

CONGRESSO

ROMA, 25 - 27 Giugno 2026

SEDE DEI LAVORI

A. Roma Lifestyle Hotel
Via Giorgio Zoega 59, Roma



11.00 - 12.15

MEET THE EXPERT UNPLUGGED

Moderatori: V. Castelli, Roma - F. Fernando, Roma

Ruolo della defibrillazione precoce nell'arresto cardiaco improvviso nello sport

Maurizio Santomauro, MD, FHRS, FESC

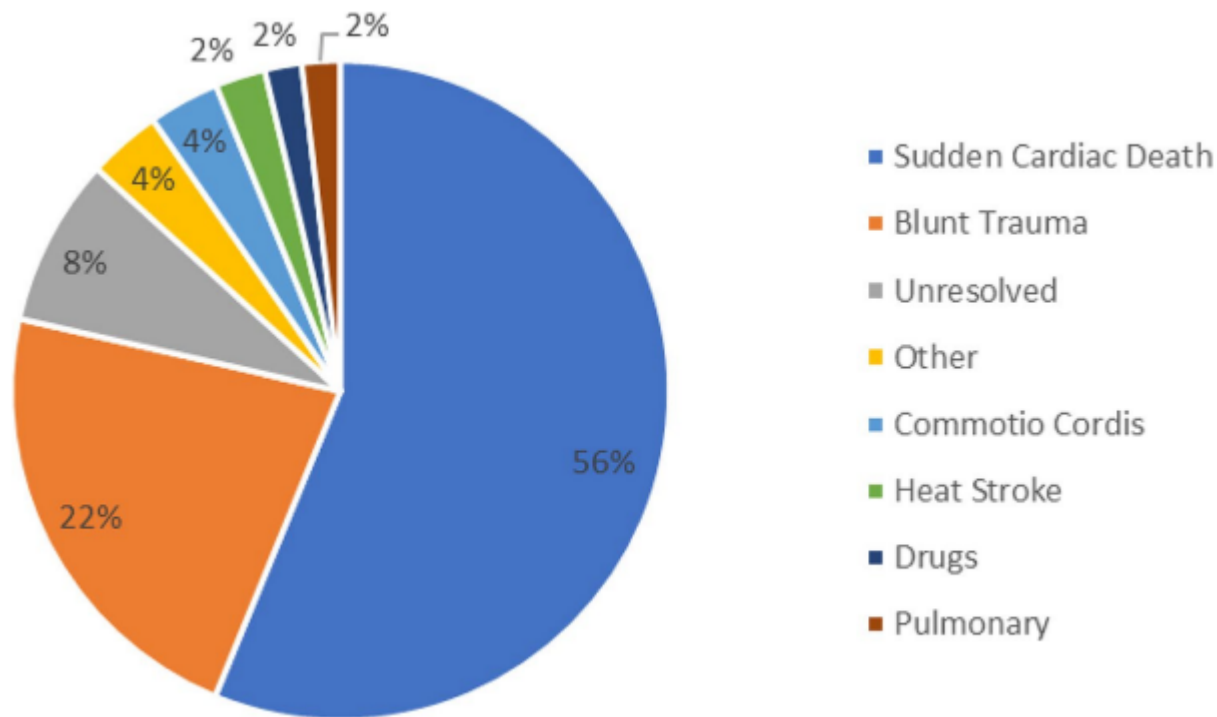
Presidente Nazionale Associazione Scientifica G.I.E.C.

Gruppo Intervento Emergenze Cardiologiche

Presidente Regione Campania SIT –Società Italiana di Telemedicina

Consultant Cardiologist Clinica Mediterranea Napoli

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The incidence of SCD in athletes of all ages has been estimated to range from 1/39,000 to 1/281,000, while the incidence in young athletes is approximately 1–2 per 100,000 athletes per year. While participation in sports or sport training may increase risk of SCD/SCA by 2.4 to 4.5-fold compared to non-athletes or recreational athletes, the majority of SCD cases occur in the non-athlete population.

RESEARCH LETTER



Sudden Cardiac Death in Childhood: Peaks in Teenagers

Joseph D. Westaby¹, PhD; Mary N. Sheppard², MD

SADS (393, 63%), where the heart is morphologically normal, is most common in all age groups followed by cardiomyopathy (97, 15%), myocarditis (29, 4%), and congenital heart disease (27, 4%). Anomalous coronary artery (16, 2%), valve disease (13, 2%), commotio cordis (11, 2%), and idiopathic infarction (11, 2%) made up similar proportions. Rarer causes include cardiac tumor (5, 1%), Wolff-Parkinson-White syndrome (4, 1%), ischemic heart disease due to coronary artery atheroma (2, <1%), vasculitis (2, <1%), transplant vasculopathy (2, <1%), and hypertensive heart disease (1, <1%).

