Femoral-Popliteal Bypass

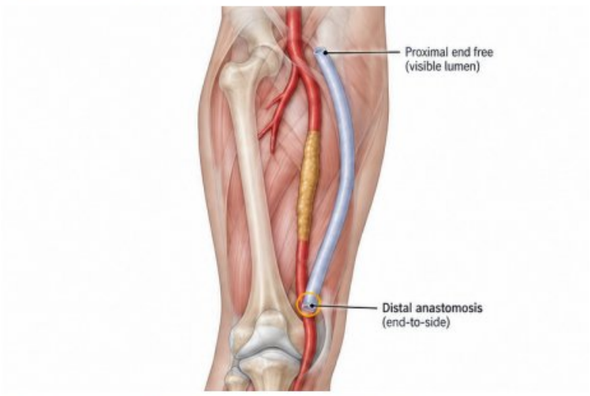
Femoral-popliteal bypass: tissue + synthetic graft practice | 135-minute faculty-led lab | Experienced residents, fellows and surgeons

PREPARE / 15 MIN One connected aorta + three short carotid pieces (one graft, two targets) + one short ePTFE piece. Use one carotid specimen if usable length permits. Place tissue practice above and synthetic practice below. Faculty prepare both target returns and tie their free ends. Pump off for open suturing.

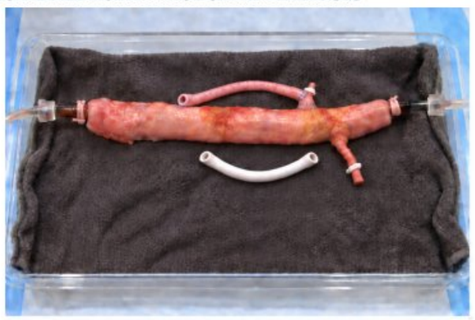
READ THE IMAGES Clinical joins above; bench progression below. Both exercises stay on the same connected aorta.

01 Tissue: distal join

CAROTID TO CAROTID / 25 MIN



ONE CONNECTED AORTA / TWO COMPACT EXERCISES

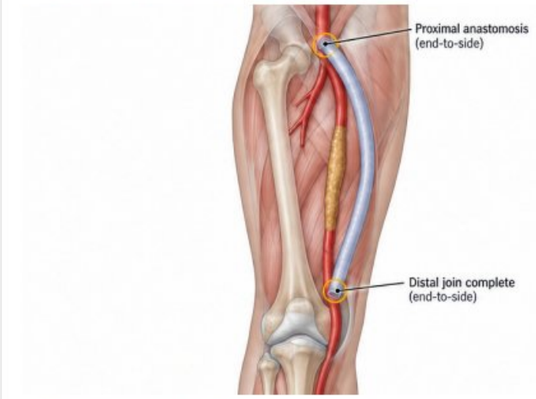


Tissue above / synthetic below / previous joins retained

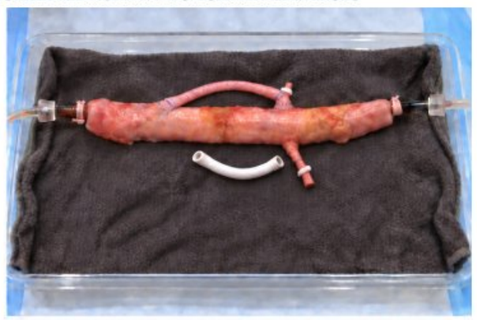
Connect: Graft end-to-side to popliteal outflow.
Rehearse: On the upper side, sew the short tissue graft into its carotid target. Leave the inflow end free.
Check: Preserve lumen and tissue edges. The synthetic exercise waits on the opposite side.

