

Annual Working Group Report Form

Year/time period of report: 2020–2021

Name of Working Group: Working Group on Blood Pressure Monitoring and Cardiovascular Variability

Name of Working Group Section (if applicable): NA

Composition of Working Group

	Name	E-mail	Appointment year/Term	year of birth
Chair:	George Stergiou	stergiougs@gmail.com	2016 – 2nd	1949
Vice-Chair:	Paolo Palatini	palatini@unipd.it	2016 – 2nd	1956

Working Group Members

Current number of members: 111 (email list attached)

New members approved in 2021:

1. Jesus Melgarejo jesus.melgarejo@kuleuven.be Leuven, Belgium
2. Yuling Yu yyl0603@sina.cn Guangzhou, China
3. Dr. Vladimir (Vladi) Rappaport Vladirap@gmail.com Israel
4. Prof. Iddo Ben Do iddo@hadassah.org.il Israel

Activities of the year

Publications on behalf of the Working Group

Published in 2020–2021:

1. Stergiou GS, Palatini P, Modesti PA, Asayama K, Asmar R, Bilo G, de la Sierra A, Dolan E, Head G, Kario K, Kollias A, Manios E, Mihailidou AS, Myers M, Niiranen T, Ohkubo T, Protogerou A, Wang J, O'Brien E, Parati G. **Seasonal Variation in Blood Pressure: Evidence, Consensus and Recommendations for Clinical Practice.** Consensus statement by the European Society of Hypertension Working Group on

Blood Pressure Monitoring and Cardiovascular Variability. *J Hypertens.* 2020;38:1235-1243.

2. Palatini P, Asmar R, O'Brien E, Padwal R, Parati G, Sarkis J, Stergiou G; European Society of Hypertension Working Group on Blood Pressure Monitoring, Cardiovascular Variability, the International Standardization Organisation (ISO) Cuff Working Group. **Recommendations for Blood Pressure Measurement in Large Arms in Research and Clinical Practice:** Position paper of the European society of Hypertension Working Group on Blood Pressure Monitoring and Cardiovascular Variability. *J Hypertens.* 2020;38:1244-1250.
3. Home BP Monitoring. ESH Endorsed book. Editors: Stergiou G, Parati G, Mancia G (17 chapters; 39 authors). Springer 2020.
4. Parati G, Stergiou GS, Bilo G, Kollias A, Pengo M, Ochoa JE, Agarwal R, Asayama K, Asmar R, Burnier M, De La Sierra A, Giannattasio C, Gosse P, Head G, Hoshide S, Imai Y, Kario K, Li Y, Manios E, Mant J, McManus RJ, Mengden T, Mihailidou AS, Muntner P, Myers M, Niiranen T, Ntineri A, O'Brien E, Octavio JA, Ohkubo T, Omboni S, Padfield P, Palatini P, Pellegrini D, Postel-Vinay N, Ramirez AJ, Sharman JE, Shennan A, Silva E, Topouchian J, Torlasco C, Wang JG, Weber MA, Whelton PK, White WB, Mancia G; Working Group on Blood Pressure Monitoring and Cardiovascular Variability of the European Society of Hypertension. **Home blood pressure monitoring: Methodology, Clinical Relevance and Practical Application:** a 2021 position paper by the Working Group on Blood Pressure Monitoring and Cardiovascular Variability of the European Society of Hypertension. *J Hypertens.* 2021;39:1742-1767.
5. Stergiou GS, Palatini P, Parati G, O'Brien E, Januszewicz A, Lurbe E, Persu A, Mancia G, Kreutz R; European Society of Hypertension Council and the European Society of Hypertension Working Group on Blood Pressure Monitoring and Cardiovascular Variability. **2021 European Society of Hypertension Practice Guidelines for Office and Out-of-office Blood Pressure Measurement.** *J Hypertens.* 2021;39:1293-1302.

In preparation:

1. **Blood Pressure Variability:** Methodological Aspects, Clinical Relevance and Practical Indications. Position Paper by the ESH Working Group on Blood Pressure Monitoring and Cardiovascular Variability. Final draft completed - Jan. 2022.
2. **Cuffless Blood Pressure Monitors:** Review and Statement: ESH Working Group on BP Monitoring & Cardiovascular Variability. First draft completed - Jan. 2022.

Meetings organized/planned this year

- Blood pressure monitoring Teaching Session: organized during each annual ESH meeting
- Satellite session during the ESH 2022 on BP measuring devices design requirements

Participation to the ESH Annual Meeting

- Sessions proposed for 2022 ESH meeting
 - ESH BP monitoring guidelines
 - BP variability & telemonitoring
 - Cuffless BP measurement
-

Scientific projects

Completed this year: ESH Practice Guidelines on BP Measurement
ESH Consensus Statement on Home BP monitoring

Ongoing: ESH Consensus Statement on BP Variability
ESH Consensus Statement on Cuffless BP monitors

Ongoing: Collaboration with US Association for the Advancement of Medical Instrumentation (AAMI) and International Organization for Standardization (ISO) for developing an Amendment of AAMI/ESH/ISO Universal Standard (ISO 81060-2:2018) for evaluation wide-range cuffs (G Stergiou, P Palatini, R Asmar, G Parati).

Plan for next year: New major project in internal discussion to announce soon

Educational projects: Blood pressure monitoring Teaching Session: organized during each annual ESH meeting

Collaborations with other WGs/Scientific Societies: No

Other remarks: None

Filled by (full name): George Stergiou

Date: 10 Jan. 2022

Appendix:

Board members

- *Roland Asmar, Lawrie Beilin, Denis L. Clement, Peter De Leeuw, Robert Fagard, Yutaka Imai, Jean-Michel Mallion, Giuseppe Mancina, Thomas Mengden, Martin G. Myers, Eoin O'Brien, Paul Padfield, Gianfranco Parati, Paolo Palatini, Josep Redon, Jan Staessen, George Stergiou, Gert van Montfrans, Paolo Verdecchia, Bernard Waeber, William White (to be updated soon).*

List of all current WG members incl. full name, e-mail and year of birth if available.

