http://dx.doi.org/10.2106/JBJS.L.00221

TABLE E-1 Proposed SLAP Tear Injury Mechanism

Author	Year	Mechanism and Proposed Injury Pattern
Bey et al.[14]	1998	Inferior humeral head subluxation with traction on biceps causing type-II SLAP tear (cadaveric study)
Burkhart and Morgan[15]	1998	Peel-back mechanism causing type-II SLAP tear (arthroscopic observational study)
Pradhan et al.[16]	2001	Repetitive overhead throwing, late cocking causing SLAP tear (cadaveric study)
Burkhart et al.[17]	2003	Change in arc of rotation associated with posterior capsular contracture causing pathologic posterosuperior migration of the humeral head in late cocking (review of arthroscopic findings)
Kuhn et al.[18]	2003	Repetitive overhead throwing, late cocking causing type-II SLAP tear (cadaveric study)
Clavert et al.[19]	2004	Fall on outstretched hand with shearing mechanism causing type-II SLAP tear (cadaveric study)
Shepard et al.[20]	2004	Repetitive overhead throwing, late cocking causing type-II SLAP tear (cadaveric study)
Grossman et al.[21]	2005	Peel-back mechanism causing type-II SLAP tear (cadaveric study)

TABLE E-2 SLAP Lesion Classification

SLAP Type	Subtype	Description
I (Snyder et al.)[12]		Degenerative and frayed superior labrum
		Intact attachment of biceps root to glenoid
II (Snyder et al.)[12]		Degenerative and frayed superior labrum
		Stripping of superior labrum and biceps from glenoid
		Unstable biceps anchor
		Most common type of SLAP lesion (77 of 140 cases)[13]
	Morgan et al.[27]	Anterior, posterior, combined anterior and posterior
	Choi and Kim[28]	Articular cartilage injury and loose bodies
III (Snyder et al.)[12]		Unstable bucket-handle tear in the superior labrum
		Peripheral portion fixed to glenoid
		Intact biceps tendon
IV (Snyder et al.)[12]		Unstable bucket-handle tear in the superior labrum with a tear that extends into the biceps tendon
V (Maffet et al.)[22]		Bankart lesion with superior extension to biceps attachment or a SLAP lesion with anterior inferior extension
VI (Maffet et al.)[22]		Labral flap with a SLAP tear
VII (Maffet et al.)[22]		Middle glenohumeral ligament lesion with extension into biceps attachment associated with anterior dislocation
VIII (Powell et al.)[23]		Type-II SLAP lesion with posterior extension
VIII (Mohana-Borges et al.)[26]		Associated with acute trauma following posterior dislocation
IX (Powell et al.)[23]		Type-II SLAP lesion with a circumferential labral tear
IX (Mohana-Borges et al.)[26]		Global labral abnormalities likely due a traumatic event
X (Powell et al.)[23]		Type-II SLAP lesion with associated posterior-inferior labral separation
X (Mohana-Borges et al.)[26]		Rotator interval extension with articular-sided abnormalities

