



Istituto di Fisiologia Clinica  
Consiglio Nazionale delle Ricerche

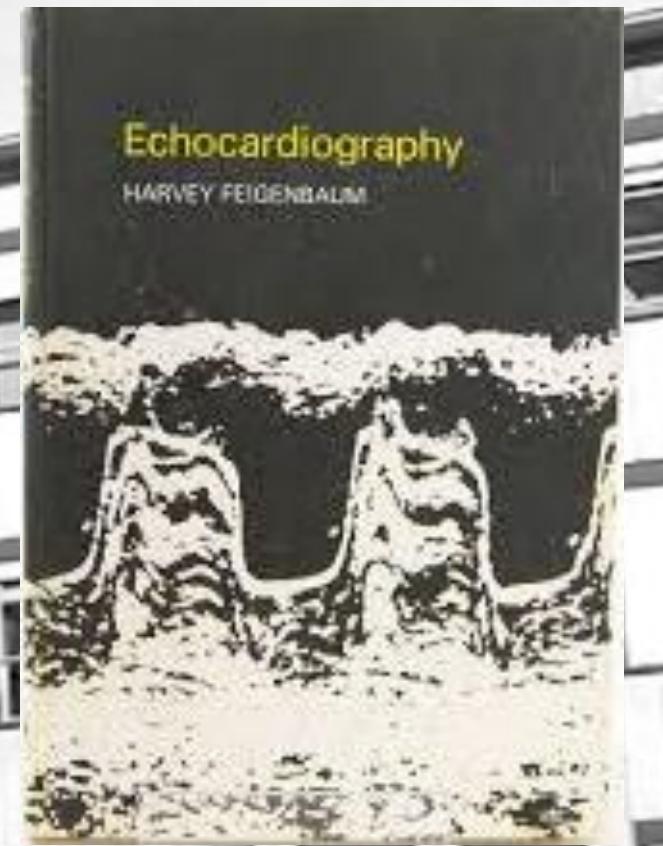


IFC EchoLab  
40 anni di ultrasuoni

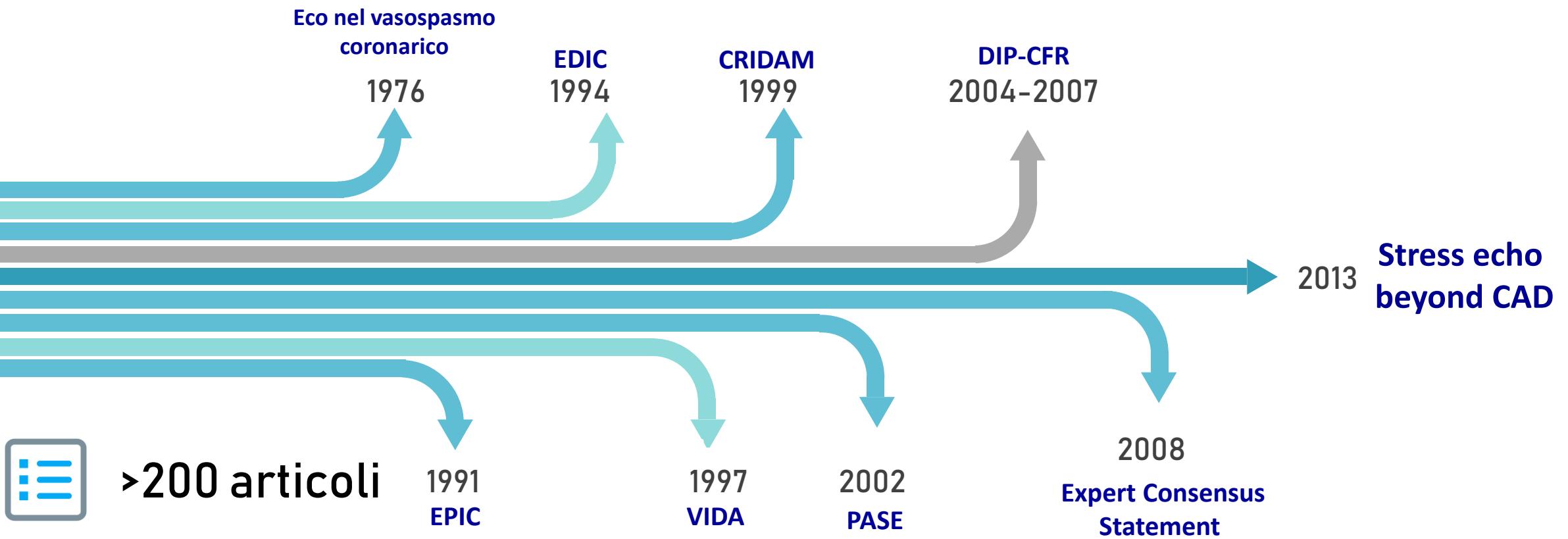
Luna Gargani



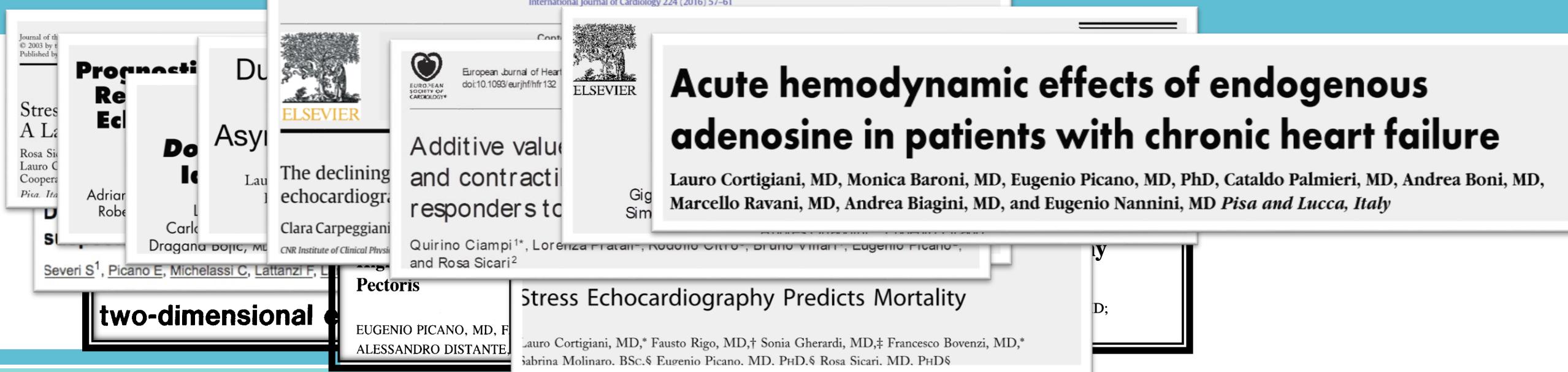
# IFC EchoLab – since 1976



# Ecocardiografia da stress



# Ecocardiografia da stress



>200 articoli

1991  
EPIC

1997  
VIDA

2002  
PASE

2008  
Expert Consensus Statement

2013  
Stress echo beyond CAD



# Documento europeo di consenso



European Heart Journal (2009) 30, 278–289  
