Breakthrough in diagnostics

The Automated Ankle Brachial Pressure Index Measuring Device
Peripheral arterial disease (PAD) increases the risk of a heart attack or stroke!\(^1\)

Peripheral arterial disease is a serious condition caused by poor circulation in the legs. The arteries in the lower extremities are narrowed by atherosclerotic plaque – a build-up of cholesterol in the arterial walls – that restricts the flow of oxygen-rich blood.

The condition may occur in all arteries of the body. Nearly 60% of patients with PAD have obstructed arteries in their legs as well as in their heart or brain.

The ankle-brachial index (ABI) should be measured in primary health care as a method of diagnosing and monitoring PAD.

Narrowed arteries by atherosclerotic plaques causes the lowering of the ABI, accordingly the examination is used for the determination of PAD. Therefore, the progression of the disease is reflected in the change in the ABI.

An individual may be without symptoms and yet still have PAD. Indeed, the symptoms occur only if the stenosis of the artery is exceeding 70% of the vascular lumen.

Scale of the ankle-brachial index\(^3\):

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.41 or more</td>
<td>non-compressible</td>
</tr>
<tr>
<td>1.40 - 1.00</td>
<td>normal</td>
</tr>
<tr>
<td>0.99 - 0.91</td>
<td>border line</td>
</tr>
<tr>
<td>0.90 - 0.41</td>
<td>abnormal</td>
</tr>
<tr>
<td>0.40 or less</td>
<td>severe</td>
</tr>
</tbody>
</table>

The normal value of the ABI is between 1.00 and 1.40. It shows that the blood pressure in the lower extremities is equal or little higher than in the upper extremities.\(^4\)

Meanwhile PAD cannot be cured; the symptoms can be restricted with the appropriate therapy. Therefore, it is crucial to measure the ankle brachial index periodically to detect any significant decrease in it.

The diagnosis of PAD is not sufficiently recognized in public health.

Only 25% of patients with PAD are undergoing appropriate treatment for the condition. This low percentage is largely attributable to the fact that the general population is unaware of the condition.\(^5\)

Patients with PAD have a higher 5-year mortality rate as patients with breast cancer. Studies have shown that only 30% of people diagnosed with PAD survive the next 15 years.

The automated ankle brachial pressure index measuring device (ABPI MD™) gives you an opportunity to diagnose your patients faster!

Placeing the cuffs, pressing the start button and reading the results are steps that form the measurement of the ABI.

Portability, a straightforward system and objective results are the benefits that support the everyday examination procedure.

The ankle brachial index measurement done by ABPI MD™ is a reliable and quicker alternative to the Doppler probe measurement.\(^6\)

PAD lowers the quality of life, thus it is crucial to diagnose and treat it early.

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1 Stay in Circulation: Take Steps to Learn About PAD; National Heart, Lung and Blood Institute 2006.
6 M.Špan: Measuring ABPI with automated oscinometric device and standard Doppler method in individuals without known PAD older than 45 years. What is better for primary health care practice?
The Automated Ankle Brachial Pressure Index Measuring Device

**Two in one**
The simultaneous measurement of blood pressure and ankle brachial index.

**Portability**
The convenient shape and long lasting battery support the transport and measuring in a variety of examination rooms.

**ABPI MD stand**
The ABPI MD stand complements the ABPI MD™ with a magnetic base and a basket for storing the cuffs.

**From 30' to 3'**
Measurement is done in 3 instead of 30 minutes. Thus it substitutes the old Doppler ultrasound method.

**Easy to use**
Placing the cuffs on the upper and lower extremities, pressing the start button and reading the results are the activities that form the measurement procedure.

**Accuracy and objectivity**
Due to the precise development of the algorithm used in the device, calculating the left and right ABI is accurate as well as objective.

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**Measurement**

- **Measurements:**
  - Ankle brachial pressure index
  - Systolic blood pressure
  - Diastolic blood pressure
  - Pulse rate

- **Measurement range:**
  - Pressure: 0 to 299 mmHg
  - Pulse rate: 30 to 199 BPM

- **Accuracy:**
  - Pressure: Within ± 3 mmHg or 2%
  - Pulse rate: Within ± 5% results
  - ABI: Within ± 0.1

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**MESIresults™**

- The company MESI follows the “Simplifying diagnostics” motto in every developing activity; thus MESIresults™ was not an exception.
- It has been developed to supplement the measurement of ABI and answer the question of a user-friendly handout.

- The application allows importing such information as name, address and logo of the institution; which can be saved in MESIresults™ and printed on every file leaving the health care facility.

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**Quality**

- In order to fulfill customers’ needs with a high level of satisfaction, the company follows quality standards ISO 9001 and ISO 13845 defined by the International Standardization Organization.
- The enterprise’s work is inspected once per year by the notable body SIQ to maintain the standard and finest quality of the products.
- The “Conformité Européenne” or CE mark is the result of the excellent work of the research and development team. It confirms the ABPI MD™’s effectiveness, MESI’s quality of procedures, in addition to its compliance with the medical device directive.

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**MESIcare™**

- “Patients’ health is your concern, let the device be ours.”
- The service MESIcare™ supports health care with flawless ABPI MD™ operation, thus every problem is solved flawlessly and not at the patient’s cost.
- MESIcare™ stands for an extended guarantee (up to five years) and includes:
  - Replacement of cuffs, battery and components,
  - Software renewal and
  - Annual calibration.

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**Technical specification**

- **Dimension:**
  - Width: 9.84" (25.00 cm)
  - Height: 2.87" (7.30 cm)
  - Depth: 7.87" (20.00 cm)
  - Weight: 1.32lb (0.60 kg)

- **Display:**
  - 4.3” color LCD screen with 16bpi color depth
  - Resolution: 480x272

- **Power and battery:**
  - Battery type: Rechargeable Lithium-Polymer battery
  - Capacity: 2300 mAh

- **Protection against electric shock:**
  - Class II equipment
Quick guide

**Step 1**
Place cuffs.

**Step 2**
Press START button.

**Step 3**
Read the result.

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**Results**

<table>
<thead>
<tr>
<th></th>
<th>LEFT ABPI</th>
<th>0.84</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RIGHT ABPI</td>
<td>0.90</td>
</tr>
<tr>
<td>Brachial pressure</td>
<td>Heart rate</td>
<td></td>
</tr>
<tr>
<td>SYS:</td>
<td>125 mmHg</td>
<td>80 bpm</td>
</tr>
<tr>
<td>DIA:</td>
<td>75 mmHg</td>
<td></td>
</tr>
</tbody>
</table>

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