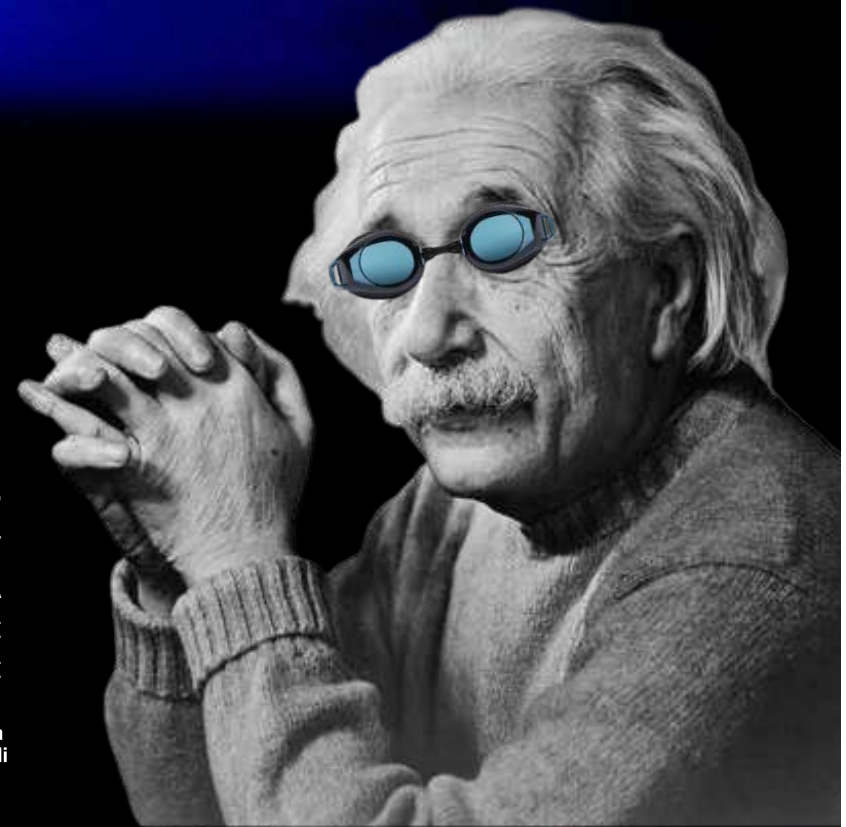


dalla **Salus** alla **Science Per Aquam**  
*nella best practice vascolare*

*S. Giancesini*, MD PHD FACS  
University of Ferrara – ITALY  
USUHS University Bethesda – USA  
v-WIN foundation em. president  
International Union of Phlebology 2023-2027 president



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Conflitto di Interesse:

- Vincitore Grant competitivo FORST relativo a studi vascolari e neurologici in ambito termale



Salus Per  
Aquam

170 thermae  
in Rome

*Augustus*, 27 B.C. to 14 A.D

Salus Per  
Aquam

Britain City of  
Bath, 70 AD





>50% chance

of having to deal with it

Gianesini S, Chi YW, Agüero C, et al. Fake-news-free evidence-based communication for proper vein-lymphatic disease management. Int Angiol. 2023



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# SEDENTARY LIFE

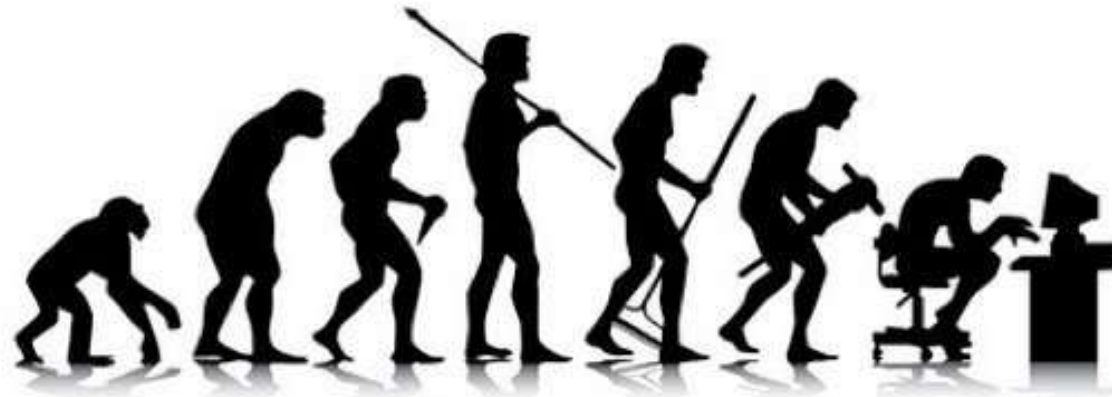
in the last 20 years

from **15** to **69%**.

Neville Owen

Sedentary Behavior: Emerging Evidence for a New Health Risk

Mayo Clin Proc. 2010 Dec; 85(12): 1138–1141





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Predicted burden of venous  
disease. *Phlebology*. 2016;31(1 Suppl):74–9  
Onida S, Davies AH.