doi:10.1093/eurheartj/ehn492

SPECIAL ARTICLE

## Stress Echocardiography Expert Consensus Statement—Executive Summary

European Association of Echocardiography (EAE) (a registered branch of the ESC)

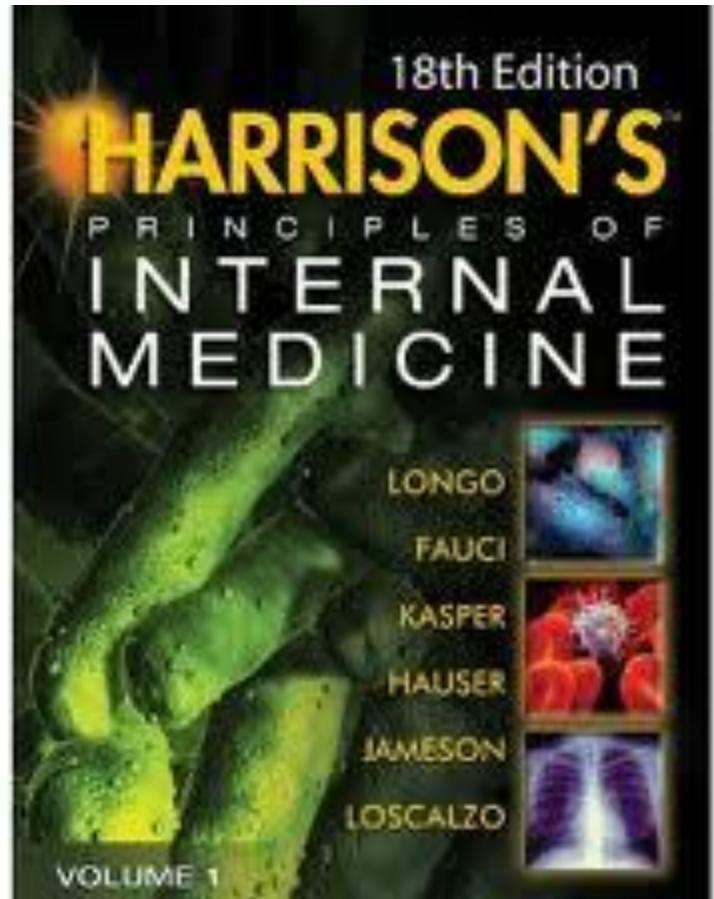
Rosa Sicari<sup>1\*</sup>, Petros Nihoyannopoulos<sup>2</sup>, Arturo Evangelista<sup>3</sup>, Jaroslav Kasprzak<sup>4</sup>, Patrizio Lancellotti<sup>5</sup>, Don Poldermans<sup>6</sup>, Jens-Uwe Voigt<sup>7</sup>, and José Luis Zamorano<sup>8</sup>  
on behalf of the European Association of Echocardiography

