

Positive Reframing: An Important but Underutilized Coping Strategy in Athletes Undergoing Sport-Related Knee Surgery

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Context: How specific coping strategies are associated with short-term outcomes among athletes after knee surgery is unknown.

Objective: To determine whether (1) specific coping strategies were associated with return to sport, satisfaction, self-reported knee function, or kinesiophobia after sport-related knee surgery and (2) these associations varied by age, sex, or surgical procedure.

Study Design: Case series.

Methods: Athletes (N = 184; men: n = 104, women: n = 80; aged <20 years: n = 38; aged 20–25 years: n = 35; aged 26–31 years: n = 36; aged 32–40 years: n = 36; aged >40 years: n = 39) who underwent outpatient knee surgery at a single center were enrolled. Use of specific coping strategies (self-distraction, venting, acceptance, positive reframing, emotional support, and instrumental support) was assessed preoperatively with the Brief-Coping Orientation to Problems Experienced inventory. Relationships among coping strategies and postoperative satisfaction, return to sport, International Knee Documentation Committee–Subjective and Tampa Scale for Kinesiophobia scores at a median 10.7 months follow-up were determined with consideration for age, sex, and surgical procedure.

Results: Return to the prior level of sport was 72%, and satisfaction was 86%. Most coping strategies had age-specific utilization rates; positive reframing was used least frequently in individuals aged <20 years. Satisfaction increased with greater positive reframing among those aged <20 years and decreased with greater self-distraction among men. Return to sport was higher with greater positive reframing in people aged <32 years. No coping strategies predicted International Knee Documentation Committee–Subjective scores. Greater positive reframing correlated with less kinesiophobia in individuals aged <20 years and greater instrumental support with less kinesiophobia in those aged >40 years. No other coping strategies were associated with outcomes. The surgical procedure was not related to an association between coping strategies and outcomes.

Conclusions: Coping strategies had age-specific associations with outcomes after knee surgery in athletes. Positive reframing was infrequently used in younger athletes. Greater use of positive reframing in this group may improve return to sport and satisfaction and reduce fear of reinjury.

Key Words: knee injury, sports psychology, youth athletes

Key Points

- Among injured athletes who required knee surgery, coping strategies varied by age and sex.
- Athletes younger than 20 years of age were less likely than older athletes to endorse the use of positive reframing as a coping strategy.
- Young athletes who did report more use of positive reframing as a coping strategy tended to have higher rates of return to sport and satisfaction and lower levels of kinesiophobia (fear of reinjury) after surgery.

A growing body of evidence suggests that psychological factors can significantly affect rehabilitation quality and outcomes after sport-related knee surgeries.¹ Absence from sport due to injury can be associated with significant psychological distress,² though the specific stressors experienced by injured athletes vary among individuals and can change throughout the recovery process.³ In addition, multiple psychological factors have been described as decreasing the chance of return to sport.⁴ Webster et al⁵ found that psychological readiness for surgery predicted return to sport. Forsdyke et al⁶ documented the various coping strategies that athletes

used in the recovery from injury and preparation for return to sport.

After sport-related injuries, younger athletes are at risk for psychological distress.^{7,8} The growing trend of single-sport specialization at a young age may be associated with the development of a heightened athletic identity. This is often a positive factor in promoting self-confidence and growth, but sport injury has been associated with increased psychosocial stress, given that the athlete is removed from the team and sport with which he or she identifies; this increased stress has been shown to limit recovery.⁸ Older athletes are less likely to display such stress because most identify with something other than a sport or have more

developed social networks. Sport injury can also be associated with depression.⁹ These depressive symptoms have been correlated with the time elapsed since injury² and gender.⁹ Alternatively, a sport injury in older patients can be associated with a different type of stress than that in youth athletes because many injuries require extended time away from work. This consequence and the cost of medical care are associated with significant financial stress for adult patients.¹⁰

Associations between specific psychological factors and sport-related knee surgery outcomes have been demonstrated.^{4,11} Coping strategies among athletes varied by age¹² as well as gender,¹³ and the productiveness of specific coping strategies differed depending on the specific stressor or problem encountered.¹⁴ In addition, the coping strategies used can change throughout the different stages of recovery, with negative feelings dominating soon after injury.² Adolescents displayed significant individual differences in coping strategies when confronted with a stressful situation,¹⁵ and youth athletes appeared to be more likely than older athletes to use maladaptive coping strategies, such as behavioral disengagement, and less likely to use positive reframing, planning, and acceptance.¹² Moreover, gender differences in coping with stress have been noted,^{16,17} including among competitive athletes.¹⁷ For instance, women scored higher than their male counterparts in emotional and avoidance coping styles and lower in rational and detachment coping.¹⁷

