

# World's Fastest Ankle-Brachial Index Screening Device

Medicare Item: 11610  
Fee: \$64.75  
Benefit 85% = \$55.05



automated  
**ABPIMD**

Vital Code: ABPIMDD

Accurate and objective Peripheral Arterial Disease diagnosis

# What is Peripheral Arterial Disease (PAD)?

PAD is a circulatory problem where narrowed arteries reduce blood flow to your limbs.



Healthy arteries.

Arteries are narrowed by build-up of plaque in the walls. The blood flow is partially restricted. The patient does not feel leg pain or other symptoms.

Arteries are clogged. The flow of oxygen rich blood is heavily restricted, leading to possible heart attack, stroke, gangrene, amputation and ulcerations.

When PAD develops, your extremities — usually your legs — don't receive enough blood flow to keep up with demand. This causes symptoms, most notably leg pain when walking (intermittent claudication).

Over 70% of patients do not know about the disease because they do not feel or recognise the symptoms until severe complications occur.

PAD is likely to be a sign of a more widespread accumulation of fatty deposits in your arteries (atherosclerosis). This condition may be reducing blood flow to your heart and brain, not only to your legs.

With early diagnosis, your physician will help you to determine the best treatment.

Early diagnosis of PAD in primary healthcare is crucial.

# Who must be screened for PAD?



World population

**7 billion**



PAD risk group

**Over 700 million**

**50+**

Individuals over 50 year old with cardiovascular risk factors:



Hypertensive



Overweight



Diabetic



Smokers

**65+**

Everyone older than 65

Everybody in the risk group should be screened for PAD.



Disease prevalence

**Over 200 million**

**15-20%**

of people over 60 years old have PAD.

70% of patients with PAD experience no symptoms and are not diagnosed.

Cardiology associations recommend Ankle-Brachial Index screening on the complete PAD risk group for early detection of the disease.

\*Source: Inter-Society Consensus for the Management of Peripheral Arterial Disease (TASC II).

