Supplementary Online Content

Roerecke M, Kaczorowski J, Myers MG. Comparing automated office blood pressure readings with other methods of blood pressure measurement for identifying patients with possible hypertension: a systematic review and meta-analysis. *JAMA Intern Med.* Published online February 4, 2019. doi:10.1001/jamainternmed.2018.6551

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This supplementary material has been provided by the authors to give readers additional information about their work.

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eTable 1. Search Strategy MEDLINE

Database: Ovid MEDLINE(R) <1946 to April Week 3 2018> Search Strategy:

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1 Blood Pressure Determination/ (25755)

2 ("blood pressure" adj2 (measur* or determin* or assess*)).ti. (3813)

3 Hypertension/di (17861)

4 Sphygmomanometers/ (820)

5 or/1-4 (41396)

6 exp Automation/ (35827)

7 automat*.mp. (198176)

8 electronic.mp. (128482)

9 or/6-8 (336625)

10 5 and 9 (2150)

11 limit 10 to yr="2004 -Current" (1018)

12 limit 11 to (english language and humans) (936)

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eTable 2. Excluded Studies Based on Full-Text Assessment With Reason (n=28)

Reference	Reason for Exclusion
Al-Karkhi I, Al-Rubaiy R, Rosenqvist U, Falk M, Nystrom FH. Comparisons of automated blood pressures in a primary health care setting with self-measurements at the office and at home using the Omron i-C10 device. *Blood Press Monit*. 2015;20(2):98-103.	Missing comparison
Andreadis EA, Agaliotis GD, Angelopoulos ET, Tsakanikas AP, Chaveles IA, Mousoulis GP. Automated office blood pressure and 24-h ambulatory measurements are equally associated with left ventricular mass index. *Am J Hypertens.* 2011;24(6):661-666.	Duplicate data
Brothwell S, Dutton M, Ferro C, Stringer S, Cockwell P. Optimising the accuracy of blood pressure monitoring in chronic kidney disease: the utility of BpTRU. *BMC Nephrology*. 2013;14:218. doi:10.1186/1471-2369-14-218.	Attended AOBP measurement
Brown MA, Buddle ML, Martin A. Is resistant hypertension really resistant? *Am J Hypertens*. 2001;14(12):1263-1269.	Missing AOBP measurement
Burgess SE, MacLaughlin EJ, Smith PA, Salcido A, Benton TJ. Blood pressure rising: differences between current clinical and recommended measurement techniques. *J AM Soc Hypertens*. 2011;5(6):484-488. doi: 10.1016/j.jash.2011.08.007.	Missing AOBP measurement
Campbell NR, McKay DW, Conradson H, Lonn E, Title LM, Anderson T. Automated oscillometric blood pressure versus auscultatory blood pressure as a predictor of carotid intima-medial thickness in male firefighters. *J Hum Hypertens*. 2007;21(7):588-590. doi: 10.1038/sj.jhh.1002190.	Duplicate data
Culleton BF, McKay DW, Campbell NR. Performance of the automated BpTRU measurement device in the assessment of white-coat hypertension and white-coat effect. *Blood Press Monit*. 2006;11(1):37.42.	Interval between AOBP measurements >2 minutes
Dawes MG, Coats AJ, Juszczack E. Daytime ambulatory systolic blood pressure is more effective at predicting mortality than clinic blood pressure. *Blood Press Monit*. 2006;11(3):111-118. doi: 10.1097/01.mbp.0000209086.32493.bd.	Missing AOBP measurement
de la Sierra A, Seguara J, Banegas JR, et al. Clinical features of 8295 patients with resistant hypertension classified on the basis of ambulatory blood pressure monitoring. *Hypertension*. 2011;57(5):898-902. doi: 10.1161/HYPERTENSIONAHA.110.168948.	Missing AOBP measurement
de la Sierra A, Banegas JR, Divisón JA, et al. Ambulatory blood pressure in hypertensive patients with inclusion criteria for the SPRINT trial. *J Am Soc Hypertens*. 2016;10(12):947-9535.e5. doi: 10.1016/j.jash.2016.10.013.	Missing AOBP measurement
Eguchi K, Kuruvilla S, Ishikawa J, et al. Correlations between different measures of clinic, home, and ambulatory blood pressure in hypertensive patients. *Blood Press Monit*. 2011;16(3):142-148. doi: 10.1097/MBP.0b013e328346d669.	Missing AOBP measurement
Graves JW, Nash C, Burger K, Bailey K, Sheps SG. Clinical decision-making in hypertension using an automated (BpTRU™) measurement device. *J Hum Hypertens*. 2003;17(12):823-827. doi:10.1038/sj.jhh.1001626.	Attended AOBP measurement
Graves JW, Grossardt BR. Discarding the first of three nurse-auscultatory or oscillometric blood pressure measurements does not improve the association of office blood pressure with ABPM. *Blood Press Monit*. 2010;15(3):146-151. doi: 10.1097/MBP.0b013e328337ce76.	Missing AOBP measurement
Greiver M, White D, Kaplan DM, Katz K, Moineddin R, Dolabchian E. Where should automated blood pressure measurements be taken? Pilot RCT of BpTRU measurements taken in private or nonprivate areas of primary care office. *Blood Press Monit*. 2012; 17(3):137-138. doi: 10.1097/MBP.0b013e328352ae44.	Missing comparison
Gustavsen PH, Høegholm A, Bang LE, Kristensen KS. White coat hypertension is a cardiovascular risk factor: a 10-year follow-up study. *J Hum Hypertens*. 2003;17(12):811-817. doi: 10.1038/sj.jhh.1001643.	Missing AOBP measurement
Head GA, Mihailidou AS, Duggan KA, et al. Definition of ambulatory blood pressure targets for diagnosis and treatment of hypertension in relation to clinic blood pressure: prospective cohort study. *The BMJ*. 2010;340:c1104. doi:10.1136/bmj.c1104.	Missing AOBP measurement
Hong D, Su H, Li J, et al. The effect of physician presence on blood pressure. *Blood Press Monit.* 2012;17(4):145-148. doi: 10.1097/MBP.0b013e328355fe14.	Missing comparison

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Johnson KC, Whelton PK, Cushman WC, et al. Blood pressure measurement in SPRINT (Systolic Blood Pressure Intervention Trial). *Hypertension.* 2018;71(5)848-857. doi: 10.1161/HYPERTENSIONAHA.117.10479.	Missing comparison
Myers MG, Valdivieso MA. Use of an automated blood pressure recording device, the BpTRU, to reduce the "white coat effect" in routine practice. *Am J Hypertens*. 2003;16(6):494-497.	Sample size <30
O'Flynn AM, Curtin RJ, Perry IJ, Kearney PM. Hypertension prevalence, awareness, treatment, and control: should 24-hour ambulatory blood pressure monitoring be the tool of choice? *J Clin Hypertens*. 2016;18(7):697-702. doi: 10.1111/jch.12737.	Missing AOBP measurement
O'Shaughnessy MM, Durcan M, Kinsella SM, Griffin MD, Reddan DN, Lappin DW. Blood Pressure Measurement in Peritoneal Dialysis: Which Method Is Best? *Peritoneal Dialysis International: Journal of the International Society for Peritoneal Dialysis*. 2013;33(5):544-551. doi:10.3747/pdi.2012.00027.	Sample size <30
Reinhard M, Poulsen PL, Christensen KL. Very poor agreement between routine outpatient clinic office and ambulatory blood pressure: time to improve an old hospital outpatient clinic routine? *Blood Press Monit.* 2016;21(6):340-344. doi: 10.1097/MBP.0000000000000214.	Missing AOBP measurement
Rinfret F, Cloutier L, L'Archevêque H, et al. The gap between manual and automated office blood pressure measurements results at a hypertension clinic. *Can J Cardiol*. 2017;33(5):653-657. doi: 10.1016/j.cjca.2017.01.021.	Time elapse between two types of BP measurements >1 month
Seidlerová J, Gelžinsky J, Materánková M, Ceral J, Köng P, Filipovsky Jl. In the aftermath of SPRINT: further comparison of unattended office blood pressure measurement and 24-hour blood pressure monitoring. *Blood Press*. 2018;22:1-6. doi: 10.1080/08037051.2018.1454258.	Duplicate data
Steigerwalt SP, Brar N, Dhungel A. Improved 24-hour blood pressure control with sirolimus versus calcineurin inhibitor based immunosuppression in renal transplant recipients. *Transplant Proc.* 2009;41(10):4184-4187. doi: 10.1016/j.transproceed.2009.07.109.	Less than 3 BpTRU readings
Stergiou GS, Efstathiou SP, Alamara CV, Mastorantonakis SE, Roussias LG. Home or self blood pressure measurement? What is the correct term? *J Hypertens.* 2003;21(12):2259-2264. doi: 10.1097/01.hjh.0000098142.70956.88.	Missing comparison
Van der Wel MC, Buunk IE, van Weel C, Thien TABM, Bakx JC. A Novel Approach to Office Blood Pressure Measurement: 30-Minute Office Blood Pressure vs Daytime Ambulatory Blood Pressure. *Ann Fam Med*. 2011;9(2):128-135. doi:10.1370/afm.1211.	Interval between AOBP measurements >2 minutes
Vieira da Silva MA, Mendes da Silva AP, Artigas Giorgi DM, Ganem F. Successive blood pressure measurements to evaluate suspected and treated hypertension. *Blood Press Monit.* 2016;21(2):69-74. doi: 10.1097/MBP.0000000000000161.	Missing AOBP measurement

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eTable 3. Study Characteristics Details of Blood Pressure Measurements for Included Studies (n=31)

