

Annual Working Group Report Form

Year/time period of report: 2022

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

Chair:

Paolo Palatini

Email: palatini@unipd.it

Year of appointment: 2022

Year of birth: 1947

Secretary:

Alejandro de la Sierra

Email: adelasierra@mutuaterrassa.es

Year of appointment: 2022

Year of birth: 1958

Working Group Members

Current number of members: 118

New members approved this year: name, e-mail and year of birth

- Justine Huart, Belgium, justine.huart@chuliege.be
 - Vladimir Rapoport, Israel, rapoport@hit.ac.il
 - Alta Schutte, Australia, a.schutte@unsw.edu.au
 - Gregoire Wuerzner, Switzerland, gregoire.wuerzner@chuv.ch
-

Activities of the year

Publications on behalf of the Working Group

Published this year:

- Stergiou GS, Mukkamala R, Avolio A, Kyriakoulis KG, Mieke S, Murray A, Parati G, Schutte AE, Sharman JE, Asmar R, McManus RJ, Asayama K, De La Sierra A, Head G, Kario K, Kollias A, Myers M, Niiranen T, Ohkubo T, Wang J, Wuerzner G, O'Brien E, Kreutz R, Palatini P; European Society of Hypertension Working Group on Blood Pressure Monitoring and Cardiovascular Variability. Cuffless blood

pressure measuring devices: review and statement by the European Society of Hypertension Working Group on Blood Pressure Monitoring and Cardiovascular Variability. *J Hypertens.* **2022** Aug 1;40(8):1449-1460. doi: 10.1097/HJH.0000000000003224.

- 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, Hoshida 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** Sep 1;39(9):1742-1767. doi: 10.1097/HJH.0000000000002922.

In press or in preparation:

- Blood Pressure Variability: Methodological Aspects, Clinical Relevance and Practical Indications. Position Paper by the ESH Working Group on Blood Pressure Monitoring and Cardiovascular Variability. G Parati et al. *J Hypertens*, in press.
- BPM Devices Design & Function: ESH Consensus. G Stergiou et al– Task Groups reports 3. In preparation.
- AAMI-ESH-ISO Universal Standard: New special populations? G Stergiou – Task Groups reports 10. ISO Task Group and ESH WG on BPM & CVV. In preparation.

Meetings organized/planned this year:

- Blood pressure monitoring Teaching Session: organized during the 2022 ESH meeting. ESH endorsement: yes
- Investigator-Initiated Satellite Symposium. Blood Pressure Measuring Devices: Design and Function Requirements for Clinical Use. Organized during ESH 2022 meeting. June 17th, 2022. ESH endorsement: yes
- Six Hot Questions on Blood Pressure Monitoring for Clinical Practice. Organized during ESH 2022 meeting. June, 18th, 2022. ESH endorsement: yes

Participation to the ESH Annual Meeting

WG scientific meeting; main program

- Workshop. Mastering: Night-time hypertension and non-dippers. Implication for therapy. Saturday, June 18th, 10:00-11:00
- Hands on. Continuous cuffless blood pressure devices: potential clinical uses for the optimal management of hypertension. Saturday, June 18th, 11:30-12:30
- Workshop. Wearable blood pressure monitors. Has time come? Saturday, June 18th, 13:30-14:30
-

- Teaching seminar: Blood Pressure measurement: What the 2021 ESH Practice Guidelines recommend. Saturday, June 18th, 14:30-16:00
- Joint session ESH-ACC: Home BP Monitoring: American and European Perspectives and Future Directions. Saturday, June 18th, 18:15-19:15
- Minisymposium. Nocturnal hypertension. Risk factor for organ damage. Sunday, June 19th, 11:30-12:30
- Hands on. The challenge of night-time blood pressure measurement. Sunday, June 19th, 14:30-15:30
- Breakfast session. Status of blood pressure variability (BPV). Monday, June 20th, 07:45-08:45
- How to session. Special settings for blood pressure measurement. When and how? Monday, June 20th, 09:00-10:00

Proposals for participation to the 2023 ESH Annual Meeting

- Cuffless blood pressure measuring devices: Clinical evaluation and application
 - Short-term BP Variability: From basics to clinical practice
 - Management of masked hypertension with out-of-office BP
-

Scientific projects

Completed this year:

- ESH Consensus Statement on BP Variability
- ESH Consensus Statement on Cuffless BP monitors

Ongoing:

- Collaboration with the International Organization for Standardization (ISO) and the US Association for the Advancement of Medical Instrumentation (AAMI) for further development of the current standard for cuff BP device validation, regarding: (i) validation in arm size >42 cm; (ii) validation in atrial fibrillation; (iii) new special populations for validations.

