



Navigation

Chapter 2:

From wrist to brachial – Radial navigation

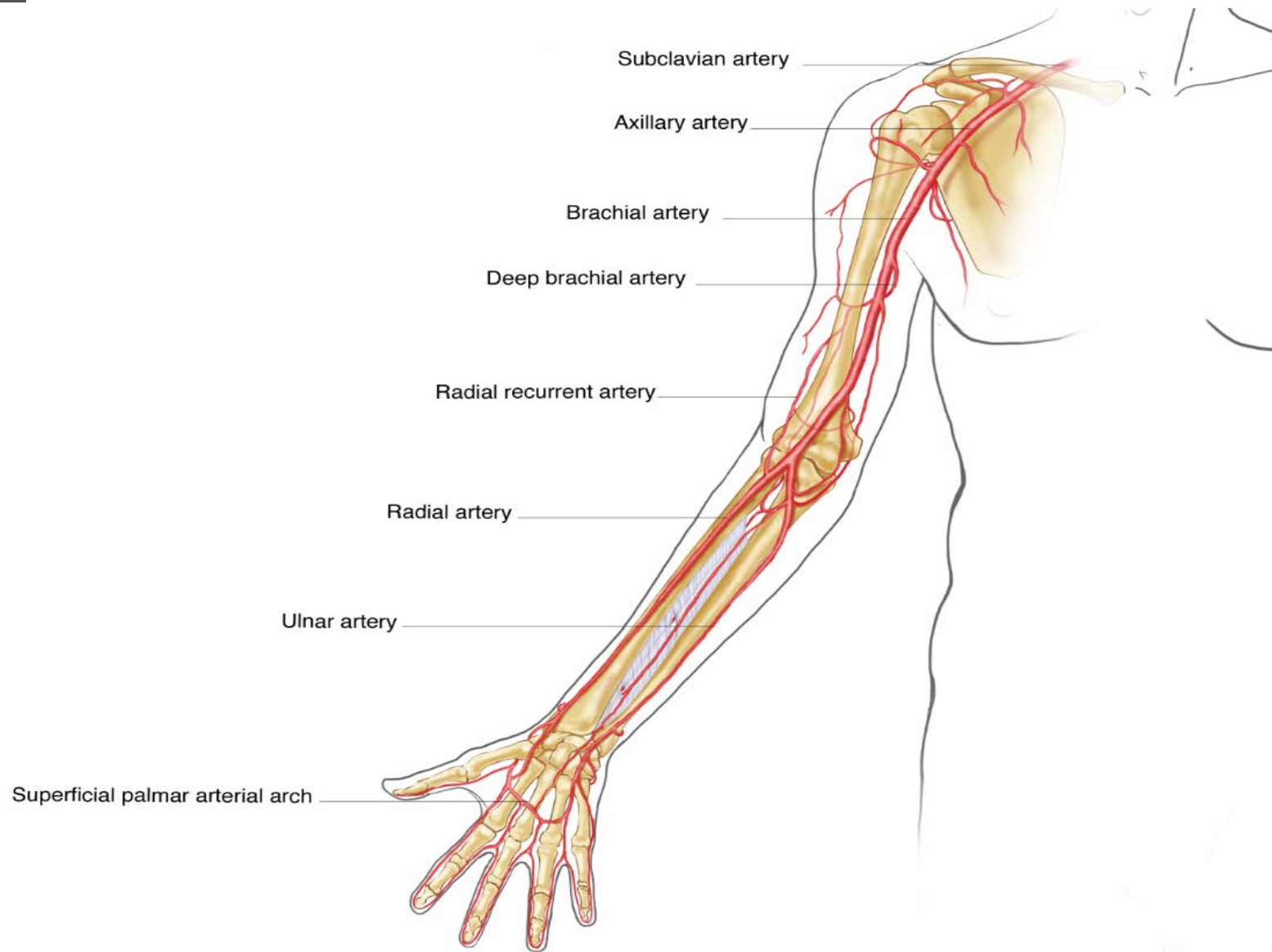
From the subclavian artery to the
ascending artery



