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Appendix

Electronic Search Strategy for Each Database

MEDLINE

1. "Posterior Cruciate Ligament"[tiab] OR "Posterior Cruciate Ligaments"[tiab], n = 2,515
2. "Posterior Cruciate Ligament"[MeSH], n = 1,970
3. 1 OR 2, n = 3,077
4. "Reconstructive Surgical Procedures"[MeSH], n = 162,616
5. Reconstructive[tiab] OR reconstruction[tiab] OR transtibial[tiab] OR inlay[tiab], n =177,807
6. Single-Bundle[tiab] OR Double-Bundle[tiab] OR ((Single[tiab] OR Double[tiab]) AND Bundle[tiab]), n = 4,721
7. 4 OR 5 OR 6, n = 305,799
8. 3 AND 7, n = 1,622
9. 8 NOT "review"[Publication Type] OR "review literature as topic"[MeSH Terms], n = 1,428

Embase

1. 'knee ligament'/de OR 'knee cruciate ligament'/exp, n = 5,385
2. "Posterior Cruciate Ligament":ab,ti, n = 2,629
3. 1 OR 2, n = 6,308
4. 'knee ligament surgery'/de OR 'posterior cruciate ligament reconstruction'/exp OR 'ligament surgery'/exp, n = 6,146
5. Reconstructive:ab,ti OR reconstruction:ab,ti OR transtibial:ab,ti OR inlay:ab,ti, n = 209,185
6. Single-Bundle:ab,ti OR Double-Bundle:ab,ti OR ((Single:ab,ti OR Double:ab,ti) AND Bundle:ab,ti), n = 5,652
7. 4 OR 5 OR 6, n = 215,560
8. 3 AND 7, n = 2,021
9. 8 NOT ('conference review'/it OR 'review'/it), n = 1,732

Cochrane

1. "Posterior Cruciate Ligament" OR "Posterior Cruciate Ligaments":ti,ab,kw, n = 227
2. MeSH descriptor: [Posterior Cruciate Ligament] explode all trees, n = 84
3. 1 OR 2, n = 227
4. MeSH descriptor: [Reconstructive Surgical Procedures] explode all trees, n = 7,411
5. Reconstructive OR reconstruction OR transtibial OR inlay, n = 5,333
6. Single-Bundle OR Double-Bundle OR ((Single OR Double) AND Bundle), n = 358
7. 4 OR 5 OR 6, n = 11,601
8. 3 AND 7, n = 159
9. 8/trials, n = 142

Web of Science

1. TOPIC: ("Posterior Cruciate Ligament" OR "Posterior Cruciate Ligaments") OR TITLE: ("Posterior Cruciate Ligament" OR "Posterior Cruciate Ligaments"), n = 2,366
2. TOPIC: (Reconstructive OR reconstruction OR transtibial OR inlay OR Single-Bundle OR Double-Bundle OR ((Single OR Double) AND Bundle)) OR TITLE: (Reconstructive OR

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reconstruction OR transtibial OR inlay OR Single-Bundle OR Double-Bundle OR ((Single OR Double) AND Bundle)), n = 323,345
3. 1 AND 2, n = 1,119
4. 3 Refined by: [excluding] DOCUMENT TYPES: (REVIEW), n = 1,035

SCOPUS

1. TITLE-ABS ("Posterior Cruciate Ligament" OR "Posterior Cruciate Ligaments"), n = 3,084
2. INDEXTERMS (posterior cruciate ligament), n = 2,417
3. 1 OR 2, n = 3,911
4. TITLE-ABS ("Reconstructive Surgical Procedures"), n = 34,168
5. Reconstructive OR reconstruction OR transtibial OR inlay OR Single-Bundle OR Double-Bundle OR ((Single OR Double) AND Bundle), n = 436,310
6. 4 OR 5, n = 449,806
7. 3 AND 6, n = 1,504
8. 7 AND EXCLUDE (DOCTYPE, "re"), n = 1,303

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TABLE E-1 Posterior Tibial Translation with Posterior Drawer Force After Single-Bundle and Double-Bundle Posterior Cruciate Ligament Reconstruction*

