REAL BLEED™ ADVANCED SUTURING WORKSHOP

Leg bypass. Every connection counts.

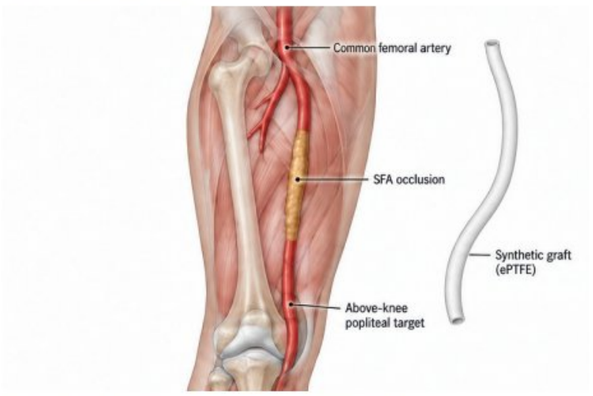
Femoral-popliteal bypass: above-knee target / synthetic graft exercise | 120-minute faculty-led lab | Experienced residents, fellows and surgeons

PREPARE / 15 MIN One connected aorta + one short carotid target + one short ePTFE graft segment. Match graft caliber to the target; keep both working sites close together. Faculty prepare the target return and close its free end. Retain clamp and suture access. Pump off during open suturing.

READ THE IMAGES Clinical anatomy above; proposed bench exercise below. Each bench image shows the next stage of reconstruction.

01 Plan the bypass

ORIENT INFLOW AND OUTFLOW / 15 MIN



CONNECTED AORTA / SYNTHETIC GRAFT + CAROTID

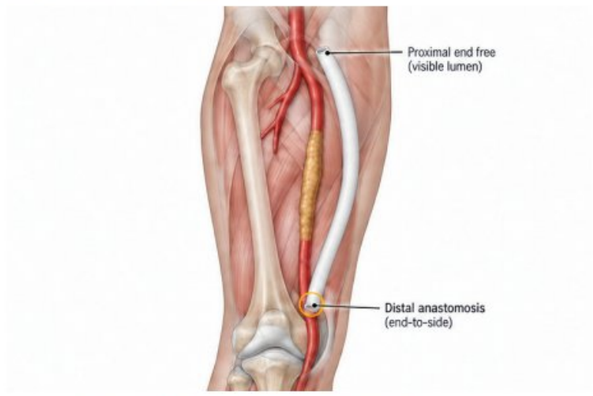


Short ePTFE segment / two graft-to-tissue joins

Connect: Plan common femoral inflow to above-knee popliteal outflow beyond the blockage.
Rehearse: Position a short synthetic graft beside the carotid target; keep both working sites close together.
Check: Match graft caliber to the tissue target. Use only enough length for clamps and tension-free joins.

02 Distal popliteal join

SMALLER-TARGET ANASTOMOSIS / 25 MIN



CONNECTED AORTA / SYNTHETIC GRAFT + CAROTID

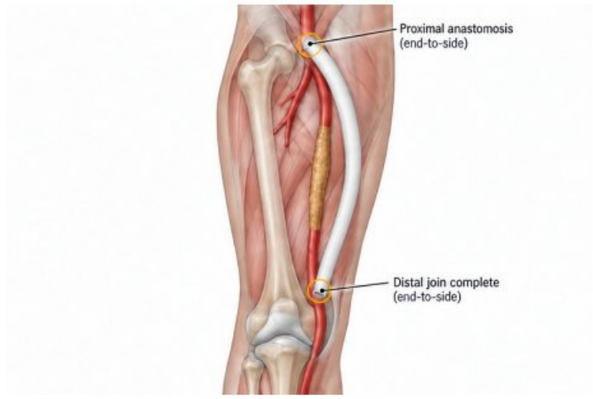


Short ePTFE segment / two graft-to-tissue joins

Connect: Graft end-to-side to popliteal artery beyond the blockage.
Rehearse: Sew the ePTFE end into the carotid target sidewall. Leave the proximal graft end free.
Check: Compare needle passage through graft and tissue. Protect tissue edges and avoid back-wall capture.

03 Proximal femoral join

INFLOW ANASTOMOSIS / 25 MIN



CONNECTED AORTA / SYNTHETIC GRAFT + CAROTID

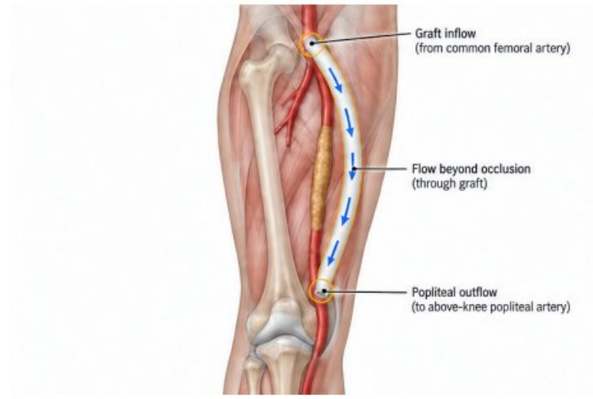


Short ePTFE segment / two graft-to-tissue joins

Connect: Graft end-to-side to common femoral artery.
Rehearse: Sew the free synthetic end into the nearby aortic opening; the distal join is complete.
Check: Control suture tension across graft and tissue. Preserve the lumen; both cannulas stay attached.

04 Assess bypass flow

CHECK INFLOW AND OUTFLOW / 20 MIN



CONNECTED AORTA / SYNTHETIC GRAFT + CAROTID



Short ePTFE segment / two graft-to-tissue joins

Connect: Assess bypass flow and distal arterial supply.
Rehearse: Test the completed bench route using a validated, device-compatible method.
Check: Inspect graft-to-tissue seams and needle holes. Filling alone does not prove through-flow; stop before repair.



05 FLOW. FIND. REPAIR.

FINAL CHALLENGE / 20 MIN

Find leakage, stop flow, repair and retest. Record completion time, leak sites and repairs; inspect lumens after testing. **Target:** two open end-to-side joins with no visible leakage at the agreed setting. Through-flow testing needs a bench-validated method because the main aorta can bypass the loop.

YOUR REAL BLEED™ SETUP

Photo at left: your connected station. Keep the aorta cannulated. A short synthetic segment replaces the tissue graft; only a short carotid target is needed. Place joins close together to conserve material while retaining clamp access and a tension-free connection.

WHAT THE MODEL REPRESENTS

This version rehearses synthetic-to-tissue joins: ePTFE to carotid target, then ePTFE to aortic inflow. Full bypass length is shown above only. The target return is bench plumbing. Select graft size and handling by specimen caliber and the graft manufacturer instructions.

Educational concept for faculty review. Clinical and bench illustrations are AI-generated from anatomical descriptions and your equipment photographs; not operative photos. Follow Real Bleed™ and graft IFUs. Proposed bench setup requires validation. SFA = superficial femoral artery.

Sources: Prosthetic bypass Real Bleed™
One page / 17 × 11 in / Fem-pop / Synthetic graft / Revision 05

REAL BLEED™ SYSTEM | PATENT PENDING

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