Study	Inclusion/Exclusion Criteria	AOBP	ABPM	Research BP	Routine BP
Agarwal, 2017[1]	**Inclusion:** BP measured in clinic on day of recruitment, BP in normotensive range (<140/90 mmHg), evidence of chronic kidney disease **Exclusion:** Kidney transplantation or dialysis,receiving immunosuppressive drugs	**Device:** Omron HEM 907 **Rest:** Standard 5-min rest prior to measurement **Readings:** Unattended 3 readings with a 0.5-min interval, first reading not discarded **TBM:** Routine BP obtained following AOBP measurement, then all participants underwent 24-h ambulatory BP monitoring	**Device:** SpaceLabs 90207 **Readings:** Not specified	N/A	**Device:** Omron HEM 705 CP **Readings:** Attended 1 reading
Andreadis, 2012[2]	**Inclusion:** Never taken or not received antihypertensive medication for ≥6 months, office hypertension (average office BP reading of SBP ≥ 140 mmHg or DBP ≥90 mmHg) **Exclusion:** arrhythmia, stroke, mental disorders, severe noncardiovascular disease (cancer or liver cirrhosis), chronic inflammatory disease, worked night shifts	**Device:** WatchBP Office **Rest:** 5-min rest added prior to measurement **Readings:** Unattended 6 readings (3 on each arm) with a 1-min interval, first reading discarded **TBM:** AOBP obtained following ABPM measurement	**Device:** Microlife WatchBP **Readings:** At 15-min intervals		
Andreadis, 2018[3]	**Inclusion:** Referred for hypertension by family physicians **Exclusion:** Inability to adequately use ambulatory BP measurement device	**Device:** Omron HEM 907 **Rest:** Standard 5-min rest prior to measurement **Readings:** Unattended 3 readings with a 1-min interval, first reading not discarded **TBM:** All BP readings obtained at a single visit	**Device:** Microlife WatchBP 03 **Readings:** At 20-min intervals	N/A	N/A
Armstrong, 2015[4]	**Inclusion:** Consecutive patients referred for ABPM **Exclusion:** Not specified	**Device:** BpTRU **Rest:** Not specified **Readings:** Unattended (other patients in the room) 5 readings with a 2-min interval, first reading discarded **TBM:** ABPM obtained following AOBP measurement	**Device:** SpaceLabs 90207 **Readings:** At 30-min intervals	N/A	N/A
Bauer, 2018[5]	**Inclusion:** Pre-existing hypertension documented by intake of antihypertensive medication or BP ≥140/90 mmHg **Exclusion:** Febrile conditions and hypotension (SBP <100 mmHg)	**Device:** Omron HEM 907 **Rest:** Standard 5-min rest prior to measurement **Readings:** Unattended 3 readings with 1 or 2 min. interval, first reading not discarded **TBM:** AOBP obtained following research BP measurement	N/A	**Device:** Aneroid sphygmmanometer **Readings:** Attended 1 reading	N/A
Beckett, 2005[6]	**Inclusion:** Diagnosis of hypertension, treatment with antihypertensive medication, uncontrolled BP (mean of last 3 office visits ≥140/90 mmHg) **Exclusion:** <18 years of age, pregnant, known secondary cause for hypertension	**Device:** BpTRU **Rest:** 5-min rest added prior to measurement **Readings:** Unattended 5 readings with a 1 or 2-min interval, first reading discarded	**Device:** A&D Model TM2430	N/A	**Readings:** Average BPs measured at last 3 office visits used, visits ranged

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		TBM: ABPM obtained following all other BP measurements	**Readings:** At 15-min intervals		from several weeks to months apart
Bhatt, 2016[7]	**Inclusion:** Referred for uncontrolled resistant HTN between June 2013 and November 2015, uncontrolled apparent RHTN (SBP ≥140 mmHg and/or DBP ≥90 mmHg obtained during routine intake measurement while prescribed ≥3 antihypertensive medications at time of initial visit) **Exclusion:** Controlled triage and expertly obtained BP measurements and controlled triage and uncontrolled expertly obtained BP measurements	**Device:** BpTRU **Rest:** 5-min rest added prior to measurement R**eadings:** Unattended 5 readings with a 1-min interval, first reading discarded **TBM:** AOBP obtained following routine BP measurement	N/A	N/A	**Device:** Welch Allyn **Rest:** BP measurement taken almost immediately **Readings:** Attended 1 reading
Campbell, 2005[8]	**Inclusion:** Fire fighters recruited from FATE and 50 consecutive patients seen by one of the authors in urgent internal medicine assessment clinic and internal medicine clinic specializing in hypertension **Exclusion:** Not specified	**Device:** BpTRU **Rest:** No rest prior to measurement **Readings:** Unattended 5 readings with a 1-min interval, first reading discarded **TBM:** All BP readings obtained at a single visit in random order	N/A	**Device:** Mercury Manometer **Rest:** 5-min rest prior to measurement, no rest for hypertensive group in reproducibility study **Readings:** Attended 2 readings, first reading not discarded	N/A
Edwards, 2013[9]	**Inclusion:** Diagnosis of office-based hypertension according to Canadian Hypertension Education Program guidelines, age ≥18 with hypertension between May 1, 2004 to April 1, 2010, resting MOBP and AOBP measured on same clinic visit, ABPM performed within 24-h of study visit **Exclusion:** Not specified	**Device:** BpTRU **Rest:** 20-min rest added prior to measurement **Readings:** Unattended 5 readings with a 1-min interval, first reading discarded **TBM:** ABPM obtained following all other BP measurements	**Device:** SpaceLabs 90207 **Readings:** At 15-min intervals	**Device:** Manual **Rest:** 5-min rest prior to measurement **Readings:** Attended 3 readings	N/A
Filipovsky, 2016[10]	**Inclusion:** Stable outpatients treated for hypertension, examined in hypertension centre by one of three participating physicians **Exclusion:** Not specified	**Device:** BpTRU **Rest:** 5-min rest added prior to measurement **Readings:** Unattended 5 readings with a 1-min interval, first reading discarded **TBM:** Routine BP obtained immediately following AOBP measurement	N/A	N/A	**Device:** Nissei DM-1000 and Riester N desk model **Readings:** Attended 2 readings
Filipovsky, 2018[11]	**Inclusion**: Attended arterial hypertension or cardiology outpatients clinics in 4 university hospitals between March 2015 and March 2016, age >18 years, essential arterial hypertension, stable on drug treatment (attending physician should not expect need for antihypertensive medication change during 12 months of follow-up) **Exclusion:** Unstable health state (i.e. manifest heart failure, labile diabetes, advanced malignant disease),	**Device:** BpTRU **Rest:** No rest prior to measurement **Readings:** Unattended 5 readings with a 1-min interval, first reading discarded **TBM:** Routine BP obtained immediately following AOBP measurement (85% of patients), ABPM scheduled at second visit (ABPM conducted within 24-h (69.6% patients) or one week (88.4%) from clinical visit)	**Device:** SpaceLabs **Readings:** Not specified	N/A	**Device:** Nissei DM-3000 and Riester N desk model **Readings:** Attended 3 readings

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	unstable hypertension (antihypertensive medication changed between 1st and 2nd clinical visit)				
Garcia-Donaire, 2012[12]	**Inclusion:** Aged >18 years, both sexes, normotensive or hypertensive patients (only hypertensive patients for TRUE-HTA study) **Exclusion:** Patients who are not participating in a clinical trial or do not understand content for informed consent	**Device:** BpTRU **Rest:** No rest prior to measurement **Readings:** Unattended 5 readings with a 2-min interval, first reading discarded **TBM:** Not specified	**Device:** SpaceLabs 90207 **Readings:** At 20-min intervals	**Device:** Manual **Readings:** Attended 3 readings with 3-min intervals	N/A
Godwin, 2010[13]	**Inclusion:** Diagnosis of hypertension, treatment with antihypertensive medications, uncontrolled BP (mean of last three office visits ≥140/90 mmHg) **Exclusion:** <18 years of age, pregnant, known secondary cause for hypertension	**Device:** BpTRU **Rest:** No rest prior to measurement **Readings:** Unattended 5 readings with a 1 or 2-min interval, first reading discarded **TBM:** ABPM obtained following AOBP measurement	**Device:** A&D Model TM2430 **Readings:** Not specified	N/A	**Device:** Manual **Readings:** Average BPs measured at last 3 office visits used, visits ranged from several weeks to months apart
Goldberg, 2017[14]	**Inclusion:** Adult ED patients without known diagnosis of hypertension with triage BP that met CMS threshold for outpatient referral (triage SBP ≥120 mmHg and/or DBP ≥80 mmHg) between August 2014 and February 2016, ≥18 years old, speaks English **Exclusion:** Known to be hypertensive, taking antihypertensives, receiving dialysis, pregnant, prisoners, intoxicated, admitted, or in infectious disease isolation, had atrial fibrillation, chest pain, shortness of breath, one-sided weakness or numbness, altered mental status, acute psychiatric problems, used cocaine in previous 30 day, or received any antihypertensive medication between triage BP and BpTRU measurement	**Device:** BpTRU **Rest:** No rest prior to measurement **Readings:** Unattended 5 readings with a 1-min interval, first reading discarded **TBM:** AOBP obtained following routine BP measurement at patient arrival	N/A	N/A	**Device:** Automated BP monitor **Readings:** Measurement attended
Ishikawa, 2012[15]	**Inclusion:** Untreated or treated hypertensive patients on stable antihypertensive therapy for ≥4 weeks **Exclusion:** Never attended office visit or withdrew informed consent, dropped out midway through protocol, performed shift work, or whose BP could not be measured using oscillometric devices	**Device:** WatchBP Office **Rest:** No rest prior to measurement **Readings:** Unattended 3 readings with a 1-min interval, first reading not discarded **TBM:** AOBP and research BP measurements (random order) obtained at all 3 office visits at 2-week intervals, ABPM obtained at 2nd office visits	**Device:** SpaceLabs 90207 **Readings:** At 30-min intervals	**Device:** Sphyg **Rest:** 5-min rest added prior to measurement **Readings:** Attended 3 readings with a 1-min interval, first reading not discarded	N/A
Lamarre-Cliché, 2011[16]	**Inclusion:** Recruited to clinic between December 2006 and December 2008, age ≥18 years, diagnosis of hypertension according to CHEP guidelines, ability to adequately use Self-Meas **Exclusion:** Recent changes in medications (≤2 weeks earlier), planned modifications of medications	**Device:** BpTRU **Rest:** 5-min rest added prior to measurement **Readings:** Unattended 5 readings with a 1-min interval, first reading discarded **TBM:** AOBP and research BP performed consecutively within 20-min timeline, all measurements obtained within a 2-week period.	**Device:** SpaceLabs 90207 **Readings:** At 30-min intervals	**Device:** Sphyg **Rest:** 5-min rest added prior to measurement **Readings:** Attended 3 readings with a 1-min interval	N/A

