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The *Hospital Physician Orthopaedic Sports Medicine Board Review Manual* is a peer-reviewed study guide for orthopaedic sports medicine fellows and practicing orthopaedic surgeons. Each quarterly manual reviews a topic essential to the current practice of orthopaedic sports medicine.

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Anterior Instability of the Shoulder

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Anterior Instability of the Shoulder

Edward G. McFarland, MD, and Harpal S. Selhi, MD

INTRODUCTION

Anterior instability of the glenohumeral joint accounts for 95% of shoulder instability in most series.¹ Anterior shoulder instability represents a spectrum of disorders that can be classified by magnitude (subluxation versus dislocation), frequency and/or chronology (ie, acute, recurrent, or chronic), etiology (traumatic versus atraumatic), or the presence or absence of voluntary control. Each of these subgroups suggests varying pathologic anatomy and pathophysiology. Treatment should be directed toward the specific disorder suggested by a thorough history and physical examination and supported by radiographic findings and knowledge of the natural history. When surgery is indicated, management is further enhanced by arthroscopic examination of the glenohumeral joint under anesthesia to identify the pathology.

The most common types of anterior shoulder instability seen in orthopaedic surgery practice are traumatic anterior instability, subluxations due to trauma, and atraumatic (occult) instability in the overhead throwing athlete. This manual reviews the current knowledge on these topics and points out areas of continuing debate. Because traumatic anterior instability is most common, this type of shoulder instability is covered in more detail.

TRAUMATIC ANTERIOR INSTABILITY

INCIDENCE AND RECURRENCE RATES

The incidence of traumatic anterior shoulder instability is highest in patients younger than age 30 years,¹ but is also increased in those older than 60 years.² The etiology in younger patients is primarily traumatic, but subluxations may occur due to sports-related repetitive microtrauma. In older patients, shoulder instability may be the result of pre-existing rotator cuff disease that allows the humeral head to more easily dislocate with trauma. Studies show that the rotator cuff is an important stabilizer of the humeral head, and sectioning of the supraspinatus leads to large increases in anterior and inferior translation of the humeral head.³

Several studies have associated age and activity level with rates of recurrent anterior shoulder dislocation. Hovelius et al⁴ studied patients from the general population who had an anterior dislocation reduced in the emergency department. At 2-year follow-up, the authors observed a recurrence rate of approximately 50% irrespective of the type and duration of postreduction immobilization. At 10-year follow-up, the recurrence rate was approximately 65% in patients aged 12 to 22 years, with 34% of these patients requiring surgery; patients aged 23 to 29 years had a recurrence rate of 56%, whereas those aged 30 to 40 years had a recurrence rate of 24%.⁵ Similarly, Simonet et al⁶ found that the recurrence rate was 82% in athletes younger than 30 years and 30% in nonathletic individuals of the same age. Taylor and Arciero⁷ studied a military population at West Point who returned to strenuous activity after a shoulder dislocation, in whom the recurrence rate was 95%; however, this study included athletes who may have been of higher caliber than those in other studies. Kirkley et al⁸ studied a group of amateur athletes who did not have surgery, in whom the recurrence rate after 2 years was 47%.

These findings have been used to suggest that patients with a first-time shoulder dislocation should be considered candidates for surgery to prevent an inevitable recurrence if they remain active. However, studies show that variables besides age may be important when considering surgery, including the dominance of the arm involved, the type of sport and timing during the sport season, the presence or absence of other injuries, and other activities performed. For example, Buss et al⁹ found that athletes who sustained a dislocation during the sport season and were treated with rehabilitation and a brace had a redislocation rate of only 37%, prompting the authors to conclude that surgery can be delayed until the end of the sport season in some cases. Most physicians believe each case should be evaluated individually for these factors and that a treatment decision should be based on informed consent with the patient.

PATHOLOGY

Static restraints to shoulder instability include the glenohumeral ligaments, glenoid labrum, glenoid, and