REAL BLEED™ ADVANCED SUTURING WORKSHOP

Pulmonary Artery Injury Repair During Lung Resection

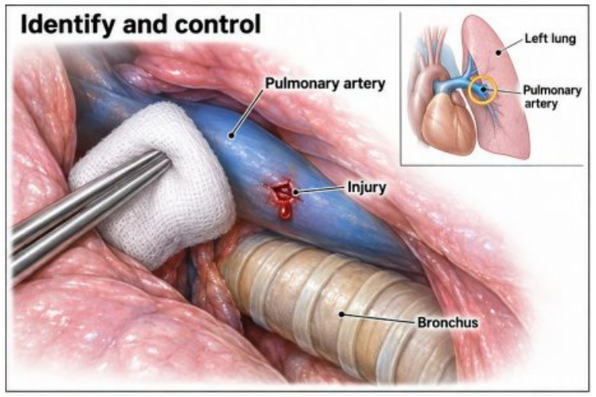
Thoracic surgery | 120-minute faculty-led lab | Direct repair and patch reconstruction on one short carotid loop

PREPARE / 15 MIN One connected aorta + one short carotid loop + a small tissue patch from a suitable offcut. Faculty sew both loop ends end-to-side into the aorta. Retain the original two tubing connections. Reserve separate direct-repair and patch sites; stop flow during open-vessel work.

READ THE IMAGES Clinical repair options above; cumulative practice on the connected model below.

01 Identify and control

INJURY RECOGNITION / 20 MIN



CONNECTED AORTA / SHORT CAROTID LOOP

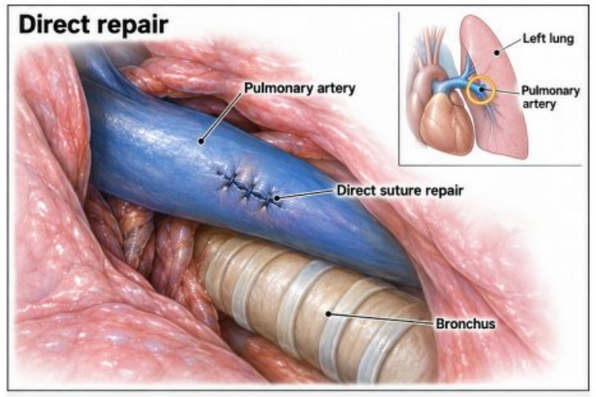


Compact working sites / previous repairs retained

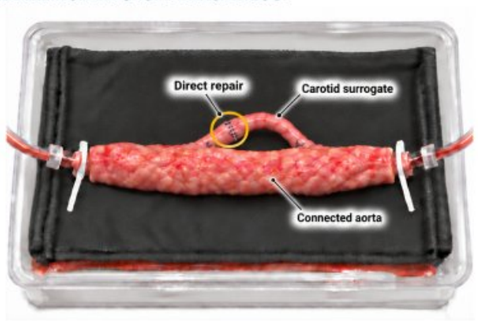
Clinical: Recognize pulmonary artery injury and establish temporary control and visibility.
Rehearse: Locate a small loop sidewall injury and practice gentle local compression.
Check: Communicate the bleeding site and escalation plan. Preserve both aortic connections.