http://dx.doi.org/10.2106/JBJS.L.00221

TABLE E-3 Repair Outcomes for Type-II SLAP Tears*

Author	Year	Patients/Groups	Technique	Outcome Measure†	Outcomes
Yoneda et al.[61]	1991	10/1	Metal staple	Pain rating system	8/10 good to excellent, 1 fair, 1 poor
Samani et al.[62]	2001	25/1	Bioabsorbable tack	UCLA[63,64], ASES[65]	22/25 good to excellent, 2 fair, 1 poor
O'Brien et al.[66]	2002	31/1	Bioabsorbable tack	L'Insalata et al.[67], ASES[65]	23/31 good to excellent, 6 fair, 2 poor
Kim et al.[68]	2002	34/1	Suture anchor	UCLA[63,64]	32/34 good to excellent, 2 fair, 0 poor
Ide et al.[69]	2005	40/1	Suture anchor	Modified Rowe[70]	36/40 good to excellent, 4 fair, 0 poor
Cohen et al.[71]	2006	39/1	Bioabsorbable tack	L'Insalata et al.[67], ASES[65]	27/39 good to excellent, 7 fair, 5 poor
Coleman et al.[72]	2007	50/2: isolated type-II SLAP repair vs. SLAP repair with acromioplasty	Bioabsorbable tack	L'Insalata et al.[67], ASES[65]	35/50 good to excellent, 9 fair, 6 poor
Enad et al.[73]	2007	27/1	Suture anchor	UCLA[63,64], ASES[65]	24/27 good to excellent, 3 fair, 0 poor
Enad and Kurtz[74]	2007	36/2: isolated type-II SLAP repair vs. SLAP repair with associated pathology repair	Suture anchor	UCLA[63,64], ASES[65]	33/36 good to excellent, 3 fair, 0 poor
Verma et al.[75]	2007	19/1: Workers' Compensation patients	Suture anchor	VAS pain, SST[76], SF-36	Pain decrease from 7.0 to 3.5
					Improvements in most SST sections
					SF-36 improvement only in pain and role-physical category
					8/19 returned to work at same level as before injury, 16/19 able to return to work
Yung et al.[77]	2008	16/1	Suture anchor	UCLA[63,64]	5/16 excellent, 7/16 good, 4/16 poor

Boileau et al.[78]	2009	25/2: isolated type-II SLAP repair vs. biceps tenodesis	Suture anchor	Constant and Murley shoulder score[79]	SLAP repair: 4/10 satisfied; tenodesis: 13/15 satisfied
Brockmeier et al.[80]	2009	47/1	Suture anchor	L'Insalata et al.[67], ASES[65]	41/47 good to excellent
Kanatli et al.[81]	2011	35/2: isolated type-II SLAP repair vs. SLAP repair with concomitant repair of full-thickness rotator cuff tear	Suture anchor	UCLA[63,64], range of motion	28/31 good to excellent, 3 fair, 0 poor. No difference in UCLA score or range of motion. SLAP repair gave better subgroup scores for function and satisfaction than SLAP repair with rotator cuff repair
Park and Glousman[82]	2011	12/1	Suture anchor	ASES[65], return to work, return to sports	Mean ASES, 72.5. On average, the cohort returned to work at 57.8% of the preinjury level and to sports at 42.3% of the preinjury level
Neuman et al.[83]	2011	30/1: Overhead athletes patient group	Suture anchor	ASES[65], KJOC[84]	21/30 very satisfied, 7 satisfied, 2 unsatisfied
Provencher et al.[85]	2011	179/1	Suture anchor	WOSI[86], SANE[87], ASES[65]	66/179 (36.8%) failed by 36 months; residual proximal biceps symptoms a causal factor

*Updated from Gorantla et al.[60]. †UCLA = University of California Los Angeles score, ASES = American Shoulder and Elbow Surgeons score, VAS = visual analog scale, SST = Simple Shoulder Test, SF-36 = Short Form-36 quality-of-life questionnaire, KJOC = Kerlan-Jobe Orthopaedic Clinic upper-extremity score, WOSI = Western Ontario Shoulder Instability index, and SANE = Single Assessment Numeric Evaluation score.

TABLE E-4 Comparison of Outcomes of Proximal Biceps Tenotomy and Tenodesis[8,91,119]

		No. of Shoulders			
Author	Year	Tenotomy Group	Tenodesis Group	Tenodesis Technique	Significant Difference in Outcomes
Osbahr et al.[120]	2002	80	80	Not described	None
Boileau et al.[118]	2007	39	33	Arthroscopic proximal	None
Paulos et al.[121]	2007	10	39	Wedge tenodesis	None
Franceschi et al.[122]	2007	11	11	Biceps sutured into rotator cuff repair	None
Koh et al.[123]	2010	45	45	Arthroscopic proximal	None
Wittstein et al.[124]	2011	19	16	Arthroscopic proximal	Tenotomy group had decreased supination strength