

Beware the White Coat...
By Gregory S. Cohn, M.D.

One of the most common components of a visit to the doctor's office is measurement of blood pressure. For some, this measurement is just one part of a routine visit, but for many, it is the primary focus for seeing their physician. The act of taking a blood pressure is a relatively simple thing to do, and can be done by all levels of health care providers. The idea behind measuring blood pressure is also very straight forward. It is well known that high blood pressure (greater than or equal to 140/90) is a potent risk factor for a wide variety of significant medical conditions, including strokes, heart attacks, congestive heart failure, atrial fibrillation, and kidney disease, among others. It is also widely accepted that lowering one's blood pressure can greatly reduce the risk that these problems will eventually occur. The real question is whether we can accurately diagnose high blood pressure (hypertension) based on the readings obtained in the doctor's office?

The introduction of *ambulatory blood pressure monitoring* has taught medical science a great deal about how blood pressure "normally" behaves. Blood pressure generally follows a rhythm, where it is highest during the day, and falls ("dips") at nighttime, often by as much as 10%. The pressure begins to rise again in the early morning awakening hours (the so-called "morning surge", which is associated with activation of the Sympathetic Nervous System), and is felt to be one of the main reasons why many heart attacks and strokes occur at this time. It has been shown that those patients whose blood pressure does not fall at night ("non-dippers") have more sustained levels of high blood pressure, and are at greater risk for "target organ disease." Ambulatory monitoring has also made it clear that blood pressure measured in the doctor's office in the usual manner is often **higher** than blood pressure measured **outside** of the office. This "*white coat effect*" has been estimated to occur in up to **20%** of patients! This distinction between "real" and "artificial" pressure elevation is critical, as it has been shown that those with only "*white coat hypertension*" appear to have the same cardiovascular risk as patients with truly normal blood pressure, making the use of medication unnecessary.

Experts generally agree that a single instance of elevated blood pressure in a doctor's office does not warrant a diagnosis of hypertension; elevated readings on 3 or more separate occasions is usually considered justification for this label. However, based on the high prevalence of the white coat effect, it is not unreasonable to augment in-office readings with measurements obtained on the outside. Interestingly, ambulatory blood pressure has proven to be a better predictor of cardiovascular events than office pressure. There are a number of inexpensive, reliable, and accurate home blood pressure monitors that can be purchased, but there are a few key things to remember. It is important to get an arm cuff as opposed to wrist and finger monitors, which are less reliable. Make sure you take your machine to the doctor's office, and obtain readings with both the home monitor and their apparatus to insure accuracy. At home, measure and record your blood

pressure after a short period of relaxation at different times of the morning, afternoon, and evening (not just at the same time everyday). Lastly, measuring blood pressure at home is **not** for everyone. However, if done properly, for many it can lead to more accurate diagnosis, improved blood pressure control (often with less medication), and a sense of participation in one's own health care.

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