In planning for next year:

- Collaboration with the International Organization for Standardization (ISO) and the US Association for the Advancement of Medical Instrumentation (AAMI) for developing new standards for cuffless device validation.

Educational projects

- Completed this year: Blood pressure measurement Teaching Session: organized during the 2022 ESH meeting
- In planning for next year: ESH WORKING GROUP ON BP MONITORING & CARDIOVASCULAR VARIABILITY “Six Hot Questions on BP Measurement in Clinical Practice”. Teaching session planned for the 2023 ESH meeting.

Collaborations with other WGs/Scientific Societies:

- ISO
- US AAMI
- STRIDE BP Organization

Other remarks:None

Filled by (full name): Paolo Palatini

Date: 16/12/2022

Appendix:

- Full board composition.
Roland Asmar, Lawrie Beilin, Denis L. Clement, Peter De Leeuw, Robert Fagard, Yutaka Imai, Jean-Michel Mallion, Giuseppe Mancia, 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
- List of all current WG members
- WG Constitution

List of Working Group Members

Lastname	Firstname	Email
Andreadis	Emmanuel A.	andreadisem@gmail.com
Angeli	Fabio	fangeli@cardionet.it ;
Asayama	Kei	kei@asayama.org ;
Asmar	Roland	ra@cmcv.org ;
Aubert	Andre	andre.aubert@med.kuleuven.ac.be ;
Baselli	Giuseppe	giuseppe.baselli@biomed.polimi.it ;
Batzel	Jerry	jerry.batzel@uni-graz.at ;
Bauernschmitt	Robert	bauernschmitt@dhm.mhn.de ;
Beilin	Lawrence	lawrie.beilin@uwa.edu.au ;
Bilo	Grzegorz	g.bilo@auxologico.it ;
Bochud	Murielle	murielle.bochud@chuv.ch ;
Bursztyn	Michael	bursz@cc.huji.ac.il ;
Byrd	Brian	jbyrd@med.umich.edu ;
Camilla	Torlasco	camilla.torlasco@gmail.com ;
Castiglioni	Paolo	paolo.castiglioni@gmail.com ;
Cerutti	Sergio	sergio.cerutti@biomed.polimi.it ;
Clement	Denis	Denis.clement@ugent.be ;
Couderc	Jean-Philippe	jean-philippe.couderc@heart.rochester.edu ;
de la Sierra	Alex	adelasierra@mutuaterrassa.cat
De Leeuw	Peter	p.deleeuw@intmed.unimaas.nl ;
Di Rienzo	Marco	mdirienzo@dongnocchi.it ;
Dolan	Eamon	eamon028@gofree.indigo.ie ;
Fagard	Robert	robert.fagard@uz.kuleuven.ac.be ;
Faini	Andrea	faini.andrea@gmail.com ;
Filipovský	Jan	filipovsky@fnplzen.cz
Germano	Giuseppe	ncgerman@tin.it ;
Hansen	Tine Willum	Tine.willum.hansen@regionh.dk
Hiremath	Swapnil	shiremath@toh.ca
Hoshide	Satoshi	hoshide@jichi.ac.jp ;
Hoyer	Dirk	dirk.hoyer@biomag.uni-jena.de ;
Huikuri	Heikki	heikki.huikuri@oulu.fi ;
Iellamo	Ferdinando	iellamo@med.uniroma2.it ;
Imai	Yutaka	yutaka.imai.d6@tohoku.ac.jp
Jing	Liu	heartcenter@163.com ;
Julien	Claude	julien@univ-lyon1.fr ;
Kahan	Thomas	thomas.kahan@ds.se ;
Kario	Kazuomi	kkario@jichi.ac.jp ;
Kikuya	Masahiro	kikuyam@hotmail.com ;
Kollias	Anastasios	taskollias@gmail.com ;
Kotovskaya	Yulia	kotovskaya@bk.ru ;
Kotsis	Vasilios	vkotsis@auth.gr ;
Krastic	Goran	goran.krstacic@zg.t-com.hr ;
Kyriakoulis	Konstantinos	konkyriakoulis@gmail.com
Laude	Dominique	dominique.laude@crc.jussieu.fr ;
Lee	Eric	lkp032@cuhk.edu.hk

