Ambulatory blood pressure measurement. A review of international studies

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Authors' objectives
This report aims to evaluate the potential efficiency of the devices in diagnosis and treatment of hypertension.

Authors' conclusions
Round the clock: Ambulatory blood pressure monitoring (ABPM) may be performed at home by borrowing devices from the doctor, either with ordinary blood pressure monitors or automatic blood pressure monitors. The latter produce 24 h blood pressure profiles by registration at given intervals throughout the day, and therefore supply information on the individual's blood pressure values during normal activities round the clock.

Office hypertension: The measurement of blood pressure in the physician's office may trigger a transient rise in blood pressure, that is above the level measured at home. This condition termed "white coat hypertension", may be elucidated by ABPM, which may reduce the risk of false positive diagnosis of hypertension. However, there is a possibility that patients with increased blood pressure in stress situations also are at increased risk of developing cardiovascular diseases, and that this condition is a forerunner of serious hypertension. Information from the published literature is not conclusive, and the long term outcome from white coat hypertension is not known.

It is therefore unclear whether conditions which are diagnosed with ABPM (office hypertension and changes in round-the-clock blood pressure variations) carry with them an increased risk of cardiovascular disease.

What is the correct value?: ABPM provide 24 hours information on blood pressure values, but there is no consensus on which values clinical decisions should be based on, i.e. at which level treatment should be initiated. However, the ABPM are consistently lower and less variable than the corresponding measurements in the doctor's surgery

Variation in practice: The use of ABPM seems to be increasing, but in the absence of guidelines, the treatment strategies taken may vary from doctor to doctor. A review of the available systematic surveys shows that ABPM is not a better method to detect clinically relevant hypertension or predict the risk of cardiovascular disease than well done measurements in the doctor's clinic.

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