

Section II. Criteria for Diagnosis of Hypertension and Recommendations for Follow-up

**2015 Canadian Hypertension
Education Program
Recommendations**



I. BP measurement methods

- Office (attended, OBPM)
 - Oscillometric (electronic) – **preferred method**
 - Auscultatory (mercury, aneroid)
- Office Automated (unattended, AOBP)
 - Oscillometric (electronic)
- Ambulatory blood pressure monitoring (ABPM)
- Home blood pressure monitoring (HBPM)

For information on blood pressure measurement devices:

- <http://www.dableducational.org/sphygmomanometers.html>
- <http://www.bhsoc.org/bp-monitors/bp-monitors/>

New 2015 Recommendation: BP Measurement

Office BP measurement (OBPM):

- Measurement using electronic (oscillometric) upper arm devices is preferred to auscultatory devices (Grade C).

BP measurement methods

Office (attended, OBPM)

Auscultatory (mercury, aneroid)



Oscillometric (electronic)



<http://www.dablededucational.org/sphygmomanometers.html>

<http://www.bhsoc.org/bp-monitors/bp-monitors/>

BP measurement methods

Office (attended, OBPM)

Oscillometric (electronic)

Preferred

Auscultatory (mercury, aneroid)



<http://www.dablededucational.org/sphygmomanometers.html>

<http://www.bhsoc.org/bp-monitors/bp-monitors/>

BP measurement methods

Office Automated (unattended, AOBP)

Oscillometric (electronic)



<http://www.dableducational.org/sphygmomanometers.html>

<http://www.bhsoc.org/bp-monitors/bp-monitors/>



Automated Office Blood Pressure Measurement (AOBP)

- Automated office blood pressure measurements can be used in the assessment of office blood pressure*.
- When used under proper conditions, automated office SBP of 135 mmHg or higher or DBP values of 85 mmHg or higher should be considered analogous to mean awake ambulatory SBP of 135 mmHg or higher or DBP of 85 mmHg or higher*.

*see notes

Use of Standardized Measurement Techniques is Recommended when Assessing Blood Pressure

- When using automated office oscillometric devices such as the BpTRU, the patient should be seated in a quiet room alone.
- With the device set to take measures at 1 minute intervals, an initial measurement is taken by a health professional to verify that the device is registering a measurement.
- The patient is left alone after the first measurement and the device automatically takes subsequent readings.