Anatomical radial variations

1533 patients	Normal anatomy	High bifurcations	Radial loops	Radial tortuosities	Other anomalies
No. of patients	1321 (86 %)	108 (7 %)	35 (2.3 %)	30 (2 %)	39 (2.5 %)
Failure rate %	0.9	4.6	37.1	23.3	12.9 %

Lo, Heart 2009; 95: 410-5





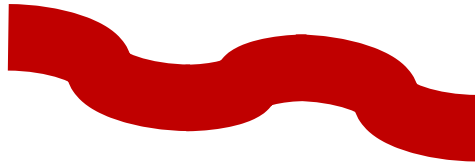
Anatomical radial variations



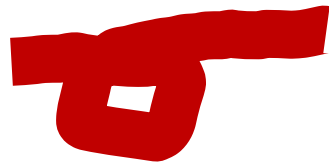
Stenosis



Spasm



Tortuosity



Loop



Small branch



If resistance, what to do?

Never force + + +

Inject dye to understand the anatomy and cause of the issue

Take an hydrophilic J wire or PCI wire

Follow under fluoroscopy wire or catheter progression



Cocktail

Vasodilator

Verapamil: 2.5mg

Nitro: 100µg

Diltiazem: 5mg

UHF

Diagnostic: 50 UI/kg

PCI: 70-100 UI/kg



Spasm management

PREVENTION:

A good cocktail: Verapamil
+/- nitrates or diltiazem

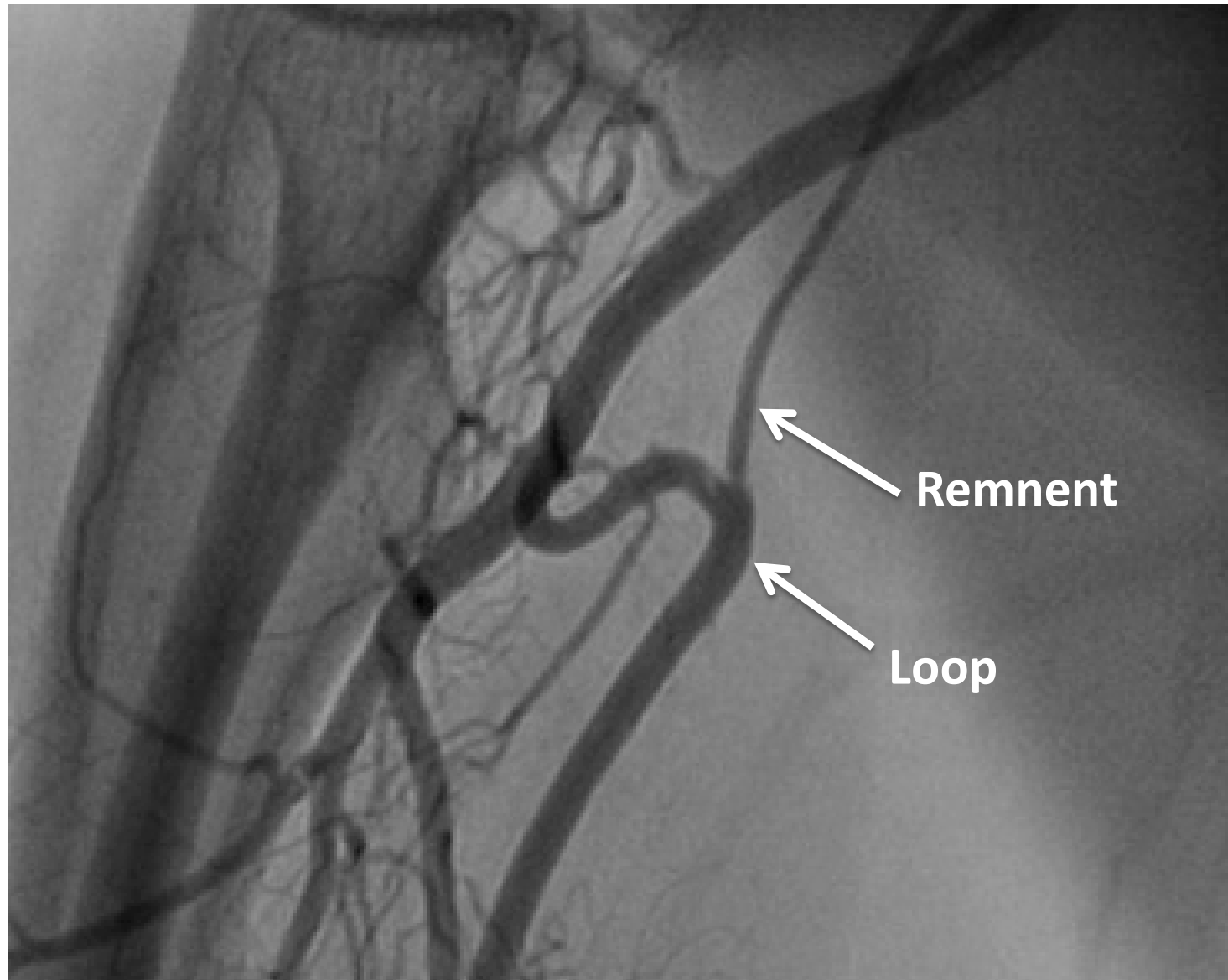
No pain: Emla[®], Xylocaine...

