

## Annual Working Group Report Form

(To be submitted to ESH WG Coordinator before December 31, 2024)

**Year/time period of report: 2024**

**Name of Working Group:** Working Group on Large Arteries

**Name of Working Group Section (if applicable):** NA

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### Composition of Working Group

#### Chair:

Dimitrios Terentes-Printzios

Email: dterentes@gmail.com

Year of appointment: 2022

Year of birth: 1982

#### Vice-Chair:

Name: Elisabetta Bianchini

Email: elisabettabianchini@gmail.com

Year of appointment: 2022

Year of birth: 1975

#### Secretary:

Giacomo Pucci

Email: giacomo.pucci@unipg.it

Year of appointment: 2023

Year of birth: 1979

### Working Group Members

- Current number of ESH members: 48

New WG members approved this year:

- Meireles Brandao - dr.meirelesbrandao@gmail.com
- Ute Seeland - gendermed@ute-seeland.de
- Arman Postadzhiyan - armanp@abv.bg
- Georgiopoulos Georgios- georgiopoulosgeorgios@gmail.com
- Georgios Mavraganis - giomavraganis@gmail.com
- Evmorfia Aivalioti- morfoaival5@gmail.com
- Dimitris Delialis - dimitrisdelialis@gmail.com
- Raphael Patras - raphaelpatras@gmail.com
- Georgios Zervas - george.zervas10@gmail.com

- Kimon Stamatelopoulos - stamatelopoulosk@yahoo.gr
  - Current number of members, including Associated peers (see full list at the end of the report): 104
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### **Activities of the year**

This WG initiated the development of the 2024 recommendations for validation of noninvasive arterial pulse wave velocity devices — proposing an approach to ensure consistency and comparability of results and leading to enhanced clinical utility of pulse wave velocity as a valuable tool for improving cardiovascular risk stratification and management in hypertensions.

Earlier, the WG wrote an extensive review paper on the vascular consequences of inflammation, discussing the many relationships between inflammation and arterial dysfunction.

Moreover, some members of the WG actively contributed to the latest ESH clinical practice and management of hypertension guidelines.

#### Publications on behalf of the Working Group

Published this year:

Spronck B, Terentes-Printzios D, Avolio AP, Boutouyrie P, Guala A, Jerončić A, Laurent S, Barbosa ECD, Baulmann J, Chen CH, Chirinos JA, Daskalopoulou SS, Hughes AD, Mahmud A, Mayer CC, Park JB, Pierce GL, Schutte AE, Urbina EM, Wilkinson IB, Segers P, Sharman JE, Tan I, Vlachopoulos C, Weber T, Bianchini E, Bruno RM; Association for Research into Arterial Structure and Physiology (ARTERY), the European Society of Hypertension Working Group on Large Arteries, European Cooperation in Science and Technology (COST) Action VascAgeNet, North American Artery Society, ARTERY LATAM, Pulse of Asia, and Society for Arterial Stiffness—Germany-Austria-Switzerland (DeGAG). 2024 Recommendations for Validation of Noninvasive Arterial Pulse Wave Velocity Measurement Devices. *Hypertension*. 2024 Jan;81:183-192.

Meetings organized/planned this year:

Participation to the ESH Annual Meeting: yes

Main program at ESH 2024 (Berlin) reported below:

#### **WORKING GROUP LARGE ARTERIES**

Friday, May 31, 16:30-17:30 (CET), Convention Hall I C

Chairpersons: E. Bianchini (Rome, ITALY), D. Terentes-Printzios (Athens, GREECE)

- Guidelines for technical validation for PWV devices (B. Spronck)
- PWV in clinical practice (T. Weber)

- New projects (R. M. Bruno)
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### **Scientific projects**

The WG's key actions focus on integrating large artery assessment into hypertension management.

Ongoing and future initiatives, in collaboration with the Association for Research into Arterial Structure and Physiology (ARTERY), include investigating European reimbursement frameworks and evaluating the usability of vascular assessment devices to develop a strategy for better clinical implementation.

### **Collaborations with other WGs/Scientific Societies:**

ARTERY Society

### **Other remarks:**

**Filled by Giacomo Pucci**

**Date:** 08/12/2024

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### **Appendix:**

- 1) Full board composition.
- 2) List of proposed sessions for ESH 2024
- 3) List of all current WG members incl. full name and e-mail.

