The femoral sulcus in total knee arthroplasty: reply to the letter by J.-Y. Jenny

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Dear Editors,

We would like to thank Dr Jenny for the valid points raised regarding our article [1].

All patients at surgery had an intact and identifiable posterior cruciate ligament, and the functional midline of the sulcus in flexion was defined as the anterior and lateral intercondylar edge of the PCL attachment to the femur after the removal of synovial membrane and adjacent soft tissues. This site was clearly and accurately identified. The point is well taken that identification of the deepest part of a shallow sulcus is prone to error.

We felt the relevance to be that for ideal patellar tracking, the prosthetic trochlea should be centred over this point on the native trochlea.

Generally, the femoral component will be placed over the centre of the resected bone, and if this lies up to 4 mm lateral to the native anatomical point, then it will imply some patellar mal-tracking. If replacing the patella, then the component position can be adjusted to account for that position. However, if the patellar is not resurfaced, then it

is more important to centre the prosthetic trochlea over the native trochlea.

An alternative is to shift the position of the femoral component but this may then create some condylar overlap at the margins, which may then necessitate a narrow component.

The small magnitude of the mean difference between the location of the sulcus and the midline of the distal femoral resection reflects the observation that in most patients that point lies at or slightly lateral to the midline of the distal femoral resection. However, in some patients, variation of up to 4 mm from the midline was observed, which the surgeon may need to be aware of, because of the consequences for patellofemoral kinematics.

Reference

1. Lingaraj K, Bartlett J (2009) The femoral sulcus in total knee arthroplasty. *Knee Surg Sports Traumatol Arthrosc* 17:499–502

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