

Impaction Grafting With Metaphyseal Cones in Revision Total Knee Arthroplasty

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Bone loss is commonly encountered during revision total knee arthroplasty. In patients with extensive bone loss, metaphyseal fixation with the use of porous cones or sleeves frequently is used in combination with diaphyseal fixation with cemented or uncemented stems. Although cemented stems have been shown to provide immediate mechanical stability and reliable survivorship, their utility is limited in patients with a failed stemmed component who are undergoing revision. Reconstruction is a considerable challenge in these patients with substantial bone loss in the diaphysis and the metaphysis because of the sclerotic nature of a previously violated tibial/femoral canal, which impedes reliable cemented stem fixation. Impaction grafting can be performed in such patients to restore bone stock and enhance fixation via an improved bone-cement interface.

This video demonstrates impaction bone grafting of the tibial metaphysis and diaphysis during revision total knee arthroplasty to attain a stable construct with the use of a highly porous metaphyseal cone in combination with a cemented diaphyseal stem.