

The Top 50 Most-Cited Papers in the Diagnosis and Management of SLAP Tears



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Purpose: To identify and characterize the top 50 most-cited articles regarding SLAP tears. **Methods:** Referencing the methodology of previous citation analyses, varying Boolean searches were performed using the Web of Science database and the search terms yielding the greatest number of results was used. The top 50 most-cited articles were identified and the following data points were gathered from each article: author, institution, country of origin, year of publication, publishing journal, level of evidence, and citation density. **Results:** The total number of citations was 7834, with a median of 106 citations. The top 50 list was largely composed of diagnostic level I, II, and III studies (5, 7, and 8 total publications, respectively) and therapeutic level III (6 publications) or level IV (10 publications). Most articles originated from the United States (40). In total, 19 of the top 50 most-cited articles were published in the *American Journal of Sports Medicine*, followed by *Arthroscopy* (15) and the *Journal of Bone and Joint Surgery* (5). **Conclusions:** Our analysis demonstrated a correlation with earlier publications being cited more frequently than recent studies. Importantly, the current study found that therapeutic studies in the most cited list were largely level III or level IV evidence. This makes the management of SLAP tears seem anecdotal, with little in the way of high-impact level I or level II therapeutic studies. We must reconsider our current understanding of SLAP tears and their management with more studies that demonstrate a clearer treatment algorithm for these common injuries of the shoulder. **Clinical Relevance:** Given the complexity of SLAP tears, this list of the most-cited articles can provide a reference point to better guide practice, resident education, and future areas of orthopaedic research.

SLAP tears are a common cause of shoulder pain. Although first described by Andrews et al.¹ in 1985, Snyder et al.² later classified SLAP lesions into types I to IV based on size of the labral tear and integrity of the biceps anchor. Diagnosis of SLAP lesions can be difficult, and Liu et al.,³ O'Driscoll,⁴ and Urch et al.⁵ have each described various maneuvers for diagnosing SLAP lesions on physical examination, including the crank test, dynamic labral shear test, active compression test, and others. Nonoperative management of SLAP tears

focuses on exercises for scapular stabilization and stretching the posterior capsule.⁶ Multiple techniques for repair have been described, including bioabsorbable anchors, knotless anchors, and transosseous sutures.^{7,8} With the improved understanding of the indications for intervention and increasing innovation of orthopaedic implants and techniques, a substantial body of research has been published in the recent orthopaedic literature regarding SLAP lesions of the shoulder.

The number of article citations has been used as a proxy for measuring the clinical impact and influence of a paper.⁹⁻¹¹ There have been several studies identifying the most-cited articles in various aspects of the orthopaedic literature.¹²⁻¹⁵ In the shoulder and upper-extremity literature, there have been citation analyses investigating rotator cuff tears and shoulder pathology in general.^{16,17} Citation analysis is a popular and standardized method for measuring the impact of a study on any given specific topic. Studying the frequency of citations of an individual article provides valuable information on studies that most greatly affect clinical decision-making today, and thus these studies have been broadly applied to topics within orthopaedic surgery and beyond. Many factors may allow studies to

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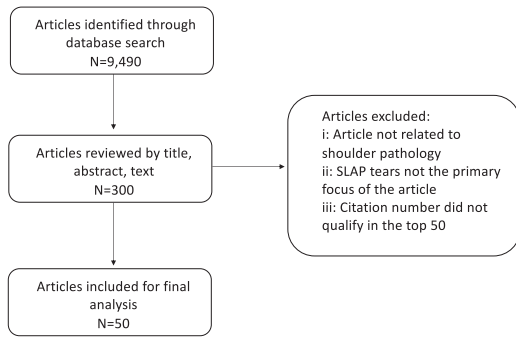


Fig 1. Modified PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flowchart for database search.

accumulate many citations including: foundational descriptive studies of the topic, year of citation, clinical guidance and finally quality of the study.

The purpose of this study was to identify and characterize the top 50 most-cited articles regarding SLAP tears. We hypothesize that the year of publication would correlate with number of citations, with older publications being more frequently cited.