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	during study's duration, noncompliance with medications, presence of diabetes	Order AOBP vs ABPM was randomized.			
Moore, 2018[17]	**Inclusion:** Confirmed or suspected arterial hypertension referred to attend specialist clinic between November 2013 and December 2016 **Exclusion:** Atrial fibrillation at time of assessment, other sustained heart rhythm irregularities, or upper limb obstructive atherosclerosis	**Device:** Mobil-o-graph IEM **Rest:** No rest prior to measurement **Readings:** Unattended 3 readings with a 2-min interval, first reading discarded **TBM:** ABPM obtained following AOBP measurement	**Device:** Mobil-o-graph IEM **Readings:** At 20-min intervals	N/A	N/A
Myers, 2006[18]	**Inclusion:** Patients referred to hypertension specialist for further management by primary care physicians in community **Exclusion:** Not specified	**Device:** BpTRU **Rest**: No rest prior to measurement **Readings:** Unattended 5 readings with a 2-min interval, first reading discarded **TBM:** AOBP and routine BP obtained in random order	N/A	N/A	**Device:** Buamanometer mercury sphygmomanometer **Readings:** Measurement attended
Myers, 2008a[19]	**Inclusion:** Patients referred to ABPM center **Exclusion:** Not specified	**Device:** BpTRU **Rest:** No rest prior to measurement **Readings:** Unattended 5 readings with a 1 or 2-min interval, first reading discarded **TBM**: ABPM obtained following AOBP measurement	**Device:** SpaceLabs 90207 **Readings:** At 15-min intervals	N/A	N/A
Myers, 2008b[20]	**Inclusion:** Adult residents of Ontario, aged 20-79 years, with and without high BP **Exclusion:** Not specified	**Device:** BpTRU **Rest:** 5-min rest added prior to measurement **Readings:** Unattended 5 readings with a 1-min interval, first reading discarded **TBM:** 2-min break between BP measurements, random order	N/A	**Device:** Buamanometer mercury sphygmomanometer **Rest:** 5-min rest added prior to measurement **Readings:** Attended 3 readings with a 1-min interval, first reading discarded	N/A
Myers, 2009a[21]	**Inclusion:** Consecutive referrals by hypertension specialists for 24-h ABPM, treated and untreated patients, antihypertensive therapy left unchanged during period of 3 automated office BP recordings **Exclusion:** Not specified	**Device:** BpTRU **Rest:** No rest added prior to measurement **Readings:** Unattended 5 readings with a 1 or 2-min interval, first reading discarded **TBM:** ABPM obtained following AOBP measurement	**Device:** SpaceLabs 90207 **Readings:** at 15-min intervals	**Device:** Mercury sphygmomanometer and Y-tube connector **Readings:** 2 readings	N/A
Myers, 2009b[22]	**Inclusion:** Consecutive referrals from family physician in community for 24-h ABPM **Exclusion:** Not specified	**Device:** BpTRU **Rest:** No rest added prior to measurement **Readings:** Unattended 5 readings with a 1 or 2-min interval, first reading discarded **TBM:** AOBP obtained before and after ABPM measurements	**Device:** SpaceLabs 90207 **Readings**: At 15-min intervals	**Device:** Mercury sphygmomanometer and T-tube connector **Readings**: 2 readings	**Device:** BpTRU **Readings:** Last BP measurement by family physician in office used

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Myers, 2010a[23]	**Inclusion:** Consecutive untreated patients referred for 24-h ABPM by family physicians in community **Exclusion:** Treated patients	**Device:** BpTRU **Rest:** No rest added prior to measurement **Readings:** Unattended 5 readings with a 1 or 2-min interval, first reading discarded **TBM:** ABPM obtained following AOBP measurement	**Device:** SpaceLabs 90207 **Readings**: At 15-min intervals	N/A	**Readings:** Average BP recorded by patient's family physician at time of referral used
Myers, 2010b[24]	**Inclusion:** Referred to ABPM unit at Sunnybrook Health Science center for assessment of hypertension, capable of self-measurement of BP in home for 7 days of study; no age or sex restrictions **Exclusion:** Changes in drug therapy 30 days earlier, failed to record all BP readings	**Device:** BpTRU **Rest:** No rest added prior to measurement **Readings:** Unattended 5 readings with a 1-min interval, first reading discarded **TBM:** ABPM obtained following AOBP measurement	**Device:** SpaceLabs 90207 **Readings:** At 15-min intervals	**Device:** Mercury sphygmomanometer and T-tube connector **Readings:** 2 readings	N/A
Myers, 2011[25]	**Inclusion:** Hypertension code on billing forms, satisfied initial screening criteria, > 45 years, no serious coexisting illness limiting participation, no history of non-compliance, not treated for diabetes mellitus, serum creatinine less than twice normal, not using or intending to use home BP measurements; untreated patients eligible if have SBP of ≥160 mmHg and DBP <95 mmHg on most recent pre-study visit as recorded in medical chart; patients receiving antihypertensive treatment eligible if SBP ≥140 mmHg and DBP <90 mmHg **Exclusion:** <5 patients recruited from each of their physicians' practices, declined to have 24-h ambulatory BP monitoring after signing consent	**Device:** BpTRU **Rest:** No rest added prior to measurement **Readings:** Unattended 5 readings with a 2-min interval, first reading discarded **TBM:** ABPM obtained following AOBP measurement	**Device:** SpaceLabs 90207 **Readings:** At 15-min intervals	N/A	**Readings:** Last routine manual office BP immediately before entry into study used
Myers, 2012[26]	**Inclusion:** Persistent systolic hypertension (SBP ≥140 mmHg and DBP <90 mmHg if treated, SBP ≥160 mmHg and <95 mmHg if not on antihypertensive therapy), who remained on same antihypertensive treatment during first 3 office visits after enrolment included in masked hypertension substudy **Exclusion:** Incomplete ABPM, <5 patients per physician (cluster), withdrew consent, refused to perform ABPM, left physician's practice, or deceased by 2-year follow up	**Device:** BpTRU **Rest:** No rest added prior to measurement **Readings:** Unattended 5 readings with a 2-min interval, first reading discarded **TBM:** Results from 2-year follow up of CAMBO. ABPM obtained following AOBP measurement	**Device:** SpaceLabs 90207 **Readings**: At 15-min intervals	N/A	N/A
Myers, 2012[27]	**Inclusion:** Consecutive patients referred for 24-h BP monitoring to ABPM unit, ≥18 years, capable of performing ABPM **Exclusion:** Not specified	**Device:** WatchBP Office **Rest:** No rest added prior to measurement **Readings:** Unattended 3 readings with a 1-min interval, first reading discarded **TBM:** ABPM obtained following AOBP measurement	**Device:** SpaceLabs 90207 **Readings:** At 15-min intervals	N/A	N/A
O'Shaughnessy, 2011[28]	**Inclusion:** Recruited between June 2010 and August 2010, >18 years, nondialysis-dependent CKD (as	**Device:** BpTRU **Rest:** No rest added prior to measurement	N/A	N/A	**Device:** Vital Signs Monitor 300 Series

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	defined by KDOQI) or a functioning renal transplant, previously diagnosed hypertension documented treatment with antihypertensive therapy or SBP >130 mmHg and/or DBP >80 mmHg at any one of three earlier nephrology clinic visits **Exclusion:** Inability or refusal to give informed consent, absence of contemporaneous (within 1 month of study visit) serum creatinine measurement, arrhythmia precluding use of oscillometric device to measure BP, presence of acute intercurrent illness necessitating admission to hospital	**Readings:** Unattended 5 readings with a 2-min interval, first reading discarded **TBM:** Routine BP obtained following AOBP measurement			**Readings:** Measurement attended
Padwal, 2015[29]	**Inclusion:** Community dwelling adults aged ≥18 years with history of treated or untreated hypertension **Exclusion:** Severe hypertension (SBP >180 mmHg or DBP >110 mmHg), pregnancy, inability to understand or comply with study procedures, non-sinus rhythm	**Device:** WatchBP Office **Rest**: 5-min rest added prior to measurement **Readings:** Unattended 3 readings with a 1-min interval, first reading not discarded **TBM:** AOBP obtained at baseline, ABPM obtained between pharmacy visits 2 and 3	**Device:** SpaceLabs 90207 or 90217A **Readings:** At 20-min intervals	N/A	N/A
Ringrose, 2018[30]	**Inclusion:** Patients ≥18 years referred to a 24-h ambulatory BP monitoring program embedded within a hypertension clinic **Exclusion:** Inadequate 24-h ambulatory studies, insufficient BpTRU readings	**Device:** BpTRU **Rest:** No rest added prior to measurement **Readings:** Unattended 5 readings with a 2-min interval, first reading discarded **TBM:** ABPM obtained immediately following AOBP measurements	**Device:** Oscar 2 oscillometric **Readings:** At 20-min intervals	N/A	N/A
Wohlfahrt, 2016[31]	**Inclusion:** Aged 25-64 years, permanent residents of Brno City district, and completed the Kardiovize Brno 2030 population survey **Exclusion:** Incomplete BP data	**Device:** BpTRU **Rest:** No rest prior to measurement **Readings:** Unattended 5 readings with a 1-min interval, first reading not discarded **TBM:** All BP measurements obtained at same visit, order dependent on availability of each method	N/A	**Device:** Baumanometer **Rest:** 5-min rest added prior to measurement **Readings:** Attended 2 readings with a 1-min interval, first reading discarded	N/A