1) Full board composition

- Chair: Dimitrios Terentes-Printzios, dterentes@gmail.com, born in 1982
- Vice-Chair: Elisabetta Bianchini, elisabettabianchini@gmail.com, born in 1975
- Secretary: Giacomo Pucci, giacomo.pucci@unipg.it, born in 1979
- Past Chair: Rosa Maria Bruno, rosa-maria.bruno@inserm.fr, born in 1979

2) List of proposed sessions for ESH 2024

Proposal 1

Title: "Vascular organ damage and hypertension: what do the ESH 2023 and ESC 2024 Guidelines say and what is missing?"

Proposed chairs Maria Lorenza Muiesan (marialorenza.muiesan@unibs.it) and Thomas Weber (thomas.weber3@liwest.at)

Lecture 1: Could arterial stiffness help to improve risk stratification in subjects with hypertension?

Lecture 1: Rosa Maria Bruno, Université Paris Cité and INSERM, France, rosa-maria.bruno@inserm.fr

Lecture 2: Calcium score and beyond

Lecture 2: John William McEvoy, National University of Ireland, Galway, Ireland, johnwilliam.mcevoy@nuigalway.ie

Lecture 3: Looking beyond coronary arteries: Carotid ultrasound and ABI

Lecture 3: Anna Paini, Department of Clinical and Experimental Sciences, Division of Internal Medicine, ASST Spedali Civili Brescia, University of Brescia, Italy, painianna@hotmail.com

Proposal 2

Title: "The EU-funded research on hypertension"

Proposed chairs Elisabetta Bianchini (elisabettabianchini@cnr.it) and Christopher Mayer (Christopher.Mayer@ait.ac.at)

Lecture 1: MSCA-ITN Mindshift: a European doctoral school in hypertension

Lecture 1: Thomas Unger or Koen Reesink, Maastricht University, the Netherlands, k.reesink@maastrichtuniversity.nl

Lecture 2: Horizon 2020 CARDIS and INSIDE: a contactless device to measure vascular organ damage

Lecture 2: Rosa Maria Bruno, Université Paris Cité and INSERM, France, rosa-maria.bruno@inserm.fr

Lecture 3 Horizon 2020 ENSAT-HT and HT-ADVANCE: -omics to diagnose secondary hypertension

Lecture 3: Maria Christina Zennaro, INSERM and Paris University, maria-christina.zennaro@inserm.fr.

Lecture 4: Horizon EU VITAL, Virtual Twins as tools for personalised clinicAL care  
Lecture 4: Patrick Segers, Ghent University, Belgium, Patrick.Segers@ugent.be

### Proposal 3

Joint session with the Artery Society

Title: "Large arteries at the core of translational medicine"

Proposed chairs Carmel McEniery (cmm41@cam.ac.uk) and Dimitrios Terentes-Printzios (dimitristerentes@yahoo.gr)

Lecture 1: Moving arterial stiffness from bench to bedside

Lecture 1: Luca Faconti, King's College, London UK, luca.faconti@kcl.ac.uk

Lecture 2: PPG and wearable devices

Lecture 2: Peter Charlton, University of Cambridge, UK, pc657@cam.ac.uk

Lecture 3: Use of machine learning and artificial intelligence to unlock the secrets of the pressure wave  
Lecture 3: Philip Chowienczyk, King's College, London, UK, phil.chowienczyk@kcl.ac.uk

### Proposal 4

Title: "Lifestyle components to promote large arterial health"

Proposed chairs Giacomo Pucci (giacomo.pucci@unipg.it) and Elisabetta Bianchini (elisabettbianchini@cnr.it)

Lecture 1: Exercise

Lecture 1: Arno Schmidt-Trucksäss, University Basel, Switzerland, arno.schmidt-trucksass@unibas.ch

Lecture 2: Nutrition

Lecture 2: Davide Agnoletti, Bologna University, Italy, davide\_agnoletti@hotmail.com

Lecture 3: Psychological aspects

Lecture 3: János Nemcsik, Semmelweis University, Hungary, janos.nemcsik@gmail.com

Lecture 4: Socioeconomical determinants of health

Lecture 4: Maryam Kavousi, Erasmus University Medical Centre, Rotterdam, the Netherlands, m.kavousi@erasmusmc.nl