The purpose of our study was 2-fold: (1) to determine whether specific coping strategies were associated with return to sport, satisfaction, self-reported knee function, or *kinesiophobia* (fear of reinjury) after sport-related knee surgery and (2) to identify whether these associations varied by age group, sex, or surgical procedure. We hypothesized that age- and sex-specific differences in coping strategies as well as associations between these strategies and outcomes would be evident. Specifically, we suggested that younger patients would report using lower levels of instrumental support and positive reframing. We also hypothesized that the relationship between coping strategies and outcomes would not be associated with the specific surgical procedure performed.

METHODS

After receiving institutional review board approval, we enrolled patients who underwent sport-related knee surgery at a single university hospital-based sports medicine center between 2014 and 2016. Consent was obtained for all study participants before inclusion in the study; assent to participate was obtained from minors (under the age of 18 years), and consent was obtained from their parents or guardians. Inclusion criteria were age greater than 14 years, regular participation in sporting activity at least 3 days per week before the injury, and the presence of a knee injury that required surgical treatment. At the time surgery was scheduled, patients provided consent to complete an online self-administered psychological assessment. A cohort of 224 patients completed enrollment, but 40 patients were excluded: 35 did not identify as regularly participating in sporting activities, and 5 did not complete the coping scale as part of the preoperative survey. Of the 184 remaining patients, follow-up was obtained on 82% (n = 151) at a

median of 10.7 months (interquartile range = 18.8–3.6 months) form. The minimum length of follow-up depended on the surgical procedure. The minimal follow-up was 3 months for knee arthroscopy with debridement or partial meniscectomy and 6 months for all other surgeries.

The primary procedures performed were arthroscopy with debridement or meniscectomy (n = 65, 35%), anterior cruciate ligament reconstruction (n = 62, 33%), cartilage restoration (microfracture, osteochondral allograft, or autologous chondrocyte implantation: n = 34, 18%), isolated meniscus repair (n = 17, 9%), and other tendon or ligament repair (n = 6, 3%). All patients participated in published and guided, procedure-specific, postoperative rehabilitation programs that were supervised by a physical therapist and physician.

Using an a priori power analysis, we determined that the sample size per age group was adequate for detecting a 0.6-point difference in the self-reported frequency of use of coping strategies with 80% power and $\alpha = .05$. No minimal clinically important difference in Coping Orientation to Problems Experienced (COPE) scores has been established for athletes; however, our 0.6-point difference was less than half of the SD for coping strategies as assessed by the Brief-COPE inventory in a large study¹² of athletes (n = 550), indicating that our patient population was adequate for detecting a relatively small difference (compared with other studies).

The preoperative survey was available online through a secure, personalized hyperlink provided via email to each patient. (A paper version was also made available, though no patients elected to use it.) International Knee Documentation Committee subjective (IKDC-S)¹⁸ and Tampa Scale for Kinesiophobia (TSK-11 Item)¹⁹ scores were assessed before surgery (between the preoperative appointment and day of surgery) and again at a median of 10.7 months after surgery.

Coping strategies were assessed with the Brief-COPE inventory,²⁰ a 28-item questionnaire that instructs readers to consider how frequently they use specific coping strategies to deal with stress or a difficult situation. For our purposes, the prompt was modified to specify “ways you’ve been coping with the stress in your life since you found out you were going to have to have this operation.” Each statement is rated on a 4-point Likert scale from 1 (*I haven’t been doing this at all*) to 4 (*I’ve been doing this a lot*). The Brief-COPE measures 14 distinct dimensions of coping, though we used only 6: self-distraction, venting, acceptance, positive reframing, emotional support, and instrumental support. These 6 subscales were selected on the basis of prior age- or sex-specific associations with coping strategies identified in athletes.^{12,13,15,17} *Self-distraction* involves ignoring the stressor and focusing on unrelated thoughts or tasks. *Venting* entails focusing on the stressor in conversations with others. *Acceptance* describes the person’s recognition of the reality of a stressful situation in an attempt to deal with the situation. *Positive reframing* involves focusing on ways that a stressor may actually be positive or beneficial. *Emotional support* entails seeking emotional support from others to cope with a perceived stressor. *Instrumental support* describes physical reliance on others for tasks such as transportation. Scores for each coping strategy in the Brief-COPE inventory range from 2 to 8, with higher scores indicating greater self-reported use