# ANKLE-BRACHIAL INDEX MEASUREMENT

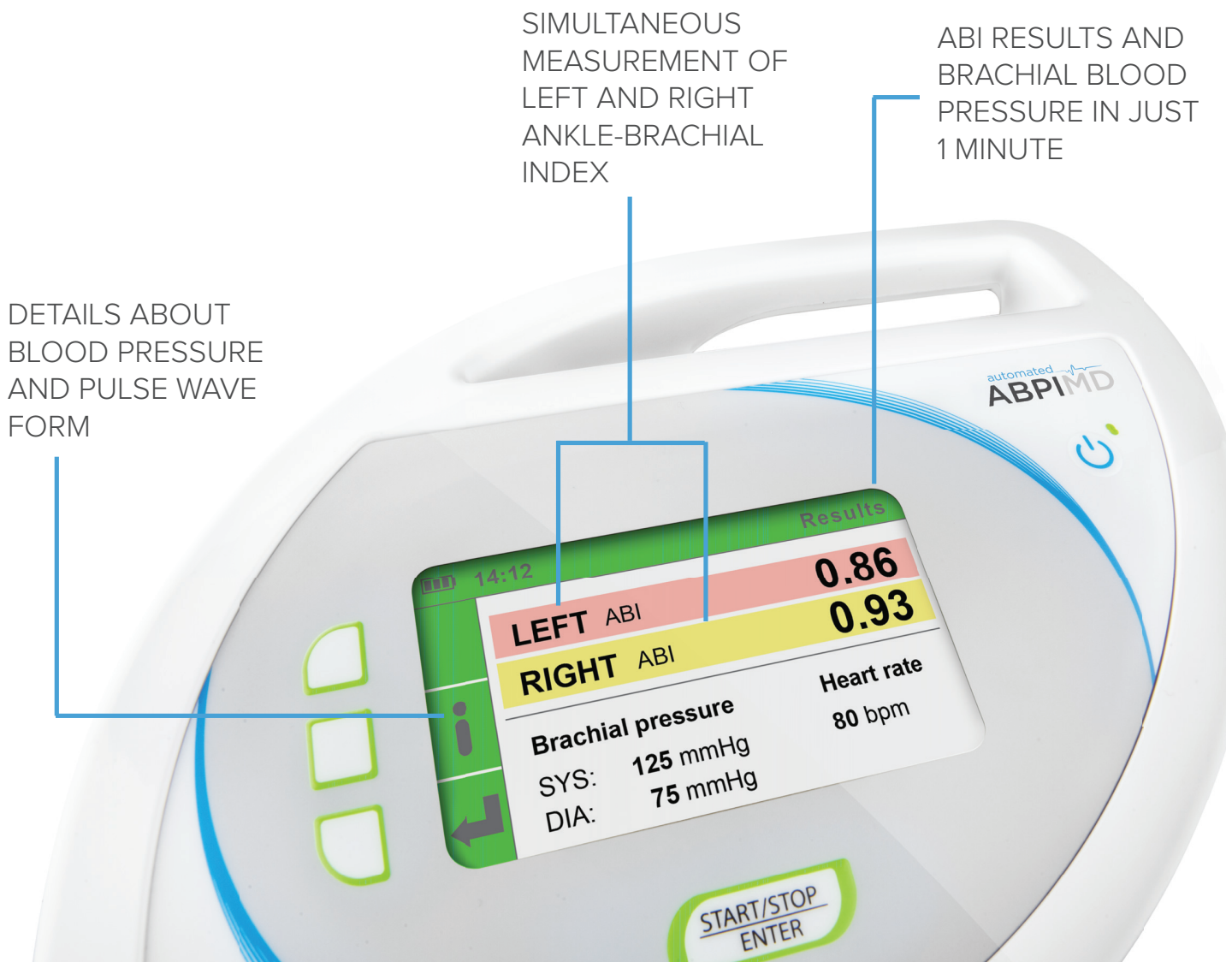
## Simple solution for diagnosing PAD

Ankle-Brachial Index (ABI) is a very simple comparison of blood pressure in the arm and legs. It is non-invasive and painless. With MESI ABPI MD, the procedure becomes reliable, objective and even possible to be performed as a screening device in primary healthcare. ABI screening is incredibly important for at least two reasons:

- It is a reliable predictor of the occlusion of lower extremity arteries - PAD. Detection of PAD is even more important when we know, that over 70% of the population is not aware of the occlusions at all.
- Because of high correspondence of PAD with Coronary Artery Disease (CAD) and Cerebrovascular Disease (CVD), patients diagnosed with PAD have a great chance of early diagnosis of CAD and CVD as well.

### ABI screening reference scale

|                         |                    |                    |                    |                     |
|-------------------------|--------------------|--------------------|--------------------|---------------------|
| <b>1.41 or more</b>     | <b>1.40 - 1.00</b> | <b>0.99 - 0.91</b> | <b>0.90 - 0.51</b> | <b>0.50 or less</b> |
| <b>non-compressible</b> | <b>normal</b>      | <b>borderline</b>  | <b>abnormal</b>    | <b>severe</b>       |



## World's fastest ABI screening device

Compared to the handheld Doppler probe, MESI ABPI MD performs an automated ABI measurement. Innovative technology enables the device to provide accurate and objective results, based on which physicians can diagnose Peripheral Arterial Disease with great confidence.

### Advanced error detection system

Smart software prevents false results even in the case of critical ischemia or medial calcinosis, and gives physicians all the confidence they need.

### Unique algorithm for ankle blood pressure calculation

It is not possible to measure blood pressure in ankles with a brachial blood pressure device. Therefore, our algorithm is different, developed with human ankle anatomy in mind.

### Cuff-based technology

Plethysmography sensors detect the smallest changes in volume. Ease-of-use excludes the possibility of human error and there is no need for additional training.

### Simultaneous measurement

Because blood pressure is constantly changing, simultaneous measurement is crucial to avoid error from blood pressure drift.