02 Tissue: inflow join

CAROTID TO AORTA / 25 MIN



ONE CONNECTED AORTA / TWO COMPACT EXERCISES

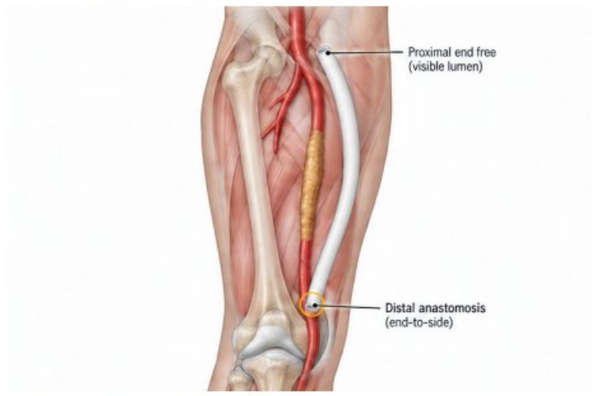


Tissue above / synthetic below / previous joins retained

Connect: Graft end-to-side to femoral inflow.
Rehearse: Attach the free tissue graft end to the nearby aorta. The first bypass is complete.
Check: Leave both tissue joins in place. Keep enough space for clamps and the next exercise.

03 Synthetic: distal

ePTFE TO CAROTID / 25 MIN



ONE CONNECTED AORTA / TWO COMPACT EXERCISES

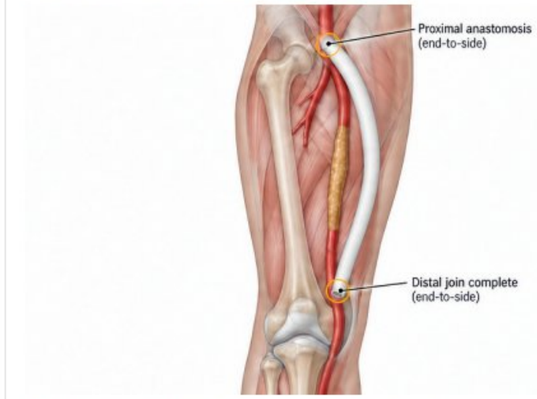


Tissue above / synthetic below / previous joins retained

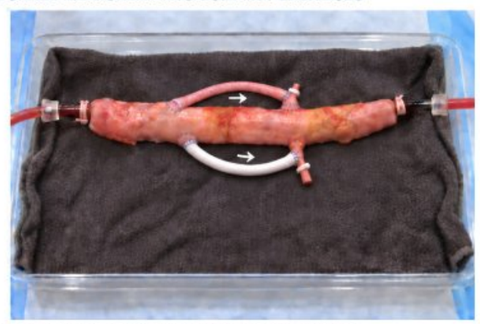
Connect: Synthetic graft to popliteal outflow.
Rehearse: On the opposite side, sew a short ePTFE piece into its own carotid target. Leave inflow free.
Check: Compare material handling. Preserve the completed tissue bypass above.

04 Synthetic: inflow

ePTFE TO AORTA / 25 MIN



ONE CONNECTED AORTA / TWO COMPACT EXERCISES



Tissue above / synthetic below / previous joins retained

Connect: Synthetic graft to femoral inflow.
Rehearse: Attach the free ePTFE end to the nearby aorta. Four learner joins are now complete.
Check: Compare both circuits and inspect seams before testing. Both original cannulas stay attached.



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:** four open learner 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 both loops.

YOUR REAL BLEED™ SETUP

Photo at left: your connected station. Tissue bypass on one side; synthetic bypass on the other. Three short carotid pieces serve as one tissue graft and two targets. Cut from one specimen if practical. Keep segments short with enough clamp and suture access.

WHAT THE MODEL REPRESENTS

Two practice circuits compare tissue and synthetic handling on one aorta. Four learner joins plus two faculty-prepared returns. The paired loops are bench exercises, not a clinical double bypass. Match graft caliber to the actual targets; preserve both completed exercises.

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 / Combined practice / Revision 06

REAL BLEED™ SYSTEM | PATENT PENDING
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