Abbreviations: ABPM, ambulatory blood pressure monitoring; AOBP, automated office blood pressure; BP, blood pressure; h, hours; mins, minutes; N/A, not assessed; SBP, systolic blood pressure; TBM, time between measurements

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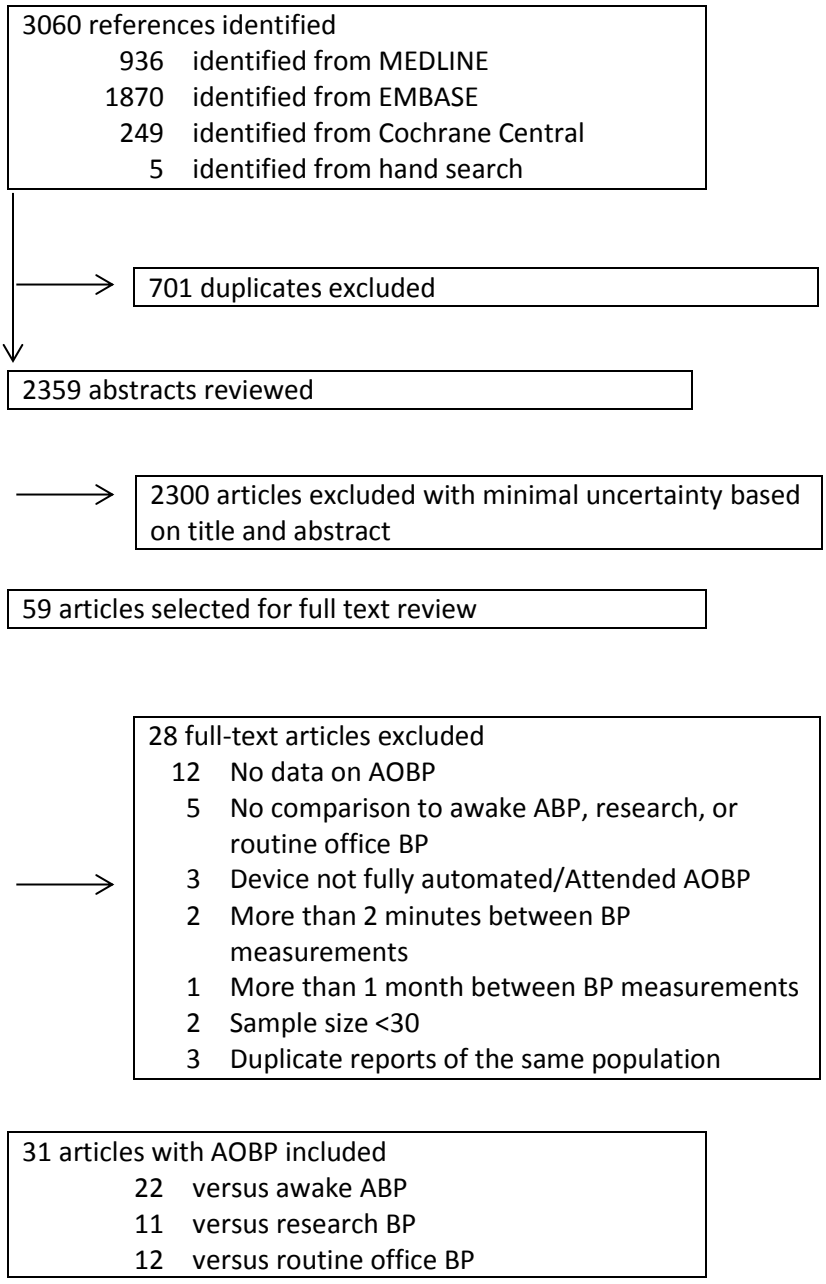
eFigure 1. Flow Chart of Study Selection



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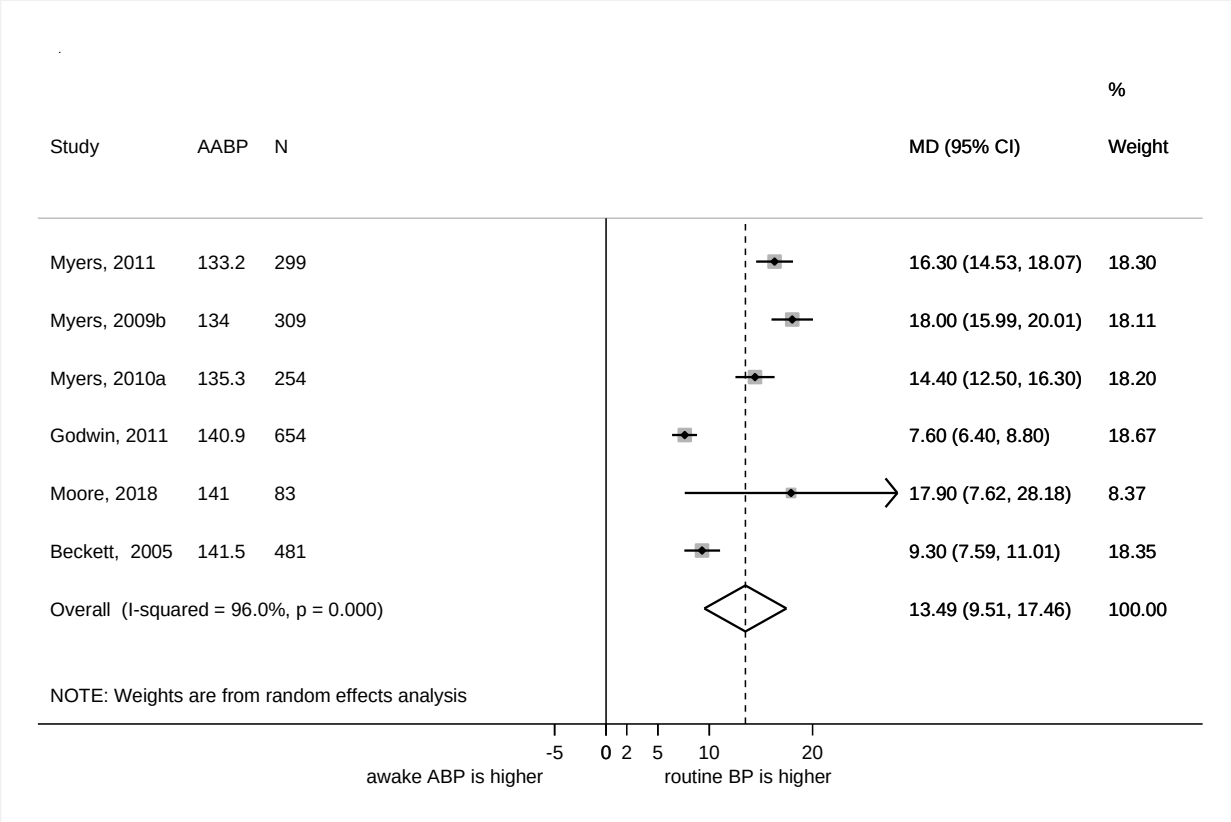
eFigure 2. Forest Plot of the Mean Difference in Systolic BP Between Awake ABP (Reference) and Routine Office BP Measurement in Samples With Systolic AOBP ≥130 mmHg



