

Basic Equipment

Wires are train tracks over which all devices run

Huge variation in diameter, length, tip shape

Navigation wire – helps cross lesions and access vessels – soft angled tip – hydrophilic coating – get you into vessel

Support wire – stiff, straight, no coating – support for devices to track over

Catheters – long hollow tube – shaped tips to help direct navigation wires – allow exchange of wires and contrast injection

Balloons – inflated w/in vessel to stretch open a vessel – specific inflation depends on device – special: high pressure, cutting, drug coated

Stents – metallic tube used to create a scaffold to keep a vessel open – stainless steel or nitinol(changes shape @ body temperature)

Delivery method – balloon mounted vs self-expanding(nitinol – good for tortuous vessels – constrained until deployment)

Coverings – covered vs uncovered (excluding vs non-excluding)

Coatings – Paclitaxel

Peripheral Angio and EVAR

Ideal access – over a bony structure, US guided, relatively disease free

Antegrade access vs Retrograde access

Antegrade – Puncture CFA run wire w/direction of flow towards SFA

Retrograde – High BMI, iliac disease, Prox SFA/PFA disease, bilat disease w/single puncture – Puncture CFA run wire opposing direction of flow

Case study 50 yd claudication w/ short SFA occl on DUS – antegrade puncture -angiogram confirmed occlusion

Closure – manual compression (15-20 min) or closure device

EVAR

>55mm, symptomatic, or >1mm/yr growth

Pros:

Minimally invasive

Shorter hospital stay

Regional or local anaesthetics

More suitable for patients unfit for open repair

Lower peri-procedural mortality/morbidity

Cons:

Life long surveillance

Higher re-intervention rate

Less durability

Less cost effective

Access – Percutaneous or cut-down - bilateral

Retrograde CFA access – depends on the amount of disease present

Stent graft delivery/deployment

Wires – catheters – stiff wire from RT to deliver main body stent graft – soft from LT for contrast

Main body delivered 1st below renal arteries

Need to ensure that limbs are below renals and above IIAs

May need balloon inflation to get good distal seal

Closure – usually larger puncture site than lower limb angioplasty – uses suture-based closure for both percutaneous or cut down access.