- *Please see attached updated excel file with ESH WG members*

Others (not mandatory): short history of WG, criteria for membership, detailed statutes...

- *Please see attached updated pdf presenting ESH WG history, function, and activities*

European Society of Hypertension Working Group on Blood Pressure Monitoring and Cardiovascular Variability

Chairman:	George Stergiou	2016-2022
Secretary:	Paolo Palatini	2016-2022
Past Chairpersons:	Gianfranco Parati	2012-2016
	Roland Asmar	2010-2012
	Jan Staessen	2008-2010
	Eoin O'Brien	1997-2010

History

The European Society of Hypertension Working Group on Blood Pressure Monitoring was founded in 1997, with Professor Eoin O'Brien as its first Chairman. Succeeding chairpersons were Jan Staessen, Roland Asmar, Gianfranco Parati and George Stergiou. The broad objectives of the Group were to advance knowledge relating to all aspects of BP measurement with a view to advancing the technology available for hypertension research and to improve the clinical management of hypertension. These objectives were achieved in a number of ways including (i) production of guidelines for the clinical application of office, home and ambulatory BP; (ii) establishment of clinical validation protocols for BP measuring devices; (iii) organisation of meetings for communications and discussions, or lectures on BP monitoring; (iv) involvement of the manufacturing and engineering industries, the standards institutions, the nursing profession and other groups as seemed appropriate to the future development of techniques of measurement.

The Working Group has a truly international composition with 20 nucleus members who are distinguished BP measurement experts from Europe, Japan, China, Canada, Australia and the US. In 2011 the Working Group was merged with the 'Working Group on BP and Heart rate Variability' and was re-named the 'Working Group on BP Monitoring and Cardiovascular Variability'.

During the last 20 years the Working Group has had outstanding and sustained success in fulfilling all its objectives. **(i)** More than 100 papers have been published by the group, including many official statements, guideline papers and consensus statements on several aspects of BP measurement. **(ii)** The Working Group developed the International Protocol for the clinical validation of BP measuring devices, which has been the most widely used validation protocol around the world with >200 published validations. **(iii)** The Working Group has organised multiple educational meetings on BP monitoring and published the proceedings of these meetings. **(iv)** The Working Group has collaborated with the US AAMI and the ISO organisation for the development of a Universal Standard for the clinical validation of BP measuring devices (AAMI/ESH/ISO 2018).

Structure

The business of the Working Group is conducted by the Board, which consists of no more than 20 members plus the Chairman and Secretary. The Working Group Chairman and Secretary are elected by the Board to serve for a period of two years with the option of being re-elected for one additional two-year term. Exceptions can be made with the agreement of the Board and the Membership in order to safeguard continuity within the Board. The Board for the moment consists of the original members of the Nucleus - Roland Asmar, Lawrie Beilin, Denis L. Clement, Peter De Leeuw, Robert Fagard, Yutaka Imai, Jean-Michel Mallion, Giuseppe Mancina, Thomas Mengden, Martin G. Myers, Eoin O'Brien, Paul Padfield, Gianfranco Parati, Paolo Palatini, Josep Redon, Jan Staessen, George Stergiou, Gert van Montfrans, Paolo Verdecchia, Bernard Waeber, and William White. Any member of the Board can apply for the position of Chairman or Secretary. New Board members are elected from the Working Group Membership by a proposer and seconder from the Board. The Board produces an annual report for approval by the Membership of the Working Group. The Board meets at least every year at the Scientific Meeting of ESH.

Members

Andreadis Emmanuel	Aubert Andre	Beilin Lawrence
Angeli Fabio	Baselli Giuseppe	Bilo Grzegorz
Asayama Kei	Batzel Jerry	Bochud Murielle
Asmar Roland	Bauernschmitt Robert	Bursztyn Michael

Byrd Brian	Lombardi Carolina	Redon Josep
Castiglioni Paolo	Malberg Hagen	Saladini Francesca
Cerutti Sergio	Maldonado Jao	Salvi Paolo
Clement Denis	Malik Marek	Seidlerova Jitka
Couderc Jean-Philippe	Mallion Jean-Michel	Sirenko Yuriy
de la Sierra Alex	Mancia Giuseppe	Sivén Sam
De Leeuw Peter	Manios Efstathios	Sokolovic Sekib
Di Rienzo Marco	Manolis Athanasios	Staessen Jan A.
Dolan Eamon	Masafumi Nishizawa	Stauss Harald
Fagard Robert	Melgarejo Jesus	Stergiou George
Faini Andrea	Mengden Thomas	Stojanovic Milos
Filipovský Jan	Migeotte Pierre-François	Stolarz-Skrzypek Katarzyna
Germano Giuseppe	Mihailidou Anastasia	Swynghedauw Bernard
Hansen Tine Willum	Mitsis Georgios D.	Tan Ya Wen Isabella
Hiremath Swapnil	Montano Nicola	Topouchian Jirar
Hoshide Satoshi	Munekazu Ryuzaki	Torlasco Camilla
Hoyer Dirk	Myers Martin	van de Borne Philippe
Huikuri Heikki	Narkiewicz Krzysztof	van den Born Bert-Jan
Iellamo Ferdinando	Niiranen Teemu	Van Leeuwen Peter
Imai Yutaka	Nollo Giandomenico	Van Montfrans Gert
Jing Liu	Ntineri Angeliki	Verdecchia Paolo
Julien Claude	O'Brien Eoin	Voss Andreas
Kahan Thomas	Ohkubo Takayoshi	Waeber Bernard
Kario Kazuomi	Omboni Stefano	Wang Jiguang
Kikuya Masahiro	Padfield Paul	Wassertheurer Siegfried
Kollias Anastasios	Palatini Paolo	Wessel Niels
Kotovskaya Yulia	Palombo Carlo	White William
Kotsis Vasilios	Papelier Yves	Williams Stephen Kayode
Krastic Goran	Parati Gianfranco	Yi Zhang 2.
Kyriakoulis Konstantinos	Pathak Atul	Yuling Yu
Laude Dominique	Persson Pontus	Żebrowski Jan
Lee Eric	Porta Alberto	Zelveian Parounak
Lewis Philip	Quintin Luc	
Li Yan	Ramakrishna Mukkamala	

