ences. Bland and Altman was used to examine the relationship between BP level and method differences.

**Results:** 106 pts mean values for: age 62.8± 13.3 yrs, weight 82.9±20.6 kgs, referral SBP 151.8±22.5 mm Hg, and DBP 83.5±12.4 mm Hg. The inter-method differences (GSN – BpTRU) SBP were +1.8± 5.1 mmHg and for DBP+4.8± 5.1 mmHg (Both P<0.001). When GSN was compared to BpTRU on the clinical question of whether the pt. did or did not have BP≥140/90, there was agreement in 97 patients (42 pts <140/90 and 55 pts >140/90) and 9 cases of disagreement (7pts GSN <140/90, 2 BpTRU<140/90).

**Conclusions:** Despite differences in inter-method SBP and DBP, BpTRU provides accurate repeated BP measurement. In 92% of pts it provided decision making BP information equal to JNC VI GSN measurement. The BpTRU provides a labor saving alternative to the practitioner for accurate BP measurement.

Key Words: automated BP device, clinical decision making

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**P-30**

**THE ROLE OF HOME BLOOD PRESSURE MEASUREMENTS IN THE DIAGNOSIS OF HYPERTENSION**


Home blood pressure (BP) measurements, using automatic devices, become increasingly popular. However, their role in the diagnosis of hypertension (HT) is not well established. Therefore, we compared BP levels obtained in the clinic and at home.

Fifty four patients with essential HT (33 males and 21 females) with a mean age of 52 ± 7 years (range 40-70) were included in the study. BP and heart rate were measured 3 times in the clinic and for 2 weeks at home. Home BP measurements were taken daily, morning and evening, with an Omron IC BP monitor - a digital BP monitor that stores all data including BP, heart rate, up to 300 measurements. The devices were checked for accuracy against a mercury sphygmomanometer. BP and heart rate data were downloaded and the levels obtained in the clinic were compared to those obtained at home.

Average BP levels in the clinic were higher by 9/6 mm Hg than at home (Average clinic BP was 147 ± 14/89 ± 9 mm Hg and at home 138 ± 13/83 ± 8 mm Hg)(P<0.01). Females had a greater clinic-home BP difference than males (12/7 mm Hg vs 6/4 mm Hg in males; P<0.05). The clinic-home BP difference was related to the clinic BP levels (R = 0.53; P<0.01), and was unrelated to age and body weight. Eleven patients (20%) had higher BP levels at home than in the clinic. Isolated home HT was observed in 8 patients.

White coat hypertension is more common in females with high BP levels in the clinic. Blood pressure levels may sometimes be higher at home than in the clinic (“white coat normotension”). Therefore, it is recommended to perform home BP measurements in females with high clinic BP levels, and in patients with target organ damage who have normal BP levels in the clinic.

Key Words: white coat hypertension, pulse pressure, circadian

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**P-31**

**PULSE PRESSURE DIFFERENCES BETWEEN NORMOTENSIVE AND WHITE COAT HYPERTENSIVE SUBJECTS**

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The prevalence and clinical significance of white coat hypertension (WCH) is still controversial. Although recent longitudinal studies have provided preliminary prognostic data on subjects with WCH as compared to patients with sustained hypertension, the possible relation between WCH and vascular risk is still under debate. Accordingly, we compared the circadian pattern of blood pressure (BP) variability between normotensive subjects and patients with WCH. We studied 465 subjects (230 men and 235 women), 45.7±15.4 (mean±SD) years of age, with diurnal BP mean below 135/85 for systolic/diastolic BP, and hyperbaric index (area of BP excess above a time-specified tolerance interval) below the previously established threshold for diagnosis of hypertension from data obtained by ambulatory BP monitoring [Hermida et al. Hypertension. 2000;35:118-125]. Among those subjects, 222 (119 men and 103 women) had WCH (mean from 6 office BP measurements above 140 or 90 mm Hg for systolic or diastolic BP). BP was measured at 20-minute intervals during the day (07:00 to 23:00 hours) and at 30-minute intervals at night for 48 consecutive hours. Circadian parameters established by population multiple-component analysis [Fernandez & Hermida. Chronobiol Int. 1998;15:191-204] were compared between normotensive and WCH subjects by nonparametric testing. Patients with WCH are characterized by a significant increase in systolic (2.6 mm Hg; P<0.001) but not in diastolic BP (P=0.568 for comparison of 24-hour mean) as compared to normotensive subjects. The differences in systolic BP between normotension and WCH are much more pronounced during the first 6 hours after awakening, and they are almost irrelevant during nocturnal resting hours. The largest and highly significant difference between groups was found around the clock in pulse pressure (about 3 mm Hg in 24-hour mean, P<0.001). In volunteers studied by 48-hour ambulatory monitoring, WCH is characterized by a significant elevation in systolic BP and, especially, in pulse pressure as compared to truly normotensive subjects. If indeed pulse pressure is an independent predictor of risk and cardiovascular events, WCH could then be associated to a long-term worst prognosis in comparison to true normotension, an issue that deserves further investigation.

Key Words: pulse pressure, circadian

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**P-32**

**TOLERANCE INTERVALS FOR 24-HOUR AMBULATORY BLOOD PRESSURE MONITORING IN THE DIAGNOSIS OF HYPERTENSION**

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To recognize the predictable circadian variability of blood pressure (BP) is to admit that the diagnosis of hypertension should be based not just on whether a single BP value is too high, but rather on more pertinent questions: How long is BP elevated above a given time-varying threshold? What is the excess BP? When most of the excess occurs? Answers to these questions may be obtained by establishing, first, an adequate reference BP threshold and, second, a proper measurement of BP elevation. Accordingly, we derived circadian time-specified reference standards for BP as a function of gender. We studied 702 normotensive volunteers (383 men), 45.7±1.1 (mean±SE) years of age, with diurnal mean of ambulatory monitored BP below 135/85 mm Hg for systolic/diastolic BP, and hyperbaric index (area of BP excess above a time-specified tolerance interval) below the previously established threshold for diagnosis of hypertension [Hermida et al. Hypertension. 2000;35:118-125]. BP was measured at 20-min intervals during the day (07:00 to 23:00 hours) and at 30-min intervals at night for 48 hours. Physical activity was simultaneously monitored every minute by wrist actigraphy. Data from each BP series were synchronized according to the rest-activity cycle of each individual in order to avoid differences among subjects in actual times of daily activity. Data were then used to compute 90% circadian tolerance intervals for each gender separately, in keeping with the gender differences in BP previously documented [Hermida. Blood Pres Monit. 1999;4:137-147]. The method, based on bootstrap