The tibial reconstruction serves as a stable foundation on which to perform the remainder of the arthroplasty. Tibial rotation may be assessed by the position of the tibial tubercle (Figure 37-3). Because the tibia symmetrically affects the flexion and extension gaps, it is easier to perform this part of the arthroplasty first. I use hemitibial augments when there is a medial or lateral defect larger than 5 mm or a complete augment when the joint line cannot be restored or the flexion and extension gaps cannot be filled with the thickest polyethylene tibial insert. Block or wedge augments can be fit to the tibial tray undersurface and into the area of deficiency. I will choose a tibial size that achieves maximum bone contact with minimal overhang.

The more complex portion of the arthroplasty involves appropriate sizing and positioning of the femoral component. A general rule of thumb is to reconstruct the distal and posterior femur with the size implant and augments that restore the joint line to either 2.5 cm below the femoral epicondyles, 1 cm above the fibular head, or at the level of the meniscal scar. The distal femur affects the extension gap while the posterior femur affects the flexion gap. The interplay