**DOPPLER  
PROBE**



**MESI ABPI MD**

**MESI ABPI MD  
USE ARGUMENTS**

|                         |                         |                  |  |
|-------------------------|-------------------------|------------------|--|
| Measurement duration    | 30 min                  | 1 min            | Plethysmographic method                                  |
| Pre-measurement resting | 10-20 min               | 0 min            | Eliminates blood pressure drift error and is time-saving |
| Measuring process       | One extremity at a time | Simultaneous     |  |
| Additional education    | YES                     | NO               | Medical staff is familiar with the cuffs                 |
| Calculations            | Manually                | Automatic        | Instant left and right ABI and more accuracy             |
| Measurement report      | NO                      | Automatic via PC | For the patient record and insurance billing             |
| Clothes removal         | YES                     | NO               | Increased patient comfort                                |
| Gel application         | YES                     | NO               |  |

# Accuracy is key

## Unique error detection without false results

Thanks to a unique error detection system, MESI ABPI MD will alert the operator of any irregularities which occur during the measurement process.

If the cuffs have been poorly placed or if the patient has moved during the measurement, the error message will be displayed on the screen.

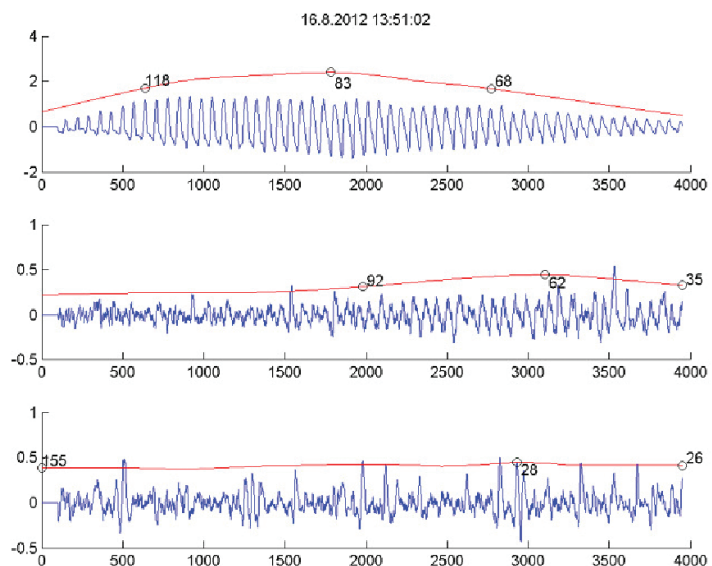


## Reliable even in the case of critical ischemia and medial calcinosis

It is crucial to provide a reliable measurement also when examining a patient with severe PAD.

Our improved plethysmographic sensors detect critical ischemia and medial calcinosis even when pressure oscillations are not available due to heavy occlusion.

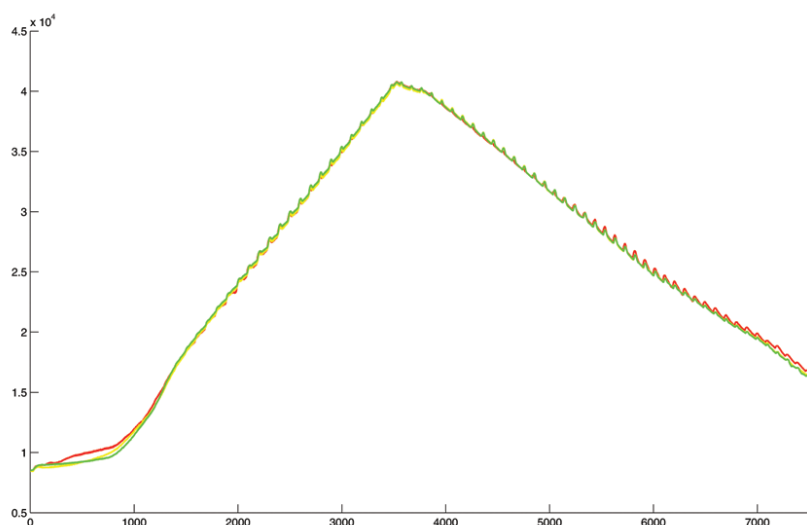
Every measurement with MESI ABPI MD provides sufficient information for further actions.