Methods

With the Web of Science database, Boolean searches were performed in February 2020 and the search terms yielding the greatest number of results was used. The final Boolean terms were [(SLAP tear OR SLAP tears OR SLAP lesions or SLAP lesion OR superior labrum OR superior labral OR labral OR labrum)], searched under “topic” and “title.” No restrictions were placed on search items regarding language, publication date, or journal.

Initial search results were ranked by number of citations in descending order according to the number of citations. The top 300 results were screened by title,

abstract, and/or text to isolate articles regarding SLAP tear diagnosis, imaging, and management. Articles addressing hip labral pathologies, shoulder instability, rotator cuff pathology, and other articles whose primary focus was not SLAP tears were excluded; for example, a study regarding physical examination of the shoulder, even if including physical examination maneuvers to address labral pathology, would be excluded.

All selected journal articles were reviewed and analyzed according to the author, institution, country of origin, year of publication, publishing journal, journal impact factor, level of evidence, and citation density. Citation density was calculated as number of citations per year. The impact factor for each journal of publication was retrieved and determined as the most recent available impact factor listed by InCites Journal Citation Reports. We analyzed the top 50 articles based on the primary research question and, according to the *Journal of Bone and Joint Surgery* guidelines, classified them as therapeutic, diagnostic, and prognostic studies.¹⁸

Results

In total, 9490 results were identified using this methodology (Fig 1). The top 50 articles were published between 1985 and 2013, with 29 articles published since 2000 (Fig 2). The total number of citations attributed to the top 50 articles was calculated to be 7834. At time of data collection, the median number of citations per article was 106 citations, ranging from 74 to 799 citations (Table 1).^{1-3,19-65} The median citation density per article was calculated to be 6.6.

When analyzed by year, the year with the most citations was 1998, with 1184 total citations, followed by 1990 with 779 citations and 1995 with 768 citations. By citation density, the 1990 study by Snyder et al.² was the highest (26.6), followed by the 1998 study by

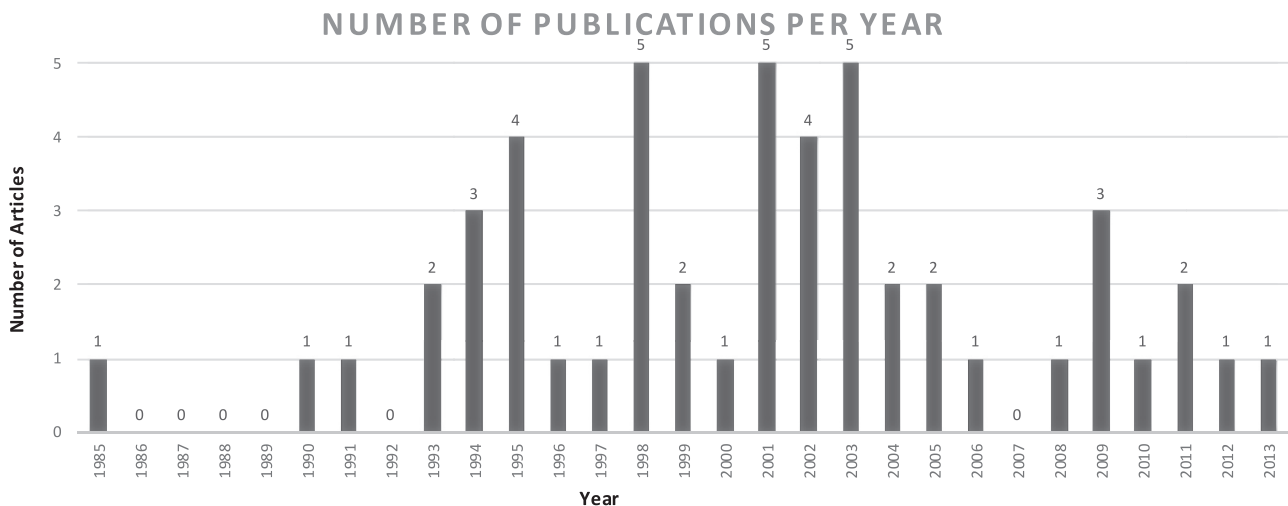


Fig 2. Number of publications per year.

