

## **Ceramic on Ceramic Total Hip Arthroplasty &ndash; I Can Hear You**

Hamid Al badi, Michael Tanzer<sup>1</sup>, Adam Hart<sup>1</sup>, Zhida Shang

<sup>1</sup>McGill University Health Centre

**INTRODUCTION:** Squeaking is a known complication of ceramic on ceramic (CoC) total hip arthroplasty (THA), yet there are no studies quantifying its loudness. The aims of this study were: 1) to determine the incidence of squeaking in CoC THAs at long-term follow up, 2) to identify risk factors, 3) to quantify the loudness of the squeaking.

### **METHODS:**

This retrospective study reviewed a specifically designed prospective questionnaire that was used to determine the prevalence, characteristics, and loudness of squeaking in 130 (110 patients) primary THAs with fourth-generation CoC bearings, at a mean follow up of 10.5 years. The loudness of the squeaking was determined by the decibel (dB) scale from the Centers for Disease Control and Prevention. Statistical analysis compared demographic variables and loudness.

### **RESULTS:**

Overall, 28% of the CoC hips experienced squeaking. The mean onset was 5.7 years postoperatively, with 39% of the cases having their onset more than 5 after their THA. Patients with a lower BMI were more likely to report squeaking ( $p = 0.009$ ). The mean loudness of the squeak was 35 dB (range, 10 – 70 dB), and was loud in 36% of the hips. Patients who developed squeaking early postoperatively had loader squeaking than those hips with a later onset ( $p = 0.007$ ). The loudness of the squeaking sound progressed in 25% of the cases, and these hips had loader squeaking ( $p=0.04$ ).

### **DISCUSSION AND CONCLUSION:**

Squeaking after CoC THA is not uncommon, can be relatively loud, and increases over time. This needs to be considered in young patients that are candidates for CoC THAs.