

12

Salvage of the Irretrievably Failed Total Knee Arthroplasty

David A. McQueen, MD and Christopher L. Anderson, MD

Rates of primary total knee arthroplasty (TKA), particularly in young active patients, and revision TKA are increasing at a rapid rate.¹ The need for salvage procedures to treat the inevitable associated failures will increase accordingly. The most common cause of the irretrievably failed TKA is recalcitrant infection persisting despite multiple previous attempts at treatment. Other common causes of failure include massive metaphyseal bone loss with associated ligamentous incompetence, deficient soft tissue coverage, and irreparable disruption of the extensor mechanism. The treatment of the irretrievably failed total knee has evolved over time. Amputation and resection arthroplasty have been replaced by arthrodesis and modular, mobile-bearing hinge arthroplasty with or without distal femoral replacement as the salvage procedures of choice. A thorough understanding of technical factors associated with each is a prerequisite to proceeding with these often complex reconstructive procedures.

The decision to proceed with a reconstructive procedure is a difficult one for both the patient and the surgeon. Modern two-stage reimplantation protocols, nonlinked constrained revision components with available augmentation, allograft and autograft techniques to address bony deficiency, and extensor mechanism reconstruction have considerably narrowed the definition of irretrievable failure. In general, patients can be divided into 2 categories. Younger, physically active patients in whom other reconstructive procedures have failed are candidates for knee arthrodesis. Older, more sedentary and physically infirm patients are candidates for modular, mobile-bearing hinge reconstruction. The expected outcome in both groups is eradication of infection and a pain-free, stable, sensate lower extremity that allows for independent function and ambulation.

ALTERNATIVE PROCEDURES

Although uncommonly performed, both above knee amputation (AKA) and resection arthroplasty remain viable treatment options in select patients. Medical infirmity that precludes a two-stage surgical procedure, life-threatening infection, and low-demand nonambulatory patients would be best served with these alternative forms of treatment. Functional results of these procedures tend to be uniformly poor.