Publications

Proceedings

1999

- Fagard R, Staessen J. Foreword. *Blood Pressure Monit.* 1999;4:277-331
- O'Brien E. Criteria for validation of devices. Task Force I: Methodological aspects. *Blood Pressure Monit.* 1999;4:279-281
- O'Brien E. Methods of analysis. Task Force I: Methodological aspects. *Blood Pressure Monit.* 1999;4:286-287
- Mancia G, O'Brien E, Imai Y, Redon J. Task Force II: Ambulatory blood pressure monitoring in population studies. *Blood Pressure Monit.* 1999;4:295-301
- Staessen JA, Beilin L, Parati G, Waeber B, White W and the Participants of the 1999 Consensus Conference on Ambulatory Blood Pressure Monitoring. Task Force IV: Clinical use of ambulatory blood pressure monitoring. *Blood Pressure Monit.* 1999;4:319-333
- Pickering TG, Coats A, Mallion JM, Mancia G, Verdecchia P. Task Force V: White-coat hypertension. *Blood Pressure Monit.* 1999;4:333-341
- White WB, Asmar R, Imai Y, Mansoor G, Padfield P, Thijs L, Waeber B. Task Force VI: Self-monitoring of the blood pressure. *Blood Pressure Monit.* 1999;4:343-351

2000

- O'Brien E. Proceedings from a workshop on measurement of blood pressure of the Working Group on Blood Pressure Monitoring of the European Society of Hypertension, Milan, June 1999. *Blood Pressure Monit.* 2000;5:31-32
- O'Brien E. Consequences of banning mercury and the cuff controversy. *Blood Pressure Monit.* 2000;5:33-34
- Redon J. Ambulatory blood pressure for special groups. *Blood Pressure Monit.* 2000;5:35-37
- Staessen J. Ambulatory blood pressure in clinical trials. *Blood Pressure Monit.* 2000;5:39-41
- O'Brien E. Proposals for simplifying the validation protocols of the British Hypertension Society and the Association for the Advancement of Medical Instrumentation. *Blood Pressure Monit.* 2000;5:43-45
- Parati G. Continuous finger monitoring of blood pressure: advantages, problems and perspectives. *Blood Pressure Monit.* 2000;5:47-49
- Asmar R, Zanchetti A on behalf of the Organizing Committee and participants. Guidelines for the use of self-blood pressure monitoring: a summary report of the first international consensus conference. *J Hypertension.* 2000;18:493-508
- Asmar R. Proceedings from the First International Consensus Conference on Self-Blood Pressure Measurement. *Blood Pressure Monit.* 2000;5:91-92
- O'Brien E, De Gaudemaria R, Bobrie G, Agabiti Rosei E, Vaisse B and the participants of the First International Consensus Conference on Blood Pressure Self-Measurement. Devices and validation. *Blood Pressure Monit.* 2000;5:93-100
- Staessen J, Thijs and the participants of the First International Consensus Conference on Blood Pressure Self-Measurement. Development of diagnostic thresholds for automated self-measurement of blood pressure in adults. *Blood Pressure Monit.* 2000;5:101-109
- Mengden T, Chamontin B, Phong Chau NG, Gamiz JLP, Chanudet X and the participants of the First International Consensus Conference on Blood Pressure Self-Measurement. User procedure for self-measurement of blood pressure. *Blood Pressure Monit.* 2000;5:111-129
- Herpin D, Pickering T, Stergiou G, de Leeuw P, Germano G and the participants of the First International Consensus Conference on Blood Pressure Self-Measurement. Clinical applications and diagnosis. *Blood Pressure Monit.* 2000;5:131-135
- Imai Y, Poncelet P, DeBuyzere M, Padfield PL, Van Montfrans GA and the participants of the First International Consensus Conference on Blood Pressure Self-Measurement. Prognostic significance of self-measurements of blood pressure. *Blood Pressure Monit.* 2000;5:137-143
- Denolle T, Waeber B, Kjeldsen S, Parati G, Wilson M, Asmar R and the participants of the First International Consensus Conference on Blood Pressure Self-Measurement. Self-measurement of blood pressure in clinical trials as therapeutic applications. *Blood Pressure Monit.* 2000;5:145-149

2001

- O'Brien E. State of the market in 2001 for blood pressure measuring devices. *Blood Press Monit.* 2001;6:171-176
- Pickering T. The case for a hybrid sphygmomanometer. *Blood Press Monit.* 2001;6:177-179
- Myers M. Reporting bias in self-measurement of blood pressure. *Blood Press Monit.* 2001;6:181-184
- Mengden T, Vetter H, Tisler A, Illyes M. Tele-monitoring of home blood pressure. *Blood Press Monit.* 2001;6:185-188
- Baguet JP, Joseph X, Ormezzano O, Neuder Y, Quesada JL, Mallion J-P. Ambulatory blood pressure variation in healthy subjects, hypertensive elderly and type 1 diabetic patients in relation to the sitting or standing position. *Blood Press Monit.* 2001;6:191-194
- Asmar R, Mallion J-P. CD-ROMs for blood pressure measurement. *Blood Press Monit.* 2001;6:195-196
- Thijs L, O'Brien ET, Staessen JA for the Systolic Hypertension in Europe (Syst-Eur) Trial Investigators. Ambulatory and conventional pulse pressures and mean pressures as determinants of the Sokolow-Lyon ECG voltage index in older patients with systolic hypertension. *Blood Press Monit.* 2001;6:197-202
- Chonan K, Kikuya M, Araki T, Fujiwara T, Suzuki M, Michimata M, Hashimoto J, Ohkubo T, Hozawa A, Yamamoto N, Miyawaki Y, Matsubara M, Imai Y. Device for self-measurement of blood pressure that can monitor blood pressure during sleep. *Blood Press Monit.* 2001;6:203-205
- Redon J, Bertolin V, Giner V, Lurbe E. Assessment of blood pressure early morning rise. *Blood Press Monit.* 2001;6:207-210
- Verdecchia P, Schillaci G, Reboldi G, Franklin SS, Porcellati C. Ambulatory monitoring for prediction of cardiac and cerebral events. *Blood Press Monit.* 2001;6:211-213
- Parati G, Omboni S, Villani A, Glavina F, Castiglioni P, Di Rienzo M, Mancia G. Reproducibility of beat-to-beat blood pressure and heart rate variability. *Blood Press Monit.* 2001;6:217-220
- Palatini P. Limitations of ambulatory blood pressure monitoring. *Blood Press Monit.* 2001;6:221-223

