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REVIEW

Psychological Readiness for Return to Sport After Shoulder Stabilization Surgery: A Review of Current Evidence and the Role of The Shoulder Instability Return to Sport After Injury (SIRSI) Scale

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Abstract: Shoulder instability is a common injury in athletes that often requires surgical stabilization. While RTS rates after shoulder stabilization may be around 81%, approximately 19–52% of athletes do not return to their preinjury level of play. Psychological factors like fear of reinjury, lack of motivation, and change in priorities are key barriers to RTS after shoulder surgery. The Shoulder Instability Return to Sport after Injury (SIRSI) scale quantitatively assesses athletes' psychological readiness to return to sport following shoulder stabilization. Higher SIRSI scores correlate with increased likelihood of returning to preinjury level of play. However, current RTS guidelines rely heavily on time-based criteria and lack consensus on assessing psychological readiness. Adopting a more comprehensive approach that incorporates physical and psychological evaluations may better determine athletes' readiness to RTS. Incorporating the SIRSI scale into the RTS decision-making process, alongside physical evaluations, can potentially improve RTS outcomes in athletes after shoulder stabilization surgery. Further research is needed to establish standardized protocols and validate the effectiveness of interventions aimed at optimizing psychological readiness.

Keywords: shoulder instability, return to sport, psychological readiness, fear of reinjury, Shoulder Instability Return to Sport after Injury scale, SIRSI

Introduction

Shoulder instability is a prevalent injury, particularly among athletes engaged in collision and overhead sports. Its incidence in the general population is estimated to range from 1% to 2%, but can reach as high as 15% in specific collision sports.[1] While shoulder instability surgery often leads to favorable functional outcomes, the rates of return to sport (RTS) after surgery exhibit considerable variability, ranging from 48% to 96% across different studies,[2–5] with a mean time to RTS of 6.8 months (range, 3.7–11.9 months).[6] Muscle strength recovery generally progresses within the first six months postoperatively, with rotational strength showing significant improvements by 4.5 to 6 months.[7] However, psychological readiness often lags behind physical recovery. Recurrent instability rates range from 2% to 30%, depending on the type of stabilization procedure and rehabilitation adherence.[8] The ability to resume athletic activities is a significant priority for many athletes undergoing shoulder stabilization procedures. However, the factors that influence the successful RTS after surgery are multifaceted and intricate.[9,10]

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It has been reported that 55.9% to 85.1% of athletes do not return to sports due to psychological reasons after shoulder instability surgery.[6,11,12] Indeed, beyond the restoration of shoulder function, psychological factors pertaining to confidence, fear of reinjury, and motivation play a substantial role in determining an athlete's decision RTS.[13] Apprehension regarding shoulder stability and a lack of trust in the repaired shoulder are frequently cited as reasons why athletes do not regain their pre-injury level of sport, even following technically successful repairs.[14] Extensive rehabilitation is often necessary after shoulder stabilization surgery, which can also act as a deterrent for athletes who harbor concerns about repeating the rehabilitation process in the event of another injury.[10] It is worth noting that athletes can achieve excellent functional outcome scores, yet still face challenges in returning to their sport due to these psychological barriers.[10]

Consequently, it is of paramount importance to assess an athlete's psychological readiness and confidence to return to sport, in addition to evaluating physical outcomes.[15–18] Several questionnaires, such as the Shoulder Instability Return to Sport after Injury scale, have been developed to systematically quantify psychological factors and evaluate an athlete's preparedness to resume play.[19,20] The Shoulder Instability Return to Sport after Injury scale (SIRSI) has demonstrated effectiveness in identifying individuals who did not successfully return to sports, as they tend to exhibit lower scores on the questionnaire.[19] By utilizing this tool, healthcare professionals can identify athletes who may face psychological challenges in returning to their sport and implement targeted strategies to address these barriers. Such strategies may include tailored psychological interventions, counseling, and support to enhance the athlete's confidence and overcome their psychological concerns, ultimately increasing the likelihood of a successful RTS.

The purpose of this review is to summarize the current literature on psychological readiness to RTS after shoulder stabilization surgery. We will examine known psychological factors influencing return to sport, SIRSI scale as a measure of psychological readiness, and strategies to address this important component of recovery for athletes with shoulder instability.

