Letter to the Editor

Reply Letter to the Editor: Early Survivorship of Newly Designed Highly Porous Metaphyseal Tibial Cones in Revision Total Knee Arthroplasty

Thank you for the interest in our recent article published in *Arthroplasty Today* entitled “Early Survivorship of Newly Designed Highly Porous Metaphyseal Tibial Cones in Revision Total Knee Arthroplasty” [1]. The authors appreciate the thought-provoking comments in reporting survivorship of medical devices and in interpreting the data presented in our article.

First, we agree that reporting survivorship of a modular component used in revision total knee arthroplasty (TKA) is not straightforward. However, since the modular cone cannot be revised in isolation without revising the tibial component, it is not possible to individually segregate its revision-free survivorship. Furthermore, similar to what several other studies on survivorship of metaphyseal cones and sleeves have done [2–6], we reported survivorship free from revision for aseptic loosening, any nonmodular revision, and any reoperation separately to give the readers the most information on the rate and indications for revisions and reoperations. Furthermore, we performed a thorough radiographic analysis to assess for aseptic loosening of the tibial cone. We did not note any stress shielding on this early radiographic review, but we agree with the concerns that this may be a concern that should be assessed in longer term studies.

Second, most of the studies on metaphyseal cones have reported on them used in combination with a short-cemented stem, showing excellent outcomes even in severe bone loss [2–5]. However, as was stated, most patients in this study had hybrid fixation, with press-fit stems and cement in the metaphysis and into the cone. While longer term follow-up is necessary, we found the early results encouraging that early implant fixation was durable across a number of techniques used commonly in revision TKA, including stem fixation methods, stem length, implant design, and implant constraint, as highlighted by the cases presented.

Finally, while we agree that the heterogeneity of the cohort may be a limitation of the study, it also allows generalizability of our results. The large number of variables to consider and heterogeneity of revision total knees, including patient demographics and comorbidities, multiple septic and aseptic indications, components revised at surgery, implant types, levels of constraint, and length and fixation of stems, make it challenging to power a prospective randomized study on this topic. However, the truly interesting question which was not raised remains: What are the indications for metaphyseal cones or sleeves in revision TKA? A number of studies have reported excellent durability with metaphyseal cones and sleeves [2–6]; however, no studies to the authors’ knowledge directly compare the use of cones vs no metaphyseal fixation in revision TKA, likely in part due to the aforementioned challenge with study power and population heterogeneity. It is the authors’ experience that metaphyseal fixation improves short- and long-term fixation in revision TKA, and further studies are warranted to clarify the specific indications for utilization. Based on our experience, it appears that metaphyseal cones with either hybrid fixation or short cemented stems are an excellent adjuvant reconstructive device in revision TKA.

**Conflicts of interest**

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: G. H. Westrich and S. A. Jerabek are consultants for the company that manufactures the metaphyseal cone discussed in this article. D. J. Mayman, P. K. Sculco, and M. P. Bostrom are consultants for a different company that also manufactures metaphyseal cones and/or sleeves.

**References**


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