

TABLE E-1 Characteristics of the Included Studies

Study	Trial Type*	Cohort†	Design‡	N	Follow-up			CMS
					Min. (yr)	Mean (yr)	Loss (%)	
Leys ²⁹ , 2012	Opcomp	Op	PCS	90	15	15	20	87
Leys ²⁹ , 2012	Opcomp	Op	PCS	90	15	15	27	87
Murray ³¹ , 2012	Op	Op	RCS	115	10	13	29.2	73
Neuman ⁶ , 2012	Nonop	Nonop	PCS	94	15	15.7	6.4	75
Struwer ³⁶ , 2012	Op	Op	RCS	73	10	13.5	56	73
Sajovic ³³ , 2011	Opcomp	Op	RCT	27	11	11	22	82
Sajovic ³³ , 2011	Opcomp	Op	RCT	25	11	11	16	82
Mihelic ⁵⁷ , 2011	Comp	Nonop	RCS	18	17			66
Mihelic ⁵⁷ , 2011	Comp	Op	RCS	33	17			66
Hui ²⁷ , 2011	Op	Op	RCS	90	15.3	15.3	12	77
Streich ³⁵ , 2010	Comp	Nonop	MCS	40	14	15		77
Streich ³⁵ , 2010	Comp	Op	MCS	40	14	15		77
Øiestad ⁶³ , 2010	Op	Op	RCS	181	10	12.4	18	60
Holm ⁶² , 2010	Opcomp	Op	RCT	29	10	10	21	79
Holm ⁶² , 2010	Opcomp	Op	RCT	28	10	10	21	79
Neuman ⁶ , 2012	Nonop	Nonop	PCS	94	15	15.7	6.4	75
Möller ²⁴ , 2009	Op	Op	RCS	56	11	11.5	10	50
Almqvist ²⁶ , 2009	Op	Op	RCS	50	10	10.5	14.1	70
Meuffels ³⁰ , 2009	Comp	Nonop	MCS	25	10	10		64
Meuffels ³⁰ , 2009	Comp	Op	MCS	25	10	10		64
Neuman ⁵⁹ , 2009	Comp	Nonop	RCS	72	15	15.7		65
Neuman ⁵⁹ , 2009	Comp	Op	RCS	22	15	15.7		65
Lebel ²⁸ , 2008	Op	Op	PCS	98	10	11.6		73
Neuman ⁵⁸ , 2008	Comp	Nonop	PCS	93	15	15.7	7	75
Neuman ⁵⁸ , 2008	Comp	Op	PCS	22	15	15.7		75
van der Hart ³⁷ , 2008	Op	Op	RCS	28	10		36	71
Nakata ³² , 2008	Op	Op	RCS	61	10	11.5	45	57
Hanytsiak ¹² , 2008	Op	Op	PCS	44	11.8	12.7	18.5	64
Ageberg ³ , 2007	Nonop	Nonop	RCS	56	15	15	16	73
Cohen ¹⁹ , 2007	Op	Op	RCS	62	10	11	24.4	73
Kostogiannis ⁴ , 2007	Nonop	Nonop	PCS	67	15	15	10	83
Drogset ⁶¹ , 2006	Opcomp	Op	RCS	42	16	16	22	79
Salmon ³⁴ , 2006	Op	Op	RCS	67	13	13	15	77
Lohmander ⁵⁶ , 2004	Comp	Nonop	RCS	32	12	12		43
Lohmander ⁵⁶ , 2004	Comp	Op	RCS	52	12	12		43
von Porat ⁶⁰ , 2004	Comp	Nonop	RCS	65	14	14		45
von Porat ⁶⁰ , 2004	Comp	Op	RCS	89	14	14		45
Fink ⁵⁵ , 2001	Comp	Nonop	RCS	25	10	11.0	39	54
Fink ⁵⁵ , 2001	Comp	Op	RCS	46	10	11.0	36	54
Messner ⁵ , 1999	Nonop	Nonop	PCS	22	20	20	4.5	57
Neyret ⁷ , 1993	Nonop	Nonop	RCS	76	20	27	84.0	51

*Nonop = single nonoperative cohort, Op = single operative cohort, Comp = operative and nonoperative cohorts, and Opcomp = multiple operative cohorts undergoing different techniques. †Op = operative treatment cohort, and Nonop = nonoperative treatment cohort. ‡RCT = randomized clinical trial, MCS = matched cohort study, PCS = prospective cohort study, and RCS = retrospective cohort study.

