Open Brachial Artery Injury Repair

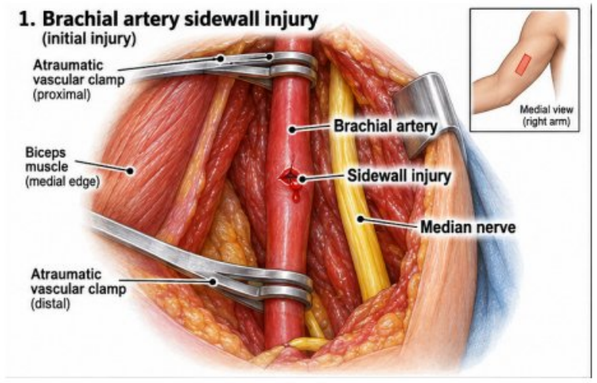
Open trauma surgery | 120-minute faculty-led lab | Sidewall and end-to-end repair on one short carotid loop

PREPARE / 15 MIN One connected aorta + one short carotid. Faculty attach both carotid ends to the aortic sidewall, forming a compact loop with room for two repairs and local control. Retain the original two external tubes. Validate loop flow before the lab; keep the pump off for open-vessel work.

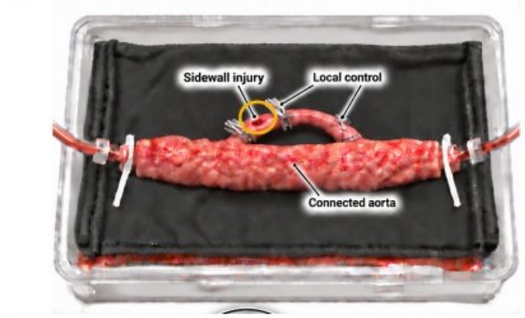
READ THE IMAGES Open arm anatomy above; bench below. Step 3 adds a separate training injury.

01 Control bleeding

SIDEWALL INJURY / 20 MIN



CONNECTED AORTA / SHORT CAROTID LOOP

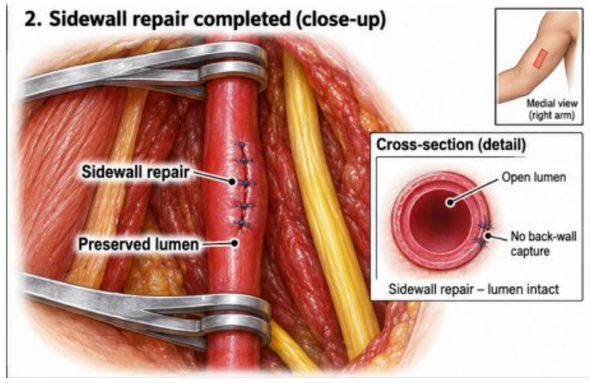


Short tissue / sidewall and end-to-end repair

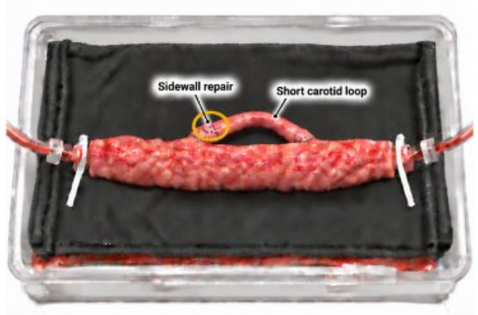
Clinical: Expose the injured artery, protect the adjacent median nerve and establish vascular control.
Rehearse: Control a small carotid sidewall injury.
Check: Handle tissue gently; isolate the training site without disturbing either loop attachment.

