

Unit 102: Measurement of Post-Exercise Ankle Brachial Pressure Index

Level:	4
Unit type:	Optional (Cardiac Physiology)
Credit value:	6
Guided learning hours:	48

Unit summary

In this unit, you will gain the understanding and skills needed to perform safe and quality-assured measurements of post-exercise ankle brachial pressure index, generating test results and performing quality-control checks. In addition, you will be able to undertake routine maintenance, calibration and quality-assurance procedures on the equipment used. You will be expected to build your patient-centred professional practice and practise safely in the workplace, seeking advice and referring as appropriate to the scope of their own practice.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the assessment strategy in *Annexe B*.

Additional information

It is suggested that learners will have completed the following unit:

- **Level 3 Unit 101: Measuring Ankle Brachial Pressure Index (ABPI)**

or have appropriate experience before completing this unit.

AC1.3 includes:

- the normal effect of exercise on lower limb blood flow
- the physiological effect of exercise on the:
 - cardiovascular system
 - respiratory system
 - musculoskeletal system.

AC2.5 includes:

- intermittent claudication
- diabetes
- atherosclerosis
- arterial thrombus

- aneurysmal disease.

AC2.10 includes the effect of exercise on individuals with peripheral arterial disease.

AC3.2 includes:

- individual's resting ABPI is calcified
- individual unable to perform exercise test adequately
- test may not pick up short proximal stenosis
- unable to do exercise using toe pressures.

AC4.1 includes:

- treadmill
- timed walk
- dorsal flexion device attached to couch.

AC4.2 includes:

- the reasons for stopping the exercise test
- importance of stopping the test when the individual indicates
- stopping immediately if the individual complains of:
 - chest pain
 - dizziness
 - unsteadiness.

AC4.3 includes:

- provocation of angina and/or arrhythmia.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet **in own area of work and in accordance with Standard Operating Procedures (SOPs)** to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the normal anatomy and physiology of the blood supply to the lower limbs	1.1	Explain the structure and function of the arterial and venous blood vessels supplying the lower limbs			
		1.2	Explain the structure and function of the lymphatic system in the lower limbs			
		1.3	Explain the physiological changes that occur on exercise and the effect on lower limb blood flow and ankle-brachial pressure index			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Understand the pathological changes associated with peripheral arterial disease	2.1	Explain the term peripheral arterial disease			
		2.2	Explain the pathological changes associated with peripheral arterial disease in patients with and without diabetes			
		2.3	Explain the terms sensitivity and specificity of investigations			
		2.4	Explain the conditions that may reduce the diagnostic accuracy of the ankle-brachial pressure			
		2.5	Discuss the common conditions that may result in an ankle-brachial pressure index below normal values			
		2.6	Know conditions that may increase the ankle-brachial pressure index above normal values			
		2.7	Explain the common risk factors for developing peripheral arterial disease			
		2.8	Explain how the ankle-brachial pressure index contributes to the assessment of cardiovascular risk			
		2.9	Explain the non-pharmacological measures that can be taken to reduce the risk of peripheral arterial disease			
		2.10	Discuss how peripheral arterial disease can impact on quality of life			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Understand the principles, indications and contraindications for measuring ankle-brachial pressure index at pre and post exercise	3.1	Explain the indications and contraindications for measuring ankle brachial pressure index pre and post exercise			
		3.2	Explain the limitations of the measurement of ankle-brachial pressure index on exercise			
		3.3	Explain the derivation of the normal values for ankle-brachial pressure index and the effect of exercise in normal subjects			
		3.4	Explain the principles of a continuous wave hand-held ultrasound unit			
		3.5	Explain the principles of systolic blood pressure measurement as part of the measurement of ankle-brachial pressure index			
		3.6	Evaluate the potential errors when measuring ankle-brachial pressure index and the impact on the outcome of the investigation			
		3.7	Explain how to choose the appropriate probe for each patient			
		3.8	Evaluate the Standard Operating Procedure for measuring ankle-brachial pressure index at rest and on exercise			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Be able to perform post-exercise measurements of ankle-brachial pressure index	4.1	Explain the range of exercise methods available and the protocol used in own area of work			
		4.2	Support the patient performing the exercise protocol stopping the test according to the protocol			
		4.3	Explain the potential complications of exercise on the patient			
		4.4	Measure the ankle-brachial pressure index following a period of exercise			
5	Be able to clean and decontaminate equipment, and leave in a suitable condition for reuse	5.1	Evaluate the protocols for cleaning and decontaminating equipment used to record ABPI at rest and post exercise			
		5.2	Decontaminate equipment, leaving it in a suitable condition for reuse			

Learner name: _____

Date: _____

Learner signature: _____

Date: _____

Assessor signature: _____

Date: _____

Internal verifier signature: _____

Date: _____

(if sampled)