Long hydrophilic sheath

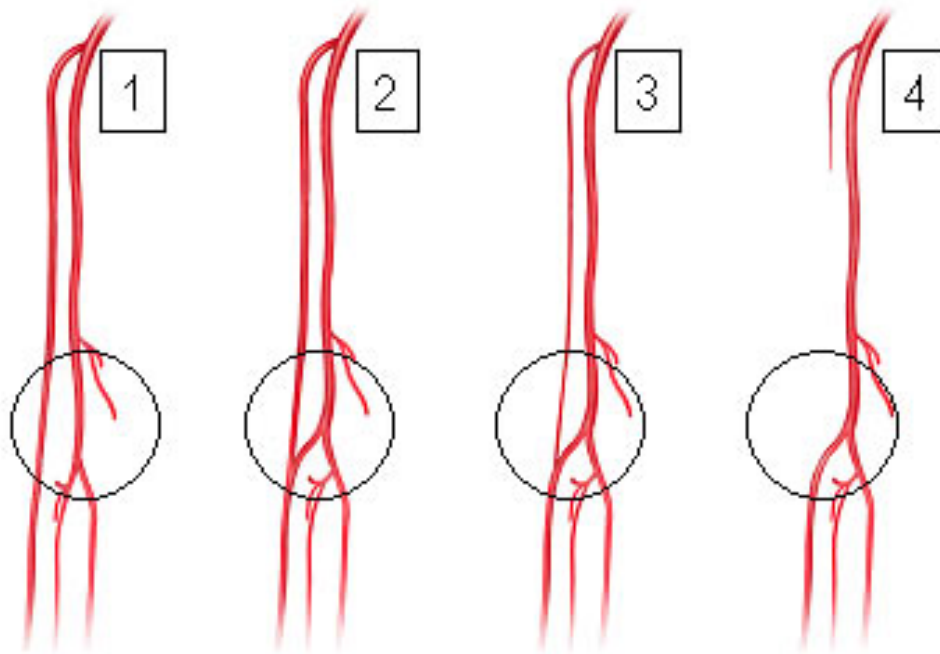
TREATMENT:

Vasodilator

Sedation



High take-off of radial artery



4 varieties





How to straighten a loop?