Table 1. Top 50 Most-Cited SLAP Tear Articles

Rank	Article	Citations	Citation Density
1	Snyder SJ, Karzel RP, Del Pizzo W, Ferkel RD, Friedman MJ. SLAP lesions of the shoulder. <i>Arthroscopy</i> 1990;6:274-279. ²	799	26.6
2	Andrews JR, Carson WG Jr., McLeod WD. Glenoid labrum tears related to the long head of the biceps. <i>Am J Sports Med</i> 1985;13:337-341. ¹	505	14.4
3	Morgan CD, Burkhart SS, Palmeri M, Gillespie M. Type II SLAP lesions: Three subtypes and their relationships to superior instability and rotator cuff tears. <i>Arthroscopy</i> 1998;14:553-565. ¹⁹	397	18.0
4	Maffet MW, Gartsman GM, Moseley B. Superior labrum-biceps tendon complex lesions of the shoulder. <i>Am J Sports Med</i> 1995;23:93-98. ²⁰	323	12.9
5	O'Brien SJ, Pagnani MJ, Fealy S, McGlynn SR, Wilson JB. The active compression test: A new and effective test for diagnosing labral tears and acromioclavicular joint abnormality. <i>Am J Sports Med</i> 1998;26:610-613. ²¹	321	14.6
6	Rodosky MW, Harner CD, Fu FH. The role of the long head of the biceps muscle and superior glenoid labrum in anterior stability of the shoulder. <i>Am J Sports Med</i> 1994;22:121-130. ²²	290	11.2
7	Snyder SJ, Banas MP, Karzel RP. An analysis of 140 injuries to the superior glenoid labrum. <i>J Shoulder Elbow Surg</i> 1995;4:243-248. ²³	275	11.0
8	Burkhart SS, Morgan CD. The peel-back mechanism: Its role in producing and extending posterior type II SLAP lesions and its effect on SLAP repair rehabilitation. <i>Arthroscopy</i> 1998;14:637-640. ²⁴	264	12.0
9	Chandnani VP, Yeager TD, DeBerardino T, et al. Glenoid labral tears: Prospective evaluation with MRI imaging, MR arthrography, and CT arthrography. <i>AJR Am J Roentgenol</i> 1993;161:1229-1235. ²⁵	253	9.4
10	Vangsnest CT, Jorgenson SS, Watson T, Johnson DL. The origin of the long head of the biceps from the scapula and glenoid labrum. An anatomical study of 100 shoulders. <i>J Bone Joint Surg Br</i> 1994;76:951-954. ²⁶	193	7.4
11	Bencardino JT, Beltran J, Rosenberg ZS, et al. Superior labrum anterior-posterior lesions: Diagnosis with MR arthrography of the shoulder. <i>Radiology</i> 2000;214:267-271. ²⁷	183	9.2
12	Burkhart SS, Morgan CD, Kibler WB. The disabled throwing shoulder: Spectrum of pathology. Part II: Evaluation and treatment of SLAP lesions in throwers. <i>Arthroscopy</i> 2003;19:531-539. ²⁸	172	10.1
13	Boileau P, Parratte S, Chuinard C, Roussanne Y, Shia D, Bicknell R. Arthroscopic treatment of isolated type II SLAP lesions: Biceps tenodesis as an alternative to reinsertion. <i>Am J Sports Med</i> 2009;37:929-936. ²⁹	172	15.6