Cardiomyopathies include hypertrophic cardiomyopathy (25, 4%), arrhythmogenic cardiomyopathy (22, 4%), idiopathic fibrosis (14, 2%), idiopathic hypertrophy (12, 2%), dilated cardiomyopathy (10, 2%), and metabolic cardiomyopathy (5, 1%).

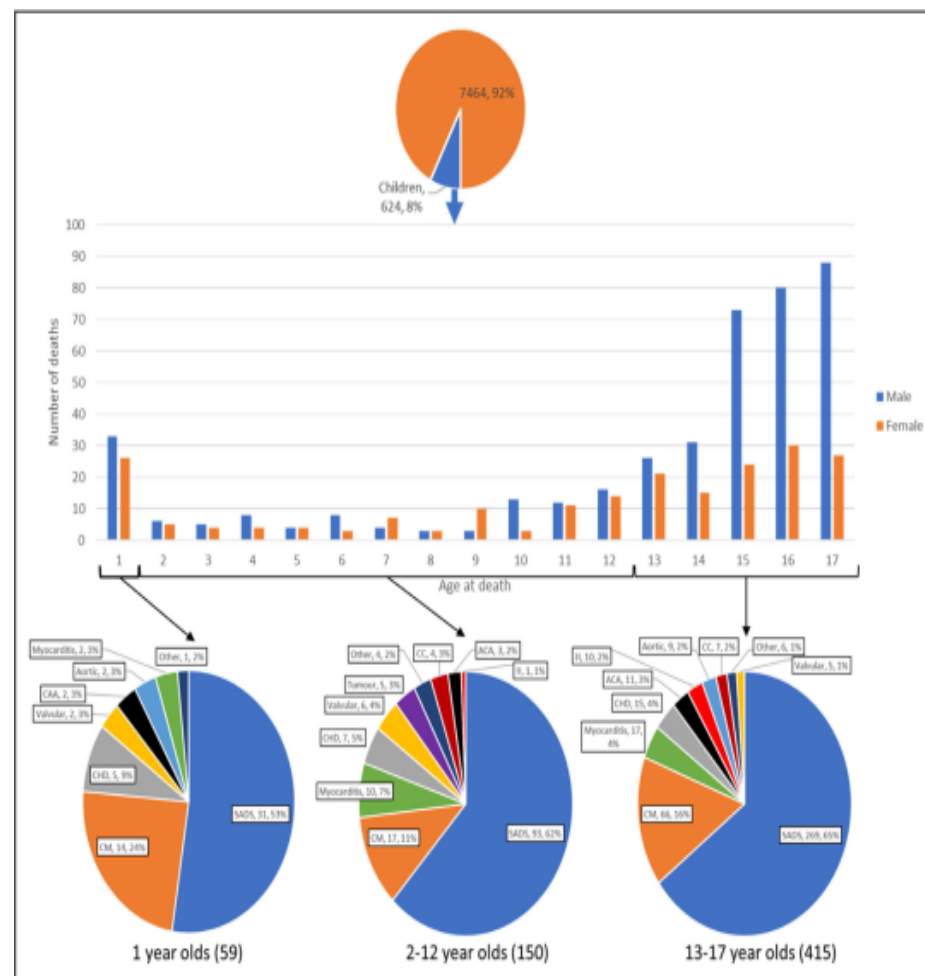


Figure. Age, sex, and causes of sudden cardiac death in children (SCDC).

Of 7464 sudden cardiac deaths, 624 (8%) were in children. Sudden cardiac death in children peaks at the age of 1 year and between 13 and 17 years. Sudden arrhythmic death syndrome (SADS) increased as a proportion and congenital heart disease (CHD) decreased as a proportion of SCDCs with increasing age. Cardiomyopathy (CM) appears prominent at ≥ 1 -year age group. Myocarditis made up a higher proportion of SCDCs between 2 and 12 years. Commotio cordis (CC) only appears in older children active in sport. ACA indicates anomalous coronary artery; and IL, idiopathic infarction.