02 Repair sidewall

PRIMARY REPAIR / 25 MIN



CONNECTED AORTA / SHORT CAROTID LOOP

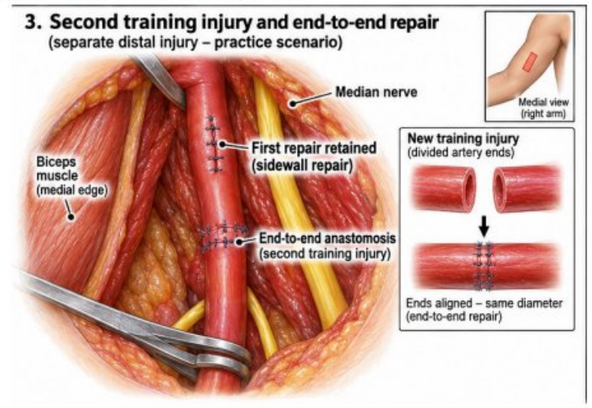


Short tissue / sidewall and end-to-end repair

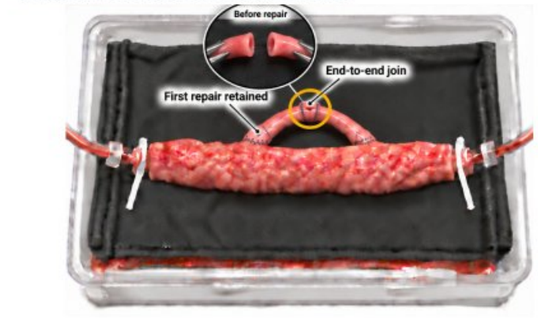
Clinical: Close a suitable small arterial defect without narrowing the lumen.
Rehearse: Repair the sidewall injury on the short carotid loop.
Check: Inspect edge apposition, stitch spacing and lumen preservation. Avoid capturing the opposite wall.

03 End-to-end join

SECOND TRAINING INJURY / 25 MIN



CONNECTED AORTA / SHORT CAROTID LOOP

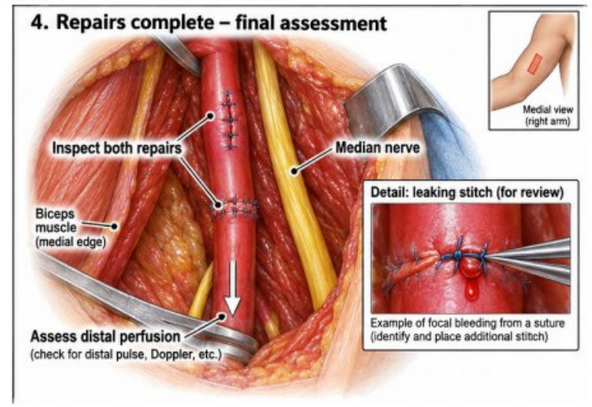


Short tissue / sidewall and end-to-end repair

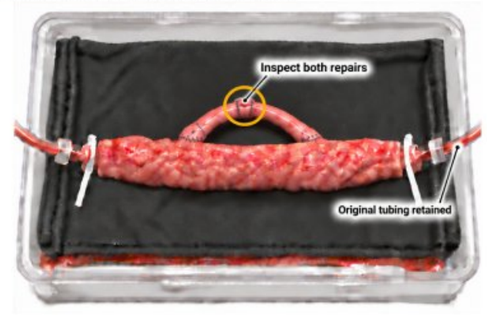
Clinical: A suitable transection may permit a tension-free end-to-end repair.
Rehearse: With flow off, divide a separate site at the loop apex and rejoin it; retain the first repair.
Check: Align the ends without twist or tension. Inspect the posterior suture line.

04 Test and revise

ASSESS BOTH REPAIRS / 15 MIN

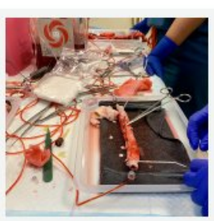


CONNECTED AORTA / SHORT CAROTID LOOP



Short tissue / sidewall and end-to-end repair

Clinical: Assess hemostasis and distal limb perfusion.
Rehearse: Test both repairs at a faculty-validated setting. Stop flow before revision, then retest.
Check: Inspect for leaks and narrowing. Main-aorta flow or loop filling alone does not prove loop through-flow.



05 FLOW. FIND. REPAIR.

FINAL CHALLENGE / 20 MIN

Inspect the sidewall repair and the separate end-to-end join. Identify a focal leak, stop flow, revise and retest. Record tissue handling, apposition, alignment, revisions and completion time. **Target:** two intact repairs at the agreed bench setting, with loop through-flow assessed by a separately validated method.

YOUR REAL BLEED™ SETUP

Photo at left: your original station. The aorta remains cannulated at both ends. One short carotid forms a loop with two faculty-prepared end-to-side attachments. Learners perform two repairs on the loop body. Retain the clear tray, dark towel and original two external tubes; no additional graft is required.

WHAT THE MODEL REPRESENTS

Carotid represents the injured brachial artery at available tissue scale. Its attachments to the aorta are simulation plumbing. The second injury adds practice; it is not a routine clinical step. The model does not reproduce nerve injury, fracture stabilization, distal limb perfusion or compartment syndrome.

Educational concept for faculty review. AI-generated illustrations are not operative photographs or calibrated drawings. Faculty validate tissue, repair suitability and test settings; follow the Real Bleed™ IFU. This is an open vascular repair skills lab, not complete limb-trauma management.

Source: AO Trauma Real Bleed™
One page / 17 x 11 in / Brachial repair / V01

REAL BLEED™ SYSTEM | PATENT PENDING
© 2026 Real Bleed™. All rights reserved. This material is the property of Real Bleed™.