

# What is the target for Femoral Component from Clinical Standpoint ?

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Alignment for TKA can be measured from coronal, sagittal and axial plane. For coronal plane, there can be kinematic alignment, mechanical alignment and anatomical alignment. For sagittal plane it is rarely assessed. For axial (rotational) plane, it is very important since it can affect the flexion stability, tibiofemoral and patellofemoral kinematics and alignment in flexion. Numbers of outliers in post-operative axial alignment has long been overlooked due to the difficult to measure axial alignment. The key problem is because it cannot be assessed through Xrays. Despite its importance, there is no widely accepted surgical technique leading to superior results.

In order to achieve a well-balanced knee (which has been defined as symmetric and balanced flexion and extension gaps), two distinct surgical techniques have been identified: measured resection and gap balancing. Since these two methods utilize different techniques to determine ligament balancing and femoral component rotation, controversy exists regarding the best technique.

Surgeon experience and familiarity with a particular implant most likely plays the greatest role, regardless of which technique is utilized. Today, there are likely more measured resection and cruciate-substituting users in the North America. In Europe, there is great variability among and within countries. The authors prefer a hybrid method. The concept of a hybrid technique is ideal because TKA is both a soft-tissue and bony procedure. Combining the two techniques, with established intraoperative checks-and-balances between the two techniques, allows for minimization of inappropriate ligament releases and component malalignment.

With the current literature, controversy remains whether the measured resection or gap balancing technique is superior. No difference has been observed in PROMs between the two techniques. As for survivorship, long-term studies have reported good survival with both techniques.

The goals of a TKA are for it be well-aligned and well-balanced with improvements in patient function and satisfaction. Rather than trying to decide which technique has overall better outcomes, it is more important to determine in a particular surgeon's hands, which technique provides the most reliable and reproducible results of achieving the above-mentioned goals. As with most surgery, if it is done well, the goals and outcomes can be achieved, regardless of technique.