Prevalence of Psychiatric Conditions in Patients with Shoulder Instability

The recognition of a high prevalence of psychiatric conditions among patients with shoulder instability has become increasingly evident in recent years. Several studies have shed light on this association, highlighting the impact of psychiatric factors on preoperative function and postoperative outcomes in this patient population.[21] Depression affects approximately 8% of US adults annually.[22] However, in individuals with chronic musculoskeletal conditions, prevalence rates are significantly higher, ranging from 20% to 40% depending on the severity of pain and disability.[23] In athletes recovering from major orthopedic surgeries, such as anterior cruciate ligament (ACL) reconstruction, studies have reported depression rates of up to 30% postoperatively, which can impact rehabilitation adherence and return to sport.[24]

In a prospective study conducted by Weekes et al,[25] 76 patients undergoing arthroscopic shoulder stabilization were evaluated. The authors found that more than half of the patients met the criteria for clinical depression based on the Quick Inventory of Depressive Symptomatology-Self Report. Prior to surgery, patients with clinical depression exhibited poorer function as indicated by lower scores on the Western Ontario Shoulder Instability Index. Although both depressed and non-depressed groups showed functional improvements at the one-year follow-up, the clinical depression cohort continued to experience inferior outcomes. These findings suggest that depression represents a modifiable risk factor that compromises postoperative progress in shoulder stabilization patients. In a study by Nichols et al[26] that analyzed 1552 patients from the Multicenter Orthopaedic Outcomes Network Shoulder Instability cohort, associations between psychosocial factors and shoulder symptoms were found to differ based on the mechanism of injury. For patients with atraumatic instability, worse preoperative Mental Component Scores on the 36-Item Short Form Health Survey were significantly correlated with poorer American Shoulder and Elbow Surgeons and Western Ontario Shoulder Instability Index scores. However, no such relationship was observed in the traumatic instability group. The authors proposed that the chronic nature of atraumatic cases may confer a greater psychological burden. These findings suggest that patients with atraumatic shoulder instability are at a higher risk for psychiatric illnesses.

Taken together, these studies demonstrate that patients with shoulder instability, especially those with atraumatic causes, are at a heightened risk for concurrent psychiatric illnesses such as depression. Therefore, screening and optimizing mental health before surgery could potentially lead to improved outcomes in this specific patient population.

Implementing routine mental health screening and preoperative interventions may help improve the overall well-being and functional outcomes of patients with shoulder instability.[27,28]

Factors Influencing Return to Sports After Shoulder Instability Surgery: Why Patients Don´t Return to Sports?

Shoulder instability surgery has relatively high overall RTS rates, with studies showing up to 81% of patients returning to some level of sport participation postoperatively.[29] However, a sizable proportion of patients, ranging from 19–52% across studies, do not return to their preinjury level of sport after shoulder stabilization procedures.[13,30]

The reasons cited for failure to return are multifactorial, including both shoulder-dependent and shoulder-independent factors.[31] (Table 1) Recurrent instability is one of the most frequently reported shoulder-related causes, implicated in 33% of cases.[13] Other shoulder-related reasons for failure to return include persistent anterior shoulder pain, loss of range of motion, diminished muscle strength, and ongoing apprehension with overhead activities.[13]

However, the majority of cited reasons for failure to return to sports are independent of shoulder function.[13,30,31] Up to 85% of athletes report inability to return to sports for reasons unrelated to physical shoulder impairment.[11,12,30,31] The most commonly cited shoulder-independent causes include fear of re-injury, lack of motivation, change in priorities away from sports, lack of time, retirement from sports, and graduation from school teams.

Fear of reinjury is one of the most commonly cited psychological barriers to RTS after shoulder surgery. However, it is important to differentiate between a rational concern for reinjury, which is expected in athletes returning after extensive rehabilitation, and kinesiophobia, which refers to an irrational and debilitating fear of movement or exercise that prevents appropriate participation in rehabilitation and sport. Indeed, the most prevalent shoulder-unrelated reason for not returning to sport was fear of reinjury, reported by 13–17.7% of patients across studies.[13,34] Athletes who have undergone shoulder stabilization may exhibit heightened fear and insecurity about their shoulders, impeding return to sports despite adequate surgical repair.