Table 1. Descriptive Statistics

Characteristic	All Athletes (n = 184)	Sex-Specific Results			Age Group-Specific Results, y					P Value
		Men (n = 104)	Women (n = 80)	P Value	<20 (n = 38)	20–25 (n = 35)	26–31 (n = 36)	32–40 (n = 36)	>40 (n = 39)	
		No.			No.					
Men	57	NA	NA	NA	53	51	61	58	59	.90
Women	43	NA	NA	NA	47	49	39	42	41	
Soft tissue repair or reconstruction ^a	64	65	64		88	92	76	60	25	
Arthroscopy with debridement or meniscectomy ^a	36	35	36	.95	12	8	24	40	75	<.001
		Mean ± SD								
Age, y	31.1 ± 12.7	31.8 ± 12.9	30.2 ± 12.4	.42	16.8 ± 1.9	22.9 ± 1.7	28.1 ± 1.9	35.8 ± 2.7	50.8 ± 7.7	<.001
Preoperative IKDC–subjective form score	40.8 ± 16.0	39.4 ± 16.1	42.8 ± 14.8	.17	45.3 ± 15.5	44.3 ± 18.6	37.5 ± 13.1	39.6 ± 16.1	37.6 ± 15.3	.11
Preoperative kinesiophobia score (TSK-11)	24.4 ± 5.9	24.4 ± 6.1	24.5 ± 5.5	.99	23.3 ± 5.1	24.6 ± 7.0	25.0 ± 5.1	25.3 ± 7.0	24.1 ± 5.1	.63
Postoperative IKDC–subjective form score	60.0 ± 13.9	59.6 ± 15.8	60.8 ± 18.8	.99	66.6 ± 12.3	63.9 ± 10.9	57.2 ± 13.5	60.0 ± 11.8	56.4 ± 15.2	.13
Postoperative kinesiophobia score (TSK-11)	21.4 ± 5.8	21.6 ± 5.4	21.1 ± 6.3	.99	22.2 ± 6.0	21.6 ± 6.5	20.0 ± 5.4	23.1 ± 6.0	20.2 ± 5.3	.58
		%								
Satisfaction	86	88	84	.57	87	83	77	84	100	.02
Return to prior level of sport	72	77	66	.01	50	56	61	88	96	<.001

Abbreviations: IKDC, International Knee Documentation Committee; NA, not applicable; TSK-11, Tampa Scale for Kinesiophobia.

^a The primary procedures performed were arthroscopy with debridement or meniscectomy (35%), anterior cruciate ligament reconstruction (33%), cartilage restoration (microfracture, osteochondral allograft, or autologous chondrocyte implantation (18%), isolated meniscus repair (9%) or other tendon or ligament repair (3%).

of the coping strategy. The Brief-COPE has adequate internal consistency reliability (Cronbach $\alpha = 0.71$ – 0.96), test-retest reliability, and concurrent validity.^{20,21}

Patient-reported satisfaction was determined by the following question on follow-up evaluation: “In regard to the outcome of your surgery, would you say that you are very satisfied, somewhat satisfied, neutral, somewhat dissatisfied, or very dissatisfied?” *Satisfaction* was defined as a response of *very satisfied* or *somewhat satisfied*, and *dissatisfaction* was defined as a response of *neutral*, *somewhat dissatisfied*, or *very dissatisfied*. *Return to sport* was defined as confirmation by the athlete that he or she had returned to the preinjury activity of choice at the time of the survey. The IKDC-S form was readministered at the same time as the satisfaction survey.