Study	Reconstruction Technique	Posterior Tibial Translation at Various Knee Flexion Angles *(mm)*			
		Low Flexion (0°-10°)	30°	60°	90°
Milles[23]	SB	6.9 ± 2.1	8.5 ± 2.1	8.3 ± 2.1	8.5 ± 1.4
	DB	5.1 ± 1.2	7.4 ± 1.2	6.9 ± 2.1	6.0 ± 2.1
Kennedy[19,20]	SB	1.8 ± 1.7	3.5 ± 2.6	4.8 ± 3.3	5.4 ± 3.9
	DB	1.2 ± 0.8	2.5 ± 1.4	2.9 ± 2.0	2.2 ± 2.2
Wijdicks[24]	SB	1.8 ± 1.1	4.0 ± 1.7	5.0 ± 3.4	4.8 ± 4.2
	DB	0.9 ± 0.8	1.4 ± 2.3	1.2 ± 2.3	0.6 ± 3.7
Whiddon[21]	SB	NR	NR	NR	4.8 ± 1.0
	DB	NR	NR	NR	3.3 ± 1.4
Apsingi[22]	SB	5.0 ± 1.6	5.8 ± 2.1	5.0 ± 3.4	7.4 ± 3.7
	DB	3.4 ± 1.3	5.0 ± 2.9	4.2 ± 3.2	6.1 ± 4.5
Bergfeld[25]	SB	5.3 ± 0.4	6.7 ± 0.4	6.0 ± 0.4	5.6 ± 0.7
	DB	4.9 ± 0.2	5.1 ± 0.4	4.4 ± 0.7	4.2 ± 0.9
Markolf[26]	SB	12.8 ± 1.4	15.8 ± 2.4	NR	12.7 ± 1.9
	DB	10.6 ± 1.4	14.3 ± 1.8	NR	12.8 ± 2.1
Markolf[27]	SB	4.6	7.3	NR	6.4
	DB	3.6 ± 0.6	5.9 ± 1.6	NR	6.3 ± 1.6
Harner[28]	SB	8.9 ± 3.0	7.7 ± 3.8	6.9 ± 3.8	7.2 ± 4.0
	DB	7.0 ± 1.8	5.7 ± 3.6	4.4 ± 4.2	4.9 ± 4.0
Race[29]	SB	3.5 ± 1.9	4.4 ± 0.6	5.3 ± 1.0	5.8 ± 2.0
	DB	2.6 ± 2.3	4.0 ± 0.7	4.4 ± 0.8	5.3 ± 1.8

*Values are given as the mean and standard deviation. SB = single-bundle, DB = double-bundle, and NR = not reported.

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TABLE E-2 External Rotation and Varus Rotation in Response to External Rotation Torque and Varus Rotation Torque After Single-Bundle and Double-Bundle Posterior Cruciate Ligament Reconstruction*

Outcome and Study	Reconstruction Technique	External Rotation at Various Knee Flexion Angles (°)			
		Low Flexion (0°-10°)	30°	60°	90°
External rotation in response to external rotation torque					
Kennedy[19,20]	SB	NR	NR	3.8 ± 6.7	1.9 ± 1.7
	DB	NR	NR	1.9 ± 1.5	1.9 ± 2.1
Wijdicks[24]	SB	0.5 ± 0.3	0.7 ± 0.4	1.4 ± 1.1	1.6 ± 1.3
	DB	0.6 ± 0.4	0.5 ± 0.5	0.5 ± 0.7	0.4 ± 1.6
Whiddon[21]	SB	NR	11.2 ± 1.4	NR	11.2 ± 1.4
	DB	NR	7.6 ± 0.4	NR	9.0 ± 0.8
Apsingi[22]	SB	12.9 ± 4.6	17.9 ± 5.4	17.5 ± 5.0	19.6 ± 6.1
	DB	12.1 ± 3.9	17.5 ± 5.0	16.8 ± 4.3	18.6 ± 4.6
Varus rotation in response to varus rotation torque					
Wijdicks[24]	SB	0.2 ± 0.2	0.3 ± 0.3	0.3 ± 0.5	0.7 ± 1.3
	DB	0.1 ± 0.4	0.2 ± 0.6	−0.1 ± 1.2	0.0 ± 1.5
Apsingi[22]	SB	3.1 ± 2.2	3.9 ± 2.4	3.9 ± 2.4	4.1 ± 2.5
	DB	3.3 ± 2.4	4.1 ± 2.2	3.7 ± 2.0	4.1 ± 2.2

*Values are given as the mean and standard deviation. SB = single-bundle, DB = double-bundle, and NR = not reported.

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TABLE E-3 Coupled External Rotation of the Tibia with Posterior Drawer Force After Single-Bundle and Double-Bundle Posterior Cruciate Ligament Reconstruction*

Study	Reconstruction Technique	Change in External Rotation at Various Knee Flexion Angles (°)			
		Low Flexion (0°-10°)	30°	60°	90°
Wijdicks[24]	SB	−0.4 ± 0.9	−0.7 ± 1.7	−0.2 ± 1.7	0.1 ± 1.8
	DB	0.0 ± 0.7	0.2 ± 0.8	0.8 ± 0.8	1.0 ± 1.2
Apsingi[22]	SB	2.6 ± 4.5	4.7 ± 4.7	6.2 ± 5.7	9.4 ± 6.0
	DB	4.7 ± 5.1	5.1 ± 5.3	7.2 ± 4.7	10.0 ± 4.9
Markolf[27]	SB	0.3	0.6	0.3	−0.3
	DB	2.7 ± 1.2	3.6 ± 3.9	3.0 ± 5.5	2.1 ± 6.7

*Values are given as the mean and standard deviation. SB = single-bundle, and DB = double-bundle.