14	Legan JM, Burkhard TK, Goff WB, et al. Tears of the glenoid labrum: MR imaging of 88 arthroscopically confirmed cases. <i>Radiology</i> 1991;179:241-246. ³⁰	157	5.4
15	Kim TK, Queale WS, Cosgarea AJ, McFarland EG. Clinical features of the different types of SLAP lesions: An analysis of one hundred and thirty-nine cases. <i>J Bone Joint Surg Am</i> 2003;85:66-71. ³¹	156	9.2
16	Grossman MG, Tibone JE, McGarry MH, Schneider DJ, Veneziani S, Lee TQ. A cadaveric model of the throwing shoulder: A possible etiology of superior labrum anterior-to-posterior lesions. <i>J Bone Joint Surg Am</i> 2005;87:824-831. ³²	150	10.00
17	Franceschi F, Longo UG, Ruzzini L, Rizzello G, Maffulli N, Denaro V. No advantages in repairing a type II superior labrum anterior and posterior (SLAP) lesion when associated with rotator cuff repair in patients over age 50: A randomized controlled trial. <i>Am J Sports Med</i> 2008;36:247-253. ³³	130	10.8
18	Jee WH, McCauley TR, Katz LD, Matheny JM, Ruwe PA, Daigneault JP. Superior labral anterior posterior (SLAP) lesions of the glenoid labrum: Reliability and accuracy of MR arthrography for diagnosis. <i>Radiology</i> 2001;218:127-132. ³⁴	125	6.6
19	Brockmeier SF, Voos JE, Williams RJ, Altchek DW, Cordasco FA, Allen AA. Outcomes after arthroscopic repair of type-II SLAP lesions. <i>J Bone Joint Surg Am</i> 2009;91:1595-1603. ³⁵	125	11.4
20	Mileski RA, Snyder SJ. Superior labral lesions in the shoulder: Pathoanatomy and surgical management. <i>J Am Acad Orthop Surg</i> 1998;6:121-131. ³⁶	122	5.5
21	Cohen DB, Coleman S, Drakos MC, et al. Outcomes of isolated type II SLAP lesions treated with arthroscopic fixation using a bioabsorbable tack. <i>Arthroscopy</i> 2006;22:136-142. ³⁷	115	8.2
22	Kim SH, Ha KI, Kim SH, Choi HJ. Results of arthroscopic treatment of superior labral lesions. <i>J Bone Joint Surg Am</i> 2002;84:981-985. ³⁸	111	6.2
23	Holtby R, Razmjou H. Accuracy of the Speed's and Yergason's tests in detecting biceps pathology and SLAP lesions: Comparison with arthroscopic findings. <i>Arthroscopy</i> 2004;20:231-236. ³⁹	110	6.9
24	O'Brien SJ, Allen AA, Coleman SH, Drakos MC. The trans-rotator cuff approach to SLAP lesions: Technical aspects for repair and a clinical follow-up of 31 patients at a minimum of 2 years. <i>Arthroscopy</i> 2002;18:372-377. ⁴⁰	110	6.1
25	Waldt S, Burkart A, Lange P, Imhoff AB, Rummeny EJ, Woertler K. Diagnostic performance of MR arthrography in the assessment of superior labral anteroposterior lesions of the shoulder. <i>AJR Am J Roentgenol</i> 2004;182:1271-1278. ⁴¹	107	6.7
26	McFarland EG, Kim TK, Savino RM. Clinical assessment of three common tests for superior labral anterior-posterior lesions. <i>Am J Sports Med</i> 2002;30:810-815. ⁴²	105	5.8

