Leg bypass. Every connection counts.

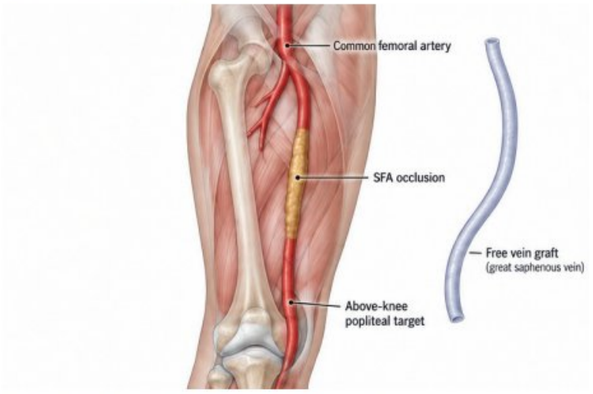
Femoral-popliteal bypass: above-knee target / distal-first exercise | 120-minute faculty-led lab | Experienced residents, fellows and surgeons

PREPARE / 15 MIN One connected aorta + two short carotid segments, taken from one carotid when usable length permits. Place the working joins close together; retain only enough tissue for clamping and suturing without tension. Faculty prepare the target return and close its free end. 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 / CAROTID GRAFT + TARGET

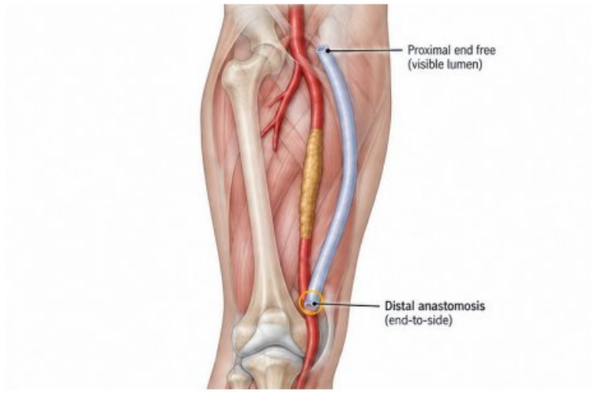


Short segments / local joins / original cannulas retained

Connect: Plan common femoral inflow to above-knee popliteal outflow beyond the blockage.
Rehearse: Position a short carotid graft beside a short carotid target; keep both working sites close together.
Check: Use realistic vessel diameters and minimum workable length, with room to clamp and suture.

02 Distal popliteal join

SMALLER-TARGET ANASTOMOSIS / 25 MIN



CONNECTED AORTA / CAROTID GRAFT + TARGET

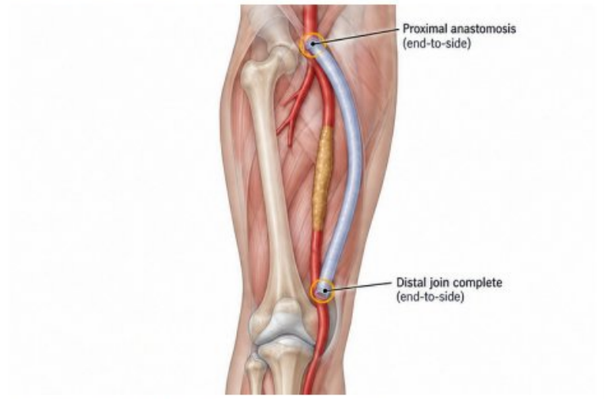


Short segments / local joins / original cannulas retained

Connect: Graft end-to-side to popliteal artery beyond the blockage.
Rehearse: Sew the graft into the carotid target sidewall. Leave the proximal graft end free.
Check: Secure heel and toe; preserve the lumen and avoid back-wall capture. Pump off.

03 Proximal femoral join

INFLOW ANASTOMOSIS / 25 MIN



CONNECTED AORTA / CAROTID GRAFT + TARGET

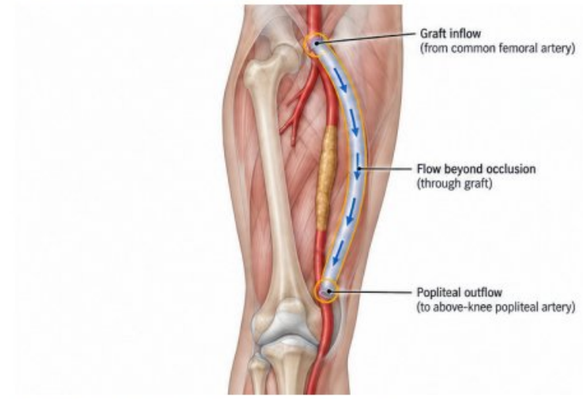


Short segments / local joins / original cannulas retained

Connect: Graft end-to-side to common femoral artery.
Rehearse: Sew the free graft end into the nearby aortic opening; the distal join is complete.
Check: Confirm graft lie and open lumens. Both original aortic cannulas stay attached.

04 Assess bypass flow

CHECK INFLOW AND OUTFLOW / 20 MIN

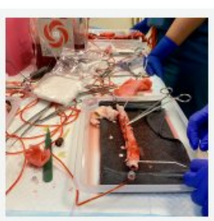


CONNECTED AORTA / CAROTID GRAFT + TARGET



Short segments / local joins / original cannulas retained

Connect: Assess bypass flow and distal arterial supply.
Rehearse: Test the completed bench route using a validated, device-compatible method.
Check: Filling alone does not prove through-flow. Inspect both learner joins; stop flow 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. Cut a short graft and short target from one carotid when usable length allows. Keep the sites close together to reduce tissue use. Retain enough length for clamps, suturing and a tension-free connection.

WHAT THE MODEL REPRESENTS

The model focuses on the two anastomoses: aorta as femoral inflow; short carotid segments as graft and popliteal target. Full clinical bypass length is shown above only. Target return is bench plumbing. Select tissue by actual caliber; diagrams do not specify measured dimensions.

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

Sources: Bypass overview Real Bleed™
One page / 17 × 11 in / Fem-pop / Compact revision 04

REAL BLEED™ SYSTEM | PATENT PENDING
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