Statistical Analysis

Descriptive statistics were first generated for the entire sample and then stratified by age group (<20 years, 20–25 years, 26–31 years, 32–40 years, and >40 years) or sex. Baseline differences in categorical variables were assessed using χ^2 tests, and continuous variables were evaluated using 1-way analysis of variance with post hoc testing of between-groups differences. The odds of return to the prior level of sport or postoperative satisfaction via specific

coping strategies were determined via logistic regression, with the results reported as odds ratios (ORs) and 95% CIs. The association between coping strategies and continuous outcomes (IKDC-S and kinesiophobia scores) was assessed via linear regression. These analyses were performed before and after stratification by age or sex. The surgical procedure and length of follow-up were included as interaction terms in all analyses and were nonsignificant in all cases (*P* values > .25).

RESULTS

Return to the prior level of sport was reported as 72%. Rates were similar between sexes but higher with increasing age (50% under age 20 years, 90% over age 40 years; *P* < .001; Table 1). The age-specific return-to-sport rates correspond with age-specific differences in surgical procedures. Rates were greater for arthroscopy with debridement or meniscectomy among older patients (75% among patients aged > 40 years) and greater for repair or reconstructive procedures among younger patients (65% among patients aged <20 years; *P* < .001). Reported satisfaction was 86% overall, with higher rates for those over age 40 (100%) versus under 40 (83%; *P* = .004) and no difference between sexes. No age- or sex-specific differ-

Table 2. Strategy Use by Sex and Age Group on the Coping Orientation to Problems Experienced Inventory (Mean ± SD)^a

Strategy	All Athletes	Sex-Specific Results			Age Group-Specific Results, y					P Value
		Men	Women	P Value	<20	20–25	26–31	32–40	>40	
Self-distraction	5.5 ± 1.4	5.7 ± 1.4	5.3 ± 1.4	.03	4.8 ± 1.4	6.0 ± 1.5	6.0 ± 1.2	5.8 ± 1.1	5.2 ± 1.3	<.001
Venting	5.3 ± 1.5	5.1 ± 1.5	5.5 ± 1.5	.07	5.4 ± 1.4	5.6 ± 1.4	5.5 ± 1.4	5.3 ± 1.5	4.8 ± 1.7	.17
Acceptance	3.5 ± 1.4	3.3 ± 1.5	3.6 ± 1.4	.16	3.5 ± 1.6	3.8 ± 1.6	3.4 ± 1.4	3.3 ± 1.6	3.4 ± 1.0	.69
Positive reframing	4.4 ± 1.0	4.5 ± 1.0	4.3 ± 1.0	.21	3.9 ± 1.1	4.6 ± 1.0	4.7 ± 0.8	4.5 ± 0.9	4.4 ± 1.0	.01
Emotional support	5.7 ± 1.5	5.8 ± 1.5	5.6 ± 1.4	.48	4.0 ± 1.5	6.4 ± 1.3	6.1 ± 1.2	5.8 ± 1.3	5.4 ± 1.5	<.001
Instrumental support	3.9 ± 1.2	3.9 ± 1.2	4.0 ± 1.2	.39	4.3 ± 1.2	4.2 ± 1.2	4.2 ± 1.3	3.7 ± 1.1	3.4 ± 1.2	.005

^a Brief-Coping Orientation to Problems Experienced inventory subscale scores are reported on a scale of 2–8 points. Higher values indicate more frequent self-reported use of the coping strategy.

ences were present in postoperative IKDC or kinesiophobia scores.

Age and Sex Differences in Self-Reported Coping Strategies

All reported coping strategies other than venting and acceptance had age-specific utilization rates (*P* values < .05; Table 2). After stratifying by age group, we found that use of specific coping strategies was unrelated to the planned surgical procedure (*P* values > .25). Positive reframing was endorsed less frequently among youth athletes (age <20 years; mean = 3.9/8 ± 1.1, maximum = 6/8) versus ≥ 20 years (mean = 4.6/8 ± 0.9, maximum = 8/8; *P* = .001). Among the investigated coping strategies, self-distraction was selected more frequently among men (men = 5.7/8 ± 1.4 versus women = 5.3/8 ± 1.4; *P* = .03); no other significant sex-specific trends were identified.

Coping Strategies as a Predictor of Satisfaction

Positive reframing was associated with a higher likelihood of satisfaction only for athletes < 20 years (per point increase in positive reframing score: OR = 6.21, 95% CI = 1.29, 11.5; *P* = .02; Table 3). Self-distraction was associated with a lower likelihood of satisfaction in men (per point increase in use of self-distraction: OR = 0.53, 95% CI = 0.30, 0.89; *P* = .02). No other coping strategies were associated with satisfaction in the entire sample or after stratification by age group or patient sex (Table 3). The surgical procedure and length of follow-up did not display associations with the

relationship between coping strategies and satisfaction (*P* values > .25 for all interaction terms).