(continued)

Table 1. Continued

Rank	Article	Citations	Citation Density
27	Cvitanic O, Tirman PF, Feller JF, Bost FW, Minter J, Carroll KW. Using abduction and external rotation of the shoulder to increase the sensitivity of MR arthrography in revealing tears of the anterior glenoid labrum. <i>AJR Am J Roentgenol</i> 1997;169:837-844. ⁴³	105	4.6
28	Kim SH, Ha KI, Ahn JH, Kim SH, Choi HJ. Biceps load test II: A clinical test for SLAP lesions of the shoulder. <i>Arthroscopy</i> 2001;17:160-164. ⁴⁴	103	5.4
29	Conway JE. Arthroscopic repair of partial-thickness rotator cuff tears and SLAP lesions in professional baseball players. <i>Orthop Clin North Am</i> 2001;32:443-456. ⁴⁵	100	5.3
30	Liu SH, Henry MH, Nuccion SL. A prospective evaluation of a new physical examination in predicting glenoid labral tears. <i>Am J Sports Med</i> 1996;24:721-725. ³	100	4.2
31	Ide J, Maeda S, Takagi K. Sports activity after arthroscopic superior labral repair using suture anchors in overhead-throwing athletes. <i>Am J Sports Med</i> 2005;33:507-514. ⁴⁶	99	6.6
32	Kibler WB. Specificity and sensitivity of the anterior slide test in throwing athletes with superior glenoid labral tears. <i>Arthroscopy</i> 1995;11:296-300. ⁴⁷	96	3.8
33	Field LD, Savoie FH. Arthroscopic suture repair of superior labral detachment lesions of the shoulder. <i>Am J Sports Med</i> 1993;21:783-790; discussion 790. ⁴⁸	95	3.5
34	Samani JE, Marston SB, Buss DD. Arthroscopic stabilization of type II SLAP lesions using an absorbable tack. <i>Arthroscopy</i> 2001;17:19-24. ⁴⁹	94	4.9
35	Guanche CA, Jones DC. Clinical testing for tears of the glenoid labrum. <i>Arthroscopy</i> 2003;19:517-523. ⁵⁰	90	5.3
36	Warner JJ, Kann S, Marks P. Arthroscopic repair of combined Bankart and superior labral detachment anterior and posterior lesions: Technique and preliminary results. <i>Arthroscopy</i> 1994;10:383-391. ⁵¹	91	3.5
37	Neuman BJ, Boisvert CB, Reiter B, Lawson K, Ciccotti MG, Cohen SB. Results of arthroscopic repair of type II superior labral anterior posterior lesions in overhead athletes: Assessment of return to preinjury playing level and satisfaction. <i>Am J Sports Med</i> 2011;39:1883-1888.	85	9.4
38	Mohana-Borges AV, Chung CB, Resnick D. Superior labral anteroposterior tear: Classification and diagnosis on MRI and MR arthrography. <i>AJR Am J Roentgenol</i> 2003;181:1449-1462. ⁵³	85	5.00
39	Burkhart SS, Morgan C. SLAP lesions in the overhead athlete. <i>Orthop Clin North Am</i> 2001;32:431-441, viii. ⁵⁴	83	4.4
40	Provencher MT, McCormick F, Dewing C, McIntire S, Solomon D. A prospective analysis of 179 type 2 superior labrum anterior and posterior repairs: Outcomes and factors associated with success and failure. <i>Am J Sports Med</i> 2013;41:880-886. ⁵⁵	81	11.6
41	Handelberg F, Willems S, Shahabpour M, Huskin JP, Kuta J. SLAP lesions: A retrospective multicenter study. <i>Arthroscopy</i> 1998;14:856-862. ⁵⁶	80	3.6
42	Zhang AL, Kreulen C, Ngo SS, Hame SL, Wang JC, Gamradt SC. Demographic trends in arthroscopic SLAP repair in the United States. <i>Am J Sports Med</i> 2012;40:1144-1147. ⁵⁷	80	10.00
43	Nam EK, Snyder SJ. The diagnosis and treatment of superior labrum, anterior and posterior (SLAP) lesions. <i>Am J Sports Med</i> 2003;31:798-810. ⁵⁸	77	4.5
44	Connell DA, Potter HG, Wickiewicz TL, Altchek DW, Warren RF. Noncontrast magnetic resonance imaging of superior labral lesions. 102 cases confirmed at arthroscopic surgery. <i>Am J Sports Med</i> 1999;27:208-213. ⁵⁹	76	3.6
45	Stetson WB, Templin K. The crank test, the O'Brien test, and routine magnetic resonance imaging scans in the diagnosis of labral tears. <i>Am J Sports Med</i> 2002;30:806-809. ⁶⁰	75	4.2
46	Neri BR, ElAttrache NS, Owsley KC, Mohr K, Yocum LA. Outcome of type II superior labral anterior posterior repairs in elite overhead athletes: Effect of concomitant partial-thickness rotator cuff tears. <i>Am J Sports Med</i> 2011;39:114-120.	73	8.1
47	Ben Kibler W, Sciascia AD, Hester P, Dome D, Jacobs C. Clinical utility of traditional and new tests in the diagnosis of biceps tendon injuries and superior labrum anterior and posterior lesions in the shoulder. <i>Am J Sports Med</i> 2009;37:1840-1847. ⁶²	73	6.6
48	Kim SH, Ha KI, Han KY. Biceps load test: A clinical test for superior labrum anterior and posterior lesions in shoulders with recurrent anterior dislocations. <i>Am J Sports Med</i> 1999;27:300-303. ⁶³	74	3.5
49	Pagnani MJ, Speer KP, Altchek DW, Warren RF, Dines DM. Arthroscopic fixation of superior labral lesions using a biodegradable implant: A preliminary report. <i>Arthroscopy</i> 1995;11:194-198. ⁶⁴	74	3.0
50	Gorantla K, Gill C, Wright RW. The outcome of type II SLAP repair: A systematic review. <i>Arthroscopy</i> 2010;26:537-545. ⁶⁵	74	7.4

