

## Peer Review File

Article information: <https://dx.doi.org/10.21037/aoj-23-28>

### Review Comments

#### Reviewer A

I read the article entitled “Trabecular titanium cups in hip revision surgery: a systematic review of the Literature” with pleasure and I congrats the authors for the well-conducted study.

I have no specific considerations about the methodology used. I just suggest the authors the following remarks:

#### Comment 1:

##### ABSTRACT:

- Line 30 and 50: I would change “one of the most complex challenges” with “a challenge” or “a complex challenge”.

#### Reply 1:

As suggested, the changes have been made.

#### Changes in the text:

Hip revision surgery in extensive acetabular bone defects represents a complex challenge for hip surgeons.

Managing severe acetabular bone defects remains a complex challenge for hip surgeons.

#### Comment 2:

##### INTRODUCTION:

- Line 58-60: I would delete “as documented by published data in long-term outcome studies and registries. Because of these optimal outcomes, THA has been called "the operation of the century".

#### Reply 2:

As suggested, the changes have been made.

#### Changes in the text:

As documented by published data in long-term outcome studies and registries [1-3]. In recent decades, the number of surgeries performed annually has been steadily

increasing, causing an increase in the number of revision procedures [4,5].

**Comment 3:**

- LINE 73-82: I would move this paragraph from Introduction to a dedicated session in Materials and Methods

**Reply 3:**

As suggested, the changes have been made.

**Changes in the text:**

2.1 Implant design

The Delta TT revision system, introduced into clinical practice in 2008, consists of two revision cups, the Delta One TT and the Delta Revision TT. Delta One TT is a hemispherical multi-hole acetabular shell made of 3D-printed titanium alloy [17,18] (Figure 1). Delta TT Revision is a cup-cage with a caudal hook and three cranial wings to achieve primary cup stability in severe defects. The outer surfaces of Delta TT One and Revision cups are characterized by a highly porous surface (with a porosity of about 65%) with an average pore diameter of 640 µm. Both cups accept connection with hemispherical modules that screws can attach in three different positions without using bone cement. Two sizes of hemispherical modules (HM) can be used from 50 mm cups according to the extent of the defect (12 mm and 18 mm). In addition, this system allows internal modules (IM) or "spacers" to increase the offset of the system and coverage. There are different internal modules: +5 mm, 10° coverage, +5 mm, and 10° coverage, 20° coverage, and 5 mm and 20° coverage. Finally, both cups allow dual mobility liners (Figure 1) [19-26].

**Comment 4:**

**RESULTS:**

- Please have a look at and add the following study to your review: Cozzi Lepri A, Innocenti M, Galeotti A, Carulli C, Villano M, Civinini R. Trabecular titanium cups in acetabular revision arthroplasty: analysis of 10-year survivorship, restoration of center of rotation and osteointegration. Arch Orthop Trauma Surg. 2022 Nov;142(11):3523-3531. doi: 10.1007/s00402-021-04243-x. Epub 2021 Nov 15. PMID: 34782910

**Reply 4:**

We have added the suggested study by updating the data in the dedicated sections and tables.

## **Reviewer B**

### **Comment 1:**

Many thanks to the Authors for their contribution. The Authors conducted a systematic review about an ultraporous 3D cup in revision setting. The Authors found out dependable mid-term outcomes. The paper is well written and well designed. There are no major flaws, and the limitations of the study are well-addressed in the discussion section. Hope that your work may enlighten the precious clinical contribution of this revision system in complex revision cases.

### **Reply 1:**

Thanks for the comment.

## **Reviewer C**

### **Comment 1:**

Good job, well conducted review.

However you miss a recent and important study in this field for its 10 years survivorship analysis of Delta tt cups: Cozzi Lepri A, Innocenti M, Galeotti A, Carulli C, Villano M, Civinini R. Trabecular titanium cups in acetabular revision arthroplasty: analysis of 10-year survivorship, restoration of center of rotation and osteointegration. Arch Orthop Trauma Surg. 2022 Nov;142(11):3523-3531. doi: 10.1007/s00402-021-04243-x. Epub 2021 Nov 15. PMID: 34782910.

Please revise the paper considering it.

### **Reply 1:**

We have added the suggested study by updating the data in the dedicated sections and tables.

## **Reviewer D**

### **Comment 1:**

The manuscript is focused on an interesting topic: the application of modular versus monoblock stem in revision total hip arthroplasty. The authors performed a systematic review according to PRISMA guidelines. Results are well explained and led to interesting conclusions.

**Reply 1:** Thanks for the comment.