Cross the loop with floppy wire

Cross the loop with 5F JR4 catheter

Advance a 0.035'' wire

Pull back the catheter



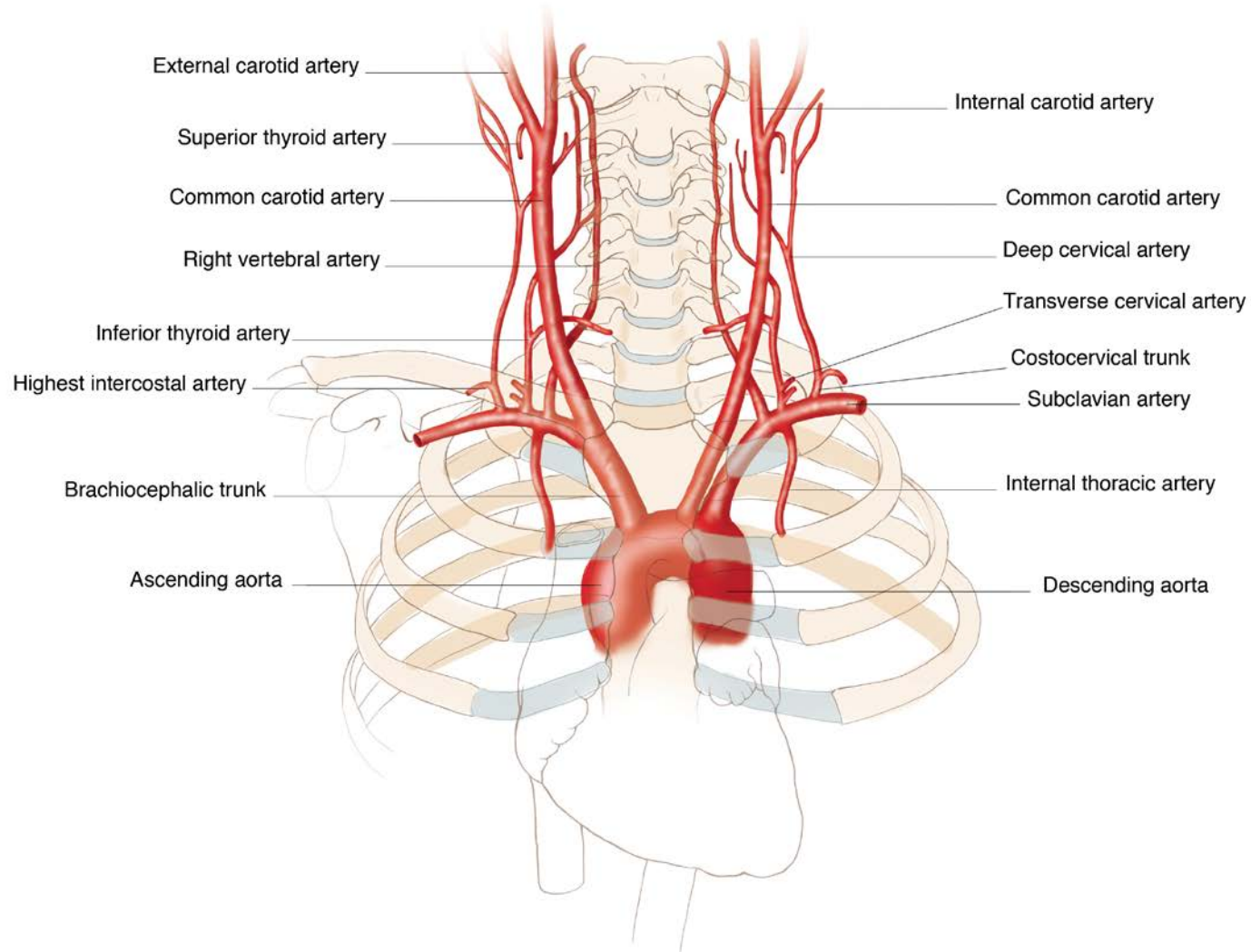
Perforation resolution

Immediate outer compression

Heparin neutralisation and shift to another vascular access

OR

Cross the lesion with a 0.014'' wire and inner catheter compression





How to enter ascending aorta?