<sup>1</sup>Institute of Clinical Physiology, Pisa, Italy; <sup>2</sup>Hammersmith Hospital, NHLI, Imperial College, London, UK; <sup>3</sup>Hospital Vall d'Hebron, Barcelona, Spain; <sup>4</sup>Department of Cardiology, Medical University of Lódz, Lódz, Poland; <sup>5</sup>Department of Cardiology, University Hospital Sart Tilman, Liège, Belgium; <sup>6</sup>Erasmus Medical Center, Rotterdam, The Netherlands; <sup>7</sup>Catholic University, Leuven, Belgium; and <sup>8</sup>Instituto Cardiovascular, Hospital Clínico San Carlos, Madrid, Spain





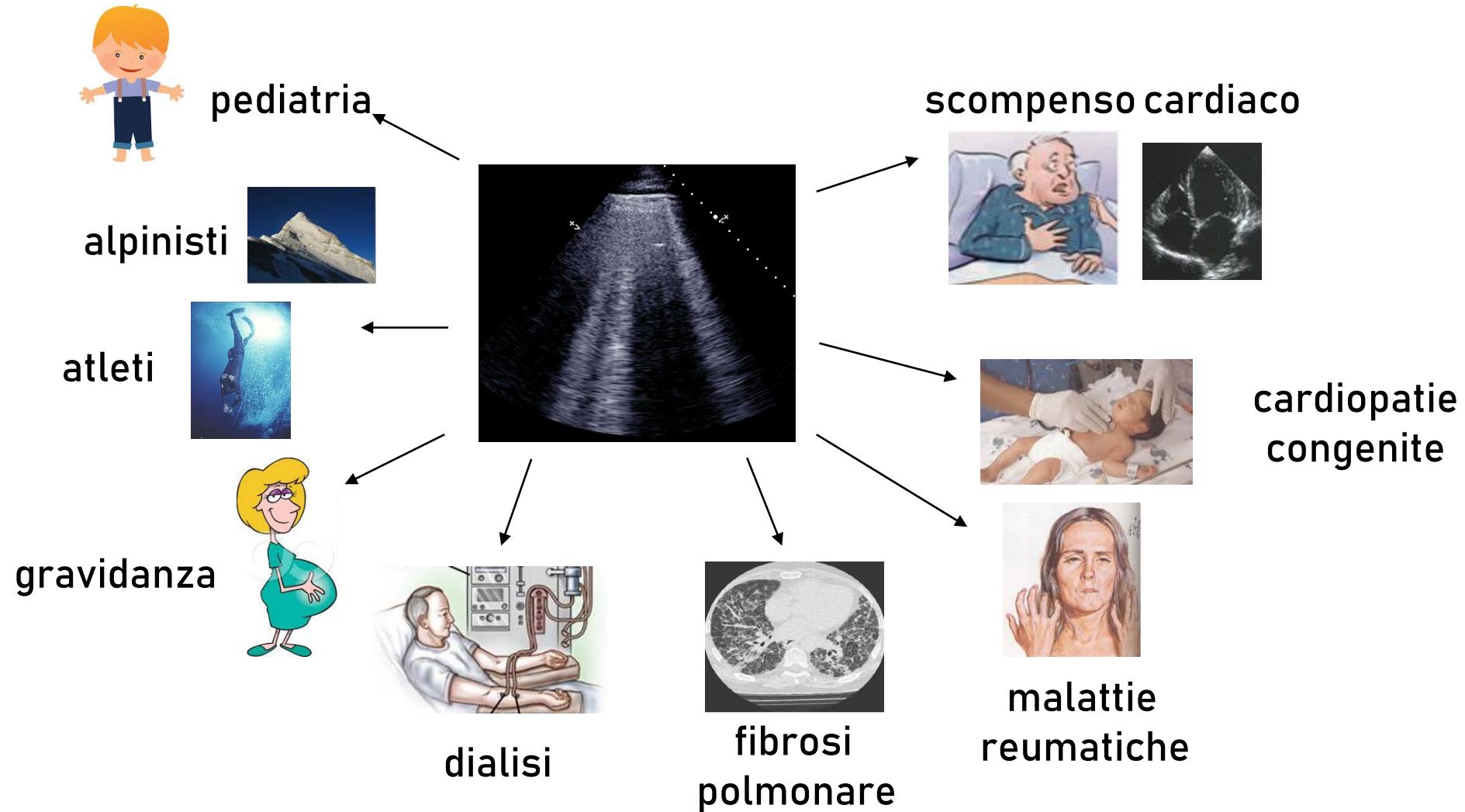
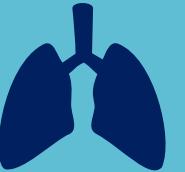
# Ecografia polmonare



