



# CORR Insights

## CORR Insights®: Morbid Obesity: Increased Risk of Failure After Aseptic Revision TKA

Charles N. Cornell MD

### Where Are We Now?

The effectiveness of total joint replacement surgery as a treatment for debilitating arthritic afflictions of the knee has

*This CORR Insights® is a commentary on the article “Morbid Obesity: Increased Risk of Failure After Aseptic Revision TKA” by Watts and colleagues available at: DOI: 10.1007/s11999-015-4283-0.*

The author certifies that he, or a member of his immediate family, has no funding or commercial associations (eg, consultancies, stock ownership, equity interest, patent/licensing arrangements, etc) that might pose a conflict of interest in connection with the submitted article.

All ICMJE Conflict of Interest Forms for authors and *Clinical Orthopaedics and Related Research*® editors and board members are on file with the publication and can be viewed on request.

The opinions expressed are those of the writers, and do not reflect the opinion or policy of *CORR*® or the Association of Bone and Joint Surgeons®.

This *CORR Insights*® comment refers to the article available at DOI: [10.1007/s11999-015-4283-0](https://doi.org/10.1007/s11999-015-4283-0).

C. N. Cornell MD (✉)

The Hospital for Special Surgery, 535  
East 70th Street, New York, NY 10021,  
USA

e-mail: [cornellc@hss.edu](mailto:cornellc@hss.edu)

spurred increasing demand for this procedure. This increased demand must be tempered by the realization that as the number of total knee replacement patients climbs, the number with complications resulting in revision also will grow. In contrast to the great improvement in life quality that follows a successful total knee replacement, the failed total knee replacement is remarkable for the morbidity, potential mortality, and huge economic costs that result. Although efforts to improve implant design and surgical technique must continue, I am convinced that understanding the contributions of patient comorbidity to poor outcomes is more urgently needed. In this regard, the current paper by Watts and colleagues from the Mayo Clinic makes a meaningful contribution.

Recent studies have documented that morbid obesity is a risk factor for complications following total knee replacement [1, 2]. In the current paper, the authors have also documented that when compared to nonobesity, morbid obesity is associated with 3.8-fold increase in the likelihood of additional revision and a 6.4 fold increase in risk of prosthetic joint infection following revision surgery. Furthermore, functional outcomes also were markedly compromised.

### Where Do We Need To Go?

Although the association of morbid obesity and higher risk for failure and compromised outcome is strong, the authors are correct to acknowledge that they cannot pinpoint the reasons for this association. We do not know whether obesity is the issue or if instead the problems arise because of the comorbidities that typically occur in patients with obesity. Is this increased risk the result of body fat or distribution of body fat, or does it result from the more-common risk of associated diabetes and cardiovascular disease? Does obesity by itself compromise the immune system resulting in an increased risk of prosthetic joint infection? Finally, will weight reduction and recovery from obesity improve the results of primary and revision total knee replacement?

### How Do We Get There?

This paper provides the challenge for this future work. Watts and his colleagues have cast the gauntlet. Future studies must address the contribution of morbidity-associated comorbidities

# CORR Insights

to the poor outcomes observed, as well as document whether successful weight loss either before or after surgery can lead to improvement. These studies will rely on analysis of many variables, and as such, will need large numbers of subjects. Large nationwide databases, as well as advanced computational analysis, will be needed. As the authors point out, although the risk for poor outcomes is high in patients with morbid obesity, the overall im-

provement in health quality following revision total knee replacement is also large. We cannot simply deny the morbidly obese access to this life-changing surgery. By the same token, we should not continue to undertake these challenges without a total commitment to improvement. The responsibility lies with us to learn to better prepare and manage patients with morbid obesity who undergo this procedure.

## References

1. Friedman RJ, Hess S, Berkowitz SD, Homering M. Complication rates after hip or knee arthroplasty in morbidly obese patients. *Clin Orthop Relat Res.* 2013;471:3358–3366.
2. Kerkhoffs GM, Servien E, Dunn W, Dahm D, Bramer JA, Haverkamp D. The influence of obesity on the complication rate and outcome of total knee arthroplasty: A meta-analysis and systematic literature review. *J Bone Joint Surg Am.* 2012;94:1839–1844.