AGEING

OBESITY

SEDENTARISM

VENOUS procedures



60% from 2013 to 2021





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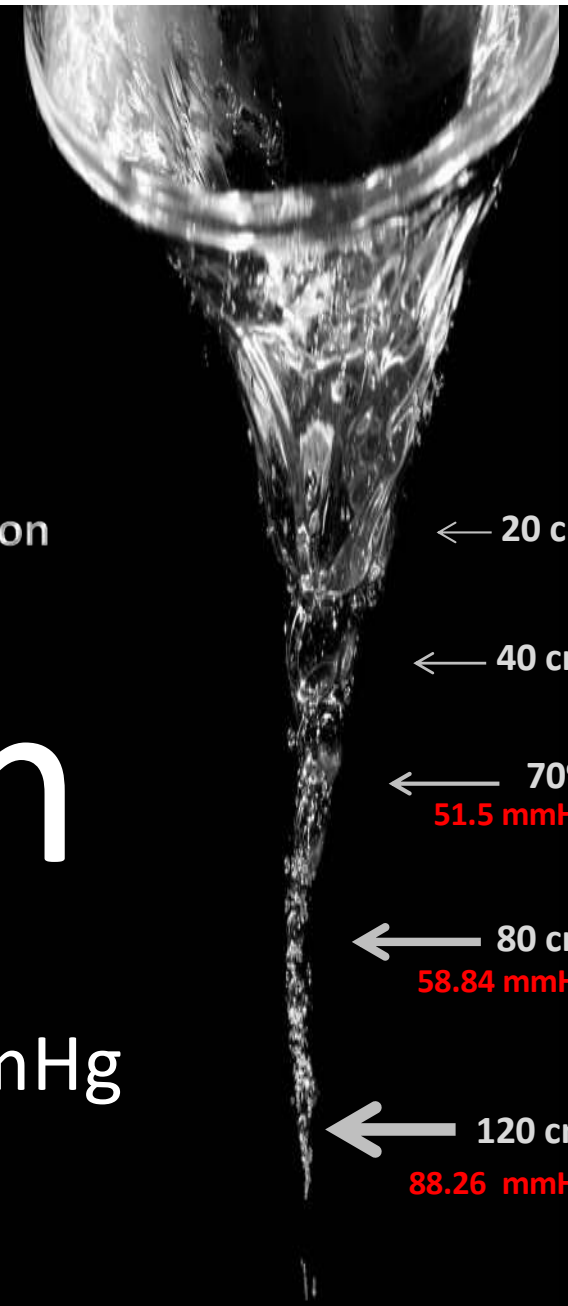
# SPA DAY







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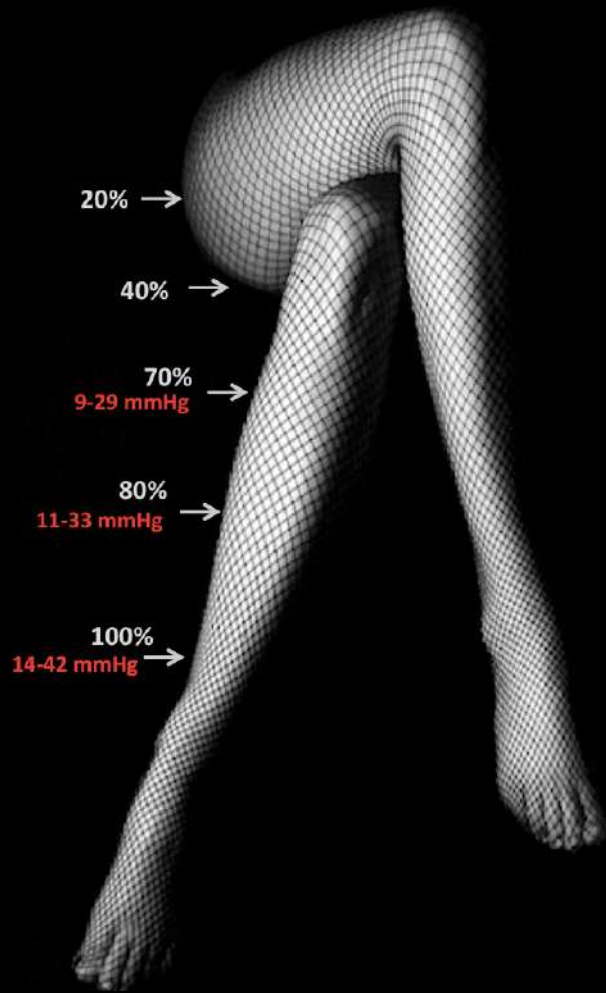


