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The Evaluation of Conservative Treatments and Surgical Interventions on Return to Play Outcomes in Shoulder Labrum Tears in Athletes: A Critically Appraised Topic

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The Evaluation of Conservative Treatments and Surgical Interventions on Return to Play Outcomes in Shoulder Labrum Tears in Athletes : A Critically Appraised Topic

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CLINCIAL SCENARIO

Historically, superior labral tears anterior to posterior (SLAP) of the shoulder have been widely viewed as uncommon; however, current literature supports a rise in surgical repair of these lesions (Stephen et al., 2012). Treatment for SLAP tears in athletes through surgical or conservative methods often produces a low return to play (RTP) rate (Maier et al., 2021). However, the most effective treatment to increase RTP rates at the previous level of activity has yet to be determined.

CLINICAL QUESTION

In athletes who have SLAP tears of the shoulder, how do arthroscopic surgery and biceps tenodesis compare with conservative treatments in return to play efficiency?

METHODS

SEARCH STRATEGY

PubMed and EBSCO Host (Academic Search Complete & ScienceDirect) were searched up to October 2021 using the terms

Population/Patient: *Athletes AND Physically Active AND Superior Labral Tear AND SLAP*
Intervention: *Arthroscopy OR biceps tenodesis*
Comparison: *Conservative treatment OR surgical intervention OR rehabilitation*
Outcome: *Return to play OR return to previous play OR return to physical activity*

Articles were also identified through a hand search of the reference list of articles identified in the electronic search.

CRITERIA FOR STUDY INCLUSION

Studies were included if the primary purpose was to determine the return to play (RTP), assessed SLAP tears, and the population was athletes.

Studies were excluded if RTP was not the primary aim, subjects were not athletes, if the surgical option was not arthroscopy or biceps tenodesis, or if the SLAP tear was the hip and not shoulder.

ASSESSMENT OF METHODOLOGIC QUALITY

Two independent reviewers appraised each study and a consensus score was reached to determine methodological quality. Studies with a score of ≥ 7/10 were considered high methodological quality.

RESULTS

SEARCH RESULTS

The search resulted in 14 possible studies and 4 met the eligibility criteria and were included.

Figure 1: Summary of a search history and included studies

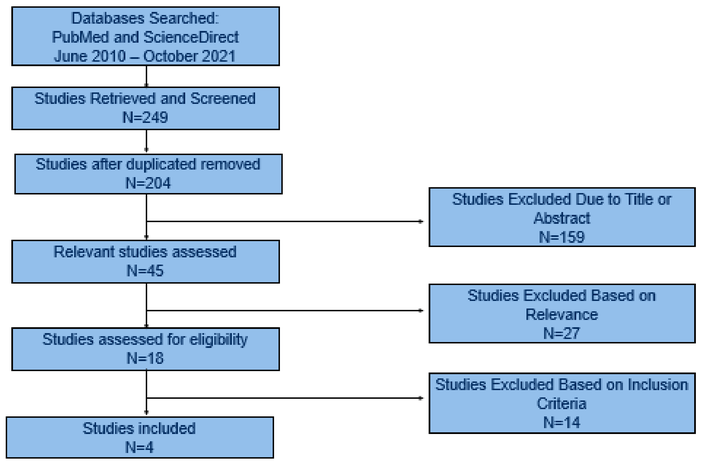

Table 1: Characteristics of the Included Studies

Included Study	Participants	Intervention Investigated	Main Finding	Validity Score
Douglas et al (2019)	73 subjects (age = 19.8 ± 2.9 y); 10 professional, 36 collegiate, 27 high school players	All participants underwent arthroscopic SLAP repair. All subjects participated in a comprehensive conservative 3-6 month rehabilitation program before surgery. A 6-9 month postoperative rehabilitation program was followed.	Pitchers showed lower RTP; 83.6% of players perceived they had achieved RTP (80% pitchers and 91.3% other positions). There was only a 60.3% RTPP (52.3% pitchers and 78.3% other positions).	7/10
Edwards et al (2010)	19 subjects (age = 34 ± 9.9 y); 14 men and 5 women; 18 of 19 patients were active in sports, 15 were overhead athletes	All patients received nonsteroidal anti-inflammatory drugs; 2 patients had an intra-articular cortisone injection. Physical therapy sessions (avg = 18 visits per patient, range 4-40 visits	All 18 patients who were athletes were able to return to sport; 2 individuals indicated that it took longer than 6 months to RTP. 10 of 15 (66.7%) of overhead athletes had RTPP or better performance than pre-injury. 5 were worse and unable to return to overhead sports.	6/10
Hashiguchi et al. (2018)	45 subjects (age mean = 21.6 y, range = 16-36 y); all were baseball players (21 pitchers, 3 catchers, 13 infielder, and 18 outfielder)	Participants underwent nonsurgical treatments including physical therapy (ROM and sleeper or cross-body stretching), rotator cuff functional exercises, and nonsteroidal anti-inflammatory drugs if necessary.	32 of 45 (71%) patients were able to RTP; 7 eventually underwent arthroscopic surgery, 4 changed positions, 2 gave up baseball.	8/10
Patriota et al. (2019)	4 subjects (ages = 24, 26, 26, and 26); 2 men and 2 women; 2 circus acrobats, 1 professional gymnast in rings, 1 professional mountaineer	Participants attempted conservative treatment (physiotherapy and anti-inflammatory/ analgesic medication). Patients were then subjected to LHBT tenodesis above the insertion of the tendon of the pectoralis major. All patients followed the same protocol of rehabilitation post-op.	All patients were able to RTP within 3 months; within 12 months,100% functional status of the limb, and reported having a functional level equal or greater to prior injury level.	7/10

RESULTS cont.

A thorough literature search returned 204 possible studies; 4 studies met the inclusion criteria and were included. Current evidence supports the use of conservative treatments before surgery is attempted (Weber et al., 2012). When considering whether to pursue surgical interventions or continue non-operatively, conservative treatments produced relatively similar results as surgical interventions (Douglas et al., 2019; Edwards et al., 2010; Hashiguchi et al., 2018; Patriota et al., 2019); however, overhead athletes showed a lower return to previous play (RTPP) rates than regular athletes (Edwards et al., 2010).

STRENGTH OF RECOMMENDATION

There is grade C evidence to support that conservative treatments and surgical interventions equally minimally improve RTP rates. The Oxford Centre for Evidence-based Medicine's Level of Evidence (2009) recommends a grade C for inconsistent level 4 studies.

CLINICAL BOTTOM LINE

There were consistent findings from multiple low-quality studies that indicate there is no clear difference in the use of conservative treatments compared with surgical interventions when comparing RTP rates in physically active athletes (Douglas et al., 2019; Edwards et al., 2010; Hashiguchi et al., 2018; Patriota et al., 2019).

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