

## **A580. MINIMAL INVASIVE REVISION SURGERY WITH MODULAR NECK ADAPTORS (BIOBALL)**

**A. Croce, M. Ometti and P. Dworschak**

 Author Affiliations

### **Abstract**

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The use of neck modular adapter is a relative new solution for hip revision arthroplasty. This device assure a lot of advantages for the orthopaedic surgeon because Bioball can be use in different situations in order to solve different complications: hip prosthesis dislocation, correction of length (up to +21mm), save an old stem not mobilized, reduction of operation length.

The hip prosthesis dislocation, in spite of the continuous progress of implants' materials and design, is still an actual event in the orthopaedic clinical practice, both after total hip replacement or a endoprosthesis. Furthermore, dislocation has an important social-economic impact because of a protracted hospitalization and rehabilitation and elevated costs of an eventual revision. Although using heads with a diameter larger than 28 mm we obtain virtually a greater range of motion, with a contemporary increase of degree necessary to cause the head-neck impingement, the risk of dislocation hasn't a significant increase using head with a diameter of 22 mm.

Neck modular adapters (Bioball) allow to correct easily the biomechanics parameters of the dislocated prosthetic joint, avoiding the revision of the stem. Other indications for the use of the neck modular adapter are total hip replacement and intraoperative correction of the limb length. Vantages are the possibility to obtain a great range of motion through a small thickness of the 12/14 adapter, the possibility to extend the limb length up to 21 mm and to use ceramic heads during revisions, because the combination head/neck has a tribological unworn surface. In fact, in normal conditions, if the stem is not mobilized, the use of ceramic head is rash; the Bioball adapter, instead, can be used with a old stem, so we can set a ceramic head. Every stem with a Biolox cone can be combined with a metal or ceramic head up to the 5XL size (+21 mm) through a Bioball adapter; in this way the cup is not removed.

We have two kinds of neck modular adapters: 12/14 allow both to extend the neck and to correct the offset, and 14/16 that allow to extend only the neck, because of the largest diameter of the prosthetic neck and the small thickness of the adapter. For these neck modular adapters exist different sizes, from M to 5XL (+21mm). Recently to these two types of Bioball were introduced also solutions for special stems (like for Exeter, ABG I, ABGII, PCA and others) We have also proving heads and necks. The proving and definitive heads have to be of the Bioball system because these are inserted on a modular neck with a no-standard diameter.

In the common practice the use of these adaptors has not to be considered as a routine procedure, but have to be taken in consideration as a valid aid for orthopaedic surgeon to quickly and less invasively, solve technically demanding procedures with a real benefit for high-surgical risk patients.

### **Footnotes**

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Correspondence should be addressed to Diane Przepiorski at ISTA, PO Box 6564, Auburn, CA 95604, USA. Phone: +1 916-454-9884; Fax: +1 916-454-9882; E-mail: [ista@pacbell.net](mailto:ista@pacbell.net)

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