

# Army studies: High recurrence of shoulder instability, better arthroscopic repair outcomes

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Two studies on shoulder instability in a military population were presented today by U.S. Army sports medicine surgeons at the American Academy of Orthopaedic Surgeons' annual meeting. Findings in one study suggest patients with a self-reported history of shoulder instability are far more likely to experience future instability, while the second study outlined key factors associated with surgical failure and concluded that arthroscopic surgical intervention has better outcomes than an open shoulder repair.

The first study, "History of Shoulder Instability and Subsequent Injury during Four Years of Follow-up: A Survival Analysis," prospectively followed a cohort of cadets entering the United States Military Academy over a four-year period (June 2006 through graduation in May 2010). Study authors analyzed data from 714 [patients](#) to conclude that patients with a prior history of instability were more than five times more likely to sustain an acute (anterior or posterior) instability event than those without this history.

The study, conducted at Keller Army Hospital/West Point in West Point, N.Y., showed that cadets with a self-reported history of shoulder instability, who had no previous surgical procedure to correct it, were five times more likely than their peers without such a history to experience subsequent shoulder instability -- most within two years. All cadets were required to participate in vigorous physical education,

competitive sports and military training activities.

"Our cadets, who are also [college athletes](#), face demanding physical challenges and are susceptible to [traumatic injuries](#) that can cause shoulder instability," said Lt. Col. Brett D. Owens, M.D., a co-author of both studies and chief of Orthopedic Surgery Service at Keller Army Hospital/West Point.

Shoulder instability and dislocation injuries are prevalent in young, athletic and physically active populations in both the military and civilian sectors. For service members, shoulder instability creates a heavy burden, often leading to glenohumeral osteoarthritis (GHOA), a relatively uncommon type of osteoarthritis characterized by an inability to bend shoulders forward, increased mortality rates and potential career limitations. Further research on risk factors associated with these injuries may result in better surgical management for patients and allow Soldiers to return to duty and avoid medical discharge.

Authors of the second study determined that patients who underwent arthroscopic Bankart repair, a surgical procedure to stabilize the shoulder by reattaching torn ligaments, had a 50 percent lower failure rate than patients receiving an open procedure, a surgical procedure in which an incision is made.

"Soldiers and athletes who experience acute shoulder instability should consider arthroscopic surgery to restabilize their shoulder in order to avoid chronic instability that could do additional damage," said Lt. Col. Owens. "The study data emphasizes the importance of the history of shoulder instability as a risk factor for recurrence in both military and civilian patients."

Although open Bankart repair has long been considered the gold-standard for shoulder instability repair, a refinement of technique and

broader acceptance of arthroscopic repairs increased the prevalence of arthroscopic procedures to 90 percent of all Bankart repairs in 2008, according to the American Board of Orthopaedic Surgery. Yet, one in 10 military service members who underwent this procedure still needed revision surgery or were medically discharged from the military with a persistent shoulder disability.

"By identifying risk factors associated with surgical failure, such as patient age, type of repair and inpatient status, we can help Soldiers select a treatment option with the least likelihood of shoulder instability recurrence and successfully prepare them to return to duty," said Capt. Brendan J. McCriskin, M.D., a study author and an Army resident in the Orthopedic Surgery and Rehabilitation Department at William Beaumont Army Medical Center/Texas Tech University Health Sciences Center in El Paso, Texas.

The second study, "Outcomes After Bankart Repair in a Military Population: Predictors for Surgical Revision and Long-Term Disability," evaluated 3,854 patients who underwent Bankart repair. Of those patients, 3,230 underwent arthroscopic procedures and 624 had open repairs. Patients were predominately male (92 percent) with a mean age of 28.0 years. During the study time period (2003 to 2010), 193 (5.0 percent) patients had an additional stabilization procedure, 237 (6.2 percent) patients were medically discharged from the military with complaints of shoulder instability, and 100 patients underwent revision procedure and shoulder-related discharge, resulting in a total combined failure rate of 8.6 percent (n=330).

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