- O'Brien E. Validation Up-date. *Blood Press Monit.* 2001;6:275-280
- O'Brien E. State of the market for devices for blood pressure measurement. *Blood Press Monit.* 2001;6: 281-286
- Van Montfrans G. Oscillometric blood pressure measurement: progress and problems. *Blood Press Monit.* 2001;6: 287-290
- Tochikubo O, Kimura K. Recent advances in blood pressure measurement technology: normalized blood pressure measurement with a double-cuff sphygmomanometer. *Blood Press Monit.* 2001;6: 297- 301
- Shriasaki O, Terada H, Niwano K, Nakanishi T, Kanai M, Miyawaki Y, Souma T, Tanaka T, Kusunoki T. The Japan Home-health Apparatus Industrial Association: investigation of home-use electronic sphygmomanometers. *Blood Press Monit.* 2001;6: 303-307
- O'Brien E, van Montfrans G, Palatini P, Tochikubo O, Staessen J, Shirasaki O, Lipicky R, Myers M. Task Force I: Methodological aspects of blood pressure measurement. *Blood Press Monit.* 2001;6:313-315
- Redon J, Lurbe E. Overview of ambulatory blood pressure monitoring in childhood and pregnancy. *Blood Press Monit.* 2001;6: 317-321
- Verdecchia P. Reference values for ambulatory blood pressure and self-measured blood pressure based on prospective outcome data. *Blood Press Monit.* 2001;6: 323-327
- Asmar R, Darne B, el Assaad M, Topouchian J. Assessment of outcomes other than systolic and diastolic blood pressure: pulse pressure, arterial stiffness and heart rate. *Blood Press Monit.* 2001;6: 329-333
- Imai Y, Hozawa A, Ohkubo T, Tsuji I, Yamaguchi J, Matsubara M, Michimata M, Hashimoto J, Fujiwara T, Nagai K, Kitaoka H, Satoh H, Hisamichi S.. Predictive values of automated blood pressure measurement: what can we learn from the Japanese population – the Ohasama study. *Blood Press Monit.* 2001;6: 335-339
- Parati G, Mancia G. Blood pressure variability as a risk factor. *Blood Press Monit* 2001;6: 341-347
- Shimada K, Kario K, Umeda Y, Hoshide S, Hoshide Y, Eguchi K.. Early morning surge in blood pressure. *Blood Press Monit.* 2001;6: 349-353
- Staessen JA, Asmar R, De Buyzere, Imai Y, Parati G, Shimada K, Stergiou G, Redón J, Verdecchia P, Participants of the 2001 Consensus Conference on Ambulatory Blood Pressure Monitoring. Task Force II: Blood pressure measurement and cardiovascular outcome. *Blood Press Monit.* 2001;6: 355-370
- Pickering T. Future developments in ambulatory blood pressure monitoring and self-blood pressure monitoring in clinical practice. *Blood Press Monit.* 2001;7: 21-25
- White WB. Clinical utility of ambulatory blood pressure: perspectives for national insurance cover. *Blood Press Monit.* 2001;7: 27-31
- Fagard R, Staessen J. Characteristics of conventional blood pressure in studies on the predictive power of ambulatory blood pressure. *Blood Press Monit.* 2001;7: 33-36
- Padfield P. Self-monitored blood pressure: a role in clinical practice? *Blood Press Monit.* 2001;7: 41- 44
- Beilin L. Role of automated measurements in understanding lifestyle effects on blood pressure. *Blood Press Monit.* 2001;7: 45-50
- Kawano Y. Role of blood pressure monitoring in non-pharmacological management of hypertension. *Blood Press Monit.* 2001;7: 51-54
- Baguet J-P, Mallion J-M. Self-monitoring of blood pressure should be used in clinical trials. *Blood Press Monit.* 2001;7: 55-59

2003

- O'Brien E. The Working Group on Blood Pressure Monitoring of the European Society of Hypertension. *Blood Pressure Monit.* 2003;8:17-18
- O'Brien E. Demise of the mercury sphygmomanometer and the dawning of a new era in blood pressure measurement. *Blood Pressure Monit.* 2003;8:19-21
- Pickering T. What will replace the mercury sphygmomanometer? *Blood Pressure Monit.* 2003;8:23-25
- Guelen I, Westerhof BE, van der Sar GL, van Montfrans GA, Kiemeneij F, Wesseling KH, Jan W Bos W. Finometer, finger pressure measurements with the possibility to reconstruct brachial pressure. *Blood Pressure Monit.* 2003;8:27-30
- Parati G, Ongaro G, Bilo G, Glavina F, Castiglioni P, Di Rienzo M, Mancia G. Non-invasive beat-to- beat blood pressure monitor: new developments. *Blood Pressure Monit.* 2003;8:31-36
- Den Hond E, Celis H, Vandenhoven G, O'Brien E, Staessen JA for the THOP investigators. Determinants of white-coat syndrome assessed by ambulatory blood pressure or self-measured home blood pressure. *Blood Pressure Monit.* 2003;8:37-40
- Uen S, Vetter H, Mengden T. Simultaneous recording of blood pressure and ST-segment with combined, triggered ambulatory 24-h devices. *Blood Pressure Monit.* 2003;8:41-44