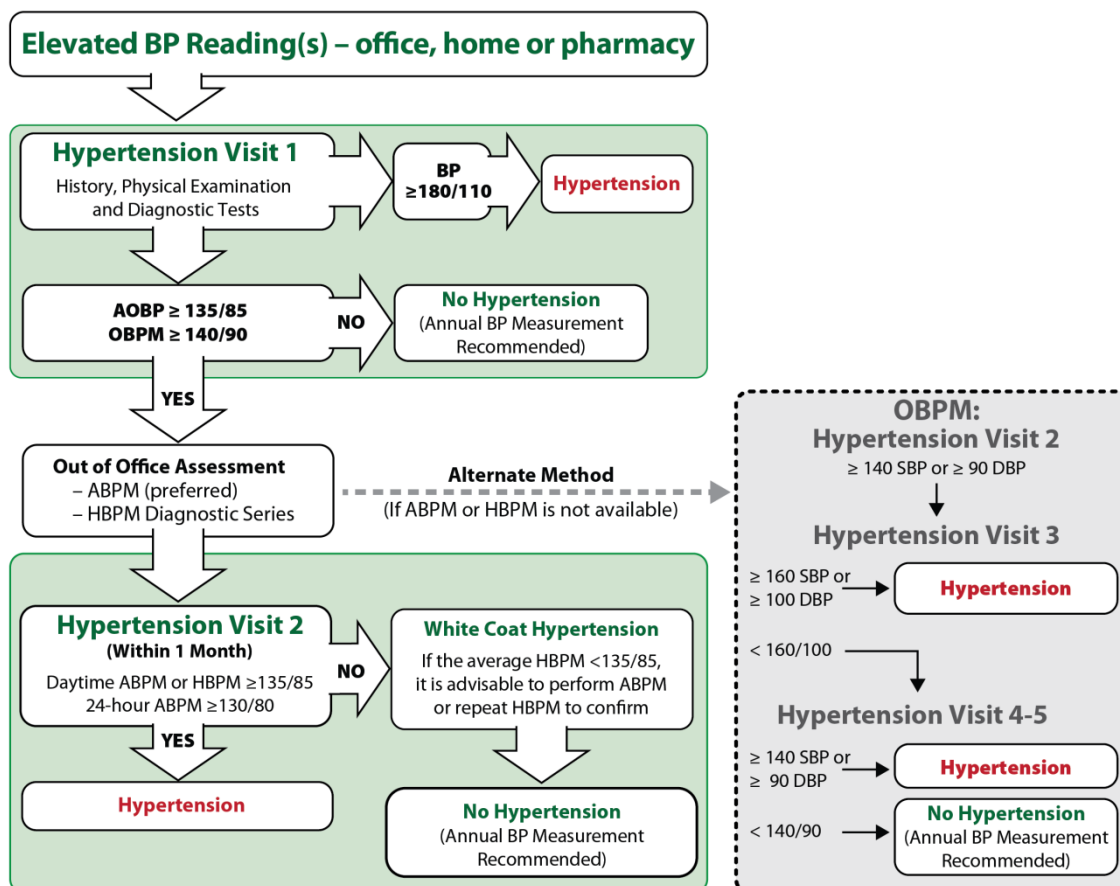
Auscultatory OBPM is inaccurate

- In the real world, the accuracy of auscultatory OBPM can be adversely affected by provider, patient and device factors such as:
 - too rapid deflation of the cuff
 - digit preference with rounding off of readings to 0 or 5
 - also, mercury sphygmomanometers are being phased out and aneroid devices are less likely to remain calibrated
- Consequence: Routine auscultatory OBPMs are 9/6 mm Hg higher than standardized research BPs (primarily using oscillometric devices)

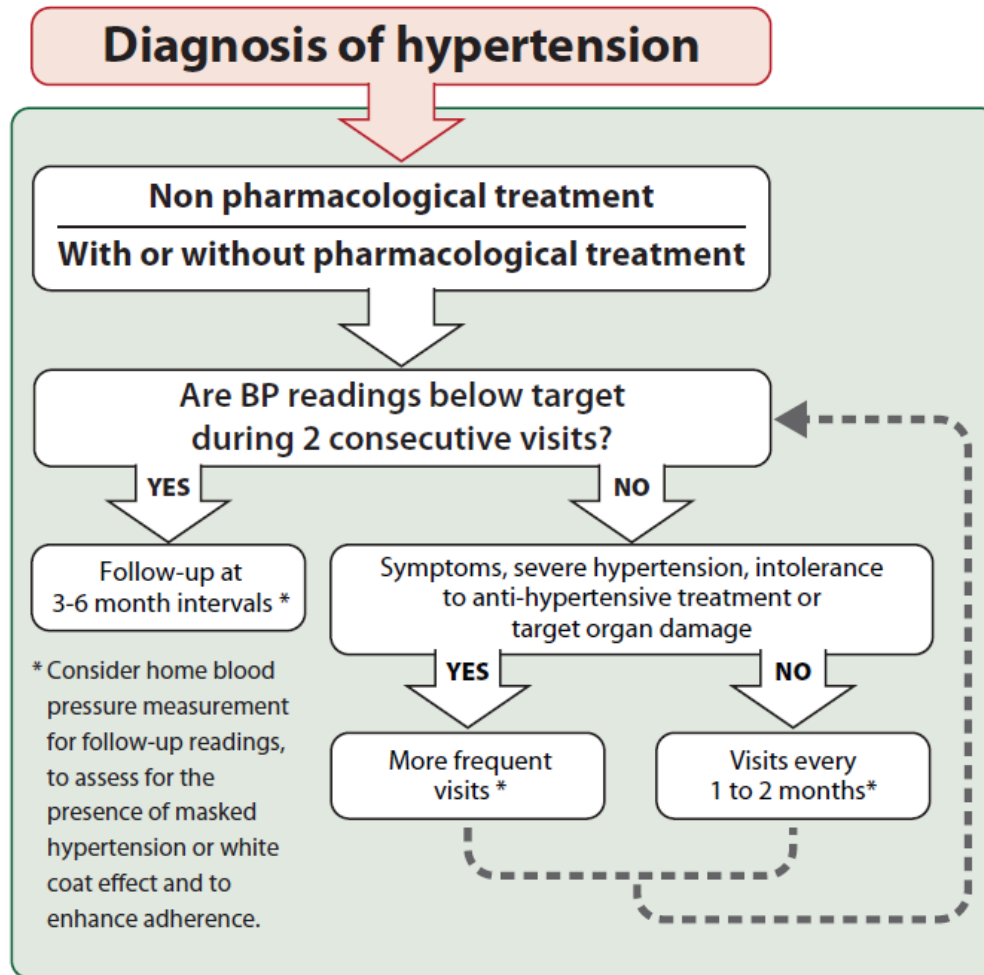
Keys to accurate OBPM

- Use standardized measurement techniques and validated equipment
- Measurement using electronic (oscillometric) upper arm devices is preferred over auscultation
- The first reading should be discarded and the latter two averaged.