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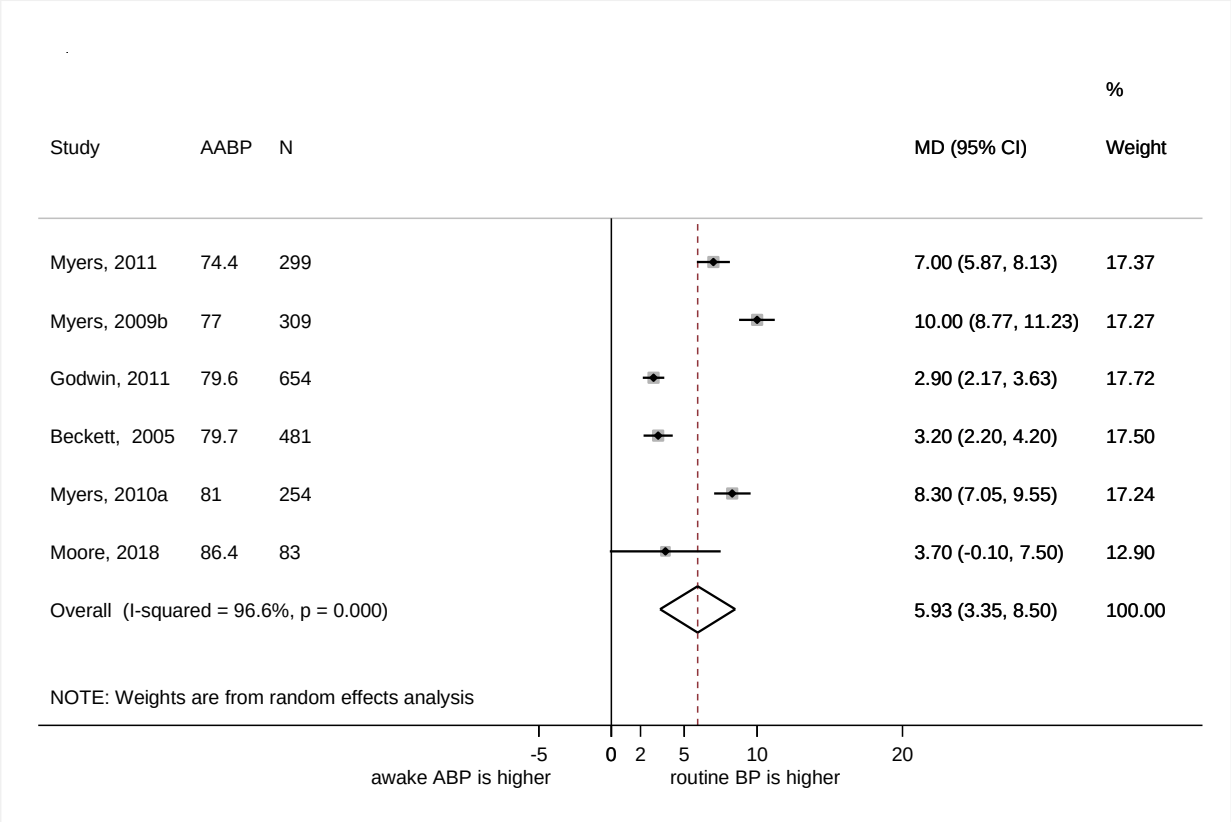
eFigure 3. Forest Plot of the Mean Difference in Diastolic BP Between Awake ABP (Reference) and Routine Office BP Measurement in Samples With Systolic AOBP ≥130 mmHg



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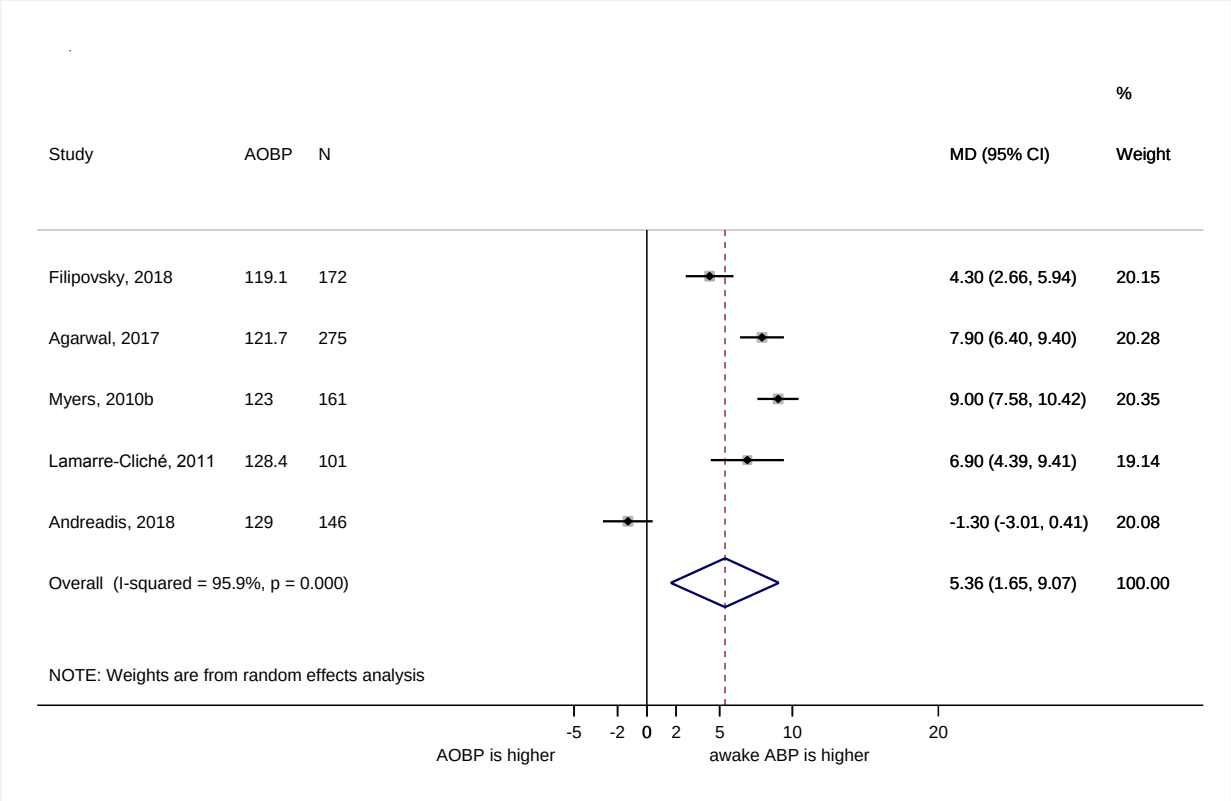
eFigure 4. Forest Plot of the Mean Difference in Systolic BP Between AOBP (Reference) and Awake ABP in Samples With Systolic AOBP <130 mmHg



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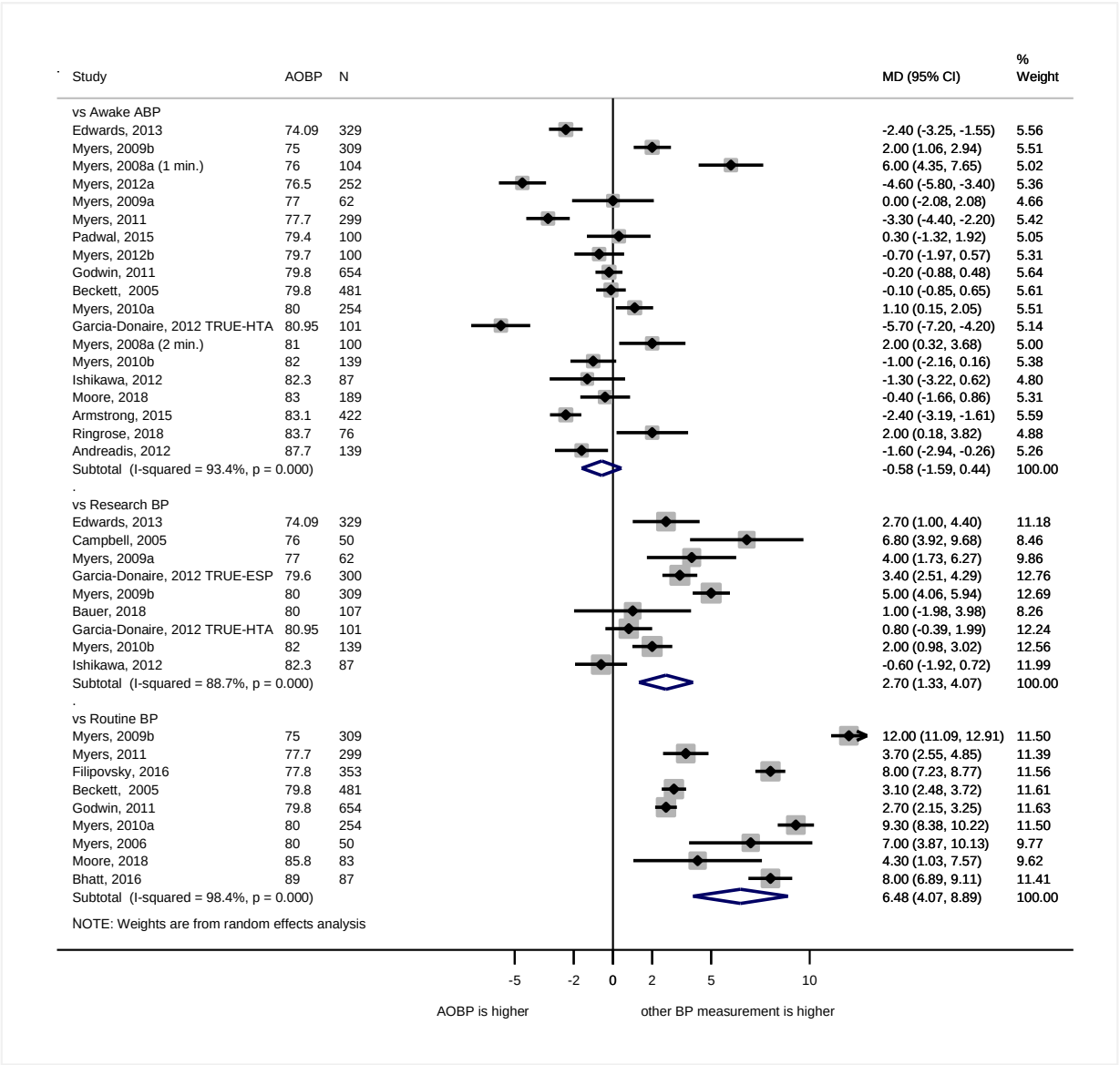
eFigure 5. Forest Plot of the Mean Difference in Diastolic BP Between AOBP (Reference) and AABP in Samples With Systolic AOBP ≥130 mmHg



