

COPYRIGHT © BY THE JOURNAL OF BONE AND JOINT SURGERY, INCORPORATED

RYAN ET AL.

ACL RECONSTRUCTION: DO OUTCOMES DIFFER BY SEX?

<http://dx.doi.org/10.2106/JBJS.M.00299>

Page 1 of 3

TABLE E-1 Study Selection Criteria

Inclusion Criteria	Exclusion Criteria
English language	Non-English language
Human study	Laboratory or animal study
Contains outcome data by sex on:	No outcome reporting by sex
Graft or contralateral ACL failure risk, or	Pediatric patient populations
Instrumented laxity measurements, or	Follow-up of less than two years
Lachman or pivot-shift data, or	
Validated patient-reported outcomes	Focused on revision surgery

TABLE E-2 Patient Demographics*

Study	Design	Male (no.)	Female (no.)	Age at Surgery (yr)
Barber-Westin ²¹ , 1997	Retrospective comparative (prospective data collection)	47	47	29
Noojin ¹⁴ , 2000	Retrospective comparative (prospective data collection)	26	39	M, 29; F, 23.2
Ferrari ²³ , 2001	Retrospective comparative	137	63	M, 30.2; F, 27.3
Gobbi ²⁴ , 2003	Retrospective comparative (prospective data collection)	48	32	28.5
Ott ²⁶ , 2003	Retrospective comparative	74	77	M, 27.7; F, 22.5
Salmon ²⁷ , 2006	Retrospective comparative (prospective data collection)	73	70	NR
Wright ³⁰ , 2007	Retrospective comparative (prospective data collection)	125	110	23
Shelbourne ²⁸ , 2009	Retrospective comparative (prospective data collection)	863	552	21.6
Ageberg ¹⁵ , 2010	Retrospective comparative (prospective data collection)	2292	1706	M, 27; F, 25
Dunn ²² , 2010	Retrospective comparative (prospective data collection)	222	171	23
Månnsson ²⁵ , 2011	Retrospective comparative	258	161	27.6
Tohyama ²⁹ , 2011	Retrospective comparative (prospective data collection)	73	49	M, 25.7; F, 27.8
Ahldén ²⁰ , 2012	Retrospective comparative	141	103	29

*BTB = bone-patellar tendon-bone, and NR = not reported.

TABLE E-2 (continued)

Follow-up Duration (yr)	Follow-up (%)	Surgical Technique/Fixation	Graft Type
M, 2.2; F, 2.1	100	82% endoscopic and 18% 2-incision/interference screws	BTB autograft
M, 3.2; F, 3.3	50	Transtibial drilling/ENDOBUTTON	Hamstring autograft
M, 4.9; F, 4.2	72.7	Transtibial drilling/interference screws	BTB autograft
3	100	50% 2-incision/interference screws. 50% transtibial/ENDOBUTTON and interference screw	50% BTB autograft, 50% hamstring autograft
M, 4.8; F, 5.1	34.6	Transtibial drilling/interference screws or post	BTB autograft
7	71.5	Medial portal drilling/interference screws	Hamstring autograft
2	86	Variable	Variable
Min. 5	78	Mini-arthrotomy/interference screws	Contralateral BTB autograft
2	23.5	Variable	8% BTB, 90% hamstring
2	88	Variable	Variable
2-7	69	Transtibial drilling/interference screws	80.9% BTB, 19.1% hamstring
2	70.1	Anatomic double bundle	Hamstring double bundle
2.1	65	Medial portal drilling	Hamstring autograft

TABLE E-3 Side-to-Side Laxity Differences*

Study	Instrument Used	Graft Type	Side-to-Side Difference† (mm)		
			Male	Female	P Value
Salmon ²⁷	KT1000	Hamstring autograft	1.3	1.9	0.02
Ferrari ²³	KT1000	BTB autograft	0.8 ± 2.8	1.7 ± 2.2	0.014
Noojin ¹⁴	KT1000	Hamstring autograft	1.2	1.9	NS
Gobbi ²⁴	OSI CA4000	BTB autograft	1.3	1.3	NS
		Hamstring autograft	1.7	2.3	NR
Barber-Westin ²¹	KT2000	BTB autograft	0.4	0.7	NS
Ahldén ²⁰	KT1000	Hamstring autograft	2.2	2.9	0.07
Tohyama ²⁹	KT2000	Hamstring autograft double bundle	1.4 ± 1.7	1.3 ± 1.7	0.73

*BTB = bone-patellar tendon-bone, NS = not significant, and NR = not reported. †The values are given as the mean or as the mean and the standard deviation.

TABLE E-4 Postoperative Patient-Reported Outcome and Activity Scores*

Study	Patient-Reported Outcome Score				Activity Score			
	Scale	Male	Female	P Value	Scale	Male	Female	P Value
Barber-Westin ²¹	Cincinnati	89	84	NS				
Noojin ¹⁴	Lysholm	90.9	89.7	NS	Tegner	5.3	5.2	NS
Ferrari ²³	HSS	88.6	88.9	0.81	Tegner	6.5	6.1	0.10
	Lysholm	88.0	88.5	0.58				
Ott ²⁶	Cincinnati	86.0	80.3	0.59	Tegner	5.4	5.0	0.08
Salmon ²⁷	Lysholm	95	95	NS				
Ageberg ¹⁵	KOOS pain	86.2	85.0	0.07				
	KOOS symptoms	79.8	78.7	0.13				
	KOOS ADL	91.8	91.9	0.85				
	KOOS sport/rec.	68.1	63.7	0.001				
	KOOS knee QoL	63.4	61.0	0.03				
Dunn ²²	Subjective IKDC	79	80	0.93	Marx	8.7	8.2	0.43
	KOOS pain	87	90	0.06				
	KOOS symptoms	81	81	0.90				
	KOOS ADL	92.6	94	0.94				
	KOOS sport/rec.	77	80	0.28				
	KOOS knee QoL	70	73	0.23				
Tohyama ²⁹	Lysholm	97.2	96.7	0.50	Tegner	6.3	6.1	0.71
Ahldén ²⁰	Lysholm	85	82	0.19	Tegner	6	5	0.07

*NS = not significant, ADL = activities of daily living, and QoL = quality of life.