## Stevin's Law

a natural graduated compression

$$p = \rho g h$$

$$1 \text{ cmH}_2\text{O} = 0.74 \text{ mmHg}$$



20% →

40% →

70% →  
9-29 mmHg

80% →  
11-33 mmHg

100% →  
14-42 mmHg

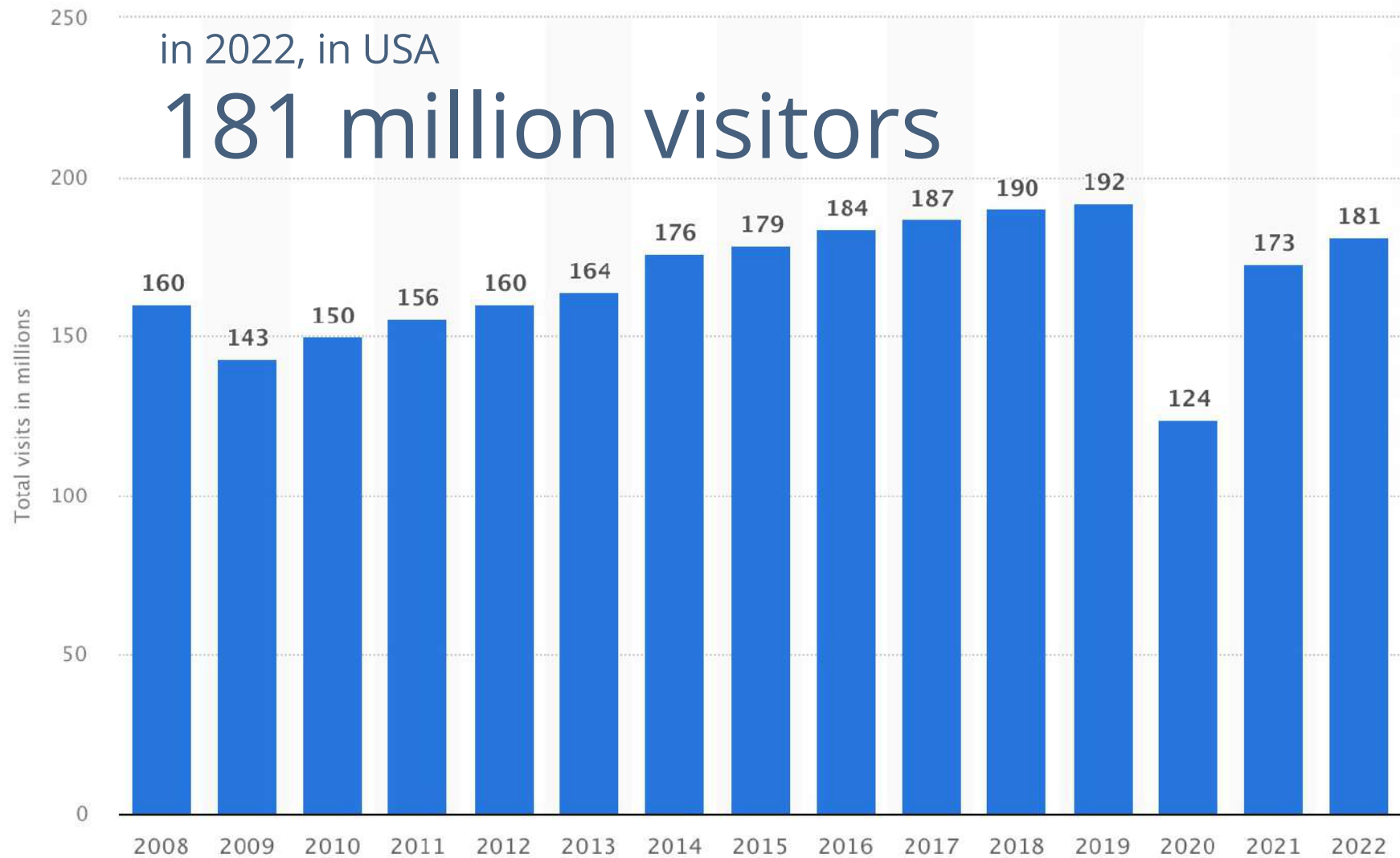
← 20 cm

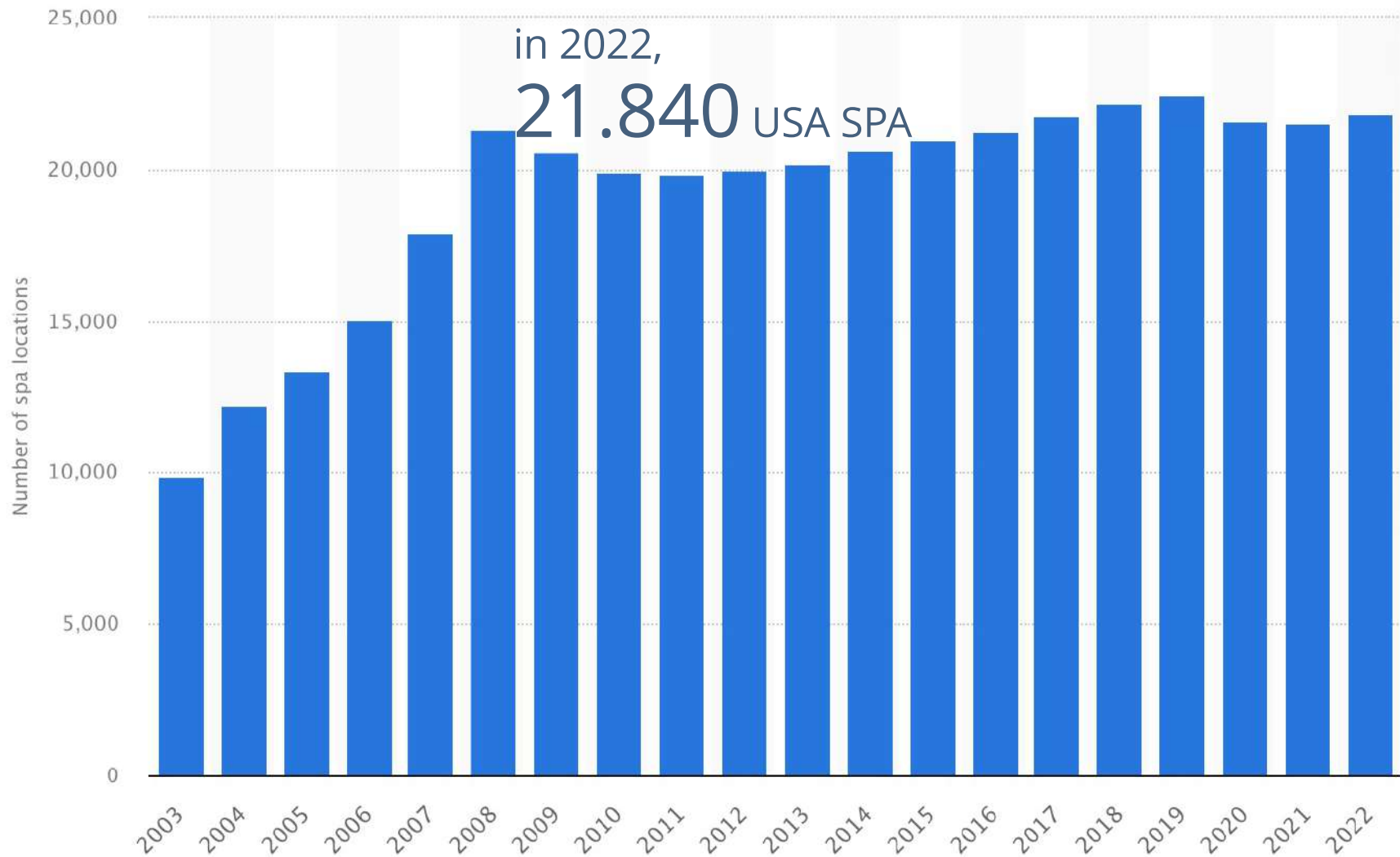
← 40 cm

← 70%  
51.5 mmHg

← 80 cm  
58.84 mmHg

← 120 cm  
88.26 mmHg







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statista 

by **2030**, worldwide SPA  
**7.6%** annual rate growth  
market size of **> 185 billion USD**

