Knee Disarticulation Amputation

Tenodesis & Myodesis:

Isolate the femoral remnants of the cruciate ligaments
The patellar tendon will eventually be sutured to the femoral remnants of the cruciate ligaments.

Trial mobilization of patellar tendon
Trial to show the placement of the patellar tendon down near the femoral remnants of the cruciate ligaments. The hip is bent up into a fully flexed position so that the patellar tendon can be mobilized down into the femoral groove.

Flex hip to 90 degrees

Dissect fat pad
Use electrocautery to dissect the fat pad off of the posterior surface of the patellar tendon.

First stitch
Place a large, non-absorbable suture of #2 ticron securely through the remnants of the anterior and posterior cruciate ligaments in a locking stitch fashion.

Test the suture's strength

Second stitch
Place a second #2, large, non-absorbable suture in the locking Krakow fashion in the under surface (deep posterior surface) of the patellar tendon. This will be used to tenodese the patellar tendon to the cruciate ligament remnants.

Tenodesis
By fully flexing the hip up to 90 degrees, one can mobilize the patella down distally into the femoral notch and then tie the two sutures together. This serves to create a tenodesis of the quadriceps muscle through the patellar tendon to the femur.

Trim the excess patellar tendon

Reinforce tenodesis
Use another #2 non-absorbable suture to reinforce the tenodesis of the patellar tendon to the posterior joint capsule and the cruciate ligament remnants in the femoral notch.

Myodesis
The medial gastroc muscle is mobilized up over the femoral condyles to provide distal padding and myodesis of the muscle to the anterior joint capsule. The muscle is centered over the femoral condyles.

Suction hemovac drain
Place the deep hemovac drain just lateral to the femoral condyle. The drain is brought out the lateral side and not the medial in order to avoid damage to the saphenous vein. Cut the drain between holes.

MYODESIS

Begin the myodesis of the medial gastroc muscle centrally on the femur. The first suture sews the fascia of the gastroc muscle to the anterior capsule of the knee and centers the muscle over the femoral condyles. Sewing the fascial layers and not the muscle holds the muscle in place, but minimizes the creation of avascular muscle.

Medial suture
A medial suture helps to center the medial side to the muscle.

Lateral suture
A lateral suture helps to center the lateral one-half of the muscle flap.

Further sutures

Further sutures to fully secure the muscle closure over the distal femur and securely close the deep layer. The myodesis securely closes the fascia of the medial gastroc muscle across the capsule of the knee to perform a deep, secure closure.

Close the corners

Close the medial and lateral most corners of the muscle flap and the articular space with a deep fascial stitch. Since this is an articular joint, without a tight closure the joint fluid that is still created between the patella the femur could leak and create synovial fistula and ongoing drainage in the post-operative period.