



SDRN: Scottish Diabetes Research Network

Ankle Brachial Pressure Index

Clinical S.O.P. No.: 10

Version 1.1

Compiled by:	Shona Brearley
Approved by:	[Signature] Fernie
Review date:	November 2016



DOCUMENT HISTORY

Version number	Detail of purpose / change	Author / edited by	Date edited
1.0	New SOP	Shona Brearley	
1.1	Images added to demonstrate positioning of the Doppler.	Louise Greig	June 2012

1. Introduction

The Ankle Brachial Pressure Index is a method of quantifying the severity of arterial occlusion in the leg and is often used in clinical trials. It should be carried out using a consistent method. The recording of this measurement should be accurate in the conducting of a clinical trial to ICH GCP guidelines.

2. Objectives

To describe the procedure used within the Scottish Diabetes Research Network for measuring the ankle brachial pressure index of each subject.

3. Responsibilities

Only nurses who have been trained in this procedure and deemed competent should complete this procedure.

4. Equipment

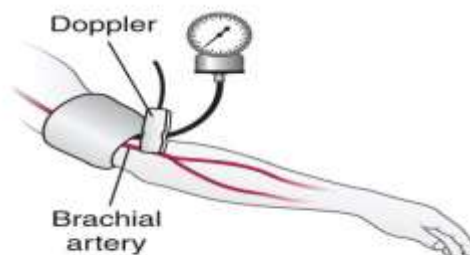
- Sphygmomanometer
- Doppler probe
- Headphones
- Lubricating gel
- Appropriate size of blood pressure cuff

5. General Points

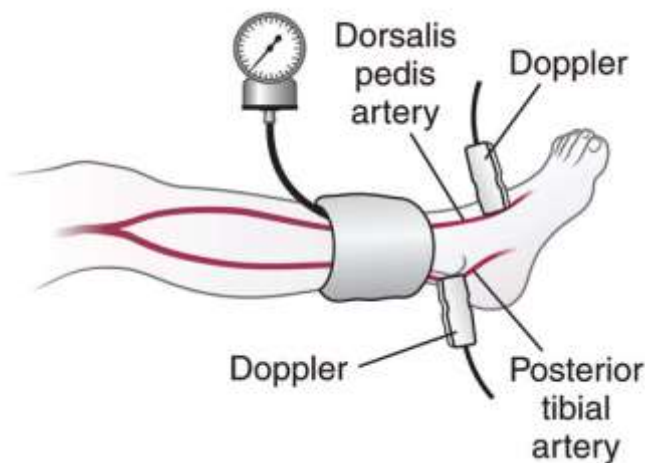
- Inform patient of reason for procedure and obtain verbal consent.

6. Procedure

- Lay the patient supine on a couch, with the head supported by two pillows.
- Using a mercury sphygmomanometer, measure the highest systolic reading in both arms by using a doppler probe, located at the radial pulse, record the first sound as the blood pressure cuff is deflated. Record both readings on the worksheet/CRF.



- The left arm should be measured before the right arm. Ensure the correct size of cuff is used.
- The systolic pressure in both legs is now measured. The blood pressure cuff is applied to the calf. Place doplar probe on the dorsalis pedis pulse and measure the pressure when the sound is first heard on deflation of the cuff. Record this value on the worksheet/CRF.
- Place the doppler probe on the posterior tibial pulse and record the pressure at which the sound is first heard on deflation of the cuff. Record these values on the worksheet/CRF. Measure the left leg first, both pulses, then the right leg.



- The value to be used for calculation of the ratio is the highest ankle pressure (DP/PT) for each leg.
- To calculate the ankle to brachial pressure, use the following equation: Please note the highest arm pressure will be the same for both legs.

$$\text{Ankle-Brachial Ratio} = \frac{\text{Highest Ankle Pressure (PT or DP)}}{\text{Highest Arm Pressure (Left or Right)}}$$

- Measurements are recorded in millimetres of mmHg to the nearest millimetre.
- Interpretation of these results is contained in appendix 1.

(Appendix 1)

INTERPRETATION OF ABPI RESULTS	
ABPI	INTERPRETATION
> 0.95	Normal
< 0.95	Peripheral Vascular Disease