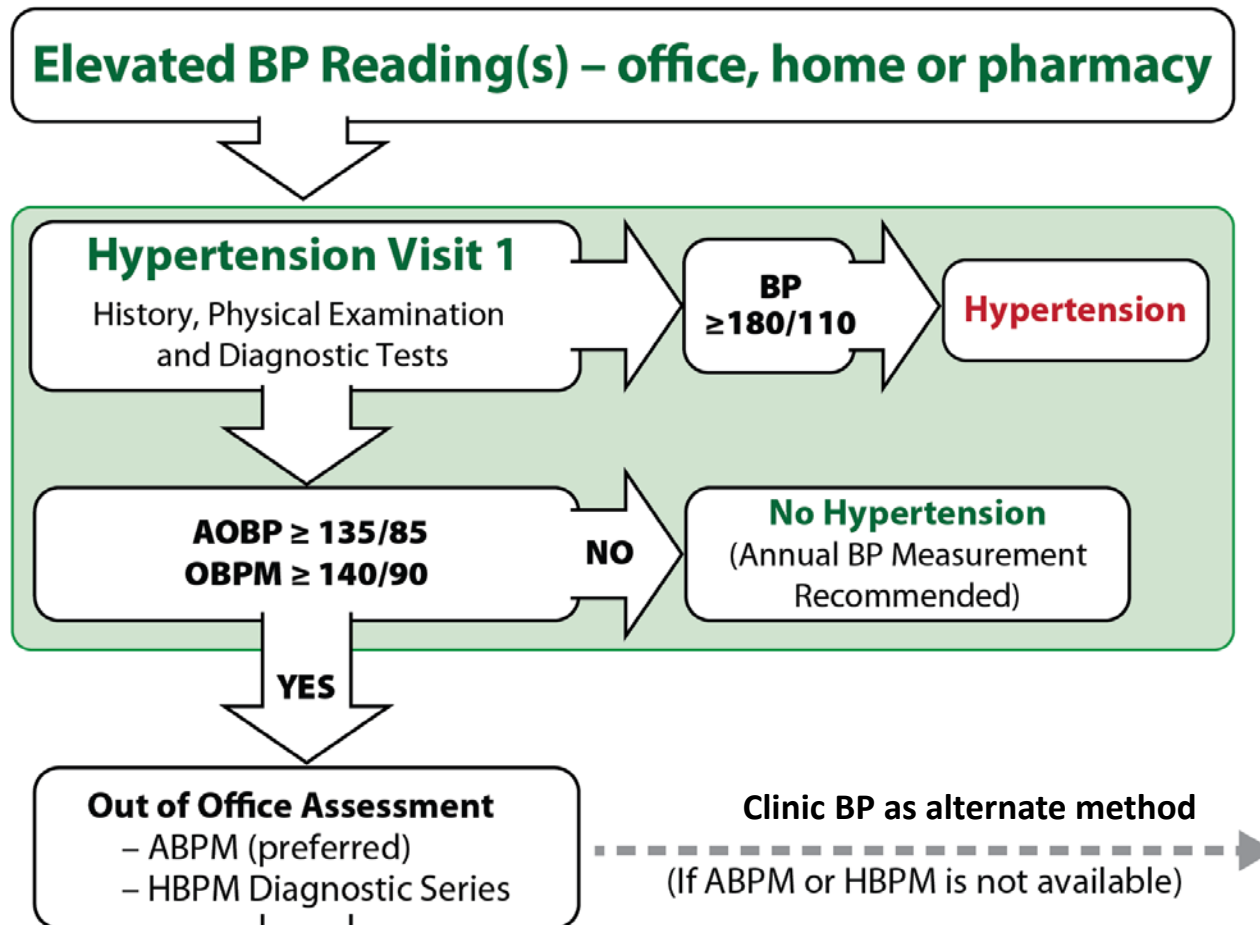
II. Criteria for the diagnosis of hypertension and recommendations for follow-up: overview