Overall, the decision to RTS is multifactorial, involving physical shoulder function but also psychological readiness and motivational factors. A holistic approach addressing both intrinsic and extrinsic variables through counseling and customized rehabilitation protocols may help improve rates of return to sport in patients after shoulder stabilization procedures.

The Shoulder Instability Return to Sport After Injury (SIRSI) Scale

Development and Validation of the SIRSI Scale

Although several scales, including the Tampa scale, have been developed to measure fear of reinjury, a recognized risk factor associated with reduced sports reintegration, it is important to highlight that none of these scales were originally designed to evaluate shoulder instability.[17,35,36] Acknowledging this drawback, Gerometta et al[19] developed a more comprehensive assessment of psychological readiness specifically tailored to athletes undergoing shoulder instability surgery and their subsequent return to sport.

The SIRSI scale was developed as a patient-reported outcome measure to quantitatively assess athletes' psychological readiness to return to sport following a traumatic shoulder injury.[19] This scale, adapted from the validated Anterior Cruciate Ligament-Return to Sport after Injury (ACL-RSI) scale for knee ligament reconstruction, aims to evaluate the psychological factors that are crucial in determining an athlete's readiness for safe return to sport after injury, [37–40] The original SIRSI scale consists of 12 items that measure three constructs known to impact return to sport outcomes: confidence in shoulder performance, fear of reinjury, and emotional responses to returning to sport.[19] Athletes rate each item on a 10-point Likert scale, with higher scores indicating greater psychological readiness. These 12 items assess various aspects, including confidence in shoulder stability during sport, confidence in shoulder function, fear and risk of reinjury, nervousness about resuming play, frustration with shoulder limitations, and concern about undergoing repeat surgery if reinjured. Total scores range from 0 to 100, with higher scores indicating a more positive psychological readiness.

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Table 1 Current Systematic Reviews Evaluating Most Frequent Shoulder-Related and Shoulder-Independent Reasons for Not Returning to Sports

Author	Number of Patients	No Return to Sports	Reason for Failure to Return to Sports										
			Shoulder Dependent	Shoulder Independent	Recurrent Instability	Apprehension	Pain	Fear of Reinjury	Change in Priorities	Retirement/ Discharge from Military Service or Sports Team	Lack of Confidence	Lack of Motivation	Psycho-social Factors
Kim et al[13]	813	15.6%	56.7%	43.3%	33.3%	9.9%	6.4%	17.7%	8.5%	–	–	–	–
Van Iersel et al[32] - Capsulolabral repair	2588	18%	28%	72%	8%	9%	3%	17%	11%	10%	–	–	–
Van Iersel et al[33] - Bony reconstruction	957	18%	35%	65%	2%	8%	10%	13%	–	10%	–	–	–
Velasquez Garcia et al[11]	247	44.1%	–	55.9%	–	–	–	49.3%	21%	–	2.2%	3.6%	4.3%
Paul et al[12]	31	–	54.5%	–	–	–	–	6.5%	16.1%	–	6.5%	–	–
Gibbs et al[6]	1784	23.7%	–	85.1%	–	–	–	42.8%	–	–	12.8%	6.4%	13.3%

Predictive Ability of the SIRSI Scale for Return to Sports

The original 12-item scale (Box 1) demonstrates high internal consistency and strong correlations with shoulder function scores.[19] Studies have shown the SIRSI scale can effectively predict return to sport after shoulder stabilization surgery, with a cut-off score of ≥55 indicating an athlete is psychologically ready to return to sport. Furthermore, a SIRSI score ≥55 can predict return to the pre-injury level of sport participation. Higher SIRSI scores are associated with increased likelihood of returning to the prior level of sport after shoulder stabilization surgery.

