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<th>Vascular Access in Chronic Haemodialysis</th>
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### Arm Vein Protection
Arms veins suitable for placement of vascular access should be preserved at all times. The use of hand veins is recommended for venipunctures and IV injections.

### Native Vascular Access
Native vascular accesses show the lowest complication rate compared to AV grafts and catheters. Renal nurses should insist on an AV fistula as first choice vascular access.

### Forearm Localization
In general, the forearm should be preferred as first choice location of a native vascular access.

### Cannulation Technique
Always use a preselected puncture technique:
- the rope ladder technique is recommended in forearm AV fistulae with a long vascular traject
- the button hole technique is preferred in short elbow, upper arm fistulae with some difficulties to cannulate.

### Maturation Time
A new fistula should be allowed to mature at least 6 weeks. Renal nurses should be alert to refer renal patients for surgery in due time for the construction of a vascular access.

### High Blood Flow and Needles
To achieve high blood flows, it will be necessary to increase the diameter and to decrease the length of the needle(s).

### Catheters
The use of catheters as permanent vascular access should be avoided as much as possible.

### Types of Catheters
If a catheter is unavoidable, it is recommended:
- to use a tunneled catheter;
- to use a single lumen catheter in lean patients or in patients with some residual renal function;
- to be alert for signs and symptoms of central venous thrombosis.

### Hygiene
For handling vascular accesses, standard hygienic precautions should be strictly respected. Particularly for connecting and disconnecting catheters, the use of masks by patients and nurses is recommended.

### Vascular Access Observation
Observation of the vascular access by renal nurses should be performed at each dialysis session:
- before dialysis: physical examination;
- during dialysis: blood flow and dynamic arterial and venous pressures;
- after dialysis: physical examination and bleeding time at puncture places.