02 Direct repair

SMALL SIDEWALL DEFECT / 25 MIN



CONNECTED AORTA / SHORT CAROTID LOOP

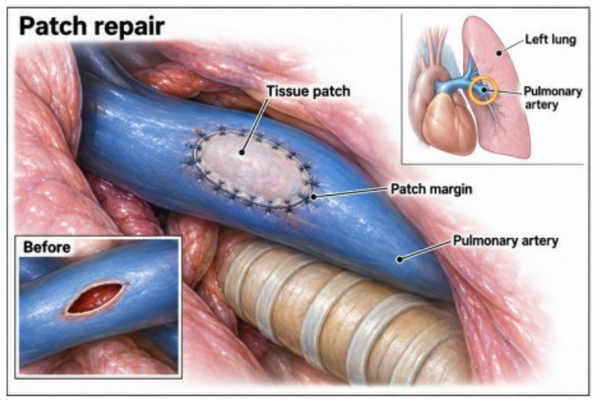


Compact working sites / previous repairs retained

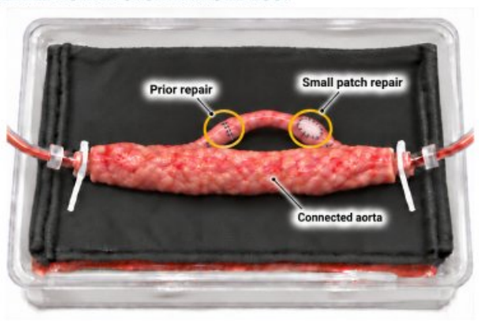
Clinical: Direct suture repair of a suitable limited defect.
Rehearse: Close the small left-side loop injury while retaining a separate right-side working site.
Check: Inspect edge apposition, tissue handling and lumen narrowing before the patch exercise.

03 Patch repair

LOCAL PATCH RECONSTRUCTION / 25 MIN



CONNECTED AORTA / SHORT CAROTID LOOP

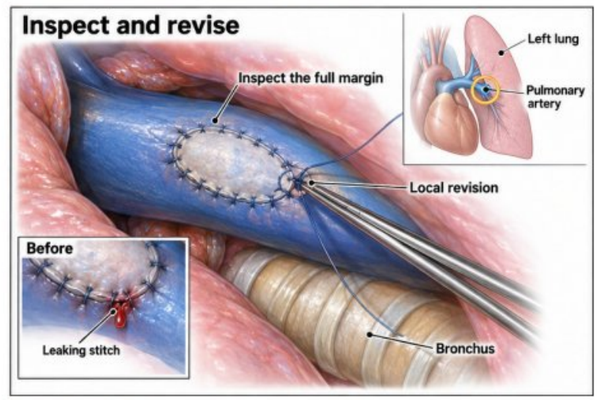


Compact working sites / previous repairs retained

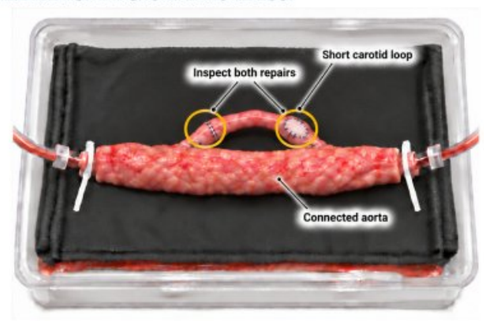
Clinical: Patch reconstruction for a selected larger sidewall defect.
Rehearse: Fit a small tissue patch into a separate right-side loop defect. Retain the direct repair.
Check: Inspect the full patch margin, corner apposition and vessel contour without bulky oversizing.

04 Inspect and revise

TWO-REPAIR LEAK ASSESSMENT / 15 MIN



CONNECTED AORTA / SHORT CAROTID LOOP



Compact working sites / previous repairs retained

Clinical: Reassess the completed vascular repair.
Rehearse: Test both sites at a faculty-validated setting. Locate leakage, stop flow, revise and retest.
Check: Inspect both suture lines and the lumen. Loop filling alone does not establish through-flow.



05 FLOW. FIND. REPAIR.

FINAL CHALLENGE / 20 MIN

Reassess the direct closure and the entire patch margin. Identify a focal leak, stop flow, repair and retest. Record tissue handling, suture quality, revisions and completion time. **Target:** both repairs intact at the agreed bench setting. Use a separately validated assessment for loop through-flow; filling or main-aorta flow alone is insufficient.

YOUR REAL BLEED™ SETUP

Photo at left: your original station. One short carotid loop provides two repair sites; faculty prepare both aortic attachments. A small tissue offcut supplies the patch. The main aorta remains connected at both ends, with the same tray and original two external tubing connections.

WHAT THE MODEL REPRESENTS

Carotid models a pulmonary artery branch for suturing geometry. Its wall and the bench circuit do not reproduce the thin pulmonary artery or pulmonary circulation. Direct repair and patching are clinical options combined here for practice. This model does not reproduce thoracic access or lung re-expansion.

Educational concept for faculty review. AI-generated illustrations are not operative photographs or calibrated drawings. Faculty validate tissue, patch fit and test settings; follow the Real Bleed™ IFU. This focused suturing lab does not replace training in hemorrhage resuscitation, escalation or conversion to open surgery.

Sources: PA repair Patch Real Bleed™
One page / 17 x 11 in / Thoracic / Version 01

REAL BLEED™ SYSTEM | PATENT PENDING

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