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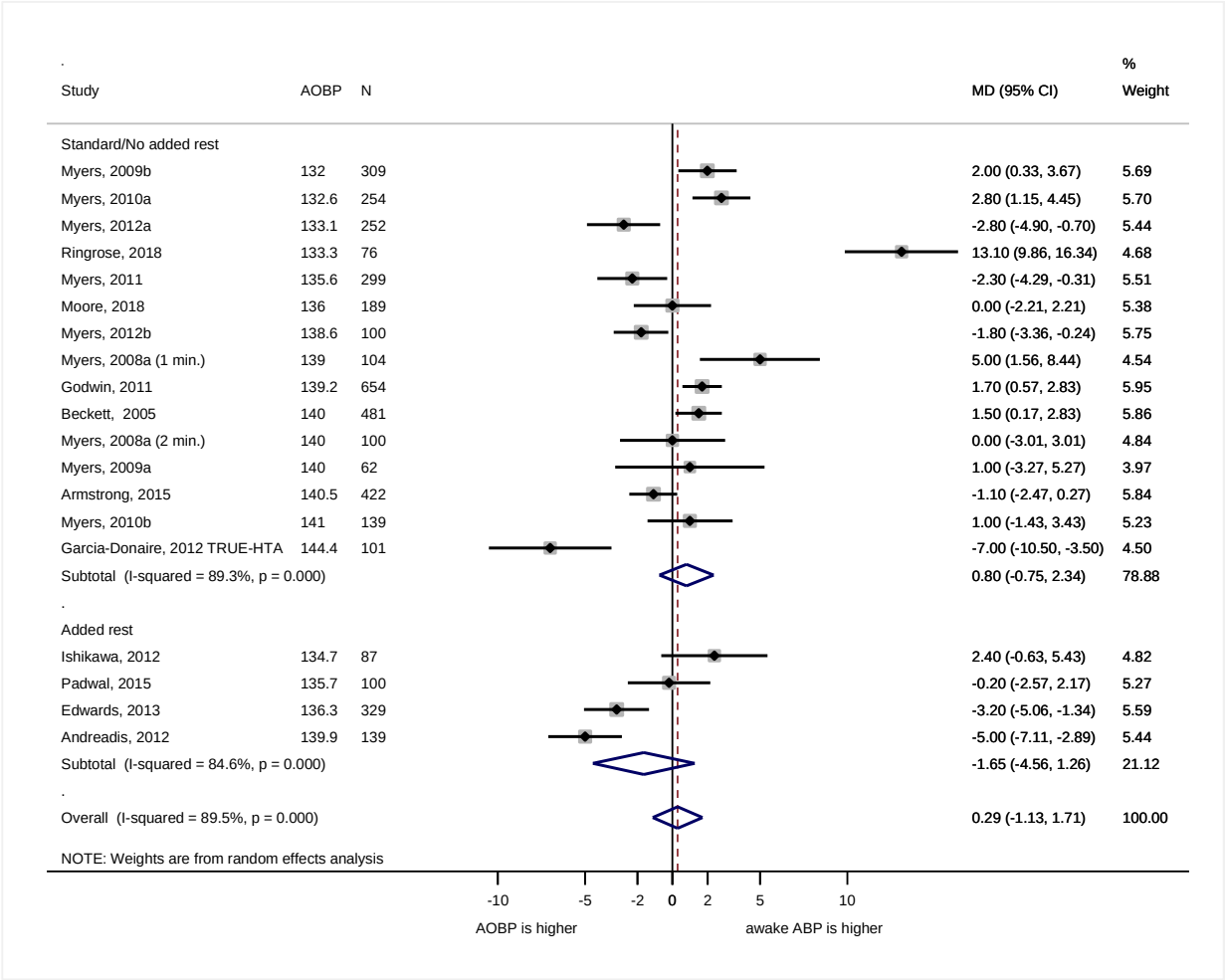
eFigure 6. Forest Plot of the Mean Difference Between AOBP (Reference) and Awake ABP in Samples With Systolic AOBP ≥130 mmHg, by Added Rest Period



Difference between subgroups: -2.41 mmHg, 95% CI -7.28 to 2.45, p=.31.

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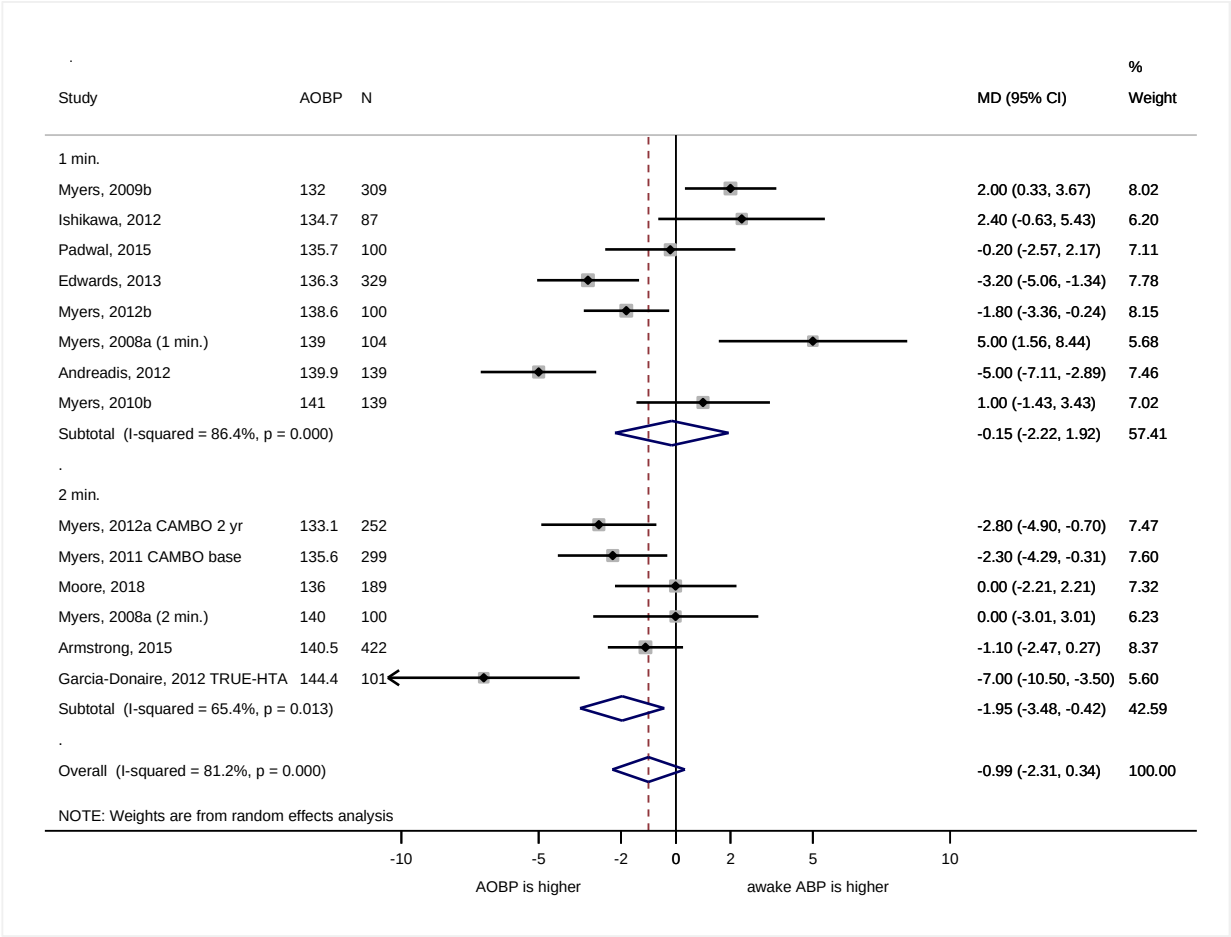
eFigure 7. Forest Plot of the Mean Difference Between AOBP (Reference) and Awake ABP in Samples With Systolic AOBP ≥130 mmHg, by Interval Between AOBP Readings



Difference between subgroups: -1.90 mmHg, 95% CI -5.32 to 1.53, p=.25.

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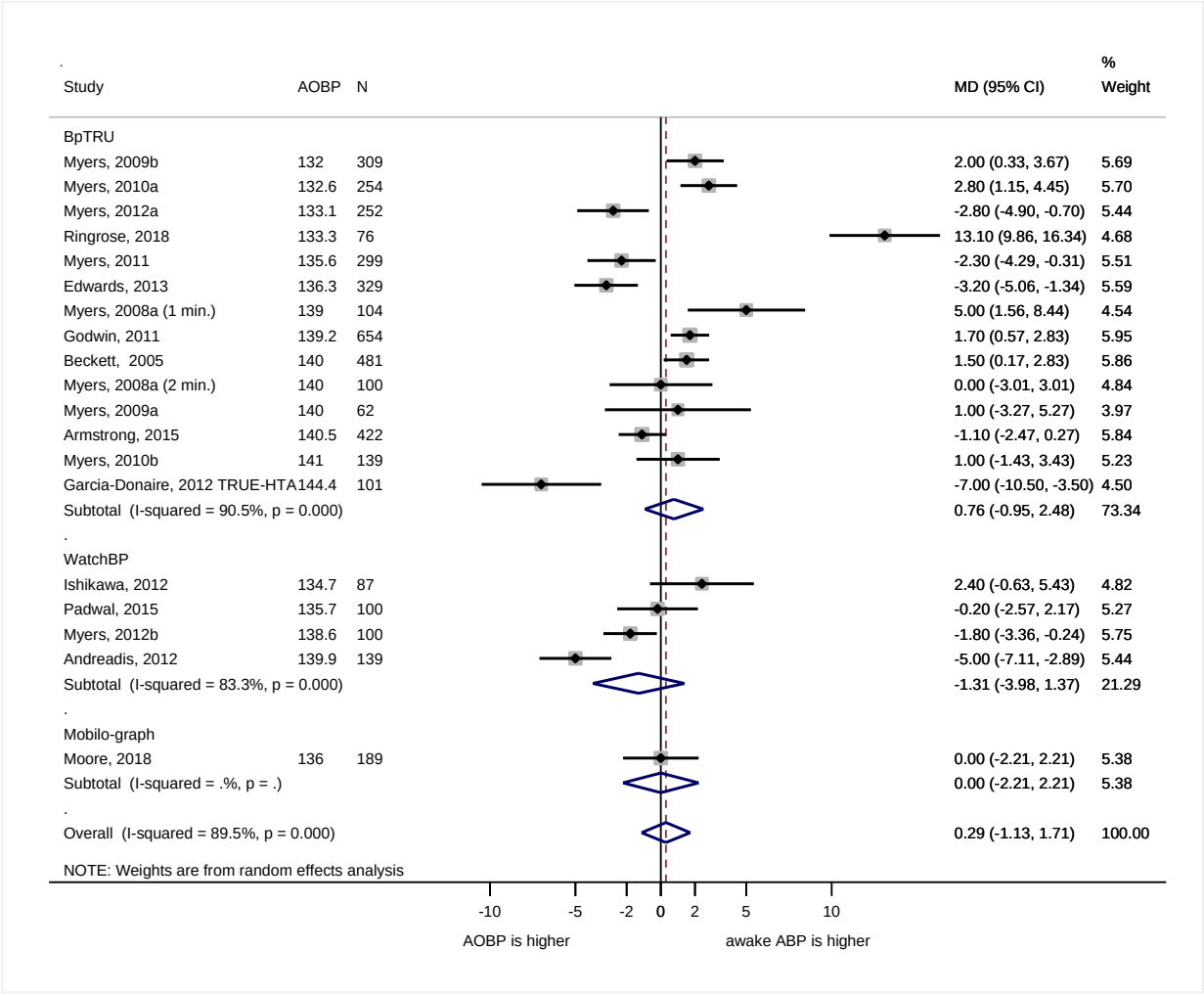
eFigure 8. Forest Plot of the Mean Difference Between AOBP (Reference) and Awake ABP in Samples With Systolic AOBP ≥130 mmHg, by Device



