

Fixation of both the clavicle and the scapular neck correct the glenopolar angle and improve functional outcome for floating-shoulder injuries

P-135

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Introduction: Both conservative and operative treatments have been recommended for the treatment of floating-shoulder injuries, which are ipsilateral fractures of the clavicle and scapular neck. However, there is little evidence to support the superiority of one treatment over another. We hypothesized that, in terms of restoration of the glenopolar angle (GPA) and functional outcome, fixation of both the clavicle and the scapular neck is better than either fixation of the clavicle alone or conservative treatment, and that functional outcome is positively correlated with GPA.

Materials and Methods: Both conservative and operative treatments have been recommended for the treatment of floating-shoulder injuries, which are ipsilateral fractures of the clavicle and scapular neck. However, there is little evidence to support the superiority of one treatment over another. We hypothesized that, in terms of restoration of the glenopolar angle (GPA) and functional outcome, fixation of both the clavicle and the scapular neck is better than either fixation of the clavicle alone or conservative treatment, and that functional outcome is positively correlated with GPA.

Results: The three treatment groups each contained 13 patients. The differences in injury severity score (ISS) and GPA at injury, using the Kruskal-Wallis test to compare the three groups, were statistically significant ($P = .038$ and $.037$, respectively). After fracture consolidation, GPA and DASH score differed significantly among the three treatment groups ($P = .026$ and $P = .001$, respectively). Fixation of both the clavicle and the scapular neck provided the best clinical outcome. To achieve a satisfactory clinical outcome, a GPA of 28 degrees is recommended.

Discussion: Fixation of both the clavicle and the scapular neck can correct the GPA and improve functional outcome for floating-shoulder injuries. GPA after fracture consolidation may be a useful prognostic indicator of clinical outcome as defined by DASH score.

Evidence-based Guideline and Algorithm of Traumatic Knee Dislocation

P-136

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Introduction: Traumatic knee dislocation is reported as a rare but emergent condition in literature review. Misdiagnosis of popliteal artery injury or inappropriate management after initial assessment may lead to limb-threatening results. Even with adequate initial management, the treatment plan of traumatic multiligament injuries still proved to be quite a challenge for orthopaedic surgeons. Inadequate surgical timing, rehabilitation protocol and type of surgery may also result in poor functional outcome. However, the treatment plan of traumatic knee dislocation is highly debated. Therefore an evidence-based guideline and algorithm of traumatic knee dislocation is needed.

Materials and Methods: We reviewed published English studies addressing treatment of multiligament-injuries and knee dislocation in MEDLINE from 2000 to 2014 Feb., clarifying the priority of physical examination and diagnostic imaging tools in acute management, making evidence-based recommendations for surgical timing, type of surgery, and rehabilitation protocol.

Results: Ankle-Brachial Index (ABI) is a fast, high availability, and high sensitivity diagnostic tool in peripheral arterial injury, and could be used to screen popliteal artery injury in traumatic knee dislocation. Duplex sonography is a high diagnostic power image tool to identify popliteal artery injury. However, it's technician-dependent and has less availability. If unavailable, it could be replaced by angiography. All ischemic limb should be revascularized as soon as possible, and should not be delayed by any image study. Staging surgery will achieve better ROM and stability than acute surgery, and has the best objective outcome compared to other groups. In staging surgery, early mobility after reconstruction or repair of collateral ligament in acute stage is crucial in preventing joint instability and stiffness. If arthrofibrosis occurred after acute stage reconstruction/repair, arthrolysis or manipulation should be performed to improve the ROM. The next stage of reconstruction should be performed after the patient acquired adequate ROM and muscle strength. ACL reconstruction is elective and is depending on patient's functional demand.

Discussion: This review is limited by the lack of high evidence level studies that compares the treatment strategies. Once the guidelines based on best current evidence is established, further studies can be done by comparing the outcomes between treatments following the guidelines with those which don't.