

Management of Gunshot Wound-Related Hip Injuries: A Systematic Review of the Current Literature

Introduction: While various therapeutic strategies have been proposed for the management of gunshot wound-related hip fractures, no standard treatment protocol has been established to date. This study systematically compiles the cumulative evidence in hip fracture management following low and high-velocity gunshot wounds and proposes a therapeutic algorithm to improve patient outcomes and survivorship.

Methods: PubMed, Embase, Cochrane Library, Scopus, and Web of Science databases were systematically queried for studies reporting gunshot-related hip injuries, using the keywords "gunshot wound", "hip", and "hip fracture". The literature search yielded a total of 202 papers which were then reviewed for eligibility following the PRISMA guidelines for literature reviews.

Results: A total of 47 papers met our eligibility criteria. One paper strictly recommended the use of debridement in the treatment of low-velocity GSWs, while 7 papers recommended the use of antibiotics in this setting. Five studies recommended surgical intervention for the treatment of low-velocity GSWs, while 14 recommended surgical intervention for high-velocity GSWs. 1 paper advocated the use of prophylactic antibiotics in the treatment of high-velocity injuries. All remaining papers had mixed and conflicting results.

Conclusion: Obvious injuries should be surgically treated first in a GSW patient; otherwise, imaging should be used to determine the bullet position and any possible fractures. In the absence of intraarticular injuries, unstable fractures, and severe soft-tissue damage, injuries can be treated best with antibiotics in combination with debridement. In high-velocity GSWs, surgery is more likely to be required. Hip arthroscopy yields better bullet retrieval and lower postoperative infection rates; however, it increases the risk of abdominal compartment syndrome. A safer alternative consists of surgical hip dislocation, albeit at the expense of a longer recovery time.