*While performing the measurement on a patient with severe PAD, it is possible that no pulse is detected. The obstruction of the artery is heavy, resulting in weak blood flow after the obstruction. The pressure is suppressed and the difference between systolic and diastolic pressure vanishes.*

PAD increases the risk of heart attack or stroke!

## Elimination of blood pressure drift error



Simultaneous cuff inflation. Red line for the cuff on the upper arm, green for the cuff on the right ankle and yellow for the cuff on the left ankle.

It is crucial to eliminate the delay between separate measurements on each extremity to achieve maximum ABI accuracy.

MESI ABPI MD conducts simultaneous blood pressure measurements on all extremities.

## Cuffs are essential for ABI measurement



The conical shape of the cuffs provides perfect fitting to the patient's extremities, providing the best accuracy.

Different colours indicate where to place each cuff.

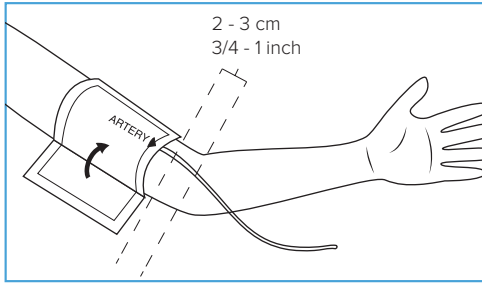
The red cuff should be positioned on the upper arm, the green on the right and the yellow on the left ankle.

Each cuff is clearly labelled and includes a diagram to ensure correct placement. No training is needed as comprehensive guidelines are provided.

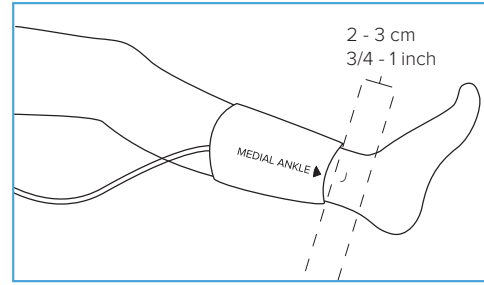
Cuffs are available in medium and large sizes.

Low ABI indicates narrowed arteries and reliably predicts PAD.

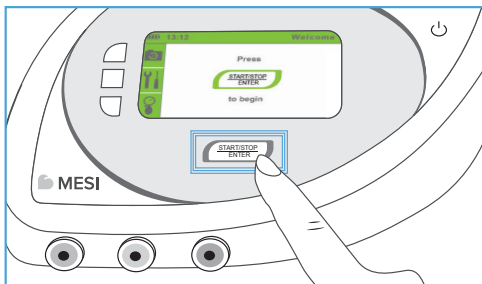
# Simple ABI measurement procedure



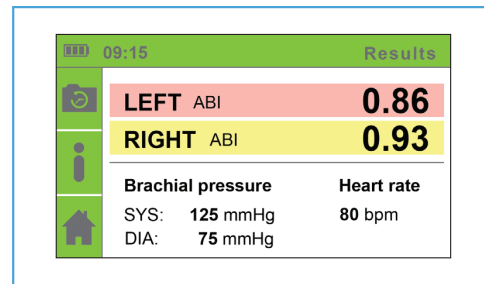
Step 1: Place the arm cuff.



Step 2: Place the ankle cuffs.



Step 3: Press the Start button to run the measurement.



Step 4: See the result.

## Added value of MESI ABPI MD



Simultaneous measurement

1min

1 minute measurements



No human error



Healthcare staff friendly



Report printout



# MESI

Simplifying Diagnostics



Worldwide presence



European production and development



CE 1304, ISO 9001 and ISO 13485 certified



Finalist of Qualcomm Tricorder XPRIZE competition



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