

Transfemoral Amputation

Myodesis

Reveal attachment of adductor muscle

Elevate the distal medial skin and subq to reveal the attachment of the adductor muscle. Preserve the adductor longer than the other muscles so an adductor myodesis can be performed over the end of the femur.

Dissect the adductor off the femur

Rasp bone to smooth edges

Test position the adductor for the myodesis

Shorten adductor

Clean cut and shorten the adductor tendon.

The medial hamstring

Drill holes for myodesis

Using a 2.5mm drill bit, 4 unicortical drill holes are made in the distal femur. Irrigation is used to cool the drill bit.

First hole is on the anterior-most portion of the femur. The three other holes move laterally from the first.

Four holes allows for the placement of three independent sutures: Anterior (A), Anterior Lateral (AL), and Lateral (L). The suture is of number 2 ticon; a strong non-absorbable suture.

Irrigate

Irrigate to remove debris and blood and bone dust.

Place 1st suture (A)

Suture is first passed from the outside of the cortex into the medullary canal. Suture is often easier to pass then from inside the bone with the blunt end of the needle as the sharp end gets caught in the trabeculi of the bone. This suture is placed in the first and second holes, starting medially. It is the most superior/anterior suture – anterior suture “A”.

Clamp suture.

Place 2nd suture (AL)

The second suture (anterior lateral, “AL”) is passed using the blunt end of the needle in order not to damage the first suture and weaken it. The sutures share space within the second hole. This suture is placed in the second and third holes.

Place 3rd suture (L)

The third suture (lateral, “L”) is placed in the third and fourth holes.

Adductor myodesis

The adductor myodesis is completed with the Krakow locking suture technique. The illustration shows the placement and locking points for the Krakow technique to secure the adductor tendon.

The “L” suture is used for the posterior portion of the adductor fascia. It is tied.

Medial hamstring myodesis

The illustration shows the placement and locking points for the Krakow technique to secure the medial hamstring fascia. The “A” suture is used to secure the medial hamstring fascia.

The femur is held in a posterior and medial position as the “A” suture is tied.

Reinforce myodesis

The “AL” suture (white) is used to reinforce both the adductor and the medial hamstring myodesis, and to keep femur centered in the muscle mass.

The illustration shows the Krakow suture technique locking points for this reinforcement.

©Prosthetics Research Study