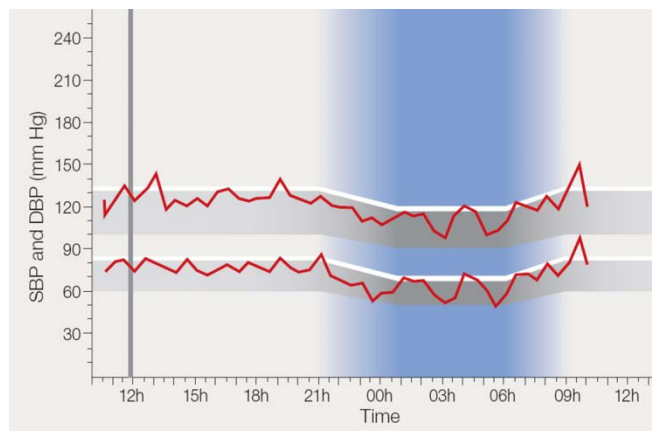
II. Criteria for the Diagnosis of Hypertension and Recommendations for Follow-up



Out of office assessment is the preferred means of diagnosing hypertension



Out of office BP measurement methods: Ambulatory (ABPM)



<http://www.dablededucational.org/sphygmomanometers.html>

<http://www.bhsoc.org/bp-monitors/bp-monitors/>

Out of office BP measurement methods: Home (HBPM)



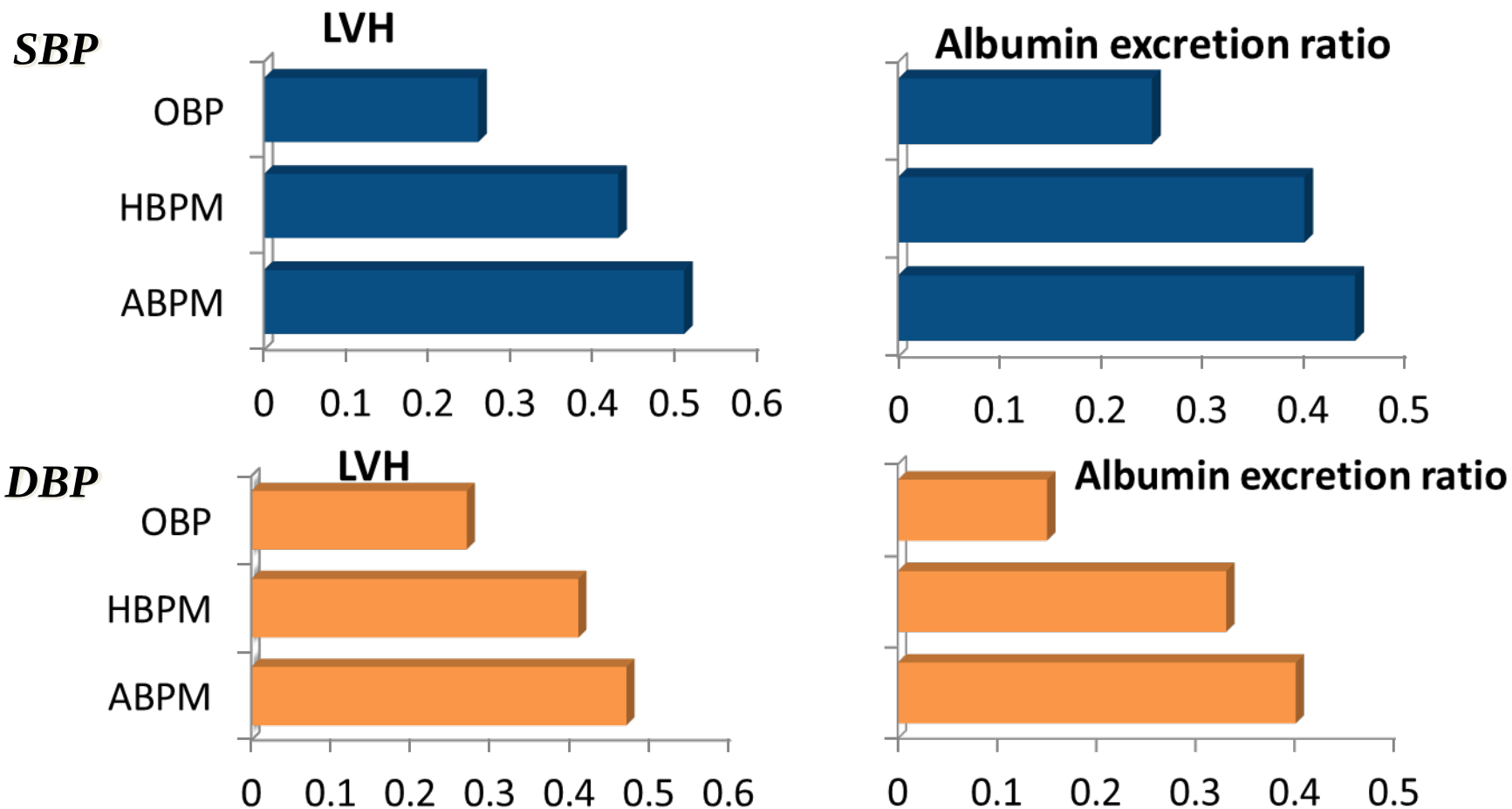
<http://www.dableeducational.org/sphygmomanometers.html>

