



# Blood Pressure Monitoring

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## Performance of the UA-787 oscillometric blood pressure monitor according to the European Society of Hypertension protocol.

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### Abstract:

**Objective:** To determine the accuracy of the UA-787 oscillometric blood pressure monitor developed by the A&D Company.

**Design:** Evaluation of the UA-787 was performed using the new protocol of the European Society of Hypertension. The performance of the monitor was assessed in relation to the subjects' gender, age, skinfold thickness, arm circumference, body mass index and elasticity index of large (C1) and small (C2) arteries.

**Methods:** The UA-787 monitor was assessed according to European Society of Hypertension requirements, which are based on four zones of accuracy differing from the mercury standard by 5, 10, 15 mmHg, or more. In all subjects (n=33), indices of large-artery elasticity (C1) and small-artery elasticity (C2) were measured with the HDI/Pulsewave CR-2000 Research Cardiovascular Profiling System.

**Results:** The UA-787 passed all three phases of the protocol for both systolic and diastolic blood pressure. The mean blood pressure difference between device and the observers was 1.0+/-5.3 mmHg for systolic pressure, and 0.7+/-5.3 mmHg for diastolic pressure. In univariate analysis, the discrepancy between device and the observers was related to forearm circumference (P=0.02) for systolic pressure. For diastolic blood pressure, a significant relationship was found only for heart rate (P<0.01). However, in a multivariable regression analysis no clinical variable was an independent predictor of device-observer discrepancy. In particular, the performance of the UA-787 appeared to be uniform across the whole range of C1 and C2.

**Conclusions:** These data show that the A&D UA-787 device satisfies the new recommended European Society of Hypertension accuracy levels for both systolic and diastolic pressure. Its performance is uniform across sub-groups of subjects with different clinical characteristics.

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