Shortened Version of the SIRSI Scale

More recently, Pasqualini et al[41] developed and validated a shortened 5-item version of the SIRSI scale. (Figure 1) This abbreviated scale includes one question from each of the primary domains: confidence in sport performance, confidence in shoulder function, nervousness, fear of reinjury, and concern about repeat surgery. The 5-item scale exhibits similar predictive ability for return to sport outcomes as the original 12-item version.[41] A recent validation study found that the short version accounted for 60% of the variance of the full scale while maintaining excellent internal consistency (Cronbach $\alpha = 0.82$) and high correlation with the Western Ontario Shoulder Instability Index (WOSI). Both versions showed strong predictive validity for return-to-sport outcomes, with the short version achieving an area under the ROC curve (AUC) of 0.84, comparable to 0.83 for the full scale. These findings reinforce the short version as a clinically efficient tool while preserving its ability to distinguish between athletes who successfully return to sport and those who do not.[41] The condensed scale reduces the burden on respondents while maintaining the psychometric properties of the original SIRSI. Therefore, both the 12-item and 5-item versions of the SIRSI scale provide a quantitative assessment of the psychosocial factors that influence an athlete's return to sport following a shoulder injury. The shorter 5-item version offers comparable performance to the original 12-item scale while requiring less time to complete. These validated tools can aid in clinical decision-making regarding the safe return to sport participation after shoulder trauma.

Other Psychological Assessment Tools for Shoulder Instability Patients

Other tools for psychological assessment in shoulder instability patients have been described.[32,42–45] The Injury-Psychological Readiness to Return to Sport Scale (I-PRRS) is another tool that can assess an athlete's psychological readiness to resume full sport participation after shoulder injury and surgery. This 6-item scale measures confidence levels on a scale from 0 to 100. Higher total scores indicate greater psychological readiness to return to sport. The I-PRRS provides a quick assessment of

Box 1 12-Item SIRSI Scale

Scale Item
Confidence in Performance
1. Are you confident that you can perform at your previous level of sport participation?
2. Are you confident about your ability to perform well at your sport?
3. Are you confident that your shoulder will be stable during playing your sport?
4. Are you confident that you could play your sport without concern for your shoulder?
5. Do you find it frustrating to have to consider your shoulder with respect to your sport?
6. Are you confident about your shoulder holding up pressure?
7. Are you nervous about playing your sport?
8. Do you feel relaxed about playing your sport?
9. Do you think you are likely to re-injure your shoulder by participating in your sport?
10. Are you fearful of re-injuring your shoulder by playing your sport?
11. Are you afraid of accidentally injuring your shoulder by playing your sport?
12. Do thoughts of having to go through surgery and rehabilitation again prevent you from playing your sport?

Notes: Adapted with permission by Springer Nature Customer Service Centre GmbH from Gerometta A, Klouche S, Herman S, Lefevre N, Bohu Y. The Shoulder Instability-Return to Sport after Injury (SIRSI): a valid and reproducible scale to quantify psychological readiness to return to sport after traumatic shoulder instability. *Knee Surg Sports Traumatol Arthrosc.* 2018;26:203–211. doi:10.1007/s00167-017-4645-0.[19]

Abbreviation: SIRSI, Shoulder Instability-Return to Sport after Injury.

1. Are you confident that you can perform at your previous level of sport participation?

Not at all confident										Fully confident
0	1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

2. Are you confident that you could play your sport without concern for your shoulder?

Not at all confident										Fully confident
0	1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

3. Are you nervous about playing your sport?

Extremely nervous										Not nervous at all
0	1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

4. Are you fearful of re-injuring your shoulder by playing your sport?

Extremely fearful										No fear at all
0	1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

5. Do thoughts of having to go through surgery and rehabilitation again prevent you from playing your sport?

All of the time										None of the time
0	1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Figure 1 Short SIRSI scale.
Notes: Reprinted with permission from Pasqualini I, Rossi LA, Brandariz R, Tanoira I, Fuentes N, Ranalletta M. The short, 5-item shoulder instability-return to sport after injury score performs as well as the longer version in predicting psychological readiness to return to sport. *Arthroscopy.* 2023;39:1131–8.e1.[41]

athletes' mental preparedness. Other tools like the Tampa Scale of Kinesiophobia (TSK-11) and Sport Competition Anxiety Test (SCAT) can help evaluate psychological factors including kinesiophobia/fear of reinjury, anxiety and depression that may impact return to sport. The TSK-11 assesses fear of reinjury, while the SCAT measures competition anxiety. Using a combination of scales allows orthopedic surgeons to gain a comprehensive understanding of the various psychological factors affecting their patients after shoulder stabilization procedures. (Table 2)

