**Ankle Brachial Pressure Index (ABPI) measurement**

Purpose: To measure the presence and severity of occlusive arterial disease.

Ensure that you are fully aware of the clinical indicators for the test. Inform the patient why the test is being performed, remembering that many patients will know the routine very well and will recognise any anomalies.

ABPI measurement quantifies arterial insufficiency by measuring the ratio of brachial to ankle systolic pressure. In order to eliminate errors due to hydrostatic pressure the sites of measurement should be at the same height, the patient should therefore lie as flat as is practical without causing obvious undue stress. Ensure access to the ankles is readily available to avoid delay.

Place the sphygmomanometer cuff on the usual site in the upper arm. Performing the arm pressure first not only gives a baseline for pressure but ensures that all equipment is functioning.

Place a small amount of ultrasound gel over the brachial or radial artery and obtain a blood flow signal from the Doppler device using an acute an angle to the skin as possible.

Inflate cuff to beyond systolic pressure, at which blood flow stops, slowly deflate and measure systolic blood pressure at the point at which pulsatile blood flow resumes.

Correctly place the cuff a few centimetres above the malleolus of the asymptomatic or better leg obtain the optimum flow signal from the posterior tibial artery (PT) and measure systolic pressure.

Repeat the procedure for the dorsalis pedis artery (DP).

Place the cuff on the other leg and measure PT and DP systolic pressures.

Repeat brachial measurement with contra-lateral arm if appropriate.

Amendments to this basic procedure may be needed depending on the clinical situation.

Reporting: The results of the ABPI measurement should be entered into the notes in the form shown below with the pressures at the appropriate site (DP above the foot, PT below) entered for the patients left and right sides (assume the stick man is facing you). The ABPI is calculated using the highest brachial pressure measurement and the higher between the PT & DP for each leg using the formula:

ABPI = Ankle systolic pressure/ Brachial systolic pressure

Ensure the report is dated (and where appropriate timed) and signed.

References

Duplex Scanning In Vascular Disorders 5th edition. Strandness. Chapter 13: Indirect Physiologic Assessment of Lower Extremity Arteries.

Vowden. K. R and Vowden P (1996) Hand held Doppler assessment for peripheral vascular

disease. Journal of Wound Care Vol 5 No 3 pp125-128