

Technical Tricks

A Method for Open Reduction and Internal Fixation of the Unstable Posterior Sternoclavicular Joint Dislocation

Mark R. Brinker, *Reed L. Bartz, *Patrick R. Reardon, and *Michael J. Reardon

*The Fondren Orthopedic Group L.L.P., Texas Orthopedic Hospital, and
Department of Surgery, Baylor College of Medicine, Houston, Texas, U.S.A.

Summary: Posterior sternoclavicular joint (SCJ) dislocations are most often stable after reduction but may be associated with significant complications related to the location of the medial head of the clavicle within the mediastinum. In rare instances, a posterior SCJ dislocation is irreducible or redislocates after a closed reduction. Because of the potential hazards related to compression of vital structures within the superior mediastinum, open reduction and internal fixation is usually required. Although open

reduction is widely accepted as the method of choice, the best method for achieving stable fixation remains unanswered. We present the case of an unstable SCJ stabilized, in anatomic position, with two large-bore cannulated screws in conjunction with open reduction. We believe that the risk of hardware migration reported with the use of pins and wires and its catastrophic complications are greatly minimized using our technique.

Key Words: Sternoclavicular joint, Posterior dislocation

Sternoclavicular joint (SCJ) dislocations are rare injuries, accounting for less than 1 percent of all traumatic joint dislocations (2). Even though they occur infrequently, prompt diagnosis and treatment are necessary to avoid complications. Anterior dislocations are three to twenty times more common than posterior dislocations according to some studies (7,9). Anterior dislocations are often unstable after reduction but are rarely associated with major complications. Unstable anterior dislocations are typically left in their displaced position without concern for significant sequelae. Posterior dislocations are most often stable after reduction but in rare instances are irreducible or redislocate after a closed reduction. Because of the potential hazards related to compression of vital structures within the superior mediastinum (1,3,4,6,8), open reduction and internal fixation usually are required. However, the optimal method for stabilization of the medial head of the clavicle within the sternal notch remains largely unsolved. We report an effective method for obtaining stable, solid fixation using

two large-bore cannulated screws. The large-bore cannulated screws provide superior stability and are not prone to catastrophic breakage or migration as has been reported with the use of pins or wires (5). Although we are unaware of prior reports using large-bore cannulated screws as a means of fixation of the SCJ, these screws have been used to fix unstable sacroiliac joint injuries (10), where tremendous forces can be generated during daily activities.

CASE REPORT

A twenty-three-year-old collegiate-level football player was injured during a football game in October 1995. The injury

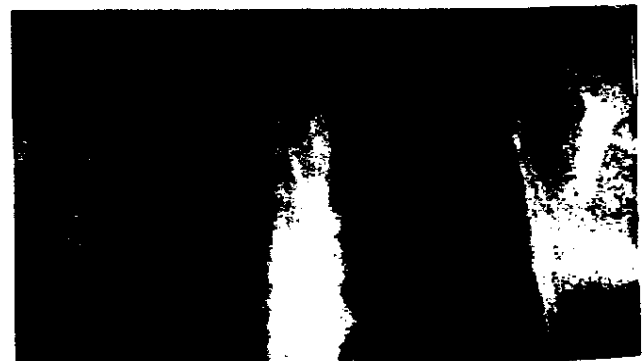


FIG. 1. Chest radiograph revealing asymmetry of the SCJs.

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Address correspondence and reprint requests to Dr. Mark R. Brinker, Department of Acute and Reconstructive Trauma, The Fondren Orthopedic Group L.L.P., Texas Orthopedic Hospital, 7401 S. Main Street, Houston, TX 77030, U.S.A.

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