Morgan et al.¹⁹ (18.0) and the 2009 study by Boileau et al.²⁰ (15.6). The earliest published article in the top 50 was the 1985 article by Andrews et al.¹ and was the second most-cited article with a citation density of 14.4.

In the top 50 articles we identified, 19 were classified as therapeutic studies, 24 were diagnostic studies, and 1 was a prognostic study (Table 2). Six articles were unable to be classified based on primary research question

Table 2. Publication Study Design

Diagnostic		Therapeutic		Prognostic	
Levels of Evidence	Number of Articles	Levels of Evidence	Number of Articles	Levels of Evidence	Number of Articles
I	5	I	1	I	0
II	7	II	1	II	1
III	8	III	6	III	0
IV	3	IV	10	IV	0
V	1	V	1	V	0

and addressed either epidemiology of SLAP tears, anatomical cadaver studies, or proposed mechanisms of injury. No articles in the top 50 addressed prognosis or economic/decision-making.¹⁸ Diagnostic studies were largely level I, II, and III studies (5, 7, and 8 total publications respectively) whereas therapeutic studies were predominantly level III (6 publications) or level IV (10 publications). The prognostic study was level II evidence.

The top 50 articles were published in 7 different subspecialty journals and from 9 different countries of origin, most commonly the United States (Fig 3). In total, 19 of the top 50 articles were published in the *American Journal of Sports Medicine*, followed by *Arthroscopy* (15), and the *Journal of Bone and Joint Surgery* (5) (Table 3). We found 182 individual authors represented in the list of top 50 most-cited publications but the most prolific 10 authors were responsible for more than 60% of the top 50 list (Table 4). Of the 84 institutions represented, the top 10 institutions contributed to 70% of the top 50 publications (Table 5).

Discussion

On citation analysis, as hypothesized, we found that year of publication correlated with number of citations, with older articles accruing more citations. As authors expand on a given topic, it is not unexpected that there is a reliance on previously published works to provide historical or foundational knowledge. SLAP tears were first described by Andrews et al.¹ in 1985 and later classified by Snyder et al.² in 1990. Morgan et al.¹⁹ later subclassified Type II SLAP lesions in 1998. Multiple authors have since described various provocative maneuvers that may help indicate a SLAP tear on physical examination, including O’Brien et al.²¹ in 1998 and Kim et al.⁴⁴ in 2001.