Value of screening for the risk of sudden cardiac death in young competitive athletes

Patrizio Sarto^{1†}, Alessandro Zorzi^{2†}, Laura Merlo¹, Teresina Vessella¹, Cinzia Pegoraro¹, Flaviano Giorgiano¹, Francesca Graziano², Cristina Basso², Jonathan A. Drezner³, and Domenico Corrado^{2*}

Cardiovascular preparticipation screening in young athletes

22,324 consecutive young athletes
(62% males, median age 12 [IQR 10–14])



Preparticipation screening
repeated every year (on average 2.9 times/young athlete)



History



Ph. exam



ECG



Stress test

Congenital HD = 17

Ion channel dis = 14

Cardiomyopathies = 15

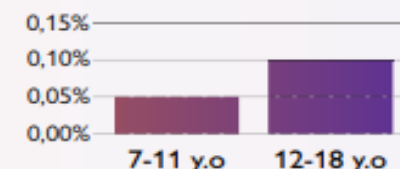
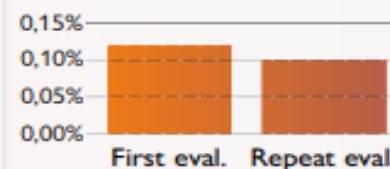
LV scar + arrhythm = 18

Other = 5

69 (0.3%)

Diseases at risk of sudden death

Diagnostic yield of each screening session

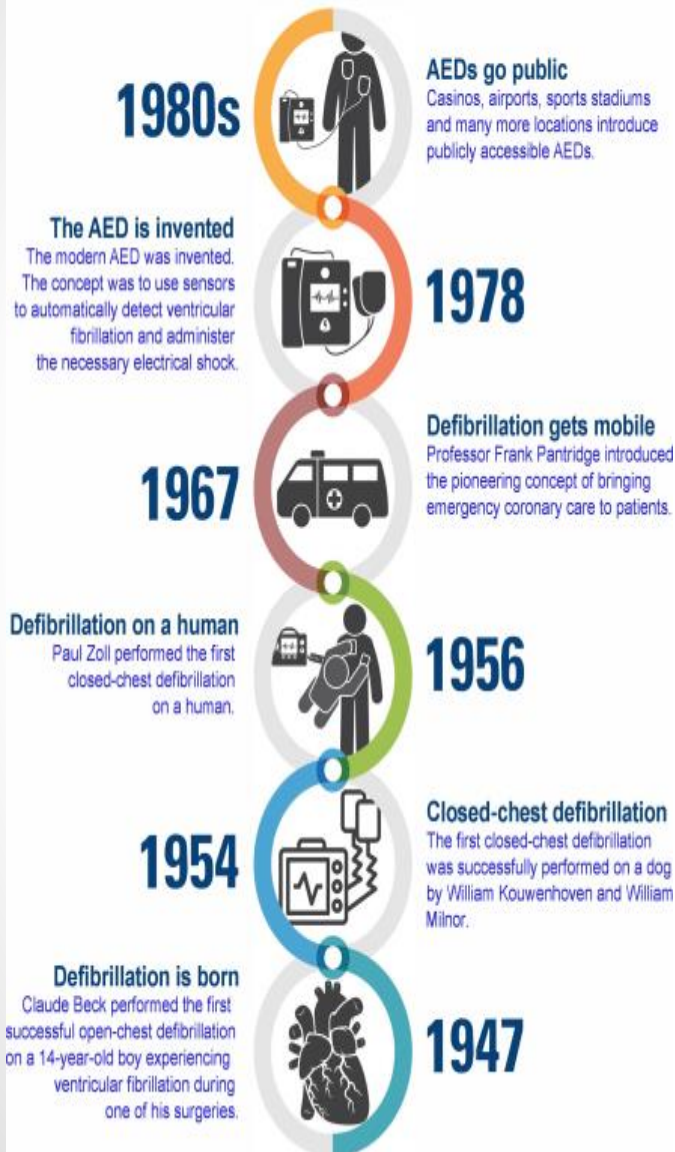


Follow-up (7.5 ± 3.7 years)

