

Shoulder Instability in Women vs. Men



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Abstract

Shoulder instability (SI) is a common injury most often experienced by active individuals participating in competitive sports. It often results from either repetitive microtrauma or a single traumatic event. The fact that SI is a predominantly male issue has the potential to distract from the possibility that males and females experience SI differently. While epidemiologic and treatment outcome data does not seem to point to a significant difference in how males and females experience SI, there are anatomic differences in the shoulder and ligaments between the sexes that warrant further investigation.

Introduction

While shoulder instability is well described in the literature, there has been a lack of analysis on the differences between men and women when it comes to the epidemiology, pathophysiology, and treatment of SI. Due to multiple variables, men and women may experience SI differently. This review aims to collect the existing data on SI in order to determine if there are differences in the occurrence, treatment, or functional outcomes of SI between men and women.

Future Directions

Future research is needed to determine if there are indeed subtle differences in pattern of shoulder instability between males and females. More work is also needed on the study of atraumatic SI, as most major studies to date focus on traumatic dislocation.

Epidemiology

A variety of studies conducted in North America and Scandinavia have determined that males are responsible for 71.8-82.2% of shoulder dislocations.¹⁻⁴ It has also been shown that the peak rates of SI occur at a much younger age in males than in females.^{5,6} This age and gender discrepancy may point to activity in high risk activities as a potential explanation for the higher SI rate in the male population. Exposure was corrected for by only looking at males and females playing sex-comparable sports. This revealed no significant difference between male and female rates of SI.⁷ This further implicates participation in high risk activities as the main driver of the male predominance of SI.

Pathophysiology

The anatomy of the stabilizing tissues of the shoulder play a major role in SI, particularly in atraumatic SI. Trauma, fatigue, or laxity of these structures can lead to a predisposition for SI. It has been demonstrated that general ligamentous laxity has an association with SI,⁸ and that there is greater prevalence of ligamentous laxity among women.⁹ It has also been shown that an oval shaped glenoid is a risk factor for SI.¹⁰ Women tend to have more oval shaped glenoids than men.¹¹ These factors point to the fact that, in theory, women should be at increased anatomical risk of developing SI.

Relaxin Levels

Studies performed on ACL tears have shown that increased levels of the hormone relaxin diminish ligament integrity, and that women's tissues experience these effects more strongly than men's.¹²⁻¹⁴ An increase in serum relaxin has also been shown to be a risk factor for SI.¹⁵

Treatment Considerations

Arthroscopic Bankart repair is the most commonly utilized technique for the surgical repair of SI, regardless of gender. No difference in outcomes of Bankart repair has been reported dependent on gender.¹⁶⁻¹⁸ Females fare no worse than males with regards to surgical intervention and similar treatment algorithms should be applied regardless of gender.

Conclusions

Shoulder instability is a relatively common condition, especially in athletes. While males are historically more associated with shoulder injuries, female SI is becoming more prevalent with increased rates of athletic competition. The assessment of shoulder instability does not currently take gender into account, but females may be at increased risk due to anatomic and hormonal differences.

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