- Stojanovic M, O'Brien E, Lyons S, Stanton A. Silent myocardial ischaemia in treated hypertensives with and without left ventricular hypertrophy. *Blood Pressure Monit.* 2003;8:45-51
- Imai Y, Hozawa Y, Ohkubo T, Ohmori K, Kikuya M, Hashimoto J, Michimata J, Matsubara M, Yamaguchi J, Ugajin T, Araki T, Tsuji I. Heart rate measurement and outcome. *Blood Pressure Monit.* 2003;8:53-55
- O'Brien E. Blood pressure measurement in hypertension research. A workshop of the European Society of Hypertension. *Blood Pressure Monit.* 2003;8:141-142
- Dolan E, Atkins N, McClory S, Hinedi K, Sharifa S, McCormack P, Staessen J, Thijs L, Stanton A, O'Brien E. Ambulatory blood pressure measurement as a predictor of outcome in an Irish population: methodology for ascertaining mortality outcome. *Blood Pressure Monit.* 2003; 8:143–145
- Pickering T, Schwartz J, Verdecchia P, Imai Y, Kario K. An International Database of Prospective Ambulatory Blood Pressure Monitoring Studies. *Blood Pressure Monit.* 2003;8:147-149
- Tikhonoff V, Kuznetsova T, Stolarz K, Bianchi G, Casiglia E, Kawecka-Jaszcz K, Nikitin Y, Tizzone L, Wang J-G, Staessen JA on behalf of the European Project on Genes in Hypertension (EPOGH) Investigators. Blood pressure phenotypes in relation to the B-adducin C1797T polymorphism in the European Project on Genes in Hypertension (EPOGH). *Blood Pressure Monit.* 2003;8:151-154
- Parati G, Bilo G, Vettorello M, Gropelli A, Maronati A, Tortorici E, Caldara G, Mancina G. Assessment of overall blood pressure variability and its different components. *Blood Pressure Monit.* 2003;8:155-159
- Myers MG. Methods for evaluating the duration of action of once-daily antihypertensive therapy. *Blood Pressure Monit.* 2003;8:161-163
- Stergiou GS. Which is the correct term for blood pressure measurements taken at home? *Blood Pressure Monit.* 2003;8:165-167
- Mengden T, Uen S, Baulmann J, Vetter H. Significance of blood pressure self-measurement as compared to office blood pressure measurement and ambulatory 24-hour blood pressure measurement in pharmacologic studies. *Blood Pressure Monit.* 2003;8:169-172
- Den Hond E, Staessen JA on behalf of the APTH and THOP investigators. Relation between left ventricular mass and systolic blood pressure at baseline in the APTH and THOP trials. *Blood Press Monit.* 2003, 8:173–175
- O'Brien E. A website for blood pressure measuring devices: dablededucational.com. *Blood Pressure Monit.* 2003, 8:177–180

2004

- O'Brien E. What's new in blood pressure measurement? A workshop of the European Society of Hypertension. *Blood Press Monit.* 2004;9:281-282
- Myers MG. Blood pressure measurement and the guidelines: a proposed new algorithm for the diagnosis of hypertension. *Blood Press Monit.* 2004;9:283-286
- Richards C, Sutherland M, Gough K, Padfield PL. Direct access ambulatory BP monitoring-the Edinburgh experience. *Blood Press Monit.* 2004;9:287-291
- Stergiou GS, Alamara CV, Vazeou A, Stefanidis CJ. Office and out-of-office blood pressure measurement in children and adolescents. *Blood Press Monit.* 2004;9:293-296
- Palatini P. Masked hypertension: how can the condition be detected? *Blood Press Monit.* 2004;9:297- 299
- Mallion J.M, Genes N, Vaur L, Clerson P, Vaisse B, Bobrie G, Chatellier G. Detection of masked hypertension by home blood pressure measurement: is the number of measurements an important issue? *Blood Press Monit.* 2004;9:301-305
- Dolan E, Stanton A, Atkins N, Den Hond E, Thijs L, McCormack P, Staessen J, O'Brien E. Determinants of white-coat hypertension. *Blood Press Monit.* 2004;9:307-309
- Den Hond E, Staessen JA, Celis H, Fagard R, Keary L, Vandenhoven G, O'Brien ET, for the Treatment of Hypertension Based on Home or Office Blood Pressure (THOP) Trial Investigators. Antihypertensive treatment based on home or office blood pressure-the THOP trial. *Blood Press Monit.* 2004;9:311-314
- Ohkubo T, Asayama K, Kikuya M, Metoki H, Obara T, Saito S, Hoshi H, Hashimoto J, Totsune K, Satoh H, Imai Y. Prediction of ischaemic and haemorrhagic stroke by self-measured blood pressure at home: the Ohasama study. *Blood Press Monit.* 2004;9:315-320
- Mengden T, Ewald S, Kaufmann S, vor dem Esche J, Uen S, Vetter H. Telemonitoring of blood pressure self measurement in the OLMETEL study. *Blood Press Monit.* 2004;9:321-325.

2005

- O'Brien E. From measurement to profiles, phenomena and indices: A workshop of the European Society of Hypertension. *Blood Press Monit.* 2005;10:291-299.

- Stergiou GS. White coat hypertension and masked hypertension in children. *Blood Press Monit.* 2005;10:297-300.
- Angeli F, Verdecchia P, Gattobigio R, Sardone M, Reboldi G. White coat hypertension in adults. *Blood Press Monit.* 2005;10:301-305.
- Longo D, Dorigatti F, Palatini P. Masked hypertension in adults. *Blood Press Monit.* 2005;10:307-310
- Obara T, Ohkubo T, Kikuya M, Asayama K, Metoki H, Inoue R, Oikawa T, Komai R, Murai K, Hashimoto J, Totsune K, Imai Y and the J-HOME Study Group. Prevalence of masked uncontrolled and treated white coat hypertension defined according to the average of morning and evening home blood pressure value: from the J-HOME study. *Blood Press Monit.* 2005;10:311-316.
- Jhalani J, Goyal T, Clemow L, Schwartz JE, Pickering TG, Gerin W. Anxiety and outcome expectation predict the white coat effect. *Blood Press Monit.* 2005;10:317-319.
- Bilo G, Giglio A, Caldara G, Faini A, Kawecka-Jaszcz K, Mancia G, Parati G. How to improve the assessment of 24 H blood pressure variability. *Blood Press Monit.* 2005;10:321-323.

