Vascular access surgery

Pre-operative evaluation
Introduction

- 4000 new haemodialysis patients a year

- 900 AVF created a year in HKL
  - Radio-Cephalic
  - Brachio-Cephalic
  - Brachio-Basilic
  - (Brachio-Venae Comitantes)
Prerequisites

• Good arterial inflow
• Good vein qualities
• Healthy skin
Evaluation - general

- History
- Examination
Evaluation - general

- Ability to lie flat
- Symptoms of fluid overload
- Cardiac function
- Uraemia
- Choice of anaesthesia
Evaluation - artery

- Physical examination
- Good strong / normal pulse
- Present distal pulse
Evaluation - vein

- Physical examination
- Duplex
Duplex evaluation

• Clinical and duplex evaluation superior to clinical evaluation alone
• Prevents unnecessary exploration
Arterial scan

- Pulsatile flow
- Luminal diameter > 2.0 mm
- Arterial wall calcification
- Arterial flow > 20 mls/min
Vein scan

- Compressible vein
- Entire length of forearm/arm vein
- Luminal diameter > 2.5mm (> 2mm acceptable)
- Thickened vein wall
REFERENCES


- J. Parmar, M. Aslam and N. Standfield: Pre-operative Radial Arterial Diameter Predicts Early Failure of Arteriovenous Fistula (AVF) for Haemodialysis; Eur J Vasc Endovasc Surg 33, 113-115 (2007)
