

Biologic Reconstruction With a Motorized Intramedullary Bone Transport Nail After Tumor Resection

[Lee M Zuckerman](#)¹

Affiliations expand

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Abstract

Distraction osteogenesis is an option for reconstruction of intercalary defects. The use of bone transport after tumor surgery has been limited because of concerns of pin tract infections with external fixation and the theoretical risk of causing tumor growth. The effects of chemotherapy and radiation on the regenerate and healing of the docking site are also not well studied, but the current literature has mostly favorable outcomes with no evidence of causing tumor proliferation. The Precice bone transport nail offers a noninvasive method of distraction osteogenesis, which eliminates the need for prolonged external fixation and the risk of pin tract infections. This report discusses the technique for using the Precice bone transport nail after tumor resection. Bone transport may be considered for intercalary defects after en bloc resection of sarcoma, metastatic disease, and benign aggressive bone tumors. The use of distraction osteogenesis after tumor resection is a promising technique for the biologic reconstruction of intercalary defects.