It is interesting to note the discrepancy in levels of evidence between the diagnostic and therapeutic studies included in the top 50 most-cited list. The number of level I and level II evidence studies suggests that although there is strong evidence to validate various diagnostic tests and imaging for SLAP tears, the evidence for management of SLAP tears lags behind. The lack of high-quality therapeutic studies may be

explained in part by the trend that earlier studies tended to focus on identification of SLAP tears and more recent studies tended to focus on outcome after operative intervention. There was a recent randomized controlled trial in 2017 evaluating treatment options for SLAP tears that did not make the top 50 most-cited list, likely due to the recency of publication; the 2017 article by Schroder et al.⁶⁶ had a citation density of 10.4, comparable with the median citation density of the top 50 articles (6.6). It remains important to understand the need for more randomized controlled trials; although level IV therapeutic studies have provided a solid understanding of SLAP tears, the optimal management strategy needs to be better defined.

The journal of publication also can be a cause of differences in citation density with studies published in greater impact journals possibly having more citations. In this study, *The American Journal of Sports Medicine* (impact factor 6.1) had the most articles (19), followed by *Arthroscopy* (impact factor 4.4) (15).

The prevalence of a select group of authors and contributing institutions in the list of top 50 most cited articles may reflect that a large body of evidence is primarily coming from a few experts in the field. While this may not invalidate the data, this

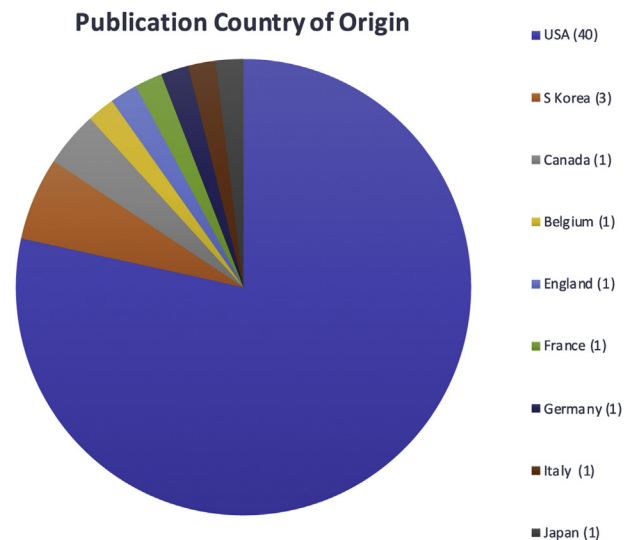


Fig 3. Publications country of origin.

Table 3. Journal of Publication

Journal of Publication	Journal Impact Factor	Number of Articles
<i>American Journal of Sports Medicine</i>	6.1	19
<i>Arthroscopy</i>	4.4	15
<i>Journal of Bone and Joint Surgery</i>	4.7	5
<i>American Journal of Roentgenology</i>	3.2	4
<i>Radiology</i>	7.6	4
<i>Orthopedic Clinics of North America</i>	2.5	2
<i>Journal of Shoulder and Elbow Surgery</i>	2.9	1

finding demonstrates that a small group of authors and institutions is heavily represented by citation analysis.

Limitations

This current study has several limitations. The number of citations included in the study were arbitrarily chosen; however, this has been consistently used by other authors reports on top 50 articles in other specialties.^{12,67,68} This could potentially exclude more recently published studies of greater levels of evidence. Another limitation is the inflation of citations from possible self-citing authors. Finally, the inclusion of historical studies that are typically cited in the Introduction, but likely do not influence the citing paper's study, may create an historical bias in our reporting.

Conclusions

Our analysis demonstrated a correlation with earlier publications being cited more frequently than recent studies. Importantly, the current study found that therapeutic studies in the most cited list were largely level III or Level IV evidence. This makes the management of SLAP tears seem anecdotal, with little in the way of high impact level I or level II therapeutic studies. We must reconsider our current understanding of SLAP tears and their management with more studies that demonstrate a clearer treatment algorithm for these common injuries of the shoulder.