«Poichè gli ultrasuoni sono rapidamente dissipati dall'aria,  
l'ecografia non ha alcuna utilità per la valutazione del polmone.



# Ecografia polmonare





Ministero della Salute

Direzione Generale della Ricerca Sanitaria  
e Biomedica e della Vigilanza sugli Enti

BANDO RICERCA FINALIZZATA 2018  
esercizio finanziario anni 2016-2017



IRCCS FONDAZIONE  
STELLA MARIS



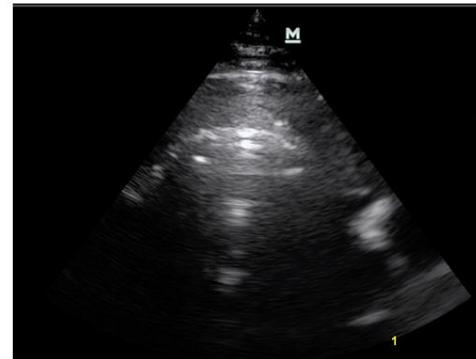
### Project Title:

LUNCH - Lung Ultrasound for early detection of silent and apparent aspiration in infants and young children with cerebral palsy and other developmental disabilities: a new, fast, safe, cost-effective infant-friendly imaging tool to easily monitor feeding, improve outcomes and reduce morbidities

Prima  
del pasto

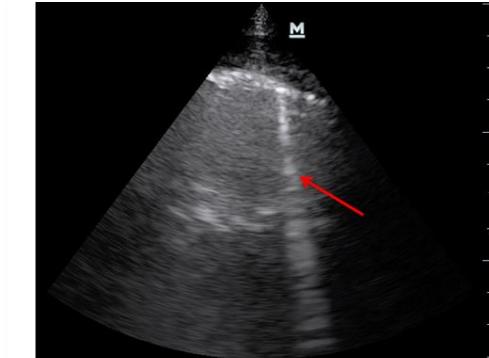


Dopo  
il pasto



Anna

Marco



Giovanni Volpicelli  
Mahmoud Elbarbary  
Michael Blaivas  
Daniel A. Lichtenstein  
Gebhard Mathis  
Andrew W. Kirkpatrick  
Lawrence Melniker  
Luna Gargani  
Vicki E. Noble  
Gabriele Via  
Anthony Dean  
James W. Tsung  
Gino Soldati  
Roberto Copetti  
Belaid Bouhemad  
Angelika Reissig  
Eustachio Agricola  
Jean-Jacques Rouby  
Charlotte Arbelot  
Andrew Liteplo  
Ashot Sargsyan  
Fernando Silva  
Richard Hoppmann  
Raoul Breitkreutz  
Armin Seibel  
Luca Neri  
Enrico Storti  
Tomislav Petrovic  
International Liaison Committee on Lung Ultrasound  
(ILC-LUS) for the International  
Consensus Conference on Lung Ultrasound (ICC-LUS)