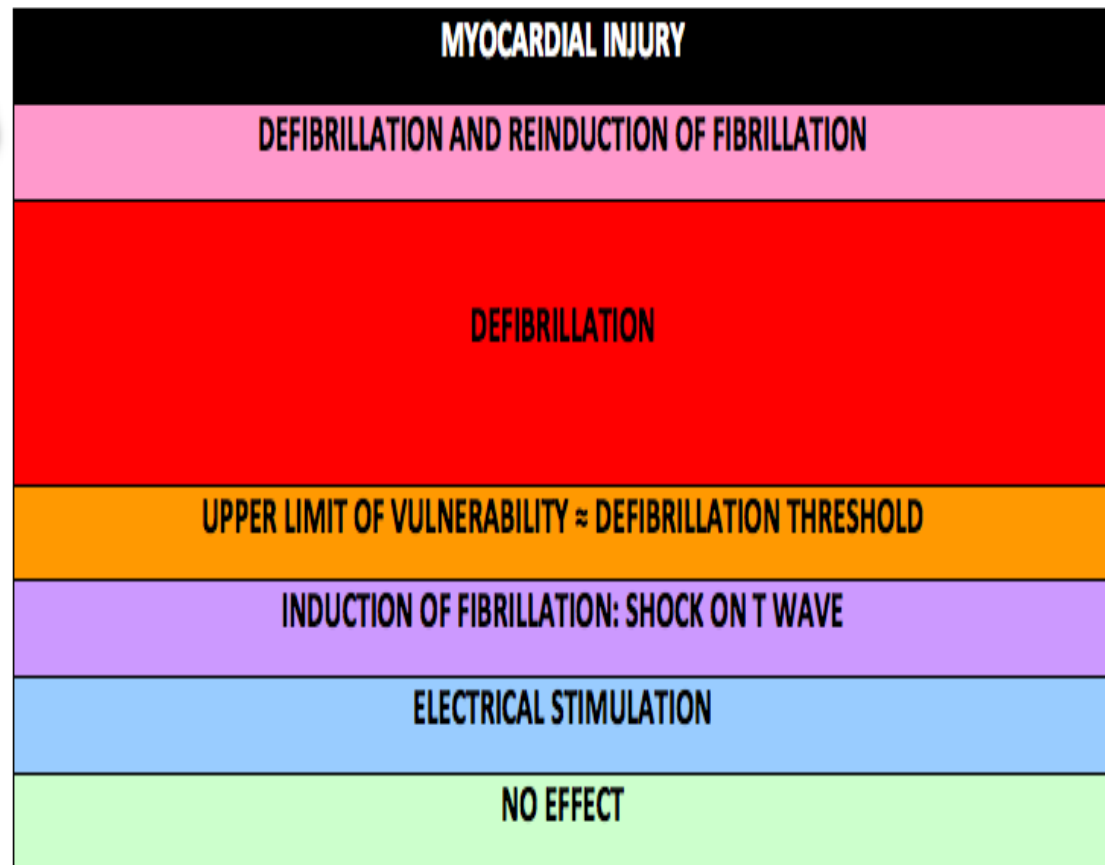


1 case of resuscitated cardiac arrest (0.6/100.000/year)

