

Is Flip Button Fixation a Viable Alternative Treatment Option for Unstable Lateral Clavicle Fractures?

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Neer type II lateral clavicle fractures are usually unstable and notorious for high nonunion rates. For these reasons, surgical treatment has generally been recommended. Although numerous fixation techniques including precontoured plate, hook plate, K-wire and tension band wiring, intramedullary fixation, and coracoclavicular (CC) fixation have been introduced to manage this fracture type, their limitations and complications have been reported.¹⁾ Treatment for Neer type IIB fractures remains especially controversial. Even experienced shoulder or trauma specialists agree that it is not easy to get secure internal fixation because of small distal fragment, comminution, and instability caused by torn CC ligament in these fractures.

Because the CC ligament is an important structure for fracture stability and the healing process, some surgeons have therefore advocated the CC stabilization procedure in Neer type IIB fractures. Recently, several studies have reported satisfactory clinical and radiological results with low complication rates after CC stabilization using a flip button device for unstable lateral clavicle fractures.²⁻⁴⁾

In this issue, the study "Arthroscopic stabilization for displaced lateral clavicular fractures: Can it restore anatomy?" by Khan et al.⁵⁾ presented a series of 12 patients who were treated with arthroscopically assisted CC stabilization using a flip button device. Ten patients had complete restoration of the CC distance and bony union without loss of reduction at the serial plain radiographs. Based on 3-dimensional postoperative computed tomography scans, all patients showed posterior angulation and shortening compared to the opposite side. The average Constant score at the final follow-up evaluation was 94.8. They concluded that indirect reduction and arthroscopic subacromial approach with flip button fixation of unstable lateral clavicle fractures demonstrated favorable clinical results despite unavoidable posterior angulation of the distal clavicle and shortening the total length of

clavicle.

However, these results reported by Khan et al.⁵⁾ need to be treated cautiously. First, 2 patients (16.7%) underwent revision surgery due to incomplete reduction. This complication may occur by indirect reduction or improper tunnel creation under arthroscopic guidance. To achieve complete reduction, open reduction and flip button fixation may be considered for less experienced surgeons. Second, the study limitations included the few patients, lack of control group, and short-term follow-up evaluation. To demonstrate the superiority of this technique and address the long-term effect of posterior angulation and shortening of the clavicle, further prospective comparative long-term studies are necessary.

Personally, I prefer mini-open CC stabilization using a flip button device for Neer type IIB fractures. Robinson et al.⁴⁾ reported that the flip button device may function as an 'internal fixation' device to maintain reduction while the fracture united, rather than as ligamentous augmentation. I totally agree with their opinion. I believe that this technique can provide sufficient strength to hold the medial fragment for fracture healing. The most attractive point of this technique is that routine implant removal after union of the fracture is not necessary. So I recommend it as a useful alternative method for Neer type IIB fractures with small distal fragment.

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