Table 2 Available Psychological Assessment Tools

Scale	Measures
Shoulder Instability Return to Sport After Injury Scale (SIRSI)	Psychological readiness to return to sport
Injury-Psychological Readiness to Return to Sport Scale (I-PRRS)	Confidence and psychological readiness
Tampa Scale of Kinesiophobia (TSK-11)	Fear of movement/reinjury (kinesiophobia)
Sport Competition Anxiety Test (SCAT)	Competition anxiety
Western Ontario Shoulder Instability Index (WOSI)	Quality of life/function
Single Assessment Numeric Evaluation (SANE)	Self-reported function
Social Support Questionnaire (SSQ)	Perceived social support
S-STARTS (Shoulder-SanTy Athletic Return To Sport)	Psychological readiness and physical function

Association Between Psychological Readiness and Return to Sports Following Shoulder Stabilization Surgery

Several studies have consistently demonstrated that greater psychological readiness are associated with increased rates of RTS and a return to the preinjury level of sports following surgical stabilization for shoulder instability.[5,8,33,46,47]

In a recent systematic review, Velasquez Garcia et al[11] analyzed three studies that utilized the SIRSI score to assess psychological readiness following shoulder instability surgery. The pooled estimate showed that patients who returned to sports had significantly higher SIRSI scores ($P < 0.00001$) compared to those who did not return, with a mean difference of 30.24 (95% CI 24.95–35.53). Similarly, Paul et al[12] conducted a systematic review specifically focusing on psychological readiness after Latarjet surgery. They found that athletes who successfully returned to sports had higher average SIRSI scores (73.2) compared to those who did not return (41.5). Bohu et al[33] conducted a study involving 217 patients who underwent Latarjet procedures. The findings revealed that 73% of the patients returned to their main sport, with an average time to return of 5 months. Importantly, patients with higher preoperative Rowe and SIRSI scores were more likely to successfully return to their sport. Specifically, for every 10-point increase in SIRSI score, the odds of returning to the main sport increased by 1.02 times. This suggests that better baseline shoulder function and greater psychological readiness, as assessed by the SIRSI, are associated with a successful return to the primary sport after Latarjet procedures. In another study by Hurley et al,[5] a comparison was made between 35 patients who did not return to play after Latarjet procedures and 70 patients who successfully returned. Among those who did not return to play, only 20% achieved the SIRSI benchmark of ≥55, whereas 81.4% of the return-to-play group met this benchmark. The no-return-to-play group had significantly lower overall SIRSI scores (41.5 vs 74.5). Notably, thoughts of undergoing surgery or rehabilitation again were the only SIRSI question that independently predicted lower odds of returning to play. These findings demonstrate that higher psychological readiness, as measured by the SIRSI, is associated with increased rates of return to play after Latarjet procedures.

Similarly, in a study of patients who underwent arthroscopic Bankart repair (ABR), Hurley et al[48] reported that only 19.2% of the 52 patients who did not return to play achieved the SIRSI cutoff score of ≥55, compared to 73% of the 156 patients who successfully returned. Higher SIRSI scores were found to be predictive of return to sport, with questions related to fear of reinjury showing associations with lower odds of returning to play. This further supports the relationship between psychological readiness measured by the SIRSI and the likelihood of returning to sport after shoulder stabilization. Rossi et al[14] conducted a study and found that among those who returned to sports, 76.8% achieved psychological readiness with a median SIRSI score of 65 (interquartile range, 57–80). In contrast, only 4.5% of the group that did not return to sports achieved psychological readiness, with a median SIRSI score of 38.5 (interquartile range, 35–41) ($P<0.001$). Additionally, in terms of returning to the preinjury level of sports, 100% of those who achieved this milestone passed the SIRSI cutoff level of ≥55, with a median score of 70 (interquartile range, 62–90). In contrast, only 9.5% of those who did not return to the preinjury level of sports reached the SIRSI cutoff level of ≥55, with a median score of 40 (interquartile range, 33–40) ($P<0.001$). These findings highlight the strong association between achieving psychological readiness as measured by the SIRSI and both successful return to sports and return to the preinjury level of sports. However, while a higher SIRSI score correlates with an increased likelihood of returning to preinjury level of

sport, it does not account for whether returning to sport is a desired outcome for the patient. This raises an important question: Is the goal of rehabilitation dictated by the provider's assumption that RTS is the best outcome, or by the patient's own priorities? Future studies should explore whether validated RTS assessment tools, such as the SIRSI, should first establish whether RTS is an important goal before assessing psychological readiness to return.