*involvement in multi-specialty reach-out*



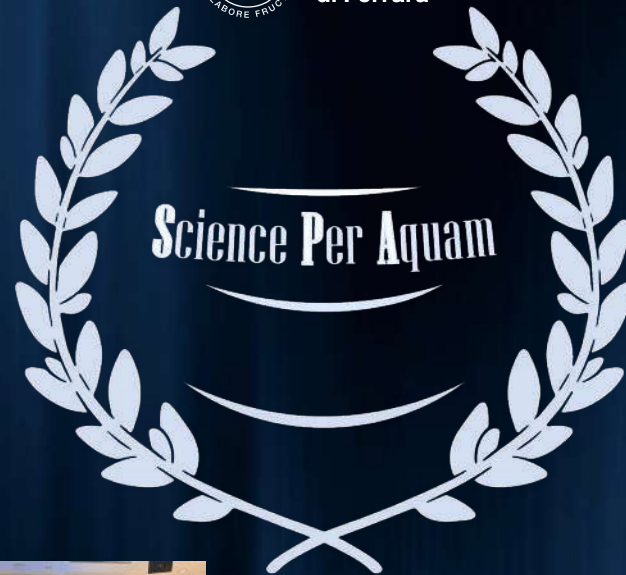
**LYMPHOLOGISTS  
World Congress**



**HYDROLOGY  
World Congress**



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di Ferrara**



**Italian GPs DAY**



**ITALY  
REHAB**

**CARDIOVASCULAR  
Japan National Event**



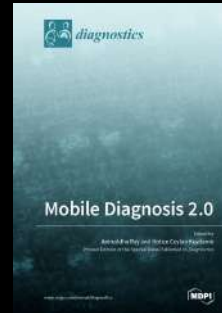
**RUSSIA  
INT MEDICINE**



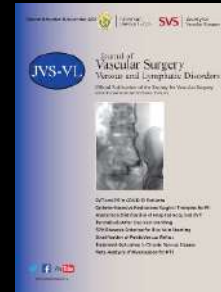
AWARDED



Gianesini S,  
Menegatti E, et al  
A specifically designed aquatic exercise protocol to reduce chronic lower limb edema. Phlebology. 2017



Menegatti E,  
Gianesini S.  
The Effects of Thermal Water Physical Exercise in Patients with Lower Limb Chronic Venous Insufficiency Monitored by Bioimpedance Analysis. Diagnostics (Basel). 2020



Menegatti E, Gianesini S.  
Randomized controlled trial on Dryland And Thermal Aquatic standardized exercise protocol for chronic venous disease (DATA study). J Vasc Surg Venous Lymphat Disord. 2021



Menegatti E,  
Gianesini S.  
Physical fitness changes induced by thermal aquatic standardized exercise in chronic venous disease patients. Phlebology 2021

Edema  
Symptoms  
Mobility

Extracellular fluids

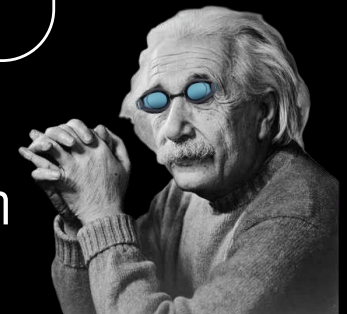
Edema  
Symptoms  
Mobility  
Venous caliber  
QoL

Heart rate  
Blood pressure



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Science Per Aquam





Lowest Risk of Bias

Thibert A, BD.

Systematic review of adapted physical activity and therapeutic education of patients with chronic venous disease.

J Vasc Surg VLD

2022 Nov;10(6):1385-1400.



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Investigator	Generation of random sequences (selection bias)	Allocation concealment	Blinding of participants and personnel	Blinding of result evaluation	Incomplete data on results	Selective declaration	Other biases
Menegatti et al. <sup>18</sup> 2021	LRB	LRB	LRB	LRB	LRB	LRB	LRB
Gürdal Karakelle et al. <sup>31</sup> 2021	LRB	LRB	LRB	LRB	LRB	LRB	Uncertain
Menegatti et al. <sup>19</sup> 2020	HRB	HRB	HRB	HRB	LRB	LRB	Uncertain
Sharifi et al. <sup>25</sup> 2020	LRB	Uncertain	Uncertain	Uncertain	LRB	LRB	HRB
Domingues et al. <sup>34</sup> 2018	LRB	LRB	Uncertain	LRB	LRB	LRB	Uncertain
Klonizakis et al. <sup>38</sup> 2018	LRB	LRB	Uncertain	LRB	HRB	LRB	HRB
Ercan et al. <sup>32</sup> 2017	HRB	HRB	HRB	HRB	LRB	LRB	HRB
dos Santos Aquino et al. <sup>33</sup> 2016	HRB	HRB	HRB	HRB	LRB	LRB	HRB
Gianesini et al. <sup>23</sup> 2016	HRB	HRB	HRB	HRB	LRB	LRB	HRB
Forestier et al. <sup>22</sup> 2014	LRB	LRB	HRB	LRB	LRB	LRB	Uncertain
Carpentier et al. <sup>23</sup> 2014	LRB	Uncertain	Uncertain	LRB	LRB	LRB	Uncertain
Heinen et al. <sup>37</sup> 2012	LRB	LRB	Uncertain	Uncertain	LRB	LRB	HRB
Van Hecke et al. <sup>36</sup> 2011	HRB	HRB	HRB	HRB	Uncertain	Uncertain	HRB
Kahn et al. <sup>35</sup> 2011	LRB	LRB	HRB	LRB	LRB	LRB	HRB
Carpentier et al. <sup>24</sup> 2009	LRB	Uncertain	Uncertain	LRB	LRB	LRB	Uncertain
Edwards et al. <sup>30</sup> 2009	LRB	Uncertain	Uncertain	Uncertain	LRB	LRB	Uncertain
Zajkowski et al. <sup>26</sup> 2006	HRB	HRB	HRB	HRB	LRB	LRB	HRB
Edwards et al. <sup>28</sup> 2005	LRB	Uncertain	Uncertain	Uncertain	LRB	LRB	Uncertain
Edwards et al. <sup>29</sup> 2005	LRB	Uncertain	Uncertain	Uncertain	LRB	LRB	HRB
Padberg et al. <sup>27</sup> 2004	LRB	HRB	HRB	HRB	LRB	HRB	HRB
Mancini et al. <sup>21</sup> 2003	LRB	Uncertain	Uncertain	Uncertain	LRB	LRB	HRB

# Hydrotherapy



## WATER

### INTRINSIC EFFECTS

- Viscosity
- Hydrostatic pressure

- Variable **energetic consume**
- Increased **mobility**

### EXTRINSIC EFFECTS

#### IMMERSION-related

#### Buoyancy

Variable  
**resistance**

Continuous  
**postural adjustments**



Abraham P  
Diameter and blood velocity change  
in the saphenous vein during thermal stress.  
Eur J Appl Physiol Occup Physiol. 1994