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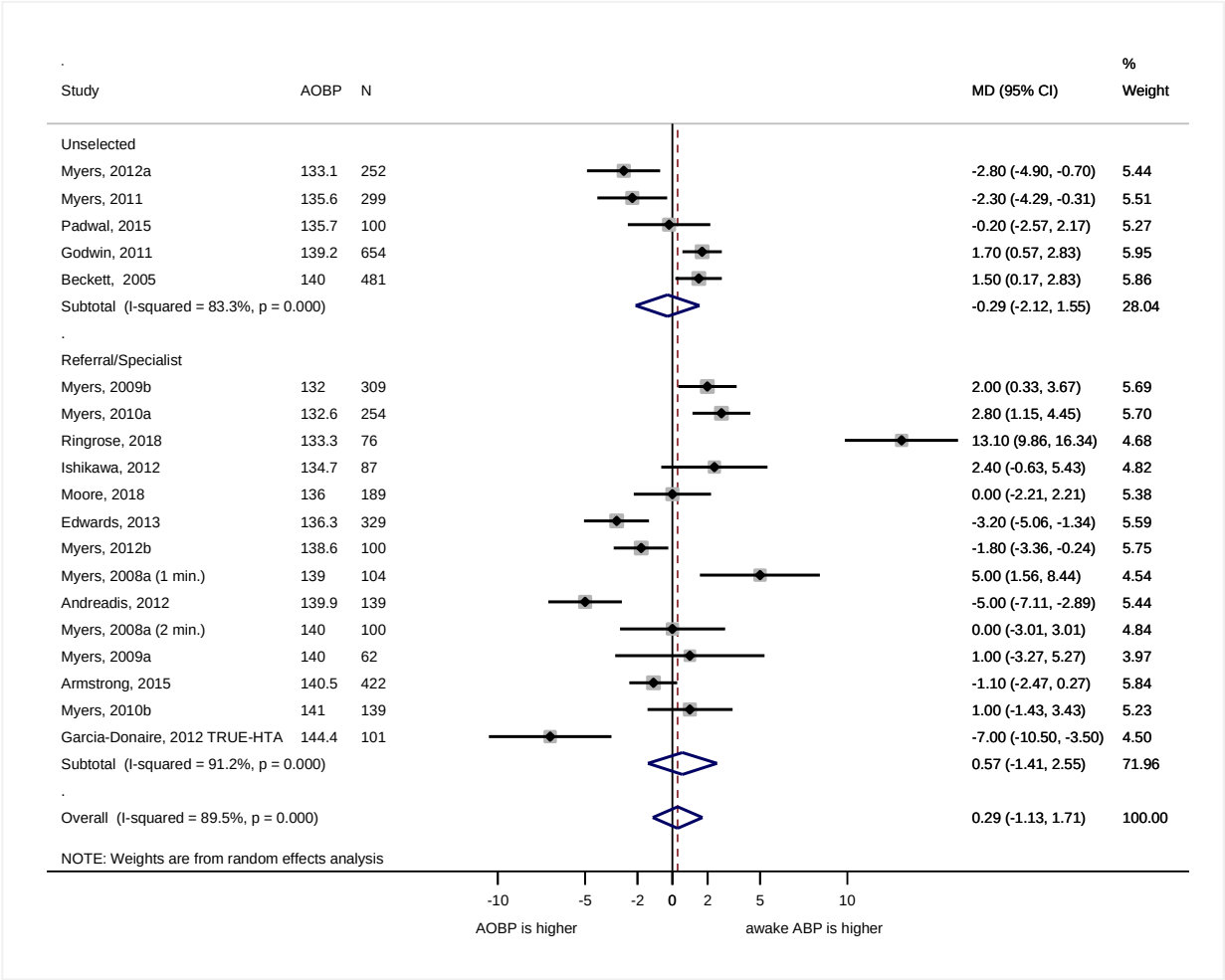
eFigure 9. Forest Plot of the Mean Difference Between AOBP (Reference) and Awake ABP in Samples With Systolic AOBP ≥130 mmHg, by Source of the Sample



Difference between subgroups: -0.97 mmHg, 95% CI -3.60 to 5.55, p=.66.

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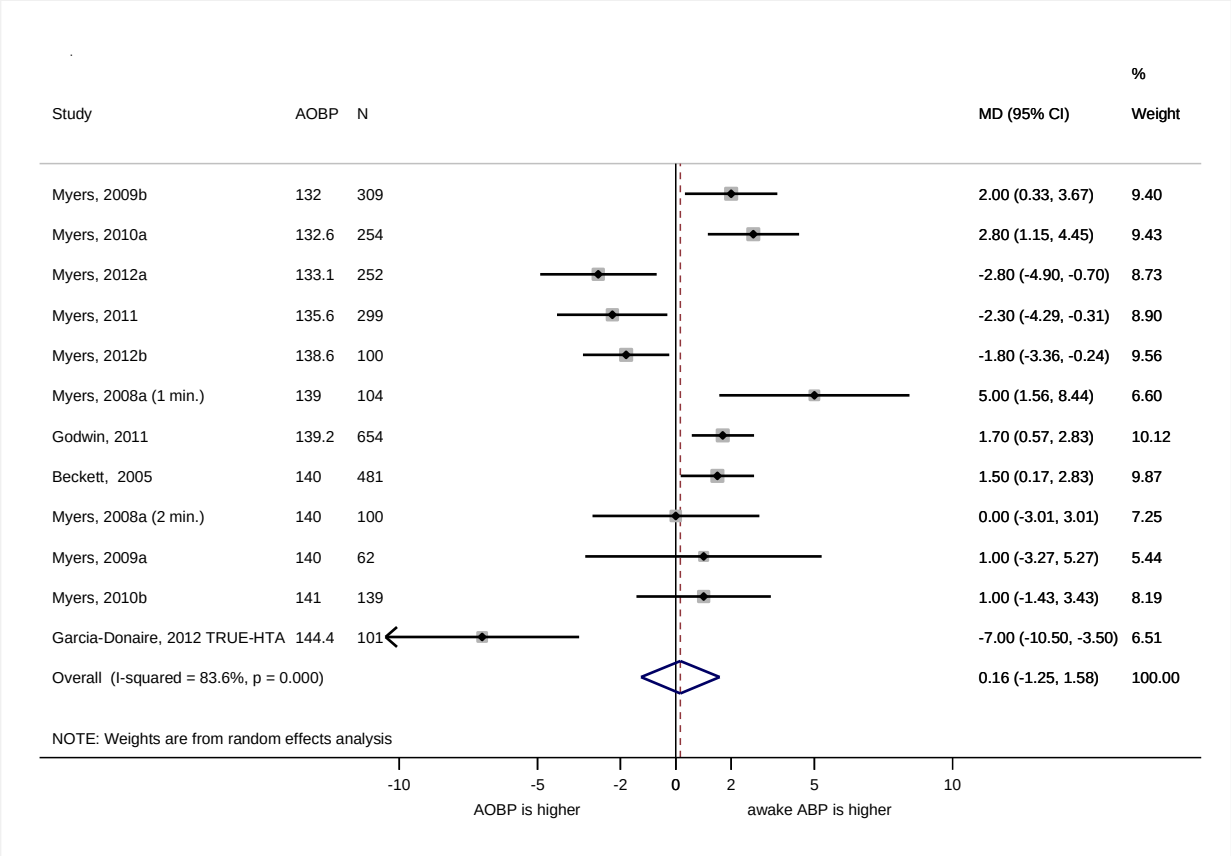
eFigure 10. Forest Plot of the Mean Difference Between AOBP (Reference) and Awake ABP in Samples With Systolic AOBP ≥130 mmHg, High Quality Studies



High quality was defined as: no added rest, patient completely alone, not based on chart review, at least 3 readings for AOBP.