TABLE E-2 Characteristics of the Patients in the Included Studies

Study	Cohort*	Mean Age (yr)	Female (%)	Meniscal Damage (%)	Cartilage Damage (%)	Ligament Instability (%)	Graft†	Mean BMI (kg/m ²)	Mean Time to Reconstruction (mo)
Leys ²⁹ , 2012	Op	24	47.8	57.8	0	0	HT		
Leys ²⁹ , 2012	Op	25	46.7	70	0	0	BPTB		
Murray ³¹ , 2012	Op	30		55.3			BPTB		30
Neuman ⁶ , 2012	Nonop			60					
Struwer ³⁶ , 2012	Op	30	37.0	0	0	0	BPTB		
Sajovic ³³ , 2011	Op	36	36	52	0	0	HT		25
Sajovic ³³ , 2011	Op	38	48.1	64	0	0	BPTB		23
Mihelic ⁵⁷ , 2011	Nonop	25.3	19	61	0	0			
Mihelic ⁵⁷ , 2011	Op	25.5	19	64	0	0	BPTB		19
Hui ²⁷ , 2011	Op	25	49	14	0	3	BPTB		
Streich ³⁵ , 2010	Nonop	24	42.9	25		0		22.8	
Streich ³⁵ , 2010	Op	26	42.9	22		0	BPTB	23.3	7.3
Øiestad ⁶³ , 2010	Op	27.1	43	76	20	1.1	BPTB	23.5	28
Holm ⁶² , 2010	Op	27	48.7				HT	25.2	10.7
Holm ⁶² , 2010	Op	29	35.7				BPTB	26.5	10.2
Möller ²⁴ , 2009	Op	27.5	36.5	22.6			BPTB		6
Almqvist ²⁶ , 2009	Op	25	28	44	10		TA/TP		
Meuffels ³⁰ , 2009	Nonop	27.8	24	80				24.9	
Meuffels ³⁰ , 2009	Op	27.6	24	68			BPTB	25.3	6
Neuman ⁵⁹ , 2009	Nonop	26	42	26					
Neuman ⁵⁹ , 2009	Op	26	42	18			BPTB		
Lebel ²⁸ , 2008	Op	28.8	24	54.5	24.5	0	BPTB	23.5	21.2
Neuman ⁵⁸ , 2008	Nonop	26	42	60	10	54		26	
Neuman ⁵⁸ , 2008	Op	26	36.4	60	10	54	BPTB	26	48
van der Hart ³⁷ , 2008	Op	30.5	39.3	46.4	14.3	0	BPTB		34
Nakata ³² , 2008	Op	10.9	57.4	27.9	16.4	3.3	BPTB		
Hanypsiak ¹² , 2008	Op	26.3	29.5		46	0	BPTB		0.9
Ageberg ³ , 2007	Nonop	26	35.7					26.5	
Cohen ¹⁹ , 2007	Op	27	24.2	66.1		0	BPTB		16
Kostogiannis ⁴ , 2007	Nonop	42.1	40.3	90	16.4	37.3			
Drogset ⁶¹ , 2006	Op	29					BPTB		
Salmon ³⁴ , 2006	Op	27	29.9	47	0	0	BPTB		
Lohmander ⁵⁶ , 2004	Nonop	19	100	40					
Lohmander ⁵⁶ , 2004	Op	19	100	40			BPTB		36
von Porat ⁶⁰ , 2004	Nonop	26	0	38				26	
von Porat ⁶⁰ , 2004	Op	23	0	38			BPTB	26	
Fink ⁵⁵ , 2001	Nonop	32.3	28	47.8	0	14.4			
Fink ⁵⁵ , 2001	Op	33.6	19.6	50	0	15	BPTB		3.3
Messner ⁵ , 1999	Nonop	29	9.1	18.2	18.2	72.7			
Neyret ⁷ , 1993	Nonop	29	18.0	100					

*Op = operative treatment cohort, and Nonop = nonoperative treatment cohort. †BPTB = bone-patellar tendon-bone, HT = hamstring tendon, and TA/TP = tibialis anterior or tibialis posterior.

TABLE E-3 Number of Cohorts Reporting Each Variable of Interest*

Variable	Operative		Nonoperative	
	No.	%	No.	%
Demographic				
Mean age at time of reconstruction† (yr)	27	100	12	92
Percentage of patients who were female†	25	93	12	92
Percentage of patients with associated meniscal damage at time of injury†	24	89	12	92
Percentage of patients with associated cartilage lesion at time of injury†	16	59	5	38
Percentage of patients with associated ligamentous instability at time of injury†	17	63	6	46
Body mass index†	8	30	5	38
Percentage of patients with radiographs made at time of final follow-up†	21	78	9	69
Percentage of patients lost to follow-up†	8	30	7	54
Mean time from injury to reconstruction	17	63	NA	NA
Operative technique used	26	96	NA	NA
Clinical				
Percentage of patients who required further knee surgery†	18	67	6	46
Percentage of patients who required later meniscal surgery†	16	59	9	69
Percentage of patients with STSD difference of >5° in range of motion	13	48	2	15
Percentage of patients with any instability on Lachman testing	12	44	2	15
Percentage of patients with any instability on pivot-shift testing†	15	56	4	31
Percentage of patients with KT-1000 STSD of ≥3 mm	16	59	2	15
Functional				
Lysholm score†	21	78	10	77
Preop. Tegner score†	9	33	8	62
Tegner score at time of final follow-up†	13	48	8	62
Percentage of patients returning to athletics at pre-injury level	7	26	0	0
Cincinnati Knee Score	3	11	0	0
KOOS	2	7	2	15
SF-36 score	1	4	1	8
IKDC score†	13	48	3	23
IKDC overall grade	12	44	1	8
Radiographic				
Radiographic results†	27	100	13	100
IKDC radiographic grade	12	44	2	15
Kellgren and Lawrence radiographic grade	6	22	1	8
Ahlbäck radiographic grade	1	4	1	8
Fairbank radiographic grade	0	0	0	0
Contralateral radiographic grade	3	11	0	0
All studies	27		13	

*STSD = side-to-side-difference, and NA = not applicable. †At least three operative and three nonoperative studies reported the variable.