SERGIO GIANESINI, MD, PhD  
University of Ferrara



# Hydrotherapy



## CHEMICAL PROPERTIES

## THERMIC PROPERTIES

## WATER

### INTRINSIC EFFECTS

### EXTRINSIC EFFECTS

- Viscosity
- Hydrostatic pressure

- Variable **energetic consume**
- Increased **mobility**

### IMMERSION-related

### Buoyancy

Variable  
**resistance**

Continuous  
**postural adjustments**

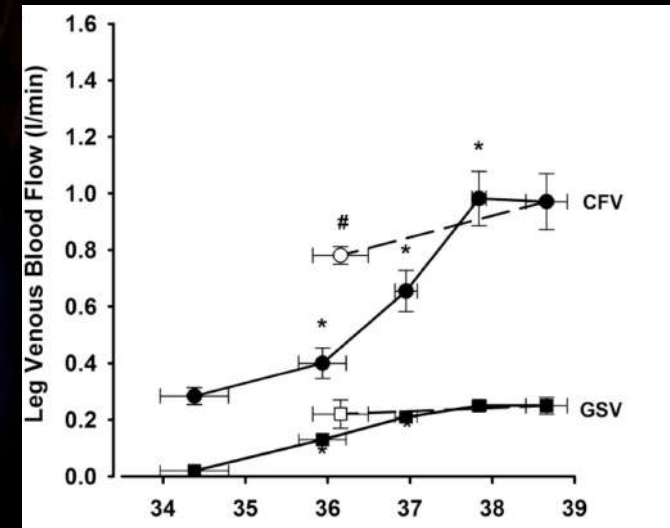


Abraham P  
Diameter and blood velocity change  
in the saphenous vein during thermal stress.  
Eur J Appl Physiol Occup Physiol. 1994



SERGIO GIANESINI, MD, PhD  
University of Ferrara

Chiesa ST. Temperature and blood flow distribution in the human leg during passive heat stress. *J Appl Physiol* (1985). 2016 May 1;120(9):1047-58.



Water **TEMPERATURE** role  
in venous function



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v-WIN  
foundation, ONLUS

# Thermal Water & COAGULATION CASCADE

---

Grambow E.

The effects of hydrogen sulfide  
on platelet–leukocyte aggregation  
and microvascular thrombolysis.

*Platelets*. 2016;7:1–9.

decreasing platelet-leukocyte aggregation  
improving endogenous thrombolysis

Thermal Aquatic Environment use for  
VASCULAR PATIENTS



VASCULAR

# MULTI-specialty



**SPORT  
MEDICINE**

**LYMPHOLOGIST**

**OB-Gyn**

**INTERNAL  
MEDICINE**

**VASCULAR**

**CARDIOLOGIST**

**NURSE**

**NUTRITION**

**PHYSIATRY**

**INTERVENTIONAL  
MEDICINE**

**GP**



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# 1<sup>st</sup> PREVENTABLE CAUSE OF DEATH

JAMA. 2015 Nov 10; 314(18): 1913–1914.  
Improving Awareness and Outcomes Related to Venous Thromboembolism  
Cushman M

*Drawing & picture from  
TRANS-VAGINAL COLOUR DOPPLER ULTRASOUND IN THE DIAGNOSIS  
OF PELVIC REFLUX  
AND OF FEMALE VARICOCELE*

*PIERI A., VANNUZZI A.,  
NICOLUCCI A., LUDOVICI M.,  
CAILLARD Ph., VIN F.  
Phlébologie 1999; 52(1): 45-51*



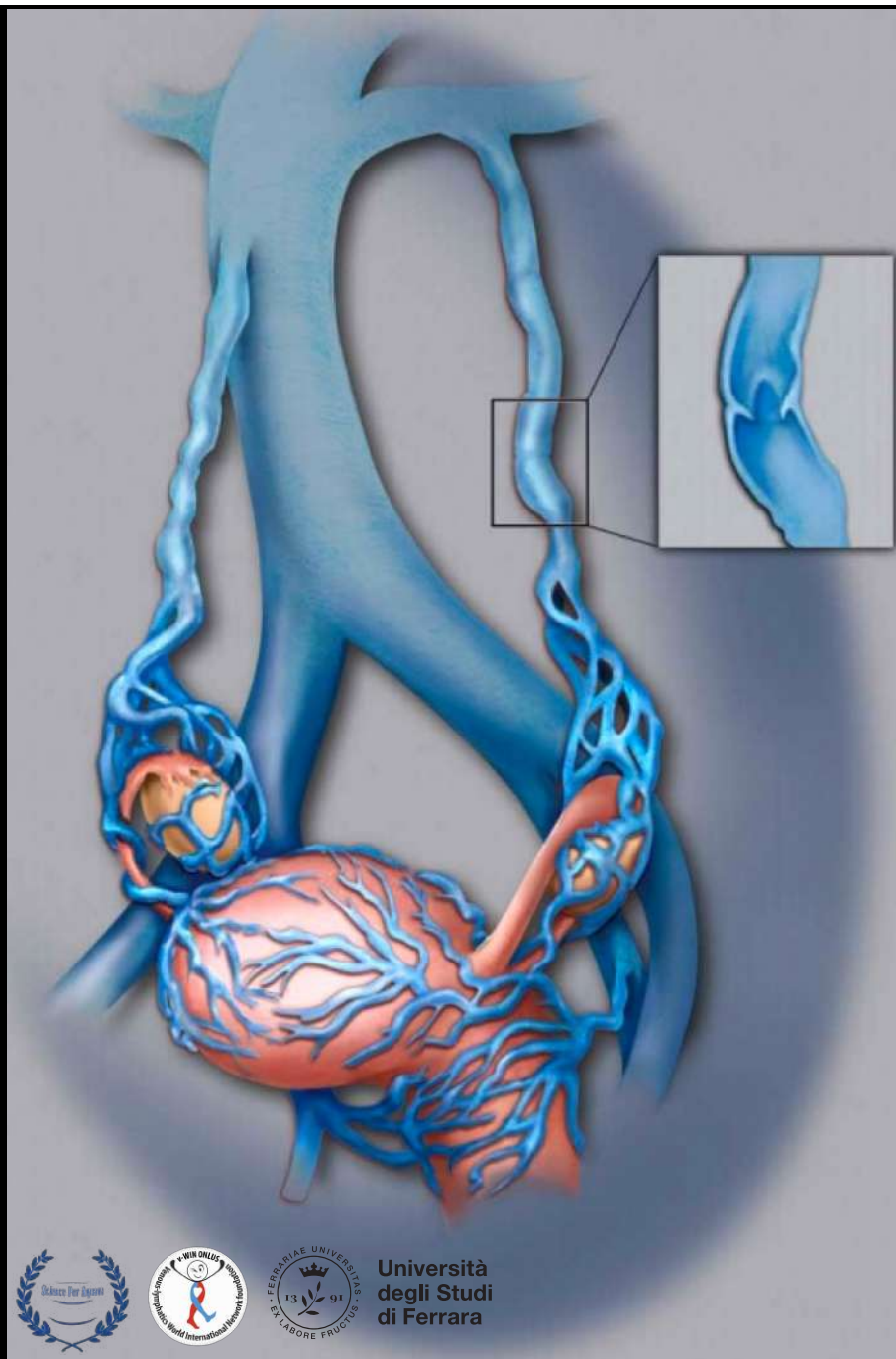
**Pelvic reflux  
WITH  
Escape Points feeding  
a lower limb reflux**

