



Melbourne Vascular Imaging

VENOUS MAPPING

Duplex scanning is often used to locate and measure vein diameters prior to surgery.

Fistula access surgery is becoming increasingly common with the present incidence of renal failure. The cephalic veins in both arms are examined to ensure they will be of sufficient diameter ($>3\text{mm}$) to be used for dialysis. The brachial, radial and ulnar arteries are scanned to check for stenosis. Surgeons anastomose (join) the selected vein to the artery. The vein becomes dilated with the arterial blood pressure, and the blood flow in the vein increases to $>1000\text{ml/min}$. Two catheters are inserted into the vein, the distal one taking blood to the dialysis machine where the blood is filtered. The second line takes the blood back to the vein. The Lab does routine surveillance scans of the fistula to check for narrowing of the vein or reduced blood flow.

Superficial veins are also used for leg artery bypass surgery. The long and short saphenous, and the superficial arm vein diameters are measured as previously described. Vein grafts in the leg are preferred to synthetic grafts because of their longer patency.