<http://www.bhsoc.org/bp-monitors/bp-monitors/>

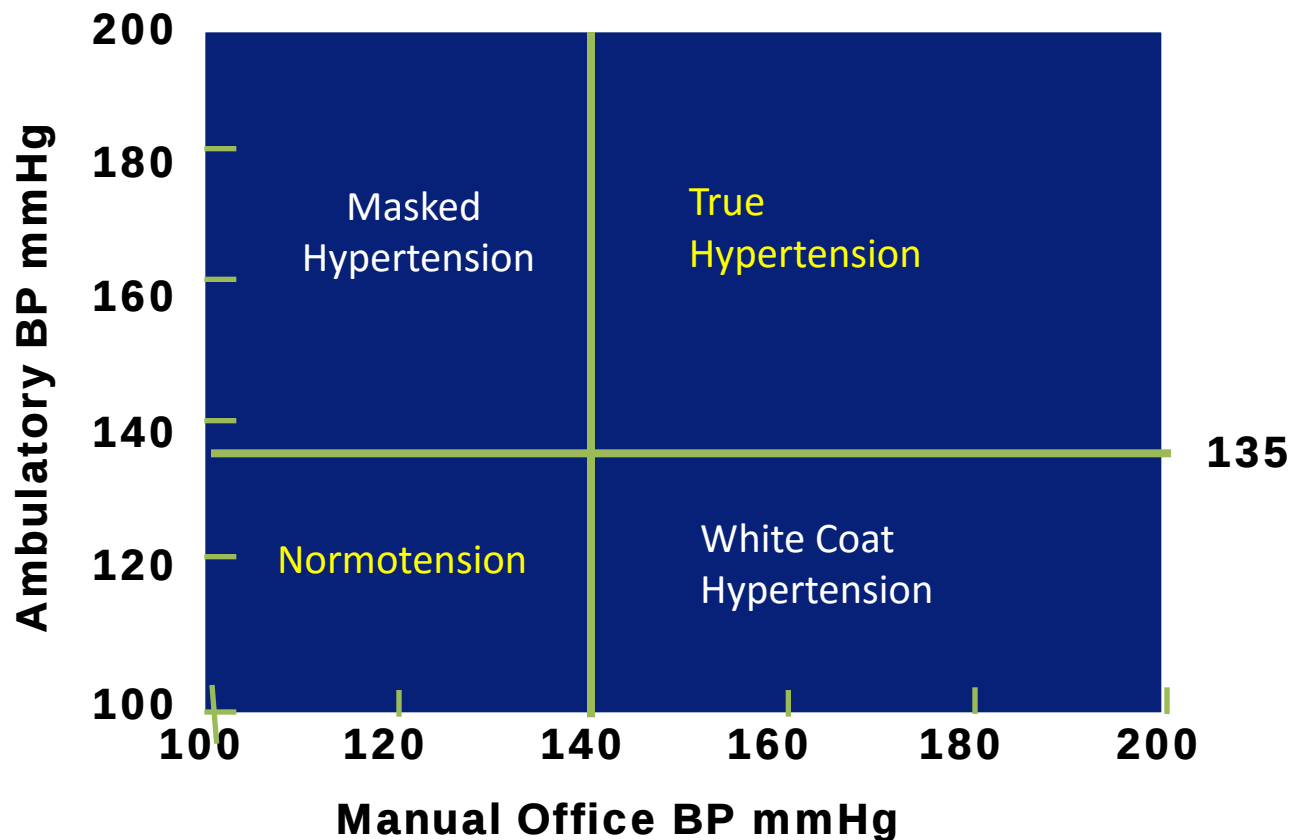
Out-of-office BP Measurements

- ABPM has better predictive ability than OBPM and is the recommended out-of-office measurement method.
- HBPM has better predictive ability than OBPM and is recommended if ABPM is not tolerated, not readily available or due to patient preference.
- Identifies white coat hypertension (as well as diagnosing masked hypertension)