**10%** of  
varicose veins  
does NOT have  
a spahenous origin

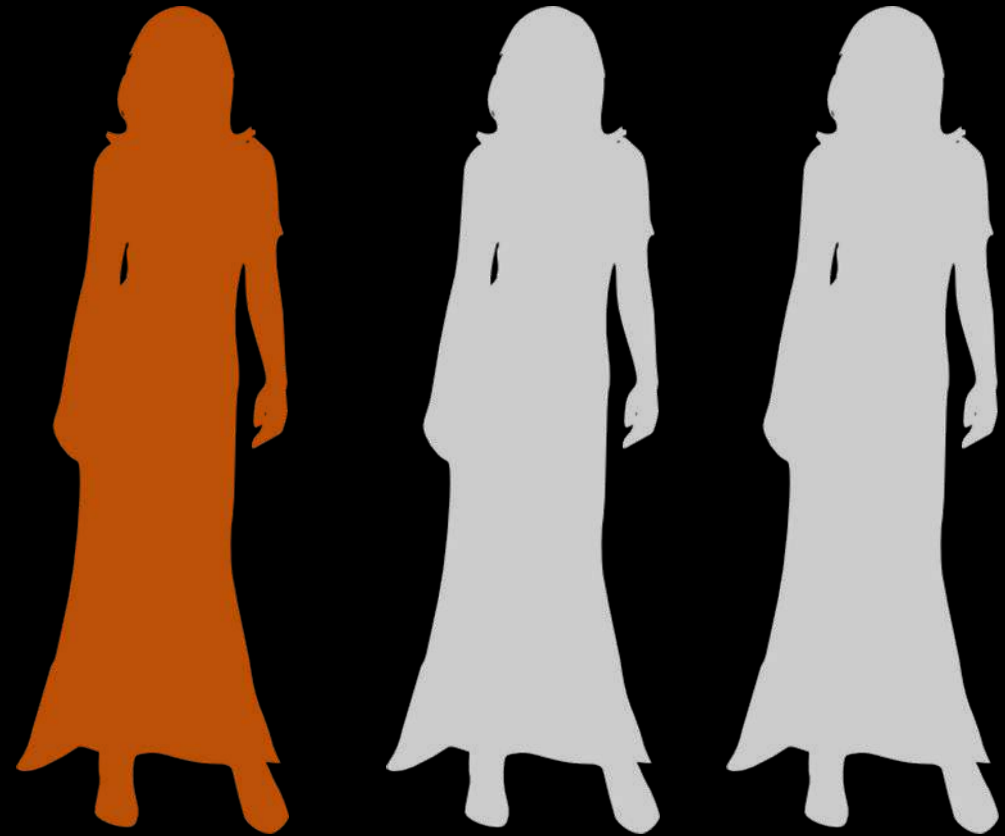
Malgor RD  
Pattern and types of non-  
saphenous vein reflux.  
Phlebology. 2013 Mar;28 Suppl  
1:51-4.



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# pelvic PAIN



Taylor HC. Life situations, emotions and gynecologic pain associated with congestion. Res Publ— Assoc Res Nerv Ment Dis. 1949 Dec; 29:1051–6.

Taylor HC. The pelvic pain syndrome. J Obstet Gynaecol Br Emp. 1959 Oct; 66:781–3.



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W-20 (G-20)

v-WIN Gender Equality project



RAYMOND MARTIMBEAU PAULINE - CANADA



BROUWER ELS - NETHERLANDS



JAWORUCKA-KACZOROWSKA ALEKSANDRA - POLAND



STOUGHTON JULIANNE - U.S.A.



NOCE VALENTINA - ITALY



GRILLO LORENA - COSTA RICA



WASSILA TAHA - EGYPT



WANG JINSONG - CHINA



AGIERO CHANTAL - PARAGUAY

THANK YOU ALL



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Acute Care Handbook for Physical Therapists  
(Fourth Edition), 2014

# HIDDEN

epidemic





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2 % of the national health budget



Rabe E. Epidemiology of chronic venous disorders in geographically diverse populations: results from the Vein Consult Program.