Ask patient to take a deep breath and push the wire

OR

Use a JR4 or a pigtail catheter and turn clockwise to orient the wire through ascending aorta and push it

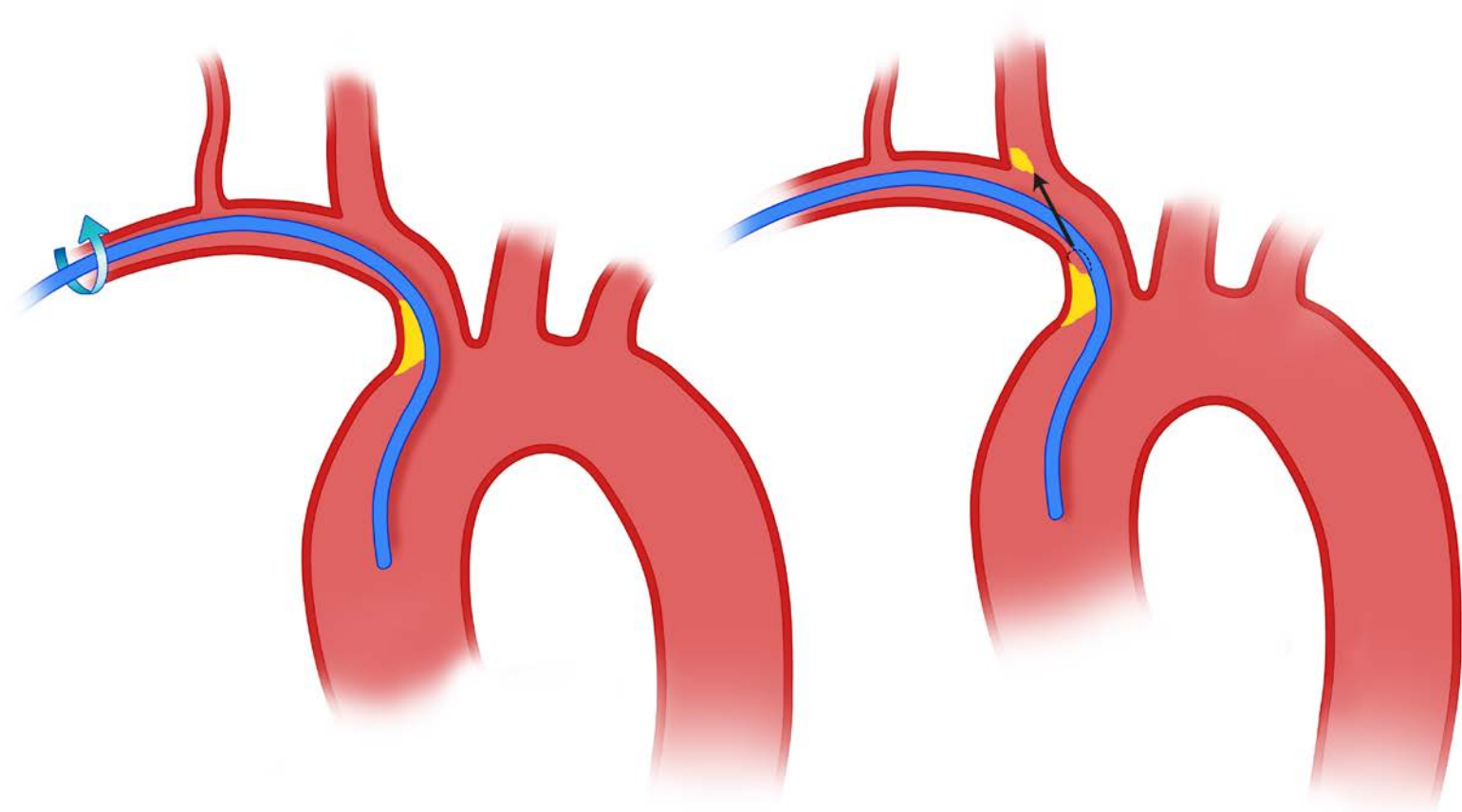


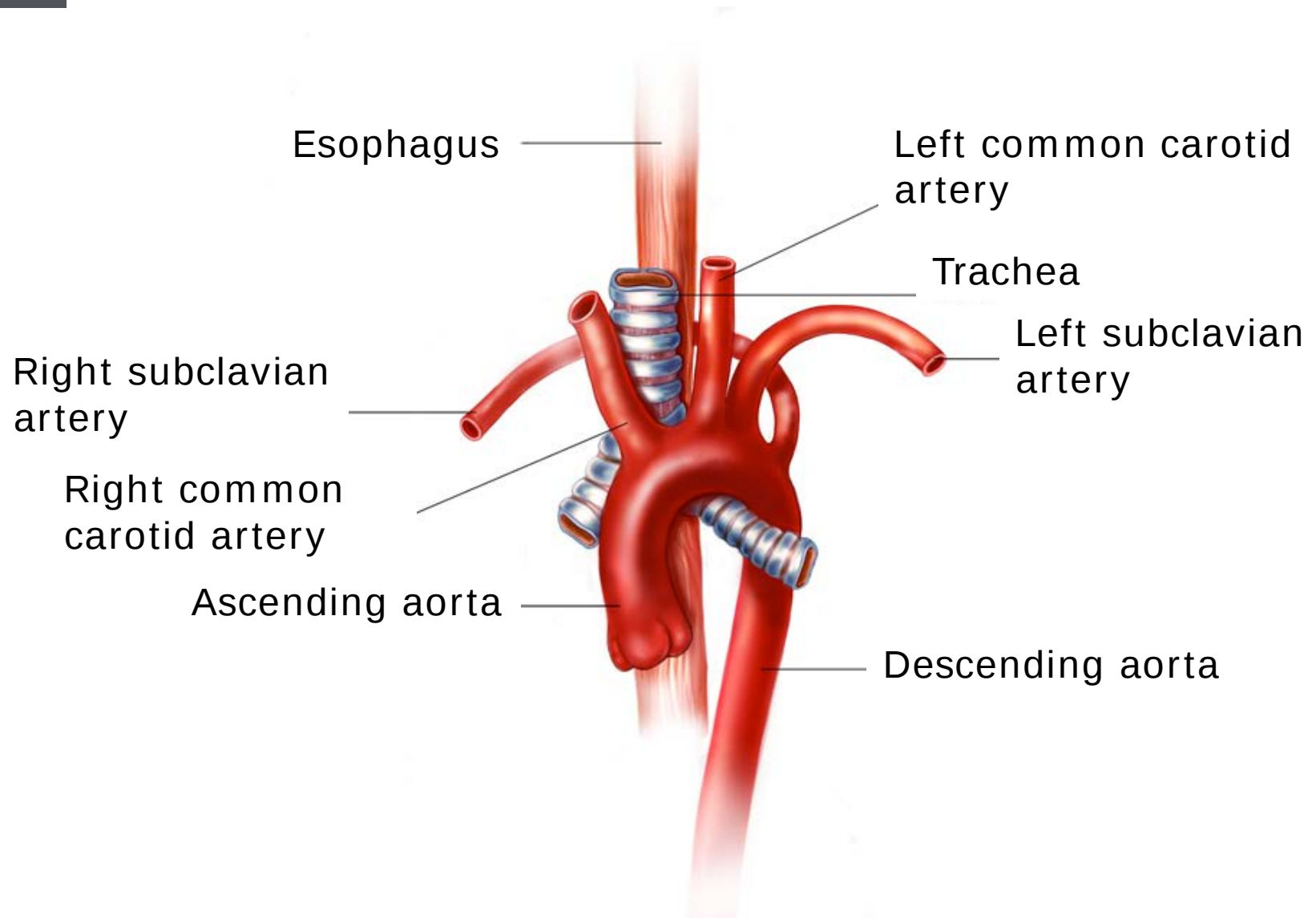
Sub-clavian tortuosity predictive factors

Old age

Hypertension

Woman





Arteria Lusoria