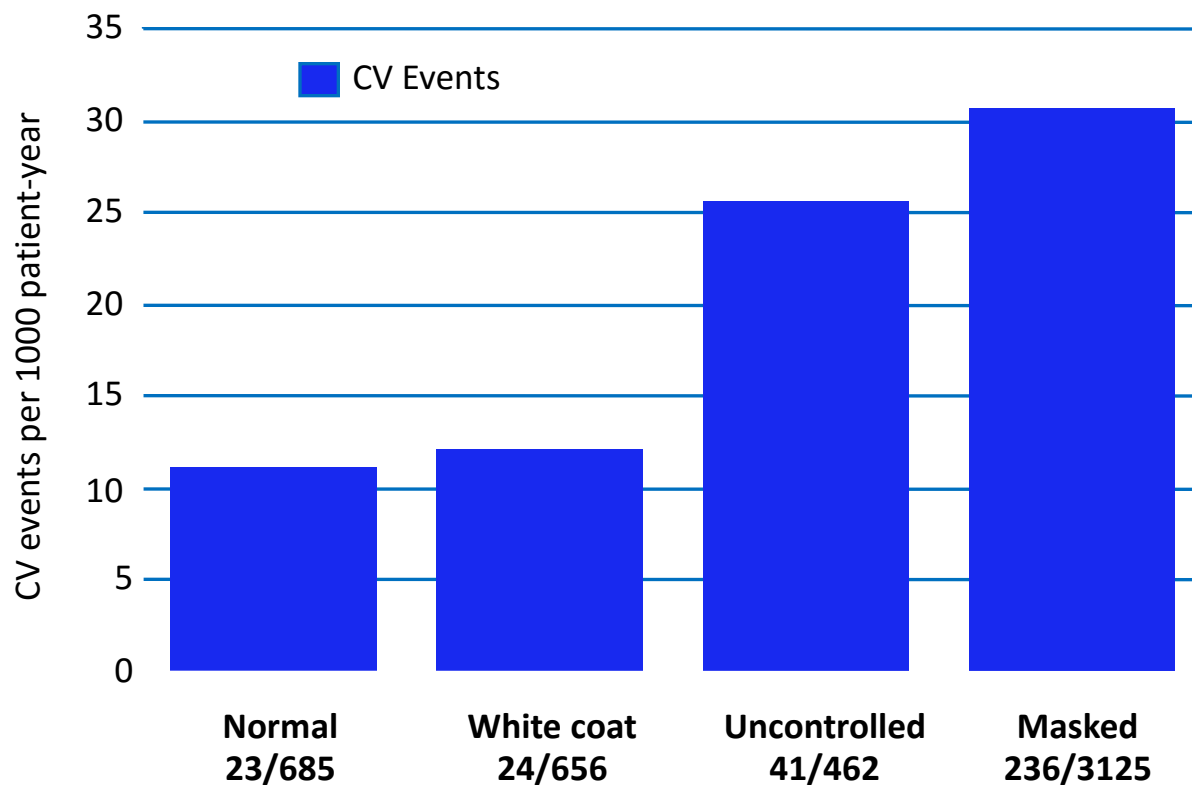
Out-of-office BP measurements are more highly correlated with BP-related risk



Only relying on office pressures misses out on white coat and masked hypertension



The prognosis of *white coat* and *masked* hypertension





White coat hypertension: risk factors

- women
- older adults
- non-smokers
- subjects recently diagnosed with hypertension with a limited number of routine OBPM
- subjects with mild hypertension
- pregnant women
- subjects ***without*** evidence of target organ damage



Masked hypertension: risk factors

- high normal clinic BPs
- older adults
- males
- higher BMI
- smoker
- excess alcohol consumption
- diabetes
- peripheral arterial disease
- orthostatic hypotension
- LVH

Summary of evidence

- Out-of-office is needed to identify white coat hypertension (and to rule out masked hypertension)
- ABPM has better predictive ability than OBPM
- HBPM has better predictive ability than OBPM

Criteria for the diagnosis of hypertension and recommendations for follow-up: summary

