

Editorial

"In My Experience...The Perplexing Problem of Distal Clavicle Fractures"

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The author reviews his experience with a novel approach to fixing distal clavicle fractures.

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I've had a great experience to work in the shoulder region and one of the vexing problems I've had is distal or lateral clavicular fractures. Years ago, a good friend of mine, Evan Letterman told me about a device that he actually had some design input into and it's called the Arthrex Twin Tail Tight Rope. With that device, it allows for you to obtain coracoclavicular fixation small toggle or molly bolt type devices: in the coracoid, you can put the button on the inferior

side and then you bring the other two buttons up through the clavicle in a retrograde fashion and then they can be flipped down on the top of the clavicle and then you can just cinch them down with a pull on the built in sutures. It fastens down the buttons to one another and brings down the medial clavicle to the lateral piece fixed to the AC joint.

I started doing the procedure in the way that he had suggested in terms of the official description for use of the fix-

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He is also proudly a member of the American Orthopaedic Association and the Twentieth Century Orthopaedic Association, with board certification and maintenance from the American Board of Orthopaedic Surgery (and is an examiner for the ABOS). He was honored to be appointed Member at Large of the Board of Directors of the AAOS from 2017 to 2019. He was the President of the California Orthopaedic Association (COA serves all Orthopaedic Surgeons in California beyond even KP) for the 2019-2020 year as the Covid-19 pandemic unfolded and helped to plan the response to the pandemic as it related to practices across the state. He has been Deputy Editor for Levels of Evidence with the Journal of Bone and Joint Surgery since April 2022. He recently became President of the American Association of Latino Orthopaedic Surgeons. He currently resides in Rolling Hills, California with his family.

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ation device. In my using the device, I really felt that we could actually alter the positions of the two buttons and their individual trajectories thru the clavicle so that the more lateral button that comes out of the coracoid is much more vertical and it can bring the clavicle down in a superior to inferior fashion. A lot of devices I call single pole devices as they only reduce the clavicle in a singular plane. But I think the way the clavicle gets displaced is posteriorly and superiorly in these fractures, so I think if you use a single pole device, you may be apt to reduce the clavicle posteriorly in its relationship with the fracture piece and the acromion.

Therefore, the more medial button, I don't drill it vertically. I drill it from superior posterior to anterior inferior and I cinch that one down first, so that brings the clavicle anterior and then the other one brings the clavicle superior to inferior for better 2 plane reduction and then I use an allograft, as I need to based on indications and patient age, etc. I've actually written the technique up and I'm really excited about it. This basis technique is not new or novel. The innovation has been the trajectory of the clavicular drill tunnels and the use of a Twin Tail tight rope to achieve reduction in 2 planes, which I think more anatomically corrects to the fundamental clavicle position.

Typically with a type 2B or 5 Neer classification distal clavicle fracture, that means that the clavicle is more than 100% displaced superiorly and it's displaced posteriorly enough that it's shoved into the patient's trapezius. Those patients, especially if it's their dominant extremity and they're a laborer, are in pain, they hurt. I think it's fundamentally the amount of displacement and the type, if it's a dominant extremity and they're a laborer, that indicates these patients for this type of fixation.

When I reduce these fractures, I don't even put fixation between the two segments of the fracture, I just put the fracture right next to where the lateral piece is sitting connected to the AC joint and it's stable and because of the bleeding inherent in the situation, they all heal up. So it's a kind of indirect reduction of the fracture and I just leave it be because many of the distal or lateral pieces of those clavicles, they're paper thin with comminuted bone. That's why lateral plates fail because they pull right out of that weak, comminuted bone. I don't even bother with it, I just get the

medial clavicle next to the lateral clavicle fracture edge and we find that we get healing.

The other two big choices, a lateral plate with the little screws, we've all seen ones in fracture rounds where they're all ripped out and pulled out and the hook plate, it's got like a 70%, 80%, 100% removal rate because you're basically placing a piece of metal in the subacromial space. I'm not dismissing those two other things, and I'm trying to find something that works more reliably with less chance of re-operation.

I believe this could become the standard of care for these fractures. Interestingly, surgeons have approached me suggesting I do these cases arthroscopically because some surgeons have performed that with single pole fixation systems. They just make a little nick incision over the top of the clavicle after they've drilled the clavicle and then try and reduce it with a little nick incision and arthroscopically observe if they're coming out near the coracoid and then they say, "Wow, I'm underneath the coracoid. This is great," and then they can place the button arthroscopically around the anterior corner of the front of the glenoid right up underneath the coracoid. I do mine open. That's an anathema for some people anymore. I would hope that my technique with 2 plane fracture reduction would be standard of care, but my point in all this is that some people probably are going to question me because they're doing it arthroscopically and they think that eventually pure arthroscopic might be the standard of care.

When we learn to do these cases in residency, we always tell patients, "You got a bump, you're going to trade it for a scar." With the patients that I told you I would indicate for, they're really happy. They don't have this nagging pain in the back of their shoulder and their neck (they perceive the trapezius pain as neck pain). The cosmetic deformity is no longer there. They certainly have a scar and it's about a three or four centimeter saber incision, and it's right over the top of the shoulder and so it's not that bad. I try and put it in line with Langer's line so hopefully the scarring is not unsightly. Cosmetically, it looks better. Functionally, they feel better.

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