**Practice Information:**
*Supporting therapy decision in Hypertension*

**Clinical Background**

Often the question is raised if one should start intervention on a patient presenting a practice blood pressure of 130-159/85-99 mmHg or a LDL-value of 130 – 190 mg/dl (3.4 – 4.9 mmol/l).

The decision to start intervention can be based on evidence of subclinical end-organ-damage such as arterial stiffness measured by aortic pulse wave velocity (aPWV).

Evidence based data from Ben-Shlomo et al. demonstrate that aPWV is predictive for cardio-vascular events, independent of age. The predictive value of aPWV is significantly superior to the sole capture of common risk factors, such as hypertension, hypercholesteremia or the Framingham risk score.

**Therapy Management**

**PWV measurement:** The use of a standard upper-arm cuff allows the simultaneous measurement of blood pressure and aPWV in one process stratification: An increased aPWV value classifies the patient into a “high risk”, instead of “low risk” group.²

Clinical Monitoring Therapy progress and success can be documented by the measurement of aPWV.

**Reimbursement**

aPWV measurement may be offered to patients as a “vascular age measurement”.

The measurement can be utilized within the framework of prevention programs (for example during check-up programs). Reimbursement for aPWV measurement is expanding to many countries. In others, the examination is commonly paid for by the patients themselves.
**Methodology**

**Device Technology:**  
Mobil-O-Graph® (Mobil-O-Graph® NG Classic including PWA Upgrade or Mobil-O-Graph® 24h PWA).

**Measurement:**  
Blood pressure and aortic PWV measurement in one process.

**Clinical Validation:**  
The measurement of aPWV using Mobil-O-Graph® correlates significantly with invasive catheter measurements. The very high correlation of $R = 0.81$ is also confirmed by a reproducibility of 0.05 m/s (ranging from -0.47 to 0.57 m/s).³

**Technology Features**

**Measurements:**  
To be applied as Practice/Clinic or as 24h ambulatory measurement.

**HMS-CS Upgrade:**  
The HMS CS software application can be easily upgraded to perform practice/clinic pulse wave velocity by using the licensed PWA Dongle (USB).

**Further Information**

For more detailed information on the measurement of aPWV measurement in your practice and/or clinic we invite you to visit our I.E.M. GmbH web-site (www.iem.de) or request information under info@iem.de or via + 49 2402 9500-0.

**Literature and sources:**

1. Aortic Pulse Wave Velocity Improves Cardiovascular Event Prediction; An Individual Participant Meta-Analysis of Prospective Observational Data From 17,635 Subjects; Yoav Ben-Shlomo, et al.; Journal of the American College of Cardiology Vol. 63, No. 7, 2014

2. 2013 ESH/ESC Guidelines for the management of arterial hypertension; Journal of Hypertension 2013, 31:1281–1357 (see section 4.2.3)