### Proposal 5

Title: "Genes and environment as determinant of vascular aging and hypertension"

Proposed chairs Giacomo Pucci (giacomo.pucci@unipg.it) and Elisabetta Bianchini (elisabettbianchini@cnr.it)

Lecture 1: Structural and genetic bases of arterial stiffness

Lecture 1: Marina Cecelja, Department of Twin Research & Genetic Epidemiology, King's College London (UK)

Lecture 2: The effects of exercise and dietary factors on vascular aging  
Lecture 2: Arno Schmidt-Trucksäss, University Basel, Switzerland, arno.schmidt-trucksass@unibas.ch

Lecture 3: Air pollution and environmental factors affecting vascular aging  
Lecture 3: Marek Rajzer, Jagiellonian University, Kraków, Poland  
marek.rajzer@uj.edu.pl

Lecture 4 Arterial stiffness and hypertension: chicken or egg?:  
Lecture 4: Ian Wilkinson, Department of Medicine, University of Cambridge, UK.  
ibw20@medschl.cam.ac.uk

#### Proposal 1 for a mini-lecture

Title / Topic: Large and small artery crosstalk – does it exist?

Potential speaker (optional): Dimitrios Terentes-Printzios, National & Kapodistrian University of Athens, Greece, dimitristerentes@yahoo.gr

#### Proposal 2 for a mini-lecture

Title / Topic: Vascular age calculation: why and how?

Potential speaker (optional): Stéphane Laurent, stef.laurent53@gmail.com

#### How-to session proposal

Proposed moderators Ian Filipovski (FILIPOVSKY@fnplzen.cz) and Bart Spronck (b.spronck@maastrichtuniversity.nl)

Title: "How to assess arterial stiffness and hypertension-mediated organ damage"

1. Carotid-femoral Pulse Wave Velocity (proposed speaker: Smriti Badhwar, INSERM, Paris, France, smriti.badhwar@inserm.fr)
2. Brachial ankle Pulse Wave Velocity (proposed speaker: Keeron Stone, Cardiff Metropolitan University, UK, KStone@cardiffmet.ac.uk)

### 3) List of Working Group members

Membership as of 08 December 2024 (including Associated Peers)

Surname	Firstname	E-mail	ESH memb
Agharazii	Mohsen	mohsen.agharazii@crhdq.ulaval.ca	Yes
Aivalioti	Evmorfia	morfoaival5@gmail.com	Unknown
Aizawa	Kunihiko	K.Aizawa@exeter.ac.uk	No
Alanis	Guillermo	adrianalanis20@gmail.com	No
Argyris	Antonios	and1dr@gmail.com	Yes
Arnold	Natalie	natalie.arnold@unimedizin-mainz.de	No
Avolio	Alberto	alberto.avolio@mq.edu.au	No
Baulmann	Johannes	jbaulmann@yahoo.com	No
Bianchini	Elisabetta	betta@ifc.cnr.it	Yes
Boutouyrie	Pierre	pierre.boutouyrie@aphp.fr	Yes
Brandao	Meireles	dr.meirelesbrandao@gmail.com	Yes
Bruno	Rosa Maria	rosa-maria.bruno@inserm.fr	Yes
Cardona	Ernesto	cameg1@hotmail.com	No
Cecelja	Marina	marina.3.cecelja@kcl.ac.uk	No
Chowienczyk	Phil	phil.chowienczyk@kcl.ac.uk	Yes
Climie	Rachel	rachel.climie@utas.edu.au	No
Cruickshank	Kennedy	kennedy.cruickshank@kcl.ac.uk	Yes
Cunha	Pedro	pedrocunha@med.uminho.pt	Yes
Delialis	Dimitris	dimitrisdelialis@gmail.com	Unknown
Dhaun	Neeraj	bean.dhaun@ed.ac.uk	No
Eula	Elisabetta	elisabetta.eula@gmail.com	No
Faconti	Luca	luca.faconti@kcl.ac.uk	Yes
Faita	Francesco	f.faita@ifc.cnr.it	No
Fesler	Pierre	p-fesler@chu-montpellier.fr	No
Forcada	Pedro	pforcada@gmail.com	No
Gallo	Antonio	antoniogallo.md@gmail.com	Yes
Gasecki	Dariusz	dgasecki@gumed.edu.pl	Yes
Georgios	Georgiopoulos	georgiopoulosgeorgios@gmail.com	Unknown
Ghiadoni	Lorenzo	lorenzo.ghiadoni@med.unipi.it	Yes
Giudici	Alessandro	a.giudici@maastrichtuniversity.nl	No
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Hughes	Alun	alun.hughes@ucl.ac.uk	Yes
Jerončić	Ana	ana.jeronic@mefst.hr	No
Joo	Hyung Joon	drjoohj@gmail.com	Yes
Kirkham	Fran	f.kirkham@nhs.net	Yes
Koenigstein	Karsten	k.koenigstein@unibas.ch	No
Kroon	Bram	aa.kroon@mumc.nl	Yes
Lacolley	Patrick	patrick.lacolley@inserm.fr	No
Lantelme	Pierre	pierrelantelme@hotmail.com	Yes
Laurent	Stephane	stef.laurent53@gmail.com	Yes

