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***eLetter regarding “Outcomes of 188 Proximal Humeral Fractures Treated with a Dedicated External Fixator with Follow-up Ranging from 2 to 12 Years”***

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Dear Editor,

We read with great interest the article titled ‘Outcomes of 188 proximal humeral fractures treated with a dedicated external fixator with follow-up ranging from 2 to 12 years’ (1) and complement the authors for their excellent work. However, we wish to raise a few critical points:

1. The authors mention an overall good outcome for all fracture types treated with an external fixator. However, we would like to know the outcome scores in each of the fracture subtypes according to Neer’s classification. It has been shown that good outcomes are seen in nearly 92% of 2-part, 80% of 3-part, and 60% of 4-part fractures in proximal humerus fractures (2). The poor results in 4 part fractures are due to the poor stability of the reconstruction with external fixator (2). We assume the authors would also have a differential outcome score for each of the subtypes, and it is worth noting the factors leading to these differential outcomes in the clinical management of these cases.
2. The authors have used the two techniques of closed percutaneous and open reduction while managing these fractures. However, the results have not been compared between the two reduction techniques. In our experience, open reduction shows better outcomes than closed or percutaneous procedures. Additionally, it would be clinically relevant to know the proportion of patients managed by each technique and then their comparative results in each fracture subtype.
3. On the same lines, the authors report a 3% reoperation rate, without the details of fracture subtype and

reduction technique used. Without a proper comparison group, it is difficult to say that for all types of proximal humerus fractures treated by external fixation gives good results. Vicenti G et al. (3) compared external fixation with plate fixation and reported no significant difference in subgroup older than 65 but favourable results with plate fixation in younger subjects. In this study pin track, infection and wire back out were significantly less one each out of 24 patients in the external fixation group.

4. The key for good functional outcomes in proximal humerus fractures is maintaining the neck-shaft alignment and reduction of both tuberosities. We would like to know the details of the surgical technique used regarding the fixation of lesser tuberosity in 4 part fractures. This is especially important to understand in the pins-bridging fracture technique.

5. It would be particularly relevant to look at postoperative computed tomography scans to assess the quality of reduction or loss of reduction. The functional outcomes would also be better understood if clinical photographs accompanied the paper.

We hope the clarification on these points would improve the interpretation of results on this excellent work by the authors. These would further help the treating orthopaedic surgeon in planning and decision-making of proximal humerus fractures.

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## References

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Conflict of Interest: None Declared