Association Between SIRSI and Recurrence After Shoulder Instability

Recent evidence suggests that psychological readiness as measured by the SIRSI scale may be predictive of recurrence rates following shoulder stabilization surgery. In a 2024 study by Pasqualini et al[49] examining 149 athletes who returned to sport after shoulder stabilization surgery (arthroscopic Bankart repair or Latarjet procedure), patients who were not psychologically ready to return to sports (SIRSI score <55) had significantly higher recurrence rates compared to those who were psychologically ready (19.5% vs 3.7%, p=0.002). The SIRSI score was significantly lower in those who experienced a recurrence (mean 49.5 vs 69.4, p=0.002). Through regression analysis controlling for factors including age, sex, type of athlete, type of sports, preoperative function, and type of surgery, patients who were not psychologically ready had 11.7 times higher odds of recurrence (95% CI: 3–45, p=0.002). The authors identified a SIRSI cutoff score of 51.5 points that demonstrated acceptable predictive ability for recurrence risk (AUC=0.745, sensitivity 66%, specificity 79%).

Similar relationships between psychological readiness and second injury risk have been observed in ACL reconstruction patients. McPherson et al[38] followed 329 athletes for 2–4 years after ACL reconstruction and found that those who sustained a second ACL injury had significantly lower psychological readiness scores at 12 months post-surgery compared to those who did not have a recurrent injury. In athletes 20 years or younger, psychological readiness scores were particularly predictive - a cutoff score of 76.7 points demonstrated 90% sensitivity for identifying athletes who went on to sustain a second ACL injury.

These findings suggest that psychological readiness assessed through validated tools like the SIRSI scale may be an important factor in identifying athletes at increased risk for recurrent injury after shoulder stabilization surgery. This highlights the potential value of incorporating psychological screening into post-operative assessment protocols and developing targeted interventions for athletes demonstrating lower psychological readiness before return to sport.

Integrating Psychological Readiness Assessment into the Return to Sports Decision-Making Process

Shoulder stabilization procedures are commonly performed in athletes; however, there is a lack of consensus on objective criteria to determine when athletes are ready to RTS. The determination of an athlete's readiness to return to sports commonly relies on evaluating specific criteria, such as the restoration of strength, range of motion, absence of apprehension, freedom from pain, acquisition of sport-specific skills, and the recovery of proprioception. These criteria collectively encompass the essential factors that need to be addressed before an athlete can safely resume competitive activities. Despite the importance of these RTS criteria, there is no standardized framework guiding clinicians on how to integrate psychological factors into post-surgical clearance. A study conducted by Ciccotti et al[50] sheds light on this issue by analyzing 58 studies that examined RTS criteria following surgical stabilization of anterior shoulder instability. Within these studies, the authors identified 13 distinct combinations of criteria to determine an athlete's readiness for return to sports. Notably, when considering the criteria used, it becomes evident that time emerged as the most commonly utilized factor. However, the duration prescribed by different authors to allow athletes to resume competition exhibited significant variation, ranging from as short as 1.5 months to as long as 12 months. In contrast to ACL reconstruction—where validated tools like the ACL-Return to Sport after Injury (ACL-RSI) scale are standard—shoulder instability surgery lacks a widely accepted psychological readiness screening tool. This contributes to high variability in RTS success rates, as time-based guidelines (eg, 6 months post-op) fail to account for psychological barriers that influence RTS failure. It is important to recognize that psychological readiness plays a significant role in an athlete's successful return to sports. In some cases, athletes may meet the physical criteria but still struggle with psychological factors, ultimately leading to their decision not to return to sports. Therefore, there is a clear need for a more comprehensive, multifactorial assessment before granting full clearance to return to sport.