2007

- Atkins N, O'Brien E. The dabl® educational trust device equivalence procedure. *Blood Press Monit.* 2007;12:246-249
- Amoore JN, Lemesre Y, Murray IC, Vacher E, Mieke S, King ST. Validation of oscillometric non-invasive blood pressure measurement devices using simulators. *Blood Press Monit.* 2007;12:251-253
- Thijs L, Hansen TW, Kikuya M, Björklund-Bodegrd K, Li Y, Dolan E, Tikhonoff V, Seidlerová J, Kuznetsova T, Stolarz K, Bianchi M, Richart T, Casiglia E, Maljutina S, Filipovsky J, Kawecka-Jaszcz K, Nikitin Y, Ohkubo T, Sandoya E, Wang J, Torp-Pedersen C, Lind L, Ibsen H, Imai Y, Staessen JA, O'Brien E, IDACO Investigators. The International Database of Ambulatory blood pressure in relation to Cardiovascular Outcome (IDACO): protocol and research perspectives. *Blood Press Monit.* 2007;12:255-262
- Waeber B, Genoud M, Feihl F, Hayoz D, Waeber G. Ambulatory blood pressure monitoring: a means to stratify cardiovascular risk. *Blood Press Monit.* 2007;12:263-265.
- Verberk WJ, Thien T, de Leeuw PW. Masked hypertension, a review of the literature. *Blood Press Monit.* 2007;12:267-273.

Published Statements

1. Verdecchia P, Clement D, Fagard R, Palatini P, Parati G. Blood Pressure Monitoring. Task force III: Target-organ damage, morbidity and mortality. *Blood Press Monit.* 1999;4:303-17.
2. Asmar R, Zanchetti A. Guidelines for the use of self-blood pressure monitoring: a summary report of the First International Consensus Conference. Groupe Evaluation & Measure of the French Society of Hypertension. *J Hypertens.* 2000; 18:493-508.
3. Asmar R. Proceedings from the First International Consensus Conference on Self-Blood Pressure Measurement. *Blood Press Monit.* 2000; 5:91-92.
4. O'Brien E, Waeber B, Parati G, Staessen J, Myers M on behalf of the European Society of Hypertension Working Group on Blood Pressure Monitoring. Blood pressure measuring devices: recommendations of the European Society of Hypertension. *BMJ.* 2001;322:531-6
5. O'Brien E, Pickering T, Asmar R, Myers M, Parati G, Staessen J, Mengden T, Imai Y, Waeber B, Palatini P, Gerin W, Working Group on Blood Pressure Monitoring of the European Society of Hypertension. International protocol for validation of blood pressure measuring devices in adults. *Blood Press Monit.* 2002;7:3-17.
6. Verdecchia P, O'Brien E, Pickering T, Staessen JA, Parati G, Myers M, Palatini P, European Society of Hypertension Working Group on Blood Pressure Monitoring. When to suspect white coat hypertension? Statement from the Working Group on Blood Pressure Monitoring of the European Society of Hypertension. *Am J Hypertens.* 2003;16:87-91.
7. O'Brien E, Asmar R, Beilin L, Imai Y, Mallion J-M, Mancia G, Mengden T, Myers M, Padfield P, Palatini P, Parati G, Pickering T, Redon J, Staessen J, Stergiou G, Verdecchia P, European Society of Hypertension Working Group on Blood Pressure Monitoring. European Society of Hypertension recommendations for conventional, ambulatory and home blood pressure measurement. *J Hypertens.* 2003;21:821-848.
8. Stergiou G, Mengden T, Padfield PL, Parati G, O'Brien E, Working Group on Blood Pressure Monitoring of the European Society of Hypertension. Self monitoring of blood pressure at home. *BMJ.* 2004;870-871.
9. O'Brien E, Asmar R, Beilin L, Imai Y, Mancia G, Mengden T, Myers M, Padfield P, Palatini P, Parati G, Pickering T, Redon J, Staessen J, Stergiou G, Verdecchia P, European Society of Hypertension Working

