

## Letter to the Editor

### Variances in Sagittal Femoral Shaft Bowing in Patients Undergoing TKA

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#### *To the Editor:*

We read with great interest the article “Variances in Sagittal Femoral Shaft Bowing in Patients Undergoing TKA” by Yehyaw et al. [7] published in November 2007, concerning sagittal bowing of the femur in a group of patients who required TKA. We believe it is important this largely neglected issue should receive more attention.

The study has confirmed a view we have long suspected: the distal segment of the femur of their patients (whom we presume were mainly Caucasians) did not have distal sagittal bowing sufficiently conspicuous for surgeons to recognize before TKA. We suspect this is the reason sagittal bowing is largely under-investigated. We have confirmed in Chinese patients distal sagittal bowing is a constant and important feature, and it affects our positioning of the femoral component on the sagittal plane [5]. We recognize the dilemma of implanting the femoral component either according to the anatomy of the distal femur ignoring the bowing, or according the longitudinal axis of the femur on the sagittal plane. On one hand, following the distal anatomy might sufficiently flex the femoral component that it results in an undesirable

impingement of the anterior aspect of the polyethylene post on knee extension if posterior-stabilized implants are used and thus become a source of osteolysis-inducing polyethylene particles [1, 3, 4]. However, following the longitudinal axis of the femur might result in an extended femoral component that could compromise the anterior cortex of the distal femur. In patients with a very bowed distal femur, we believe it is important to consider choices of implant designs, and we suspect it is best to use the newer posterior-stabilizing implants that allow more hyperextension.

We were intrigued the authors found no correlation between the distal femoral sagittal bowing and the final flexion position of the femoral components. It would be helpful if the authors elaborated on their operative methods. In our patients with substantial bowing, we do not insert the intramedullary guide rod to its full length into the femur to avoid an over-extended femoral component.

Finally, the authors speculated on sagittal bowing of the femur as the cause of the common pattern of anteromedial osteoarthritis of the knee. In Chinese patients who have undergone TKA, distal sagittal bowing of the femur is common but the common pattern is posteromedial osteoarthritis. This apparent inconsistency could be the result of differences in tibial slope [2] and the joint line obliquity [6] in Chinese patients.

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(Re: Yehyaw TM, Callaghan JJ, Pedersen DR, O'Rourke MR, Liu SS. Variances in Sagittal Femoral Shaft Bowing in Patients Undergoing TKA. *Clin Orthop Relat Res.* 2007;464:99–104.)  
Editor's Note: The corresponding author of the paper in question was contacted three times with no response. Per our policy, we publish Letters-to-the-Editor without a response when authors have not responded.

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