



Knee Arthrodesis After Total Knee Arthroplasty

From Stephen J. Incavo, MD

1. Failed total knee arthroplasty (TKA) surgery complicated by chronic infection or extensor mechanism failure is the most common indication for this procedure.

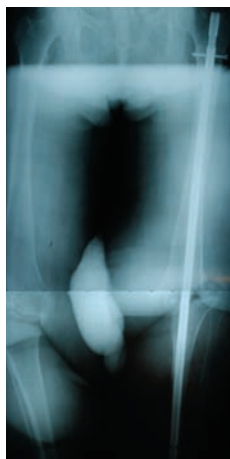
While staged revision TKA is the treatment of choice for most cases of infected TKA, there remains a role for knee arthrodesis. In general, patients who have a recurrence of infection after staged revision, and/or extensor mechanism failure and/or obesity, are candidates for knee arthrodesis.

2. Infection should be eradicated prior to knee arthrodesis. A single débridement and component removal may not eradicate a chronic infection. Ideally, the patient's C-reactive protein level should normalize and remain so after antibiotics are discontinued.

3. A long intramedullary nail with built-in valgus and flexion (approximately 5° of each) is the preferred device for knee arthrodesis unless an ipsilateral hip arthroplasty or bony deformity is present. In these unusual cases, a short intramedullary device is recommended.

4. A fusion nail is best inserted from the knee, inserting the intramedullary guide wire in a retrograde fashion up the femoral shaft and retrieving it through a small incision at the greater trochanter.

Once the guide wire is in place, the femur should be over-reamed by 1 to 2 mm and the tibia should be reamed "line-to-line." Other technical aspects are discussed in the article, *Arthrodesis of the Knee: Experience with Intramedullary Nailing*, which was published in *The Journal of Arthroplasty* (2000;15(7):871-876).



This obese patient had a malpositioned resection arthroplasty owing to a chronic gram-negative deep infection after total knee arthroplasty. After the infection was eradicated, a knee arthrodesis was performed. This radiograph demonstrates the much-improved coronal plane alignment achieved with an arthrodesis nail. A proximal locking screw is always used.

5. Leg shortening will occur after knee arthrodesis. A small amount (approximately 1 cm) is desirable for gait. Larger amounts of shortening can be treated with a shoe lift or even subsequent lengthening over the existing intramedullary nail.

AUTHOR'S DISCLOSURE STATEMENT

Dr. Incavo wishes to note that he is a paid consultant to Stryker Orthopaedics.



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