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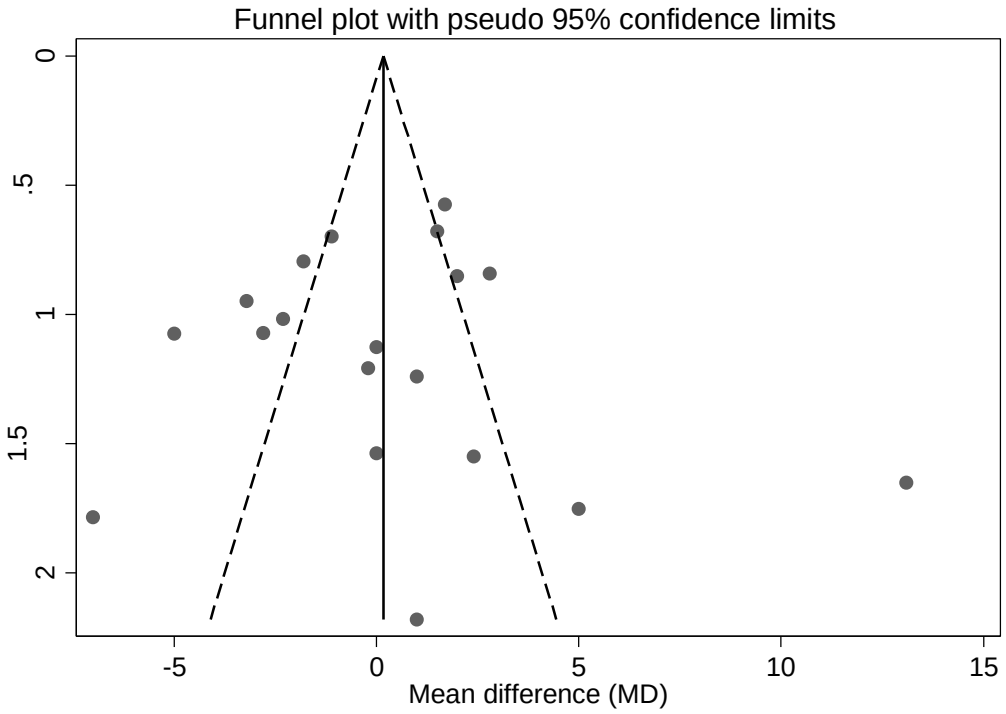
eFigure 11. Funnel Plot of Mean Differences Between AOBP and Awake ABP in Samples With Systolic AOBP ≥130 mmHg, SBP



P-value for small-study bias: .93

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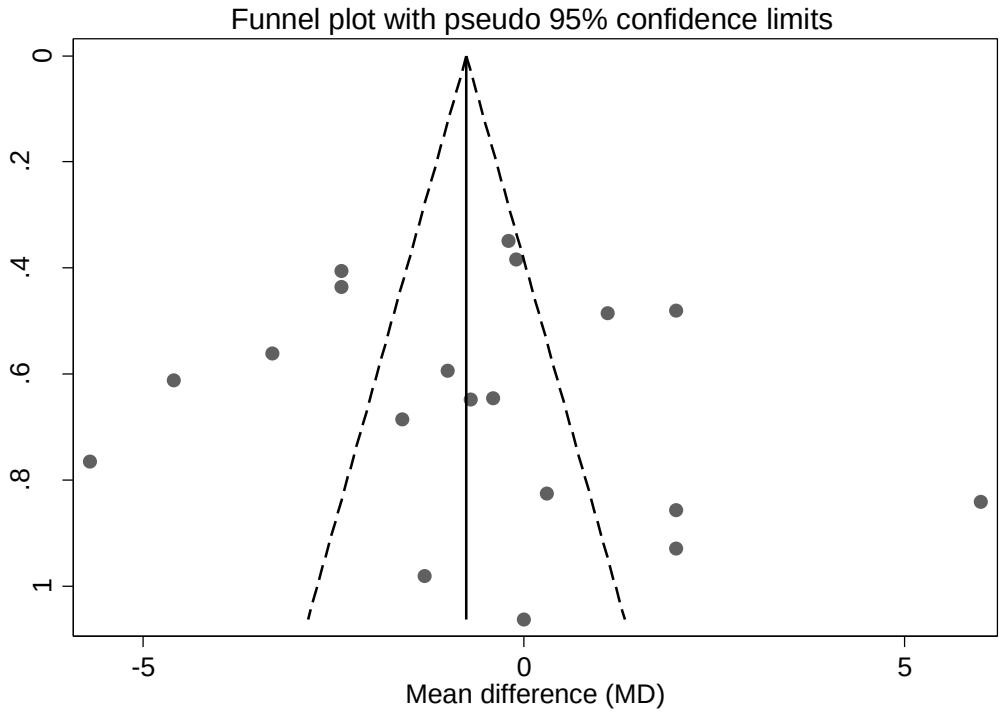
eFigure 12. Funnel Plot of Mean Differences Between Diastolic AOBP and Awake ABP in Samples With Systolic AOBP ≥130 mmHg



P-value for small-study bias: .67

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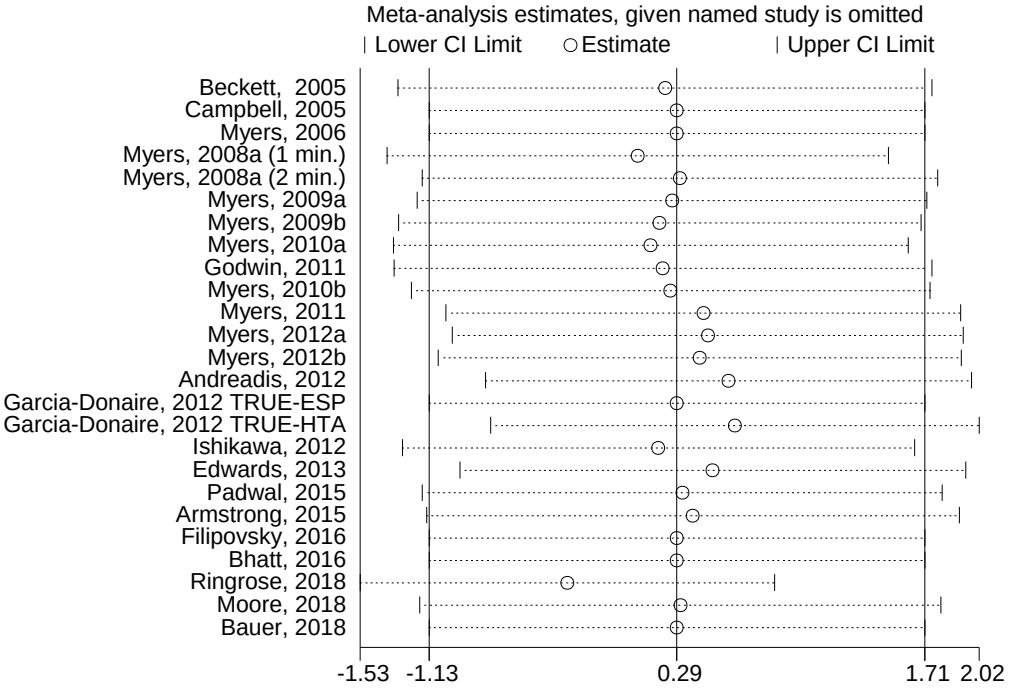
eFigure 13. Pooled Estimates of Mean Differences in Systolic BP Leaving Out One Study at a Time in Samples With Systolic AOBP ≥130 mmHg



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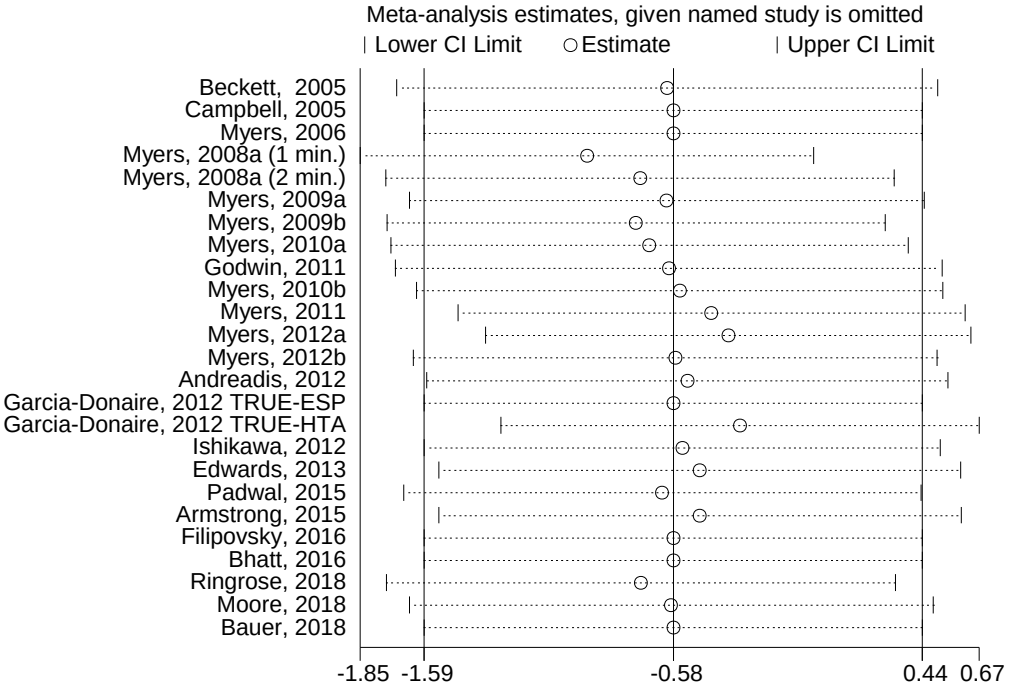
eFigure 14. Pooled Estimates of Mean Differences in Diastolic BP Leaving Out One Study at a Time in Samples With Systolic AOBP ≥130 mmHg



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