Coping Strategies as Predictors of Return to Sport

Reported use of positive reframing was associated with higher rates of return to the prior level of sport among athletes in the <20, 21–25, and 26–31 years age groups (per point increase in satisfaction in ages <32 years: OR = 2.36, 95% CI = 1.12, 5.10; *P* = .009) but not in the 32–40 or > 40 years age groups (Table 3). The association between the use of positive reframing and return to sport did not vary by sex. No other coping strategies predicted return to sport for the entire sample or after stratification by age group or sex. The surgical procedure and length of follow-up did not have a significant relationship with coping strategies and return to sport (*P* values > .25 for all interaction terms).

Coping Strategies as Predictors of IKDC-S Score

No reported use of a coping strategy was found to predict IKDC-S scores at follow-up (Table 3). No association was observed for the entire sample, after stratification by age group or sex, or with consideration for the surgical procedure or length of follow-up.

Coping Strategies as Predictors of Postoperative Kinesiophobia

Athletes under age 20 who indicated using more positive reframing had lower kinesiophobia scores at follow-up (per

Table 3. Summary of Associations of Coping Strategies With Outcomes After Surgery

Strategy	Return to Prior Level of Sport	Satisfaction	Self-Reported Knee Symptoms (IKDC-S form)	Kinesiophobia (Fear of Reinjury)
Self-distraction	None	Negative (males) ^b	None	None
Venting	None	No association	None	None
Acceptance	None	No association	None	None
Positive reframing	Positive (<32 y) ^a	Positive (<20 y) ^c	None	Negative (<20 y) ^d
Emotional support	None	None	None	None
Instrumental support	None	None	None	Negative (>40 y) ^e

Abbreviations: COPE, Coping Orientation to Problems Experienced inventory; IKDC-S, International Knee Documentation Committee subjective.

^a Per 1-point increase in Brief-COPE positive reframing score, odds ratio for return to sport = 2.36 (95% CI = 1.12, 5.10; *P* = .009).

^b Per 1-point increase in Brief-COPE self-distraction score, odds ratio for satisfaction = 0.53 (95% CI = 0.30, 0.89; *P* = .02).

^c Per 1-point increase in Brief-COPE positive reframing score, odds ratio for satisfaction = 6.21 (95% CI = 1.29, 11.5; *P* = .02).

^d Per 1-point increase in Brief-COPE positive reframing score, mean 2.9-point decrease in kinesiophobia score (lower score represents less kinesiophobia; *r* = -0.53, *P* = .02).

^e Per 1-point increase in Brief-COPE instrumental support score, mean 2.0-point decrease in kinesiophobia score (lower score represents less kinesiophobia; *r* = -0.48, *P* = .01).

1-point increase for positive reframing, mean = 2.9-point decrease in kinesiophobia score; $r = -0.53$, $P = .02$), as did athletes over 40 years who used greater instrumental support (per point increase in instrumental support, mean = 2.0-point decrease in kinesiophobia score; $r = -0.48$, $P = .01$; Table 3). No sex-specific associations between the reported use of a specific coping strategies and postoperative kinesiophobia were identified. No other coping strategies were found to predict postoperative kinesiophobia. Surgical procedure and length of follow-up were not associated with the relationship between coping strategies and postoperative kinesiophobia (P values $> .25$ for all interaction terms).

DISCUSSION

We identified age- and sex-specific differences in coping strategies among athletes undergoing sport-related knee surgery. Positive reframing was an infrequent coping strategy among youth athletes who underwent sport-related knee surgery. The beneficial associations between positive reframing and return to sport and satisfaction in youth athletes were present regardless of the surgical procedure performed. In addition, athletes older than 40 who used greater instrumental support (ie, physical reliance on others for tasks such as transportation) had less postoperative kinesiophobia, whereas male patients who used greater self-distraction had lower ratings of satisfaction after knee surgery. These findings provide an interesting starting point for potential interventional strategies early in the recovery process to emphasize helpful coping skills and improve surgical outcomes.