## International evidence-based recommendations for point-of-care lung ultrasound

# Ecografia polmonare

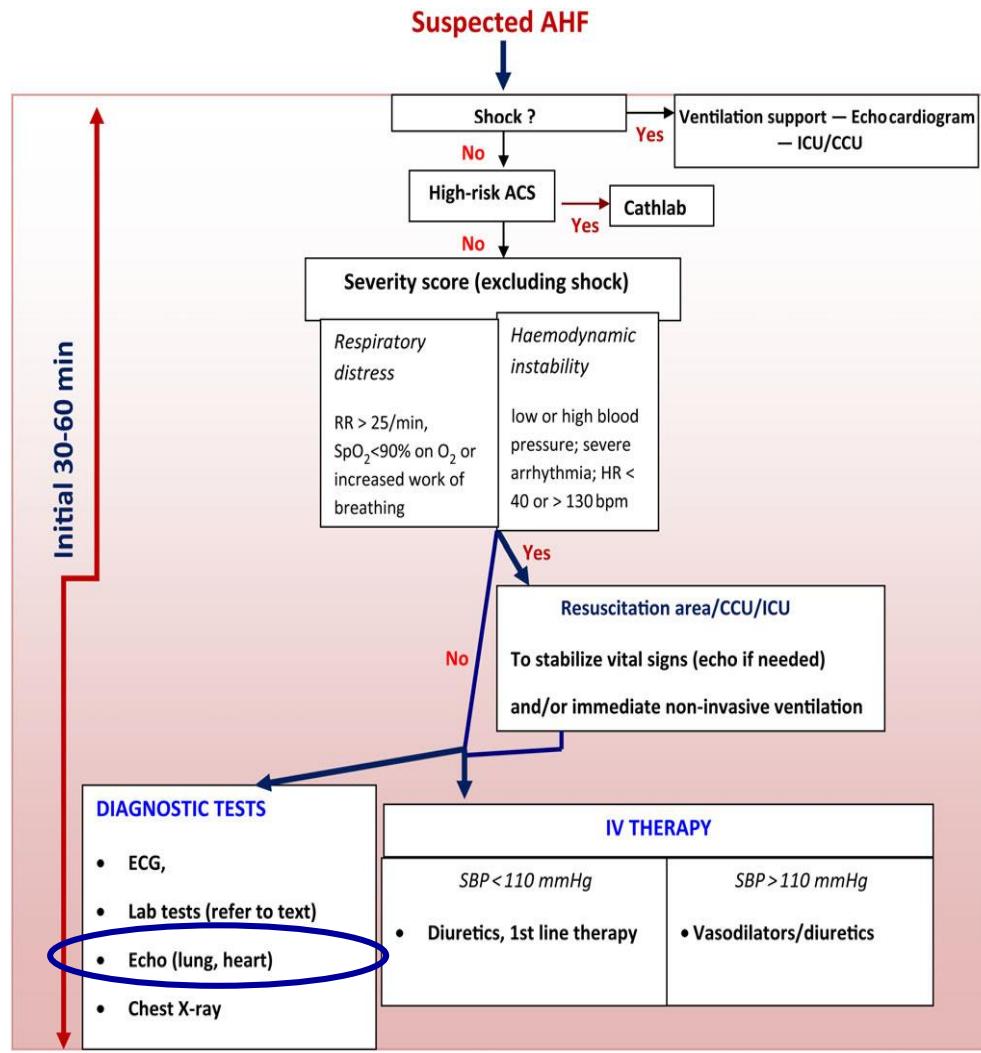


IFC, Aula 40





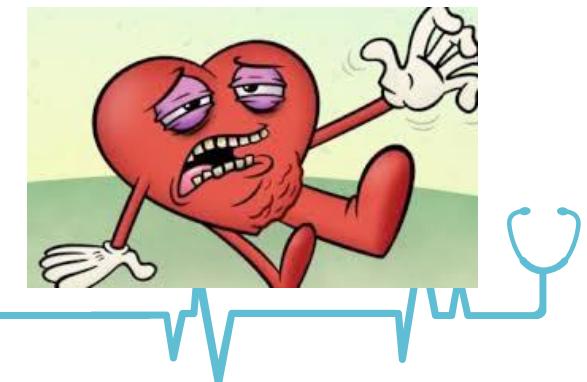
# Raccomandazioni europee



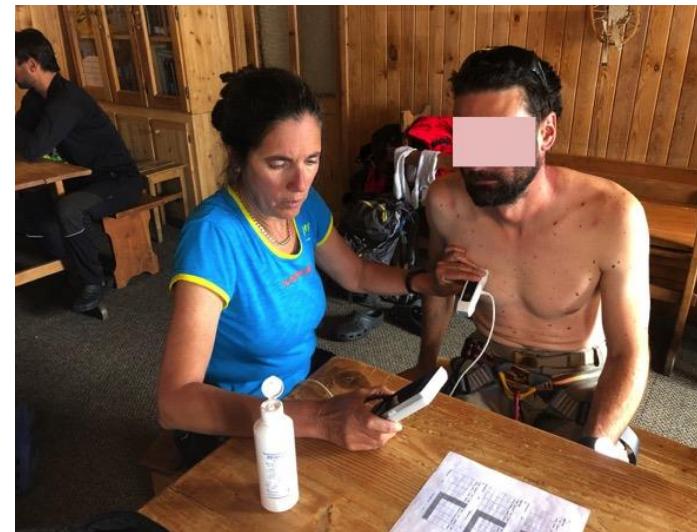
European Heart Journal (2015) 36, 1958–1966  
doi:10.1093/eurheartj/ehv066

