Peer Review File

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Reviewer A

This manuscript shows surgical procedures of the DAA using traction table. This paper provides some useful information for residents and fellows. However, the manuscript needs to be modified in some points.

- Patients selection seems important in DAA, especially for residents and fellows. It should be described in the manuscript.

Amended to clarify

- Line 176: how much degrees the hip is extended?

Amended to clarify

- Line 185: anatomically, the piriformis tendon attaches to the tip of the greater trochanter, not to the inside of the GT. (Piriform and Trochanteric Fossae. A Drawing Mismatch or a Terminology Error? A Review. Surg Radiol Anat. 2005 Aug;27(3):223-6.) "The piriformis fossa" and "the trochanteric fossa" should be distinguished.

The language here was cleared up… we agree with the anatomy, our wording wasn't ideal. We wanted the impression to be that we stay inside of the greater trochanter as we perform our releases especially related to the piriformis.

- How to check the level of femoral neck osteotomy? Do the authors release the pubio-femoral ligament to identify the lessor trochanter?

The femoral neck osteotomy is decided upon based on preoperative templating where the height from the lesser trochanter must be decided preoperatively as well as from the saddle of the femoral neck transition to the greater trochanter. Typically the neck cut is made with primary reference to the saddle and at a constant angle. However this can be reconfirmed as well during the operation using the first broach or even the special neck cut guide provided within the set. Sometimes this cut can be readjusted by using the saw or calcar reamer when a need to shorten the cut is required after broaching and trialling.

As part of our exposure, the pubio-femoral ligament is released to allow better exposure on posteromedial part of the proximal femur and to facilitate checking the lesser trochanter level.

While using flouroscopy for cup and stem position and canal fill, while the acetabular component position is being optimized it is also possible to affirm the neck cut length.

- Line 257: the semimembranosus muscle located in the medial side of the posterior thigh. Please confirm it.

This has been corrected.

- The manuscript does not provide the wound closure method. Do the authors perform capsular

closure?

This has been clarified

- Figures: It might be a good idea to reverse figure. 1. (Consistent with figure 2, 3, and 5.)

This was not done as we felt that the quality of that figure was very good so we would love to add that figure as it is

Reviewer B

1. GENERAL

- This is a paper that discusses the anterior approach and makes it easily accessible to any individual interested in learning the steps of DAA

- It is ideal to not use the word "we" throughout the text. This can all be removed without changing the context of the paper. "We position the patient on a specialised traction table" should be changed to "The patient was positionined on a specialized traction table"

- This paper could benefit from grammatical edits.

Done

2. TITLE

- The title should be "A step by step guide for the direct anterior approach for total hip arthroplasty." There is no need to specify that this is for residents and fellows as anyone can learn from it.

Done

3. ABSTRACT

- Well written

4. INTRODUCTION

- DAA should be defined again in the Introduction, as it was only introduced in the Abstract.

- The first paragraph should be divided into 2 paragraphs – would recommend separating it at line 41.

Done

- I would recommend removing the mention of residents and fellows, as this is good for all surgeons (Lines 58-60)

Done

5. PROCEDURE

- Please note how the legs of the table should be set at the beginning of the case. This will be helpful for draping, etc. This is demonstrated in figure 2 and 3

- It would be good to add a picture of the approach – esp when the authors write "The orientation of the muscle fibers (distal and medial as compared to distal and lateral typical of the TFL) as well as the point of insertion is helpful."

We didn't add that picture as this is normal anatomy and it is available in many textbooks

- The surgical procedure should be broken up into more paragraphs (esp the first parsgraph)

Done

- Why do the authors use a S shaped capsulotomy?

> The S shape capsulotomy is used to optimize exposure and diminish soft tissue tension. Starting the capsulotomy on the iliac wing and elevating a small portion posteriorly allows the femur to sag posteriorly slightly, opening the exposure to the acetabulum. Extending the capsulotomy along the superior aspect of the femoral neck maximizes the anterior capsular flap, to allow greater protection of the neurovascular bundle if using a charnley retractor or other medial retractors. The capsule is lifted off the anterior aspect of the femur in a similar fashion T shaped casulotomies.

- Another figure of the femoral neck cut would be ideal – Done figure 9

- It would be beneficial to see the instruments in situ – not just in the tray. This would help the reader get a feeling for cup and stem orientation when implanting components Done

- Another figure of the Lazy S incision would be helpful- especially from extending from a normal incision.

We felt this is unnecessary to add and we reference the paper which described it which has a better image for it.

6. CONCLUSION

- Appropriately written

7. FIGURES

- It would be ideal to have a clearer Figure 5 - Done

- Figure 5 says “fancy” retractor but the text says “special femoral elevator hook retractor”. The same name should be used. This is done and the name is amended. The figure number is changed because we added more figures.

- The white handle of the Muller retractor is not visible – it is more obvious now in the new figure

- A picture of the exposed acetabulum would be helpful – This was added

These were all added