Int Angiol. 2012;31(2):105–15



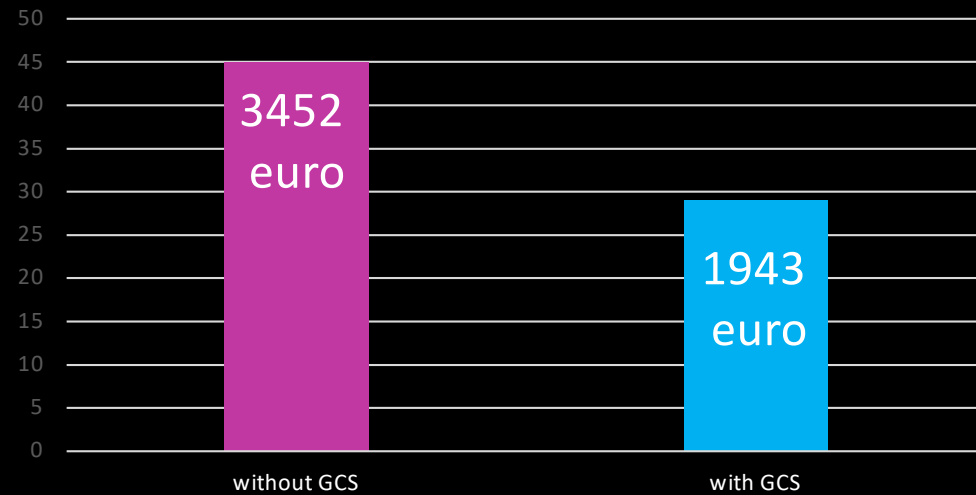


# Gianesini S RANDOMIZED CONTROLLED TRIAL ON OCCUPATIONAL GRADUATED COMPRESSION CLINICAL AND COST- EFFECTIVENESS Int Ang 2023



$P < 0.05$

## INHABILITY PERCEPTION



1510 euro benefit per subject

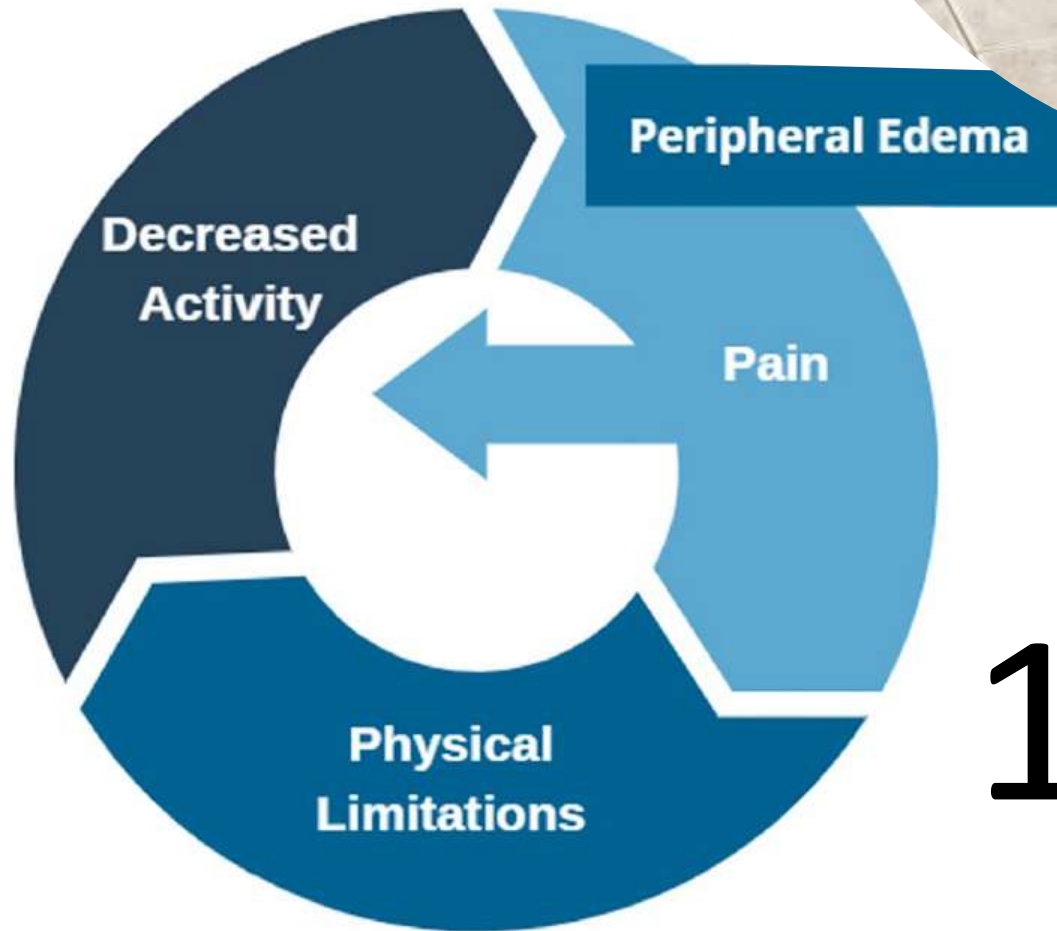


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Besharat S.

**Peripheral edema: A common and persistent health problem for older Americans.**

PLoS One. 2021 Dec 16;16(12):e0260742.



**1/5** over 51<sub>yo</sub>



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Health Pol Tech 2018  
*the spread of medical fake  
news in social media*

40%

medical website including **FAKES**

shared

450.000 times



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authorized spin-off

# The Benefits of Swimming for Your Veins

June 19, 2018 | Written By [REDACTED]



## The Dual Role of Water Exercise

Working out in the water offers a dual benefit for varicose vein sufferers. First, swimming lessens the effect of gravity on the lower leg veins, which relieves the pressure on the vessels. Swimming also improves circulation in the legs, as the slight pressure of the water works the muscles so they can help the veins push blood back to the heart more efficiently. Swimming is also one of the few workouts that utilizes all of your muscle groups at one time, which improves your overall circulation even better than most other types of exercise.

## Other Benefits of Swimming

In addition to benefiting your lower leg veins, swimming offers a variety of benefits for your entire body:

- Low-impact workout means lower risk for injuries
- Improves flexibility and mobility of stiff joints
- Aerobic activity improves oxygen use for healthier lungs and heart
- Works both the upper body and lower body at the same time
- Builds strength while toning the body

In addition to relieving the painful symptoms of varicose veins, regular swim workouts may even shrink swollen vessels that have already appeared. If you have not developed any varicose veins yet, swimming may help to keep those swollen veins at bay.