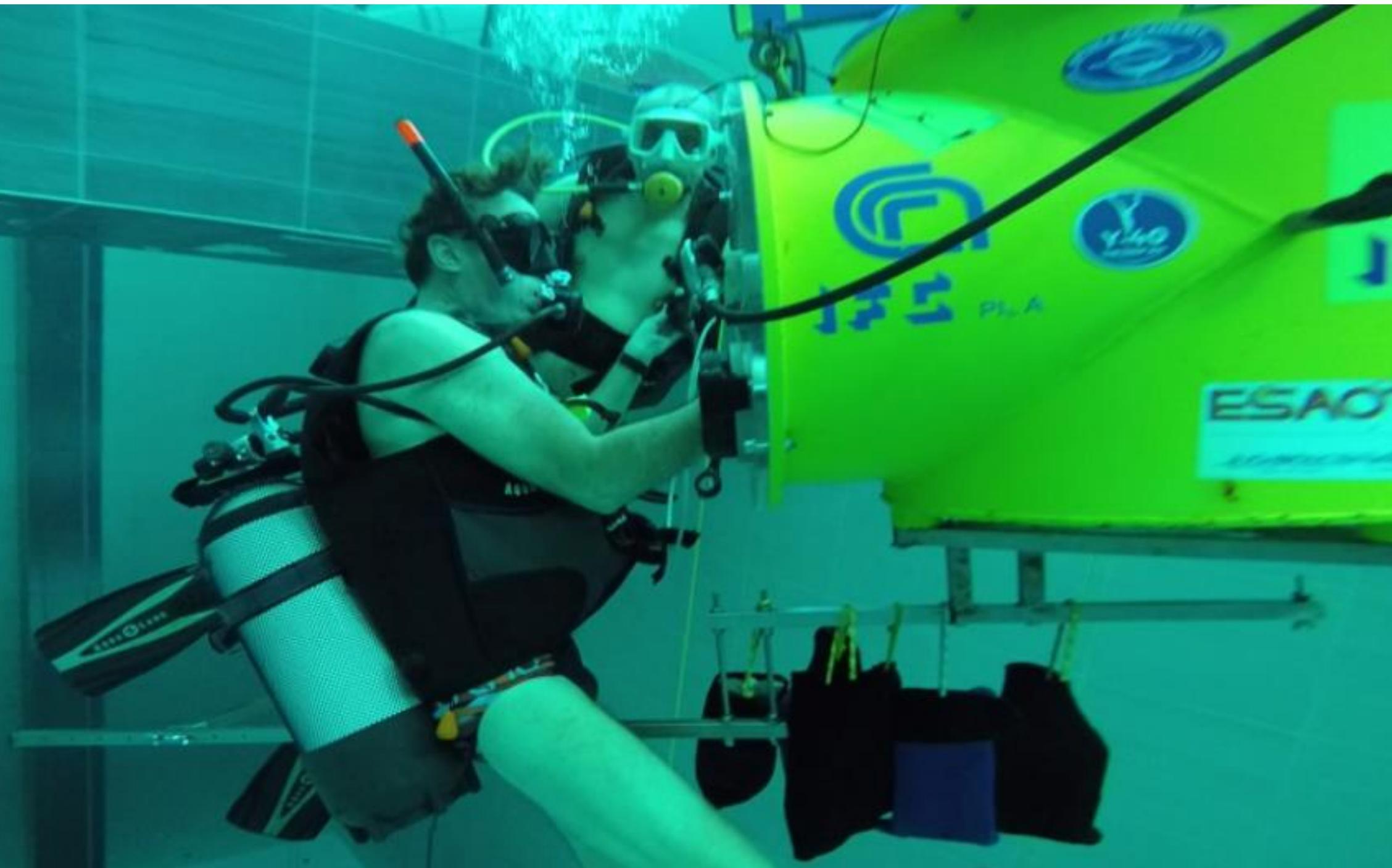
CURRENT OPINION

Recommendations on pre-hospital and early hospital management of acute heart failure: a consensus paper from the Heart Failure Association of the European Society of Cardiology, the European Society of