- Group on Blood Pressure Monitoring. Practice guidelines of the European Society of Hypertension for clinic, ambulatory and self blood pressure measurement. *J Hypertens.* 2005;23:697–701
10. Parati G, Mendis S, Abegunde D, Asmar R, Mieke S, Murray A, Shengelia B, Steenvoorden G, Van Montfrans G, O'Brien E. Recommendations for blood pressure measuring devices for office/clinic use in low resource setting. *Blood Pressure Monitoring.* 2005;10:3-10.
 11. Staessen JA, O'Brien E, European Society of Hypertension. Progress in blood pressure measurement: a workshop of the European Society of Hypertension. *Blood Press Monit.* 2007;12:243-4.
 12. Staessen JA, O'Brien E. Proceedings of a workshop of the European Society of Hypertension. *Blood Press Monit.* 2008;13(3):143.
 13. Parati G, Stergiou GS, Asmar R, Bilo G, de Leeuw P, Imai Y, Kario K, Lurbe E, Manolis A, Mengden T, O'Brien E, Ohkubo T, Padfield P, Palatini P, Pickering T, Redon J, Revera M, Ruilope LM, Shennan A, Staessen JA, Tisler A, Waeber B, Zanchetti A, Mancia G. ESH Working Group on Blood Pressure Monitoring. European Society of Hypertension guidelines for blood pressure monitoring at home: a summary report of the Second International Consensus Conference on Home Blood Pressure Monitoring. *J Hypertens.* 2008;26(8):1505-1526.
 14. Palatini P, Benetos A, Grassi G, Julius S, Kjeldsen SE, Mancia G, Narkiewicz K, Parati G, Pessina AC, Ruilope LM, Zanchetti A, European Society of Hypertension. Identification and management of the hypertensive patient with elevated heart rate: statement of a European Society of Hypertension Consensus Meeting. *J.Hypertens* 2006; 24: 603-610.
 15. Parati G, Stergiou GS, Asmar R, Bilo G, de Leeuw P, Imai Y, Kario K, Lurbe E, Manolis A, Mengden T, O'Brien E, Ohkubo T, Padfield P, Palatini P, Pickering TG, Redon J, Revera M, Ruilope LM, Shennan A, Staessen JA, Tisler A, Waeber B, Zanchetti A, Mancia G, ESH Working Group on Blood Pressure Monitoring. European Society of Hypertension practice guidelines for home blood pressure monitoring. *J Hum Hypertens.* 2010;24(12):779-85.
 16. O'Brien E, Atkins N, Stergiou G, Karpettas N, Parati G, Asmar R, Imai Y, Wang J, Mengden T, Shennan A, Working Group on Blood Pressure Monitoring of the European Society of Hypertension. European Society of Hypertension International Protocol revision 2010 for the validation of blood pressure measuring devices in adults. *Blood Pressure Monitoring.* 2010; 15: 23-38.
 17. Parati G, Stergiou GS, Asmar R, Bilo G, de Leeuw P, Imai Y, Kario K, Lurbe E, Manolis A, Mengden T, O'Brien E, Okubo T, Padfield P, Palatini P, Pickering T.G., Redon J, Revera M, Ruilope L.M., Shennan A, Staessen JA, Tisler A, Waeber B, Zanchetti A, Mancia G, ESH Working Group on Blood Pressure Monitoring. European Society of Hypertension Practice Guidelines for home blood pressure monitoring. *Journal of Human Hypertension.* 2010; 24: 779-785.
 18. Stergiou GS, Parati G, Asmar R, O'Brien E; European Society of Hypertension Working Group on Blood Pressure Monitoring. Requirements for professional office blood pressure monitors. *J Hypertens.* 2012; 30: 537-542.
 19. O'Brien E, Parati G, Stergiou G, Asmar R, Beilin L, Bilo G, Clement D, de la Sierra A, de Leeuw P, Dolan E, Fagard R, Graves J, Head GA, Imai Y, Kario K, Lurbe E, Mallion JM, Mancia G, Mengden T, Myers M, Ogedegbe G, Ohkubo T, Omboni S, Palatini P, Redon J, Ruilope LM, Shennan A, Staessen JA, vanMontfrans G, Verdecchia P, Waeber B, Wang J, Zanchetti A, Zhang Y, European Society of Hypertension Working Group on Blood Pressure Monitoring. European Society of Hypertension position paper on ambulatory blood pressure monitoring. *J Hypertens.* 2013;31(9):1731-1768.
 20. Parati G, Stergiou G, O'Brien E, Asmar R, Beilin L, Bilo G, Clement D, de la Sierra A, de Leeuw P, Dolan E, Fagard R, Graves J, Head GA, Imai Y, Kario K, Lurbe E, Mallion JM, Mancia G, Mengden T, Myers M, Ogedegbe G, Ohkubo T, Omboni S, Palatini P, Redon J, Ruilope LM, Shennan A, Staessen JA, vanMontfrans G, Verdecchia P, Waeber B, Wang J, Zanchetti A, Zhang Y, European Society of Hypertension Working Group on Blood Pressure Monitoring and Cardiovascular Variability. European Society of Hypertension practice guidelines for ambulatory blood pressure monitoring. *J Hypertens.* 2014;32(7):1359-1366.
 21. Modesti PA, Agostoni P, Agyemang C, Basu S, Benetos A, Cappuccio FP, Ceriello A, Del Prato S, Kalyesubula R, O'Brien E, Kilama MO, Perlini S, Picano E, Reboldi G, Remuzzi G, Stuckler D, Twagirumukiza M, Van Bortel LM, Watfa G, Zhao D, Parati G, ESH Working Group on Hypertension and Cardiovascular Risk in Low Resource Settings. Cardiovascular risk assessment in low-resource settings: a consensus document of the European Society of Hypertension Working Group on Hypertension and Cardiovascular Risk in Low Resource Settings. *J Hypertens.* 2014;32:951-960.
 22. Stergiou GS, Parati G, Vlachopoulos C, Achimastos A, Andreadis E, Asmar R, Avolio A, Benetos A, Bilo G, Boubouchairpoulou N, Boutouyrie P, Castiglioni P, de la Sierra A, Dolan E, Head G, Imai Y, Kario K, Kollias A, Kotsis V, Manios E, McManus R, Mengden T, Mihailidou A, Myers M, Niiranen T, Ochoa JE, Ohkubo T, Omboni S, Padfield P, Palatini P, Papaioannou T, Protogerou A, Redon J, Verdecchia P, Wang J, Zanchetti A, Mancia G, O'Brien E. Methodology and technology for peripheral and central blood pressure and blood pressure variability measurement: current status and future directions – Position statement of the