Table 4. Publications by Author

Author	Number of Publications
Altchek DW	4
Burkhardt SS	4
Allen AA	3
Ha KI	3
Kim SH	3
Morgan CD	3
O'Brien SJ	3
Snyder SJ	3
Warren RF	3
Choi HJ	2

Table 5. Publications by Institution

Institution	Number of Publications
Hospital for Special Surgery	5
University of California System	5
United States Dept of Defense	4
Nemours Alfred I. Dupont Hospital for Children	3
Samsung Medical Center	3
Sungkyunkwan University	3
University of California Los Angeles	3
University of Southern California	3
University of Texas San Antonio	3
University of Texas System	3

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- Snyder SJ, Karzel RP, Del Pizzo W, Ferkel RD, Friedman MJ. SLAP lesions of the shoulder. *Arthroscopy* 1990;6:274-279.
- Liu SH, Henry MH, Nuccion SL. A prospective evaluation of a new physical examination in predicting glenoid labral tears. *Am J Sports Med* 1996;24:721-725.
- O'Driscoll SW. Regarding "Diagnostic accuracy of five orthopedic clinical tests for diagnosis of superior labrum anterior posterior (SLAP) lesions." *J Shoulder Elbow Surg* 2012;21:e23-e24.
- Urch E, Taylor SA, Zitkovsky H, O'Brien SJ, Dines JS, Dines DM. A Modification of the active compression test for the shoulder biceps-labrum complex. *Arthrosc Tech* 2017;6:e859-e862.
- Edwards SL, Lee JA, Bell JE, et al. Nonoperative treatment of superior labrum anterior posterior tears: Improvements in pain, function, and quality of life. *Am J Sports Med* 2010;38:1456-1461.
- Koyuncu Ö, Eren I, Seyahi A, Uludag S, Demirhan M. A knotless labro-bicipital repair technique for SLAP lesions. *Arthrosc Tech* 2015;4:e493-e497.
- Sileo MJ, Lee SJ, Kremenich IJ, et al. Biomechanical comparison of a knotless suture anchor with standard suture anchor in the repair of type II SLAP tears. *Arthroscopy* 2009;25:348-354.
- Callaham M, Wears RL, Weber E. Journal prestige, publication bias, and other characteristics associated with citation of published studies in peer-reviewed journals. *JAMA* 2002;287:2847.
- Cheek J, Garnham B, Quan J. What's in a number? Issues in providing evidence of impact and quality of research(ers). *Qual Health Res* 2006;16:423-435.
- Wang D, Song C, Barabási AL. Quantifying long-term scientific impact. *Science* 2013;342:127-132.
- Barbera J, Selverian S, Courington R, Mikhail C, Colvin A. The top 50 most influential articles in hip arthroscopy. *Arthroscopy* 2020;36:716-722.
- Huo YQ, Pan XH, Li QB, et al. Fifty top-cited classic papers in orthopedic elbow surgery: A bibliometric analysis. *Int J Surg* 2015;18:28-33.

14. McDonald CK, Moriarty P, Varzgalis M, Murphy C. The top 50 most cited articles in cartilage regeneration. *Biores Open Access* 2017;6:58-62.
15. Zargaran D, Zargaran A, Lobo S, Shah Z. Knee surgery: Trends and the 50 most cited articles. *Orthop Rev (Pavia)* 2019;11:8322.
16. Namdari S, Baldwin K, Kovatch K, Huffman GR, Glaser D. Fifty most cited articles in orthopedic shoulder surgery. *J Shoulder Elbow Surg* 2012;21:1796-1802.
17. Sochacki KR, Jack RA, Nauert R, Harris JD. Correlation between quality of evidence and number of citations in top 50 cited articles in rotator cuff repair surgery. *Orthop J Sports Med* 2018;6.
18. Wright JG, Swiontkowski MF, Heckman JD. Introducing levels of evidence to the journal. *J Bone Joint Surg Am* 2003;85:1-3.
19. Morgan CD, Burkhart SS, Palmeri M, Gillespie M. Type II SLAP lesions: Three subtypes and their relationships to superior instability and rotator cuff tears. *Arthroscopy* 1998;14:553-565.
20. Maffet MW, Gartsman GM, Moseley B. Superior labrum-biceps tendon complex lesions of the shoulder. *Am J Sports Med* 1995;23:93-98.
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