Emergency Medicine and the Society of Academic Emergency Medicine –



# Ambienti estremi





# Sostenibilità dell'imaging cardiovascolare



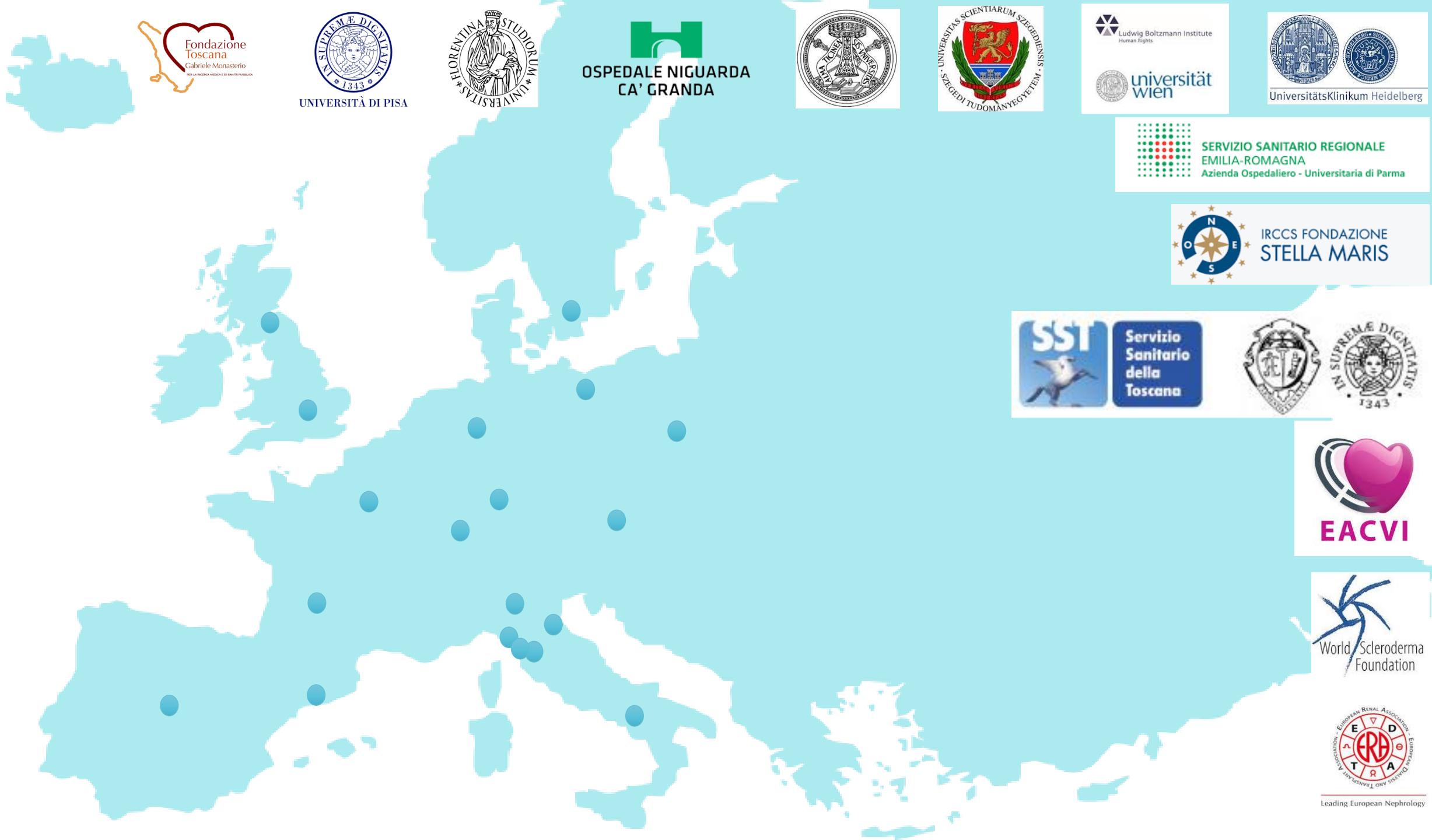
European Heart Journal (2014) 35, 665–672  
doi:10.1093/eurheartj/eht394

