



COMPARATIVE ANALYSIS OF OUTCOMES FROM MENISCECTOMY WITH OR WITHOUT CONCURRENT SYNOVECTOMY



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BACKGROUND

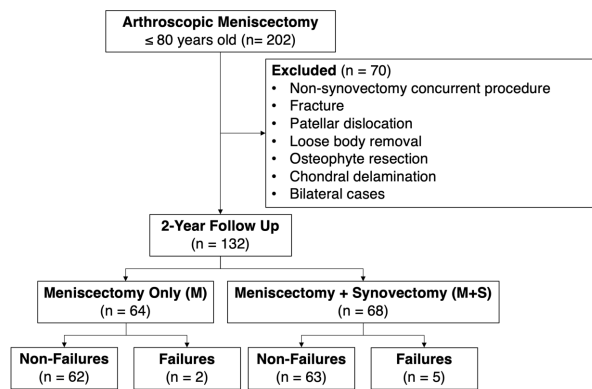
- Meniscectomy is the most performed procedure for meniscal injury.
- Synovitis is linked to knee dysfunction, poor post-operative outcomes, and OA progression.
- Concurrent synovectomy with meniscectomy may help prevent cartilage damage and alleviate pain and dysfunction.
- The decision to perform synovectomy, however, currently lacks clear guidelines.

PURPOSE

- Determine whether patients who underwent an arthroscopic meniscectomy with concurrent synovectomy ("M+S") exhibited similar outcome scores compared to patients who underwent arthroscopic meniscectomy alone ("M") for up to 2 years of follow-up.
- Determine whether patient demographics, knee condition, and other relevant clinical factors are associated with patient-reported outcomes.

METHODS

Knee Injury and Osteoarthritis Outcome Score (KOOS) subscales were collected pre-operatively and at a minimum of 2-years post-operation in M and M+S patient groups. Demographic and injury details, including age, gender, ethnicity, BMI, smoking history, and Kellgren Lawrence (KL) OA grade were collected from medical charts. *Failures* were defined as patients who had a subsequent procedure on the same knee (E.g., arthroplasty). Mann-Whitney U tests were used to assess data significance.



RESULTS & DISCUSSION

	Meniscectomy + Synovectomy (N=64)	Meniscectomy alone (N=68)	P-value	Meniscectomy + Synovectomy (N=64)	Meniscectomy alone (N=68)	P-value
Age						
Mean (SD)	58.4 (±12.0)	61.0 (±10.8)	0.196	OA Grade		0.06
Median [IQR]	60.0 [51.0 - 68.0]	62.0 [54.0 - 70.0]		0	4 (6%)	2 (3%)
Range	[29.0 - 80.0]	[29.0 - 80.0]		1	2 (3%)	2 (3%)
				2	17 (27%)	26 (38%)
				3	19 (30%)	28 (41%)
				4	22 (34%)	10 (15%)
BMI			0.336	Medial Meniscus Tear Type		0.896
Mean (SD)	28.7 (±8.34)	27.5 (±6.12)		Bucket Handle	3 (5%)	4 (6%)
Median [IQR]	26.7 [23.7 - 31.8]	26.5 [24.8 - 31.7]		Complex	43 (67%)	36 (53%)
Range	[3.57 - 54.9]	[7.95 - 41.0]		Free edge	1 (2%)	0 (0%)
				Unknown	7 (11%)	6 (9%)
				Oblique	0 (0%)	1 (1%)
Gender			0.727	Lateral Meniscus Tear Type		0.599
Female	31 (48%)	30 (44%)		Complex	8 (12%)	13 (19%)
Male	33 (52%)	38 (56%)		Free edge	40 (62%)	39 (57%)
				Oblique	16 (25%)	16 (24%)
				Failure		0.264
				Failure	5 (8%)	2 (3%)
				Nonfailure	59 (92%)	66 (97%)

Tables 1 & 2. Patient demographics, injury details, and post-operative failures.

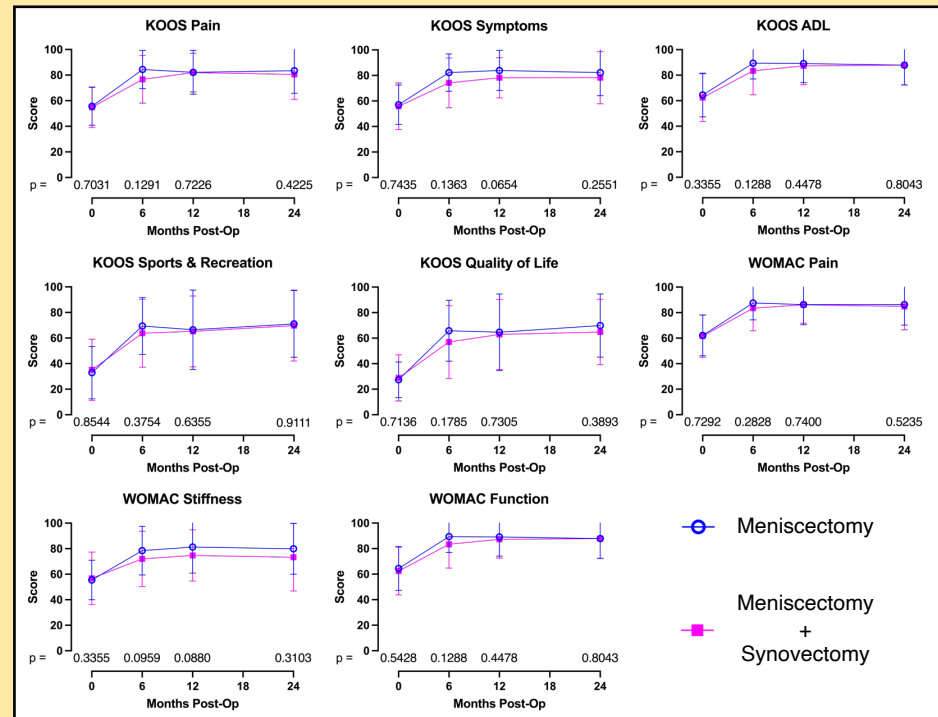


Figure 1. Patient-reported outcome subscale scores across time points by treatment group.

- All PRO metrics improved as post-op time progressed.
- KOOS subscale scores were not statistically significant between cohorts
- In failures, the average BMI trended higher (31.3 vs. 27.8 in non-failures, $p=0.1205$), the average KL OA grade trended higher (3.1 vs. 2.69 in non-failures, $p=0.22$), and we observed a higher proportion of subjects with a smoking history (28.6% vs. 21.1% in non-failures)
- There were no statistically significant differences in BMI ($p=0.23$), OA grade ($p=0.94$), or age ($p=0.89$) between the failure and non-failure group.

CONCLUSIONS

Outcomes from patients without synovitis, who underwent surgical meniscectomy, were no different from those patients who had synovitis and underwent a meniscectomy and concurrent synovectomy despite the larger proportion of high-grade OA in the latter. Further sample collection over a longer period than our 3.5-year period is needed to determine predictive factors of failures.

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