Lebedeva	Anna	anna.lebedeva@web.de	No
Leitão	Cátia	catia.leitao@ua.pt	No
Lopes	Susana	pslopes@ua.pt	No
Mahmud	Azra	azramahmud@gmail.com	Yes
Maloberti	Alessandro	alessandro.maloberti@ospedaleniguarda.it	Yes
Mavraganis	Georgios	giomavraganis@gmail.com	Unknown
Mayer	Christopher	christopher.mayer@ait.ac.at	No
McEniery	Carmel	cmm41@cam.ac.uk	No
Mendo	Diego	diego.s.mendo@gmail.com	Yes
Mesquita Bastos	Jose	mesquitabastos@gmail.com	Yes
Milei	José	josemilei@gmail.com	Yes
Muiesan	Maria Lorenza	marialorenza.muiesan@unibs.it	Yes
Narkiewicz	Krzysztof	knark@gumed.edu.pl	Yes
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Olsen	Michael Hecht	mho@dadlnet.dk	Yes
Paini	Anna	painianna@hotmail.com	No
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Patras	Raphael	raphaelpatras@gmail.com	Unknown
Picone	Dean	dean.picone@utas.edu.au	No
Postadzhyan	Arman	armanp@abv.bg	Yes
Protogerou	Athanase	aprotog@med.uoa.gr	Yes
Pucci	Giacomo	giacomo.pucci@unipg.com	Yes
Rajkumar	Chakravarthi	raj.rajkumar@nhs.net	Yes
Rajzer	Marek	marek.rajzer@uj.edu.pl	Yes
Ramos	Carlos	md_crb@hotmail.com	No
Reesink	Koen	k.reesink@maastrichtuniversity.nl	No
Rlancho	Julien	julien.riancho@aphp.fr	Yes
Ribeiro	Fernando	fernando.ribeiro@ua.pt	No
Rizzoni	Damiano	damiano.rizzoni@unibs.it	Yes
Rodilla	Enrique	enrique.rodilla@uchceu.es	Yes
Roth	Lynn	lynn.roth@uantwerpen.be	No
Salvetti	Massimo	massimo.salvetti@unibs.it	Yes
Schiavone	Maximo Agustin	maximo-agustin.schiavone@charite.de	No
Schmidt-Trucksäess	Arno	arno.schmidt-trucksäess@unibas.ch	No
Schmieder	Roland	roland.schmieder@uk-erlangen.de	Yes
Schultz	Martin	Martin.Schultz@utas.edu.au	No
Schurgers	Leon	l.schurgers@maastrichtuniversity.nl	No
Seeland	Ute	gendermed@ute-seeland.de	Yes
Segers	Patrick	patrick.segers@ugent.be	No
Şener	Yusuf Ziya	yzsener@yahoo.com.tr	Yes
Sharman	James	james.sharman@utas.edu.au	No
Shin	Jeong-Hun	cardio.hyapex@gmail.com; hyapex@hanya	No
Spronck	Bart	b.spronck@maastrichtuniversity.nl	Yes
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Terentes-Printzios	Dimitrios	dterentes@gmail.com	Yes
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Wojciechowska	Wiktoria	wiktoria.wojciechowska@uj.edu.pl	Yes
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