Kelley et al[51] conducted a study with the aim of assessing the effectiveness of a comprehensive rehabilitation protocol for high school and collegiate contact athletes who underwent arthroscopic Bankart repair. This protocol involved the integration of functional testing and psychological readiness assessments as a prerequisite for returning to sport. The functional testing consisted of a series of eight quantitative tests, while the Tampa Scale of Kinesiophobia-11 was utilized to evaluate the athletes' fear of reinjury. The study's primary outcomes encompassed various factors, including the time required to pass the functional and psychological assessments, the duration until returning to sport, patient-reported outcome scores, and rates of recurrent instability. The objective was to ascertain whether this multifaceted approach, which focused on restoring neuromuscular control and addressing psychological aspects, could yield a safer return to sport and reduce the likelihood of recurrence in comparison to the reliance on standard time-based guidelines alone. While time-based protocols are commonly employed, this study revealed that incorporating functional testing and assessing the athlete's confidence level and kinesiophobia led to decreased rates of redislocation (6.5%), surpassing the results reported in previous studies. Therefore, this study highlights the potential advantages associated with adopting a multidisciplinary approach that encompasses both physical and psychological evaluations when making decisions about an athlete's readiness to resume sports activities following arthroscopic shoulder stabilization.

Developing a standardized RTS assessment that incorporates strength, range of motion, neuromuscular control, and psychological readiness is essential for improving decision-making following shoulder stabilization surgery. While physical recovery remains a critical component of RTS, psychological readiness plays an equally important role in determining an athlete's ability to return to preinjury levels of sport. Optimizing both physical and psychological factors before granting clearance to resume full competition may lead to improved outcomes and a lower risk of re-injury. Addressing psychological readiness requires a structured, multidisciplinary approach. Preoperative counseling can help set clear expectations for rehabilitation timelines and likely outcomes, while targeted education on adherence and self-motivation has been shown to improve rehabilitation compliance. Psychological interventions such as relaxation techniques, guided imagery, and cognitive behavioral therapy may help mitigate negative mood states, including anxiety and fear of reinjury, which are common barriers to RTS. Gradual exposure therapy, focused on progressive return-to-sport activities, can further assist athletes in overcoming kinesiophobia. While psychological interventions could theoretically improve SIRSI scores, it is unclear whether such improvements translate into increased RTS success. An alternative perspective is that low SIRSI scores may serve as a warning indicator rather than a modifiable barrier—highlighting athletes who may be at an increased risk of reinjury and should be counseled on the risks of returning to certain sports. Future research should explore whether psychological readiness is an intervention target or primarily a risk stratification tool for clinicians making RTS recommendations. Setting individualized, objective RTS criteria can provide athletes with tangible goals to work toward, reinforcing both physical and mental preparedness. Additionally, fostering a strong social support system, including coaches, trainers, and teammates, has been shown to enhance confidence and motivation during rehabilitation. Multidisciplinary collaboration, involving psychologists, physical therapists, athletic trainers, and surgeons, is crucial in developing a structured RTS clearance process that ensures all key factors—both physical and psychological—are adequately addressed. Establishing validated screening tools to assess psychological readiness in conjunction with physical parameters could provide a more comprehensive and objective framework for RTS decision-making. Although further research is needed, current evidence supports a holistic approach that integrates psychological assessment alongside physical recovery metrics, rather than relying on time alone, to determine an athlete's readiness to return to sport following shoulder stabilization surgery.

Conclusion

Return to sport after shoulder stabilization surgery is a multifactorial process influenced by both physical and psychological factors. While physical recovery is critical, psychological readiness has been shown to impact an athlete's ability to successfully return to their pre-injury level of sport. The SIRSI scale serves as a valuable tool in assessing psychological readiness, with higher scores correlating with improved RTS rates. However, while psychological interventions such as counseling, confidence-building strategies, and fear management have been proposed, their direct effect on RTS outcomes has not been definitively established. Current evidence suggests a strong association between psychological readiness and RTS, but causal relationships remain unproven, highlighting the need for well-designed interventional studies. Future research should focus on testing structured psychosocial interventions to determine their

efficacy in enhancing RTS success. Integrating validated psychological screening tools into RTS protocols may help identify at-risk athletes and provide targeted support, ultimately optimizing recovery and return outcomes.

Disclosure

The authors report no conflicts of interest in this work.

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