

**LETTER TO THE EDITOR****Intramedullary Plating of Complex Proximal Humerus Fractures: A Case Series - Letter to Editor****Dear Editor**

**W**e read with great interest the article titled, "Intramedullary Plating of Complex Proximal Humerus Fractures: A Case Series" by Mc Donald *et al.*<sup>1</sup> The authors introduced a technique using intramedullary plate fixation to provide medial support in cases of calcar comminution in proximal humerus fractures, addressing the established biomechanical tendency of these fractures to fail due to varus collapse and screw cut-out. We wish to congratulate the authors on their excellent work. Our previous study demonstrated a similar approach to managing Neer 3- and 4-part fractures of the proximal humerus.<sup>2</sup> Therefore, we would like to offer some commentary.

First, in contrast to the "deltopectoral approach" described by the authors, we chose an approach through the anterior and middle bundles of the split deltoid muscle to achieve fracture reduction and internal fixation. This technique provides full exposure of the lateral proximal humerus while minimizing disruption to the anterior humeral circumflex artery,<sup>3</sup> which facilitates both fracture reduction and preservation of the blood supply.<sup>4</sup> The displaced greater tuberosity creates a natural passage for accessing the medial proximal humerus. Retracting the greater and lesser tuberosities posteriorly and anteriorly, respectively, after clearing the blood clots, allows for clear visualization of the fracture. This setup facilitates the straightforward fixation of the intramedullary calcar support plate under direct vision.

Secondly, the primary goal of using intramedullary plates is to provide robust support to the humeral head and prevent its collapse. Therefore, we believe that the plate should be secured both proximally and distally. This dual fixation enhances medial support for the proximal humerus fracture and helps maintain the humeral neck-shaft angle during early shoulder rehabilitation.

Lastly, in elderly or osteoporotic patients, allograft bone grafting is essential. During surgery, we frequently

observe that removing the blood clot from the fracture site exposes a bone defect. From a biomechanical perspective, the combination of an intramedullary calcar support plate, allograft, and lateral locking plate effectively stabilizes and supports proximal humerus fractures. Previous research has demonstrated that large autogenous or allogeneic fibular grafts are effective in treating complex proximal humerus fractures,<sup>5,6</sup> reducing postoperative loss of reduction and improving fracture union rates.

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