Really??





v-WINter DUBAI document for patients



download the spanish version



download the japanese version



download the Portuguese version



download the Indonesia version



download the Romanian version



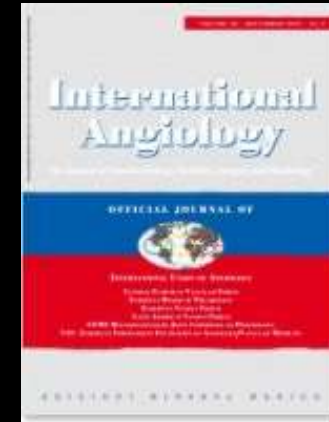
download the French version



download the Russian version



download the Kazakhstan version



Fake-news-free evidence-based communication for proper vein-lymphatic disease management.  
Int Angiol. 2023 Apr;42(2):89-189.



v-WINter DUBAI 2022 project: 71 institutions, 83 countries representation



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40.357

v-WIN contacts



*Italia nel mondo, il Mondo in Italia (TERMALE)*





**Science  
Per  
Aquam**

FACS

**Indonesia**

V-WINdonesia World Congress  
October 22-26, 2024, BALI



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# Science Per Aquam

*v-WINDonesia Oct 22-26*

*Welcoming Session*

[www.vwinfoundation.com/v-windonesia/](http://www.vwinfoundation.com/v-windonesia/)



  
BALI INTERNATIONAL  
CONVENTION CENTRE

YOUR  
Country, Society  
and/or Project  
AREA

# BALI INTERNATIONAL CONVENTION CENTRE (BICC)



## G20 Podium

MANGUPURA HALL

16

14

18

19

12

10

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11

15

13

- 
- BALI INTERNATIONAL  
CONVENTION CENTRE
1. v-WIN
  2. Italian INSTITUTIONS
  3. Indonesian Government
  4. UIP
  5. UIP Buenos Aires 2025
  6. UIP Tblisi 2027
  7. Panamerican
  8. Science Per Aquam
  9. French Soc Phleb
  10. Indonesian Venous Forum
  11. Spanish Soc Phleb
  12. Italian Societies Federation
  13. MARAdvance
  14. BANA
  15. Resort Agency
  16. Leg Club
  17. Balkan Venous Forum
  18. Venous Association of India
  19. Vascular Society for Limb Salvage

to add

**YOUR  
SOCIETY/initiative**

write to

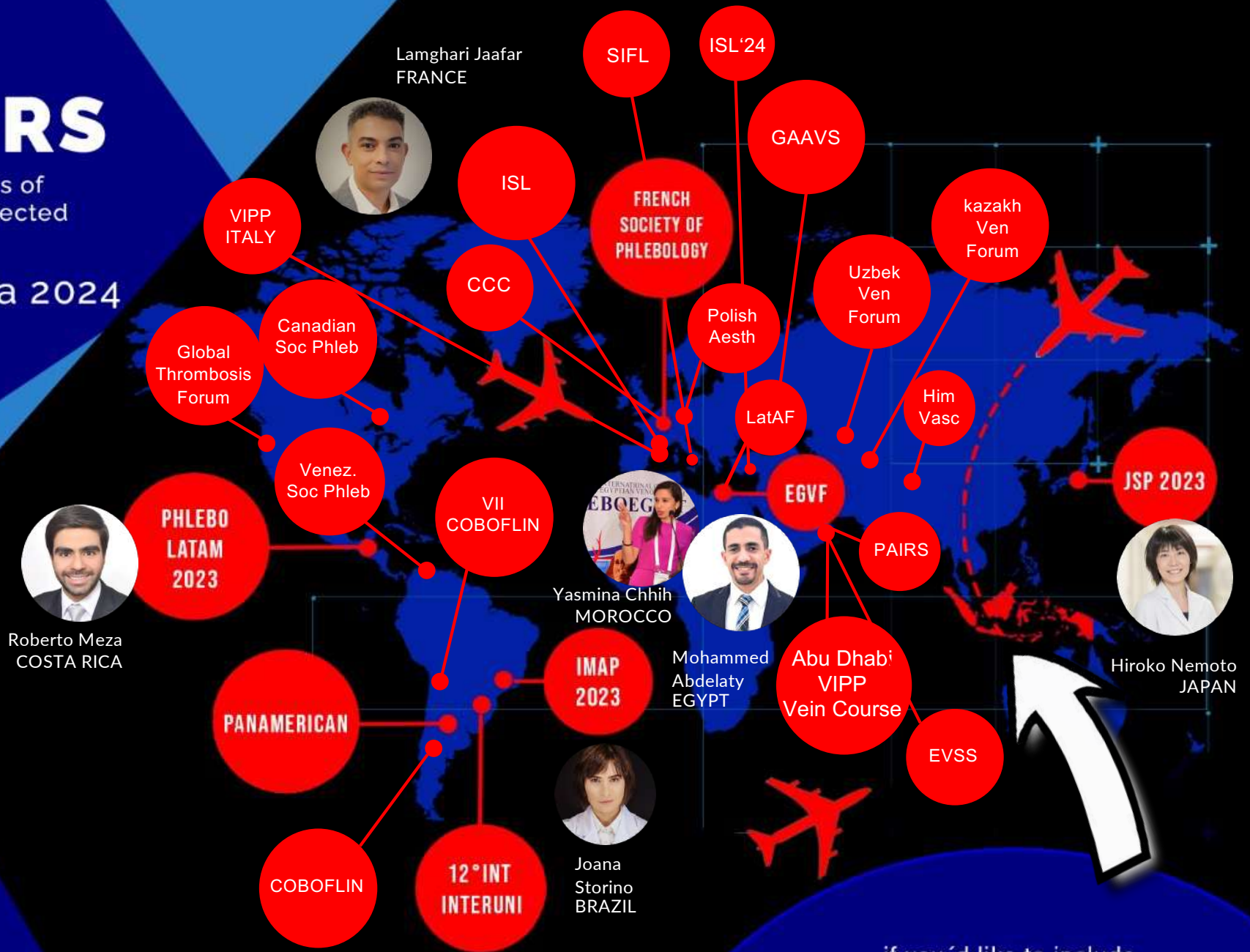
[info@vwinfoundation.com](mailto:info@vwinfoundation.com)

by Aug 24

# WINNERS

of 2023-24 free sessions of  
2023-24 events and selected  
talks are invited at

v-WINdonesia 2024



**Bali Island**  
October 22-26, 2024

if you'd like to include

**YOUR EVENT**

in the map please write to [info@vwinfoundation.com](mailto:info@vwinfoundation.com)



*(good) WATER connects People*