Lastname	Firstname	Email
Lewis	Philip	Philip.Lewis@stockport.nhs.uk;
Lombardi	Carolina	c.lombardi@auxologico.it;
Malberg	Hagen	hagen.malberg@tu-dresden.de;
Maldonado	Jao	clinica.aveleira@iifc.pt;
Malik	Marek	marek.malik@btinternet.com;
Mallion	Jean-Michel	jm.mallion@chu.grenoble.fr;
Mancia	Giuseppe	giuseppe.mancia@unimib.it;
Manios	Efstathios	stathismanios@yahoo.gr;
Manolis	Athanasios	ajmanol@otenet.gr;
Masafumi	Nishizawa	nishi@jichi.ac.jp;
Melgarejo	Jesus	jesus.melgarejo@kuleuven.be
Mengden	Thomas	T.Mengden@reha.kerckhoff-klinik.de;
Migeotte	Pierre-François	pierre-francois.migeotte@elec.rma.ac.be;
Mihailidou	Anastasia	anastasia.mihailidou@health.nsw.gov.au
Mitsis	Georgios D.	gmitsis@gmail.com;
Montano	Nicola	nicola.montano@unimi.it;
Myers	Martin	martin.myers@sunnybrook.ca;
Narkiewicz	Krzysztof	knark@amg.gda.pl;
Niiranen	Teemu	tejuni@utu.fi;
Nollo	Giandomenico	nollo@science.unitn.it;
Ntineri	Angeliki	antineri@yahoo.gr;
O'Brien	Eoin	profeobrien@icloud.com
Ohkubo	Takayoshi	tohkubo@mail.tains.tohoku.ac.jp;
Omboni	Stefano	stomboni@docleader.com;
Padfield	Paul L.	paul.padfield@luht.scot.nhs.uk;
Palatini	Paolo	palatini@unipd.it;
Palombo	Carlo	carlo.palombo@med.unipi.it;
Papelier	Yves	yves.papelier@u-psud.fr;
Parati	Gianfranco	gianfranco.parati@unimib.it;
Pathak	Atul	atul.pathak@univ-tlse3.fr;
Persson	Pontus	pontus.persson@charite.de;
Porta	Alberto	alberto.porta@unimi.it;
Quintin	Luc	luc.quintin@univ-lyon1.fr;
Ramakrishna	Mukkamala	rama@egr.msu.edu;
Redon	Josep	josep.redon@uv.es;
Saladini	Francesca	saladinifrancesca@gmail.com
Salvi	Paolo	psalvi.md@gmail.com;
Seidlerova	Jitka	seidlerovaji@fnplzen.cz;
Sirenko	Yuriy	sirenkoyu@gmail.com;
Sivén	Sam	ssesiv@utu.fi;
Sokolovic	Sekib	sekib@bih.net.ba;
Staessen	Jan A.	jan.staessen@med.kuleuven.be;
Stauss	Harald	harald-stauss@uiowa.edu;
Stergiou	George S.	gstergi@med.uoa.gr;
Stojanovic	Milos	specmedico@hotmail.com;
Stolarz-Skrzypek	Katarzyna	katarzyna_stolarz@poczta.onet.pl;
Swynghedauw	Bernard	bernard.swynghedauw@larib.inserm.fr;

Lastname	Firstname	Email
Tan	Ya Wen Isabella	Isabella.Tan@mq.edu.au
Topouchian	Jirar	jtopouchian@hotmail.com ;
van de Borne	Philippe	pvandebo@ulb.ac.be ;
van den Born	Bert-Jan	b.j.vandenborn@amc.uva.nl ;
Van Leeuwen	Peter	petervl@microtherapy.de ;
Van Montfrans	Gert	g.vanmontfrans@amc.uva.nl ;
Verdecchia	Paolo	verdecchiapaolo@gmail.com
Voss	Andreas	voss@fh-jena.de ;
Waeber	Bernard	bwaeber@chuv.hospvd.ch ;
Wang	Jiguang	jiguangwang@aim.com
Wassertheurer	Siegfried	siegfried.wassertheurer@ait.ac.at ;
Wessel	Niels	niels.wessel@charite.de ;
White	William	wwhite@nso1.uchc.edu ;
Williams	Stephen Kayode	Stephen.williams@nyumc.org
Yan	Li	LiYanshcn@yahoo.com ;
Yi	Zhang	yizshcn@gmail.com ;
Yu	Yuling	yyl0603@sina.cn
Żebrowski	Jan J.	zebra@if.pw.edu.pl ;
Zelveian	Parounak	zelveian@hotmail.com ;