ESC REPORT

## The appropriate and justified use of medical radiation in cardiovascular imaging: a position document of the ESC Associations of Cardiovascular Imaging, Percutaneous Cardiovascular Interventions and Electrophysiology

Eugenio Picano<sup>1</sup>, Eliseo Vañó<sup>2,3</sup>, Madan M. Rehani<sup>4</sup>, Alberto Cuocolo<sup>5</sup>, Lluis Mont<sup>6</sup>, Vicente Bodi<sup>7</sup>, Olivier Bar<sup>8</sup>, Carlo Maccia<sup>9</sup>, Luc Pierard<sup>10</sup>, Rosa Sicari<sup>1</sup>, Sven Plein<sup>11</sup>, Heiko Mahrholdt<sup>12</sup>, Patrizio Lancellotti<sup>13</sup>, Juhani Knuuti<sup>14</sup>, Hein Heidbuchel<sup>15</sup>, Carlo Di Mario<sup>16</sup>, and Luigi P. Badano<sup>17\*</sup>

<sup>1</sup>Institute of Clinical Physiology, CNR, Pisa, Italy; <sup>2</sup>Department of Radiology, School of Medicine, Complutense University, Madrid, Spain; <sup>3</sup>Medical Physics Service, San Carlos University Hospital, Madrid, Spain; <sup>4</sup>International Atomic Energy Agency, Vienna, Austria; <sup>5</sup>Department of Advanced Biomedical Sciences, University Federico II, Napoli, Italy; <sup>6</sup>Arrhythmia Section, Thorax Institute (ICT), Hospital Clinic, University of Barcelona, Catalonia, Spain; <sup>7</sup>Cardiology Department, Hospital Clínico Universitario-INCLIVA, Universidad de Valencia, Valencia, Spain; <sup>8</sup>EAPCI, French Society of Cardiology, Clinique Saint-Gatien, Tours, France; <sup>9</sup>Centre d'Assurance de qualité des Applications Technologiques dans le domaine de la Santé (CAATS), Bourg-La-Reine 92340, France; <sup>10</sup>Department of Cardiology, University of Liège, University Hospital Sart Tilman, Liège, Belgium; <sup>11</sup>Multidisciplinary Cardiovascular Research Centre and Leeds Institute of Genetics, Health and Therapeutics, University of Leeds, Leeds LS2 9JT, UK; <sup>12</sup>Cardiac Magnetic Resonance Group, Robert-Bosch-Hospital, Stuttgart, Germany; <sup>13</sup>Department of Cardiology, University of Liege, Hospital GIGA Cardiovascular Sciences, CHU Sart Tilman, Liege, Belgium; <sup>14</sup>Turku PET Centre, University of Turku and Turku University Hospital, Turku, Finland; <sup>15</sup>Department of Cardiovascular Medicine, University Hospital Gasthuisberg, University of Leuven, Leuven, Belgium; <sup>16</sup>Cardiology, Royal Brompton Hospital, Sydney Street, London SW3 6NP, UK; and <sup>17</sup>Department of Cardiac, Thoracic and Vascular Sciences, School of Medicine, University of Padua, Padua, Italy





# Il presente e il futuro

- Ecografia a riposo e da stress con parametri quantitativi e automatizzati
- Ecografia point-of-care nell'esame obiettivo del III millennio
- Non solo eco: multi-imaging nelle patologie cardiopolmonari
- Intelligenza artificiale applicata all'imaging
- Trial clinici randomizzati con outcome anche di imaging

Fare rete  
per integrare  
le conoscenze



Mantenere la  
persona al  
centro



Tecnologia  
e sapere  
all'avanguardia





**GRAZIE**