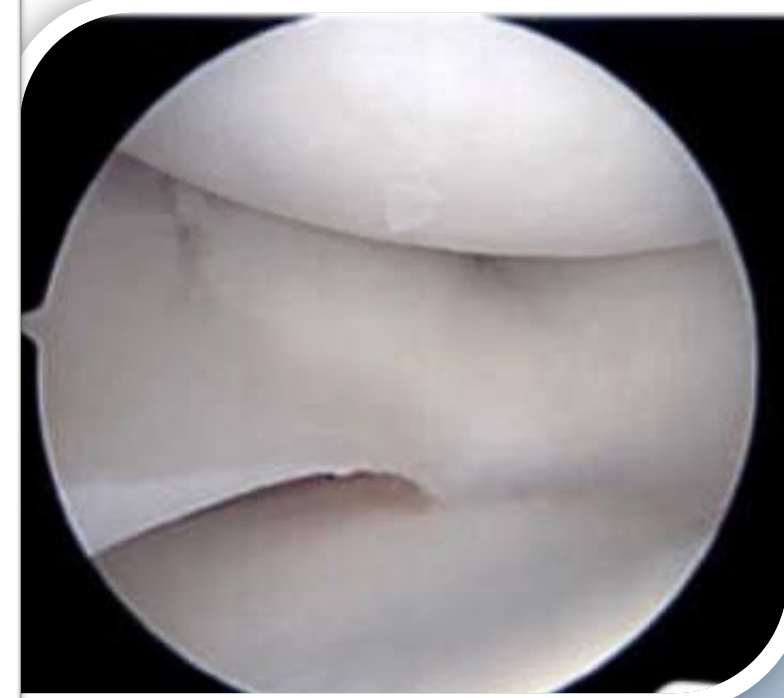
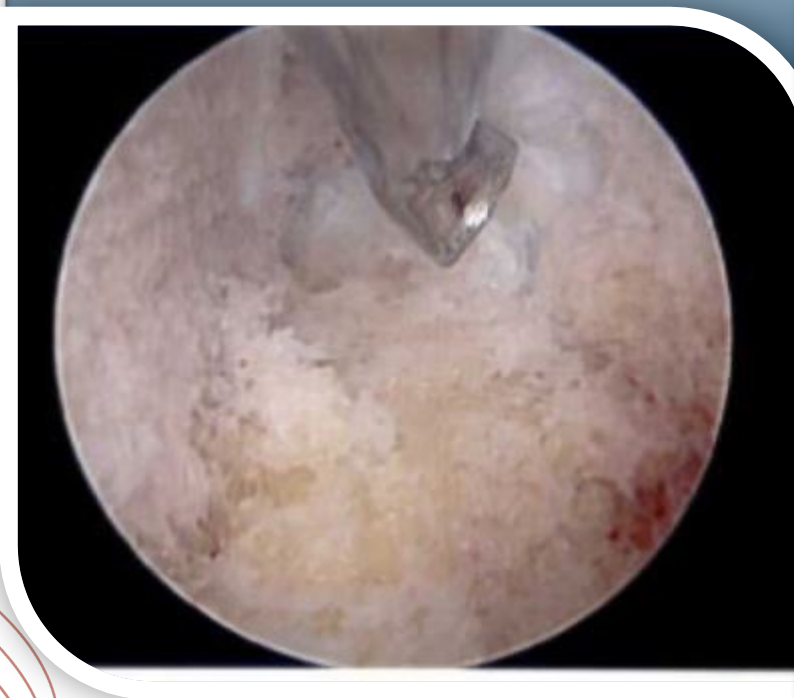


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Through in lateral
meniscus transplant



Post-Meniscal allograft
transplantation



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Characteristics of Study Population

6 patients two stage ACL reconstruction and MAT	(mean age, 32.05 ± 9.34); 2 female and 4 male; and 6 medial meniscus
16 patients MAT alone.	(mean age, 36.14 ± 6.94); 10 female and 6 male; 8 lateral meniscus and 8 medial meniscus



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Functional Outcomes

- In both groups, there was statistically significant improvement in WOMAC, IKDC, and Lysholm scoring scales from preoperative values to final follow-up ($P < 0.05$).
- Among all patients, no case of systemic complications such as vascular and neurological injuries and infections or local complications such as allograft extrusion or rupture, graft failure and bone damage was observed.



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Functional Outcomes

Knee Scoring Scale	Two-Stage (n=6)				MAT-only (n=16)			
	Preoperative	Follow-up	% Change	P	Preoperative	Follow-up	% Change	P
WOMAC	70.83	19.67	72.2	<0.001	53.69	8.88	83.5	<0.001
IKDC	37.67	58.00	54.0	0.006	43.19	64.88	50.2	<0.001
Lysholm	24.67	73.83	199	0.009	27.69	90.44	227	<0.001



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Results

- the MAT only group showed better functional outcomes, for the WOMAC at final follow-up ($P = 0.0329$), and for the Lysholm at final follow-up ($P = 0.0130$).
- The IKDC survey showed no statistical significance between groups
- Neither the two stage technique nor MAT alone were associated with major complication or graft failure.



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Discussion

- Two-stage approach to the treatment of meniscus and ligament pathologies of the knee allows the stabilizing components of the joint, which are in synergic interaction with each other.
- There is ample opportunity to restore bone strength required to minimize the risk of complications and treatment failure, such as the approach we take when there is a simultaneous need for alignment-correcting osteotomy.



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Discussion

- The rehabilitation regimen and postoperative care of patients in the field of meniscus surgery is different from ligament surgery.
 - Following meniscus surgery, it is recommended to limit the range of motion, take advantages of braces and weight-bearing restrictions.
 - The care protocol after anterior cruciate ligament reconstruction emphasizes on initiating early activity and establishment of range of motion beside promotion of physical activity as soon as possible after surgery.



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Conclusion

- Based on considerable improvement using the WOMAC, IKDC, and Lysholm functional outcome measurements that were comparable to functional outcomes for patients undergoing MAT alone, it is reasonable to conclude that the two stage ACL reconstruction and MAT is a reasonable procedure.



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