CONSTITUTION OF THE WORKING GROUP ON BLOOD PRESSURE MEASUREMENT OF THE EUROPEAN SOCIETY OF HYPERTENSION

24 June 2009

HISTORY

An ad hoc group interested mainly in ambulatory blood pressure measurement came into being in 1990, when a need was perceived for consensus in ambulatory blood pressure measurement. The First International Consensus Meeting was held in Berlin in 1990 and was followed by meetings every two years in Dublin, New Orleans, Leuven and Paris. The most remarkable feature of this group was that it had managed to bring interested scientists together every two years to debate developments in ambulatory blood pressure measurement without having a formal organizational structure. However, such were the advances in the development of blood pressure measurement in general that it was considered necessary to give some structural cohesion to the ad hoc arrangement. Towards this end, meetings were held in Dublin on 19 June 1996 and in Glasgow on 25 June 1996, at which those who had participated in the original meetings attended - Coats, Imai, O'Brien, Padfield, Pickering, Staessen, Waeber, White, Mallion and Mancina. It was recognized that there was a need for a formal structure, which could take the initiative in organising meetings, whether alone or as satellites to other meetings. It was also recognized that the Working Group would need to be able to invite as members representatives from the manufacturing industry, engineering, nursing and the like so as to have the expertise from the many disciplines involved in blood pressure measurement. It was proposed, therefore, that a permanent group should be established, which would act as an official Working Group of the European Society of Hypertension (ESH). O'Brien was asked to draft a proposal for the composition and operation of such a Working Group. The Working Group met on 15 June 1997 at the Eighth European Meeting on Hypertension in Milan, where the European Society of Hypertension approved the Group as an official Working Group. At the Business Meeting of the Working Group held in Milan on 17 June 2007, there was consensus that the 1997 constitution needed to be updated, particularly to facilitate the inclusion into the group of young scientists with a record of research in blood pressure measurement. It was furthermore agreed that the Working Group meeting should become an integral part of the main annual ESH meeting. The recommendation was also made to continue consultations with ESH to provide a forum for more papers on blood pressure measurement to be presented within the context of the annual scientific meetings of the Working Group, as well as in Workshops and teaching sessions organised in the framework of the annual ESH meetings.

OBJECTIVES

The broad objective of the Working Group shall be to advance knowledge relating to all aspects of blood pressure measurement with a view to advancing the technology available for hypertension research and to improve the clinical management of hypertension. The Working Group shall fulfil this objective in a number of ways, which will include:

- Production of guidelines for the clinical application of ambulatory and self-measurement of blood pressure;
- Establishment of internationally recognized technical and clinical validation protocols for blood pressure measuring devices;
- Organisation of meetings for communications and discussions, or lectures;
- Involvement of the manufacturing and engineering industries, the standards institutions, the nursing profession and other groups as may seem appropriate in future deliberations on the techniques of measurement;
- Actions aimed at influencing grant-awarding bodies and the pharmaceutical industry to incorporate ambulatory and/or self-measurement of blood pressure in outcome studies.

STRUCTURE OF THE WORKING GROUP

The Working Group shall be structured as follows:

- Officers: Chairman and Secretary – to be elected to serve for a period of two years with the option of being re-elected for one additional two-year term

- Board of the Working Group:
 - The business of the Working Group shall be conducted by the Board.
 - The Board shall consist of no more than 20 members in addition to the Chairman and Secretary, who will be elected by the Board.
 - The Board members shall serve for a two-year term with the option of being re-elected for one additional term. However, exceptions can be made with the agreement of the Board and the Membership in order to safeguard continuity within the Board.
 - Any member of the Board can apply for the position of Chairman or Secretary. New Board members will be elected from the Working Group Membership by a proposer and seconder from the Board.
 - The Board shall produce an annual report for approval by the Membership of the Working Group and presentation to the ESH Council.
 - The Board shall meet at least every year at the Scientific Meeting of ESH.
 - The Board shall arrange the programme(s) of any scientific meeting(s) of the Working Group.
 - The Board shall invite funding for meetings as seems appropriate.
 - The Board shall produce guidelines or statements on issues of blood pressure measurement as shall be appropriate from time to time.

Membership:

The Board will encourage and support applications of membership of the Working Group. Each application should be seconded by two members of the Board, based on the applicant's curriculum vitae. Membership shall not be limited. Members shall be eligible for election for the Board after at least two years of membership of the Working Group. To qualify for membership applicants should be and continue to be officially registered members of ESH. They should have expertise in blood pressure measurement, as evidenced by publications in peer-reviewed journals. New members should be approved at the annual business meeting of the Working Group. Members are expected to actively conduct research in blood pressure measurement and to submit at least one abstract for presentation at the annual scientific meetings of national and/or international hypertension societies or to publish at least one paper on blood pressure measurement in a peer-reviewed journal referenced in PubMed.