Previous researchers have shown that youth athletes encountered different psychological stressors after injury than adults did⁸ and that youth athletes appeared more likely to use maladaptive coping strategies, such as behavioral disengagement, and less likely to use positive reframing, planning, and acceptance than older athletes.¹² Our results confirmed that youth athletes tended to use positive reframing infrequently, even though this was also the age group in which positive reframing had the greatest association with clinically relevant surgical outcomes, including return to sport, postoperative satisfaction, and degree of postrehabilitation kinesiophobia (Table 3). Positive reframing has been shown to positively affect many aspects of life, improving metrics both psychologically and physiologically after negative stressors.²² Salim et al²³ observed that in 206 injured athletes who had recently returned to sport, positive reframing significantly mediated the relationship between hardiness and perceived stress-related growth. Positive reframing has also been helpful when used during the early phases of rehabilitation after sport injury.⁶

Established interventions have been designed to encourage helpful coping methods that can be applied to the injured youth athlete. Cognitive behavioral therapy or resilience training improved coping strategies and reduced psychological distress in college students.²⁴ Injured athletes can perceive a negative stigma surrounding psychological assistance; this should be minimized if possible because it can negatively affect the benefit received from intervention.²⁵ Athletic trainers can play a key role in providing guided intervention,²⁶ as can sports psychologists, who are well trained to provide cognitive behavioral therapy for enhancing helpful coping mechanisms and addressing performance concerns related to

return to sport.²⁷ The comfort level of athletic trainers with sports psychology specialists was associated with the rate of referral for intervention²⁶ and could be targeted to increase interventions in the future. A multidisciplinary intervention to address performance and coping in injured athletes can improve outcomes.²⁸

A significant sporting injury in older patients was associated with distinct stressors, including time away from work and finances, that were distinct from those in youth athletes.¹⁰ Greater use of instrumental support was uniquely associated with higher activity levels and lower rates of kinesiophobia only in athletes over age 40. In our study, patients reported less use of instrumental support with increased age (Table 2). This may have been secondary to a generally decreased reliance on others for physical assistance in adulthood except by elderly patients who substantially benefited from regular instrumental support to improve their general health-related quality of life.²⁹ On the contrary, younger athletes seemed to rely on others for support during the postoperative period and when injured. Patients over age 40, who are normally self-sufficient regarding physical task completion, could be encouraged to more actively seek greater assistance from others for help with transportation and activities of daily living after knee surgery, in a similar fashion to their younger counterparts. This suggestion is distinct from the intervention proposed for youth athletes on the basis of our findings, which was primarily a psychological intervention.

Our research had several limitations. First, the follow-up period ranged from 3 to 21 months. This wide range may have allowed some athletes early in the postoperative period to report being satisfied initially, which may have changed to not being satisfied if they later experienced a setback and also had a later follow-up. In addition, our findings may not apply to very young (<14 years) patients or patients over age 60. The distribution of knee procedures by age group was typical of an orthopaedic sports medicine practice in the United States. Furthermore, return to play depends on a wide array of factors, many of which were unmeasured or not analyzed in this study, including variables such as time from surgery, muscle strength, and age. In addition, we included athletes from a wide age range, each of whom may have had age-specific motivations for return to sport that were not captured by the current analysis. Preoperative and postoperative activity level scales such as Tegner activity levels were not routinely assessed for this cohort, making meaningful understanding of specific activity levels difficult.

The utilization rates of coping strategies were unrelated to the planned procedure. However, the sample size was not adequately powered to determine whether the strengths of association between coping strategies and outcomes were affected by the planned procedure. Though we identified an association between specific coping strategies and outcomes after surgery, it was unclear whether “coaching” toward greater use of potentially beneficial coping strategies would change the outcomes. Sports psychologist referral may be warranted because cognitive behavioral therapy can be used to enhance helpful coping mechanisms and has been shown³⁰ to address performance concerns during rehabilitation and return to sport. Cultural and language differences could have affected the wording and interpretation of the item content of the psychological

instruments used in this study, and further validation will need to be performed before they are used outside the United States or in a non-English format.

Coping strategies had age-specific associations with outcomes for athletes who underwent knee surgery. Younger athletes used positive reframing infrequently, but greater use of this strategy may improve their return to sport and satisfaction and lower the fear of reinjury. Self-distraction may reduce satisfaction after surgery among males, and older athletes with greater use of instrumental support had less fear of reinjury after surgery.

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