Descriptive Epidemiology of the MOON Shoulder Instability Cohort

Kraeutler MJ
McCarty EC
Belk JW
Wolf BR
Hettrich CM
Ortiz SF
Bravman JT1 Baumgarten KM
Bishop JY
Bollier MJ
Brophy RH
Carey JL
Carpenter JE
Cox CL
Feeley BT
Grant JA
Jones GL
Kuhn JE1 Kelly JD
Ma CB
Marx RG
Miller BS
Sennett BJ
Smith MV
Wright RW
Zhang AL

Video Abstract

Keywords: shoulder, shoulder instability, shoulder stabilization, shoulder dislocation, epidemiology, MOON shoulder instability group, descriptive analysis, shoulder surgery, MOON Shoulder Instability Study, range of motion, radiography, anterior labral tear, anterior instability, sports medicine, athletic performance, glenohumeral instability, MOON trial, The American Journal of Sports Medicine, University of Colorado School of Medicine, CU Sports Medicine and Performance Center,

Posted Date: September 23rd, 2019

DOI: https://doi.org/10.21203/rs.2.15080/v2

Abstract

Many young athletes will at some point face shoulder instability – a painful condition that can lead to repeated episodes of shoulder dislocation, which often requires surgical repair. Despite being a common diagnosis, however, many important details regarding the patient characteristics and circumstances that lead to shoulder instability aren't well known. Now, a team of researchers based in the US has taken a fresh look at the data collected in the Multicenter Orthopaedic Outcomes Network clinical trial, or MOON trial, to get a better idea of what groups are at highest risk for injury and describe the most common features of the condition. The MOON trial, an ongoing effort being conducted at 10 sites across America, aims to learn what factors are tied to good outcomes after surgery for shoulder instability. By investigating the demographics of those enrolled in the trial, the researchers uncovered important epidemiological information regarding the condition. For example, they found that males were far more likely to undergo shoulder stabilization surgery than females – with male patients representing 82% of the MOON cohort. Younger age was also associated with higher risk of surgery, and the most common race affected was white. The vast majority of patients were engaged in sports at the time of injury occurrence, particularly football or basketball. Instability was most often in the anterior direction regardless of gender, and the dominant shoulder was affected in just over half of the cohort. Past shoulder dislocations were also common, with approximately 75% of the patients reporting at least one shoulder dislocation in the prior year. In terms of treatment, 87% of the cohort underwent a primary procedure, and 13% required a revision procedure. Radiographs were available for most patients, and the results showed that bony deficiency occurred but was not common. Rather, an anterior labral tear was the most common injuries evident on imaging. Although more detailed comparisons of specific patient groups are still needed to uncover the factors influencing surgical outcomes, this large-scale descriptive study provides important insights that may just lead to better prevention and care.