



# Reply to Letter to the Editor

## Reply to Letter to the Editor: Do Complication Rates Differ by Gender After Metal-on-metal Hip Resurfacing Arthroplasty? A Systematic Review

Bryan D. Haughom MD, Brandon J. Erickson MD, Michael D. Hellman MD,  
Joshua J. Jacobs MD

To the editor,

We would like to Thank Dr. Amstutz and Mr. Le Duff for their comments regarding our systematic review evaluating gender differences in metal-on-metal (MoM) hip resurfacing arthroplasty (HRA). The authors have published a number of articles in the realm of hip

replacement, and in particular HRA, which have shaped the field, and thus we truly appreciate their input.

As it was highlighted in a recent *CORR*® editorial [6], there has been a relative lack of reporting of gender-specific outcomes in orthopaedic research. This subsequently led to a number of recommendations, including the importance of reporting data stratified by gender. We collectively agree with this stance, and feel strongly about the transparency of data, including data regarding gender, that are reported in the scientific studies.

However, the intention of our paper was not to specifically look at the cau-

sative effect of gender on HRA outcomes. Rather, we aimed to survey what has been published and present a summary of the highest level of evidence available on gender differences in HRA outcomes. Systematic reviews are inherently limited by the available data. In our particular case, our analysis could not include a number of factors including the component design and sizes utilized, component positioning, or underlying diagnosis (such as dysplasia versus osteoarthritis) to name a few. As our limitations section stated, “Although our data have demonstrated higher rates of complications in women after MoM HRA, the cause of this finding remains elusive; unfortunately, a causative relationship cannot be explored with the data available.” However, as Dr. Amstutz has indicated in his thoughtful letter to the editor, a number of factors have been implicated in the etiology of failure of HRA that are related, but not directly tied, to gender. As we stated in our manuscript, “Suggested causes for higher rates of failure in women have included an increased incidence of metal allergy in women, gender differences in

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B. D. Haughom MD, B. J. Erickson MD,  
M. D. Hellman MD, J. J. Jacobs MD  
Department of Orthopaedic Surgery,  
Rush University Medical Center,  
Chicago, IL, USA

B. D. Haughom MD (✉)  
Rush University Medical Center, 1611  
W. Harrison St, Suite 200, Chicago,  
IL 60612, USA  
e-mail: bryan.haughom@gmail.com

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ligamentous laxity, bone quality, anatomical differences between the male and female hips, the latter having a higher prevalence of developmental dysplasia, and finally the most commonly implicated etiology is related to femoral head and acetabular component sizing (which could lead to suboptimal lubrication regimes and/or edge loading from suboptimal contact geometries)” [1–5, 7–9].

We fundamentally agree with Dr. Amstutz and Mr. LeDuff that “women with hip resurfacing arthroplasty do not fail more often than men because they are women, but because of confounding variables that should be the object of study to refine inclusion criteria for the procedure.” Therefore, moving forward, we feel that further research is necessary to evaluate the causative factors behind the higher rate of failure of HRA in women.

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