- European Society of Hypertension Working Group on blood pressure monitoring and cardiovascular variability. *J Hypertens.* 2016;34:1665-1677.
23. Palatini P, Rosei EA, Casiglia E, Chalmers J, Ferrari R, Grassi G, Inoue T, Jelakovic B, Jensen MT, Julius S, Kjeldsen SE, Mancia G, Parati G, Pauletto P, Stella A, Zanchetti A. Management of the hypertensive patient with elevated heart rate: Statement of the Second Consensus Conference endorsed by the European Society of Hypertension. *J Hypertens.* 2016;34:813-21.
 24. Campbell NR, Gelfer M, Stergiou GS, Alpert BS, Myers MG, Rakotz MK, Padwal R, Schutte AE, O'Brien E, Lackland DT, Niebylski ML, Nilsson PM, Redburn KA, Zhang XH, Burrell L, Horiuchi M, Poulter NR, Prabhakaran D, Ramirez AJ, Schiffrin EL, Touyz RM, Wang JG, Weber MA. A Call to Regulate Manufacture and Marketing of Blood Pressure Devices and Cuffs: A Position Statement From the World Hypertension League, International Society of Hypertension and Supporting Hypertension Organizations. *J Clin Hypertens (Greenwich).* 2016;18(5):378-380.
 25. Stergiou G, Palatini P, Asmar R, de la Sierra A, Myers M, Shennan A, Wang J, O'Brien E, Parati G. Blood Pressure Measurement and Hypertension Diagnosis in the 2017 US Guidelines: First Things First. *Hypertension.* 2018;71(6):963-965.
 26. Stergiou GS, Alpert B, Mieke S, Asmar R, Atkins N, Eckert S, Frick G, Friedman B, Graßl T, Ichikawa T, Ioannidis JP, Lacy P, McManus R, Murray A, Myers M, Palatini P, Parati G, Quinn D, Sarkis J, Shennan A, Usuda T, Wang J, Wu CO, O'Brien E. A Universal Standard for the Validation of Blood Pressure Measuring Devices: Association for the Advancement of Medical Instrumentation/European Society of Hypertension/International Organization for Standardization (AAMI/ESH/ISO) Collaboration Statement. *Hypertension.* 2018;71(3):368-374.
 27. Stergiou GS, Alpert B, Mieke S, Asmar R, Atkins N, Eckert S, Frick G, Friedman B, Graßl T, Ichikawa T, Ioannidis JP, Lacy P, McManus R, Murray A, Myers M, Palatini P, Parati G, Quinn D, Sarkis J, Shennan A, Usuda T, Wang J, Wu CO, O'Brien E. A universal standard for the validation of blood pressure measuring devices: Association for the Advancement of Medical Instrumentation/European Society of Hypertension/International Organization for Standardization (AAMI/ESH/ISO) Collaboration Statement. *J Hypertens.* 2018;36:472-478.
 28. Stergiou GS, Asmar R, Myers M, Palatini P, Parati G, Shennan A, Wang J, O'Brien E, European Society of Hypertension Working Group on Blood Pressure Monitoring and Cardiovascular Variability. Improving the accuracy of blood pressure measurement: the influence of the European Society of Hypertension International Protocol (ESH-IP) for the validation of blood pressure measuring devices and future perspectives. *J Hypertens.* 2018;36:479-487.
 29. Stergiou GS, Palatini P, Asmar R, Bilo G, de la Sierra A, Head G, Kario K, Mihailidou A, Wang J, Mancia G, O'Brien E, Parati G. Blood pressure monitoring: theory and practice. European Society of Hypertension Working Group on Blood Pressure Monitoring and Cardiovascular Variability Teaching Course Proceedings. *Blood Press Monit.* 2018;23:1-8.
 30. Palatini P, Rosei EA, Avolio A, Bilo G, Casiglia E, Ghiadoni L, Giannattasio C, Grassi G, Jelakovich B, Julius S, Mancia G, McEnery CM, O'Rourke MF, Parati G, Pauletto P, Pucci G, Saladini F, Strazzullo P, Tsioufis K, Wilkinson IB, Zanchetti A. Isolated systolic hypertension in the young: a position paper endorsed by the European Society of Hypertension. *J Hypertens.* 2018;36:1222-36.
 31. Stergiou GS, Palatini P, Asmar R, Ioannidis JP, Kollias A, Lacy P, McManus RJ, Myers MG, Parati G, Shennan A, Wang J, O'Brien E, European Society of Hypertension Working Group on Blood Pressure Monitoring. Recommendations and Practical Guidance for performing and reporting validation studies according to the Universal Standard for the validation of blood pressure measuring devices by the Association for the Advancement of Medical Instrumentation/European Society of Hypertension/International Organization for Standardization (AAMI/ESH/ISO). *J Hypertens* 2019;37:459-66.
 32. O'Brien E, Stergiou G, Palatini P, Asmar R, Ioannidis JP, Kollias A, Lacy P, McManus RJ, Myers MG, Shennan A, Wang J, Parati G; European Society of Hypertension Working Group on Blood Pressure Monitoring. Validation protocols for blood pressure measuring devices: the impact of the European Society of Hypertension International Protocol and the development of a Universal Standard. *Blood Press Monit.* 2019;24:163-166.
 33. Stergiou GS, Palatini P, Modesti PA, Asayama K, Asmar R, Bilo G, de la Sierra A, Dolan E, Head G, Kario K, Kollias A, Manios E, Mihailidou AS, Myers M, Niiranen T, Ohkubo T, Protogerou A, Wang J, O'Brien E, Parati G. Seasonal variation in blood pressure: Evidence, consensus and recommendations for clinical practice. Consensus statement by the European Society of Hypertension Working Group on Blood Pressure Monitoring and Cardiovascular Variability. *J Hypertens.* 2020;38:1235-1243.
 34. Palatini P, Asmar R, O'Brien E, Padwal R, Parati G, Sarkis J, Stergiou G; European Society of Hypertension Working Group on Blood Pressure Monitoring, Cardiovascular Variability, the International Standardisation Organisation (ISO) Cuff Working Group. Recommendations for blood pressure measurement in large arms in research and clinical practice: position paper of the European society of hypertension working group on blood pressure monitoring and cardiovascular variability. *J Hypertens.* 2020;38:1244-1250.

35. Parati G, Stergiou GS, Bilo G, Kollias A, Pengo M, Ochoa JE, Agarwal R, Asayama K, Asmar R, Burnier M, De La Sierra A, Giannattasio C, Gosse P, Head G, Hoshide S, Imai Y, Kario K, Li Y, Manios E, Mant J, McManus RJ, Mengden T, Mihailidou AS, Muntner P, Myers M, Niiranen T, Ntineri A, O'Brien E, Octavio JA, Ohkubo T, Omboni S, Padfield P, Palatini P, Pellegrini D, Postel-Vinay N, Ramirez AJ, Sharman JE, Shennan A, Silva E, Topouchian J, Torlasco C, Wang JG, Weber MA, Whelton PK, White WB, Mancia G; Working Group on Blood Pressure Monitoring and Cardiovascular Variability of the European Society of Hypertension. Home blood pressure monitoring: methodology, clinical relevance and practical application: a 2021 position paper by the Working Group on Blood Pressure Monitoring and Cardiovascular Variability of the European Society of Hypertension. *J Hypertens.* 2021;39:1742-1767.
36. Stergiou GS, Palatini P, Parati G, O'Brien E, Januszewicz A, Lurbe E, Persu A, Mancia G, Kreutz R; European Society of Hypertension Council and the European Society of Hypertension Working Group on Blood Pressure Monitoring and Cardiovascular Variability. 2021 European Society of Hypertension practice guidelines for office and out-of-office blood pressure measurement. *J Hypertens.* 2021;39:1293-1302.