Multi Function EndoPAT

- Endothelial Function Measurement
- Risk Score Calculator
- Augmentation Index*
- Heart Rate Variability*

*For research purposes only (U.S.)

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Endo-PAT Index
e 0.81
HR = 83 bpm
Medical Information in your fingertip

Endothelial Function

EndoPAT assesses digital flow mediated dilation during reactive hyperemia using measurements from both arms – occluded side and control side. EndoPAT provides an index of endothelial function in two forms: RHI and LnRHI.

RHI (Reactive Hyperemia Index) is the post-to-pre occlusion PAT signal ratio in the occluded side, normalized to the control side and further corrected for baseline vascular tone. Normal: RHI > 1.67 Abnormal: RHI ≤ 1.67

LnRHI is a similar index after natural log transformation with a matched cutoff: Normal: LnRHI > 0.51 Abnormal: LnRHI ≤ 0.51

Natural log is a monotonic transformation therefore it does not change the dichotomous diagnosis for any individual test.

LnRHI provides a better double sided distribution than RHI that is closer to normal distribution. It offers better separation between disease states.

Risk Score Calculator

The EndoPAT Risk Score Calculator provides the 3 most commonly used cardiovascular risk assessment methods:

**Framingham Risk Score (FRS)** estimates 10 year risk of Coronary Heart Disease, MI or cardiac death! (Adults treatment panel III, JAMA 2001)

Applies to subjects without known heart disease or diabetes. Utilizes different models for men and women using the following predictors:
- Age
- Total Cholesterol
- HDL
- Systolic Blood Pressure
- Treatment for Hypertension
- Smoking

Available at: www.framinghamheartstudy.org

**SCORe** is the European estimate of a 10 year risk of fatal CVD (JHL, 2003).

Charts are divided to low risk regions (Belgium, France, Greece, Italy, Luxembourg, Spain, Portugal) and high risk regions (all other European countries) using the following predictors:
- Gender
- Age
- Systolic Blood Pressure
- Total Cholesterol
- Smoking

Available at: www.escardio.org

**Reynolds Risk Score** provides 10 years risk of MI, stroke, revascularization or cardiac death (JAMA 2002; Circ 2008)

Reynolds risk score uses the following predictors:
- Gender
- Age
- Systolic Blood Pressure
- Total Cholesterol
- HDL
- hsCRP
- Parent MI before age 60

Available at: www.reynoldsriskscore.org

Augmentation Index (AI)*

Measures arterial stiffness, calculated via pulse waveform analysis of the PAT signal and is considered an independent risk factor for CVD not necessarily correlated to endothelial function. AI is calculated from PAT pulses recorded at the base-line period. EndoPAT averages multiple pulses, identifies the systolic peak (P1) and the reflected wave's peak (P2) then incorporates them into the formula: (P2-P1)/P1. The result is further normalized to heart rate of 75bpm (AI@75).

Lower AI values (including negative results) reflect better arterial elasticity. The AI result is provided relative to gender matched, non-selective populations.

* For research purpose and available clinically upon meeting regulatory requirements per country

Heart rate variability (HRV)*

A measure of heart beat-to-beat variability in either time or frequency domain. HRV reflects the status of the autonomic nervous system (ANS) and is associated with the balance between sympathetic and parasympathetic activities that may reflect various pathological conditions.

EndoPAT HRV is calculated from the baseline period, based on the ESC and North American Society of Pacing Electrophysiology task force standard. Results are available in various time and frequency domain formats.