A short history of defibrillation



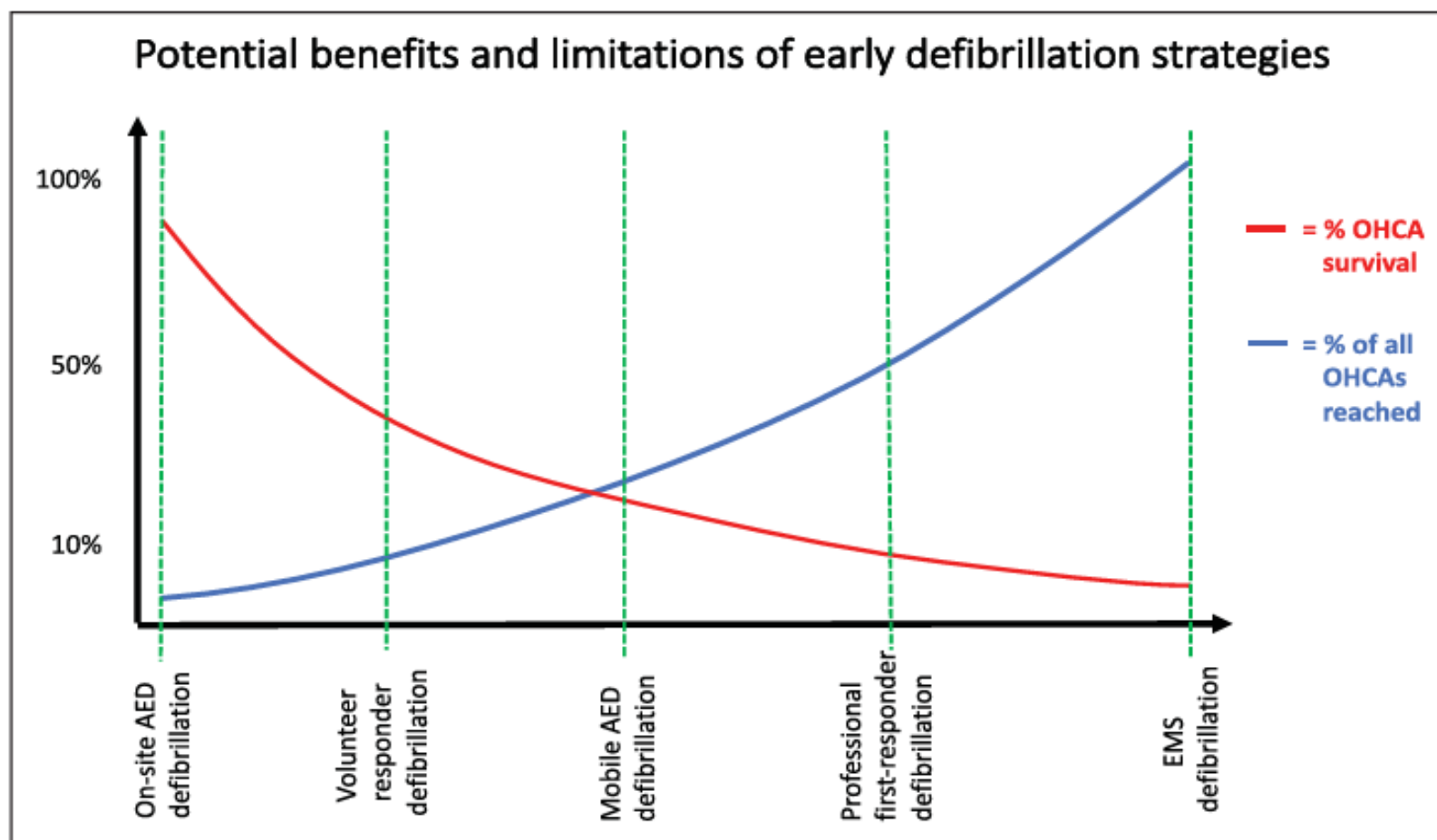
SHOCKS IN VF ZONE

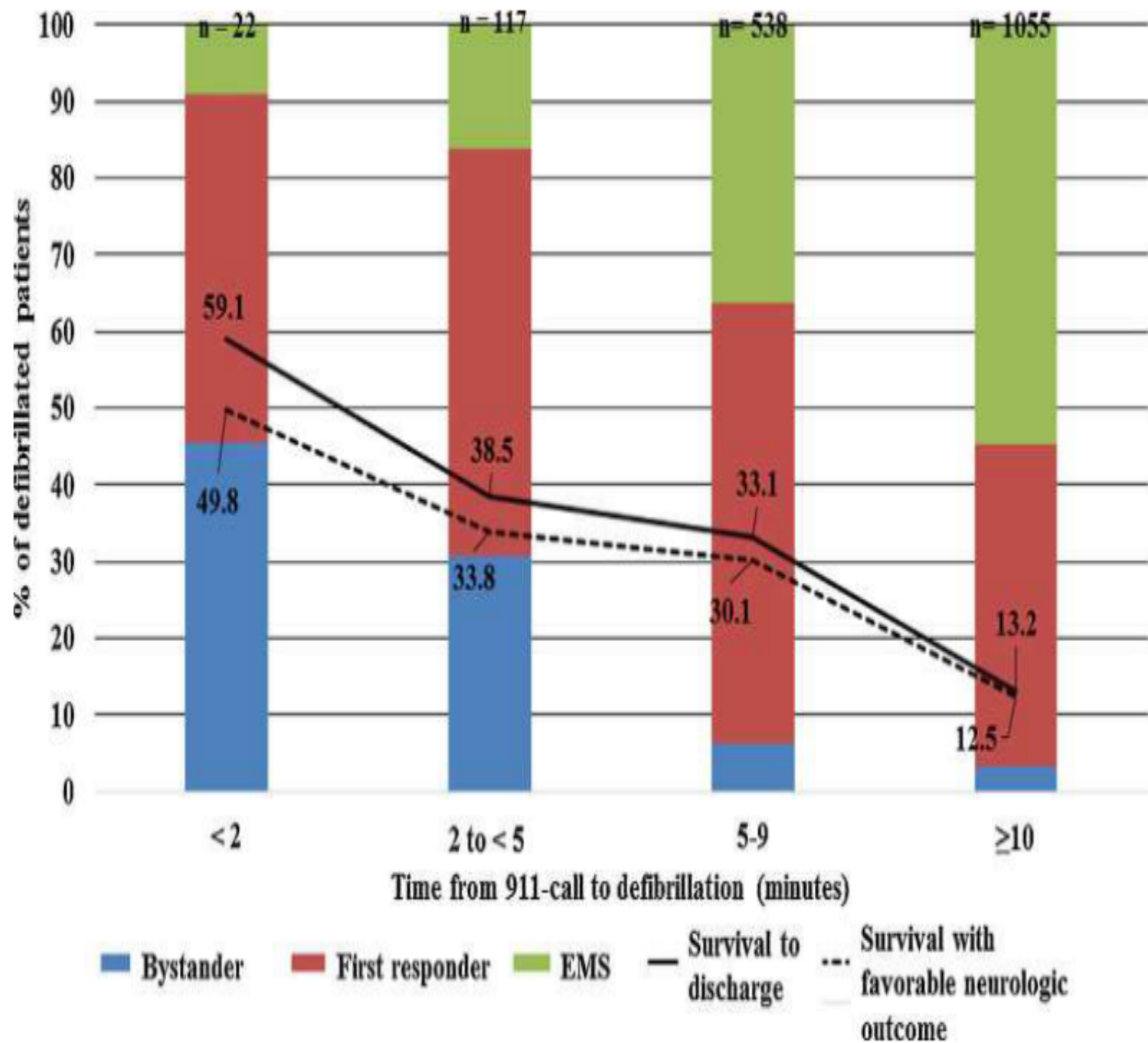


Variable effects of electrical shocks as a function of the energy delivered

Public access defibrillation: challenges and new solutions

Fredrik Folke^{a,b,c}, Persia Shahriari^{a,b}, Carolina Malta Hansen^{a,d}
and Mads Christian Tofte Gregers^{a,b}







American
Heart
Association.

SINTESI

DELLE LINEE GUIDA DEL 2025

DELL'AMERICAN HEART ASSOCIATION PER RCP ED ECC

Sintesi delle Linee guida del 2025 dell'American Heart Association per la rianimazione cardiopolmonare e il trattamento delle emergenze cardiovascolari

L'American Heart Association (AHA) ringrazia le seguenti persone per il contributo fornito alla realizzazione di questa pubblicazione:

Ian R. Drennan, ACP, PhD; Stephen M. Schexnayder, MD; Jason Bartos, MD, PhD; Marina Del Rios, MD; Melissa Mahgoub, PhD; Ashish R. Panchal, MD, PhD; Amber J. Rodriguez, PhD; Julie Sell, MSN, RN; Comilla Sasson, MD, PhD; Jaylen Wright, PhD; infine, il team di progetto per la Sintesi delle Linee guida AHA. Revisori: della versione italiana: Lorenza Pratali, MD, PhD; Eleonora Tappi, MD; Patrizia Vitolo MD



Defibrillazione: cuore dell'intervento avanzato

La defibrillazione precoce rimane la manovra salvavita più efficace nei casi di fibrillazione ventricolare (FV) e tachicardia ventricolare senza polso (pVT).

- Defibrillatori bifasici come standard, per la loro maggiore efficacia e sicurezza rispetto ai monofasici;
-
- Strategia a singolo shock, seguita da ripresa immediata delle compressioni, abbandonando la pratica delle “tre scariche consecutive”;
-
- Energie elevate (200–360 J) per i successivi shock se il primo fallisce, adattandosi alle specifiche del dispositivo.
-
- È inoltre ribadita l'importanza del posizionamento corretto delle piastre, che influisce sulla direzione della corrente (il “vettore di shock”) e sul successo della defibrillazione.
-

Le tecnologie di filtraggio degli artefatti ECG e l'analisi delle forme d'onda di fibrillazione ventricolare promettono di interpretare il ritmo durante le compressioni, evitando pause per l'analisi. Tuttavia, al momento, non esistono evidenze sufficienti per raccomandarne l'uso routinario.

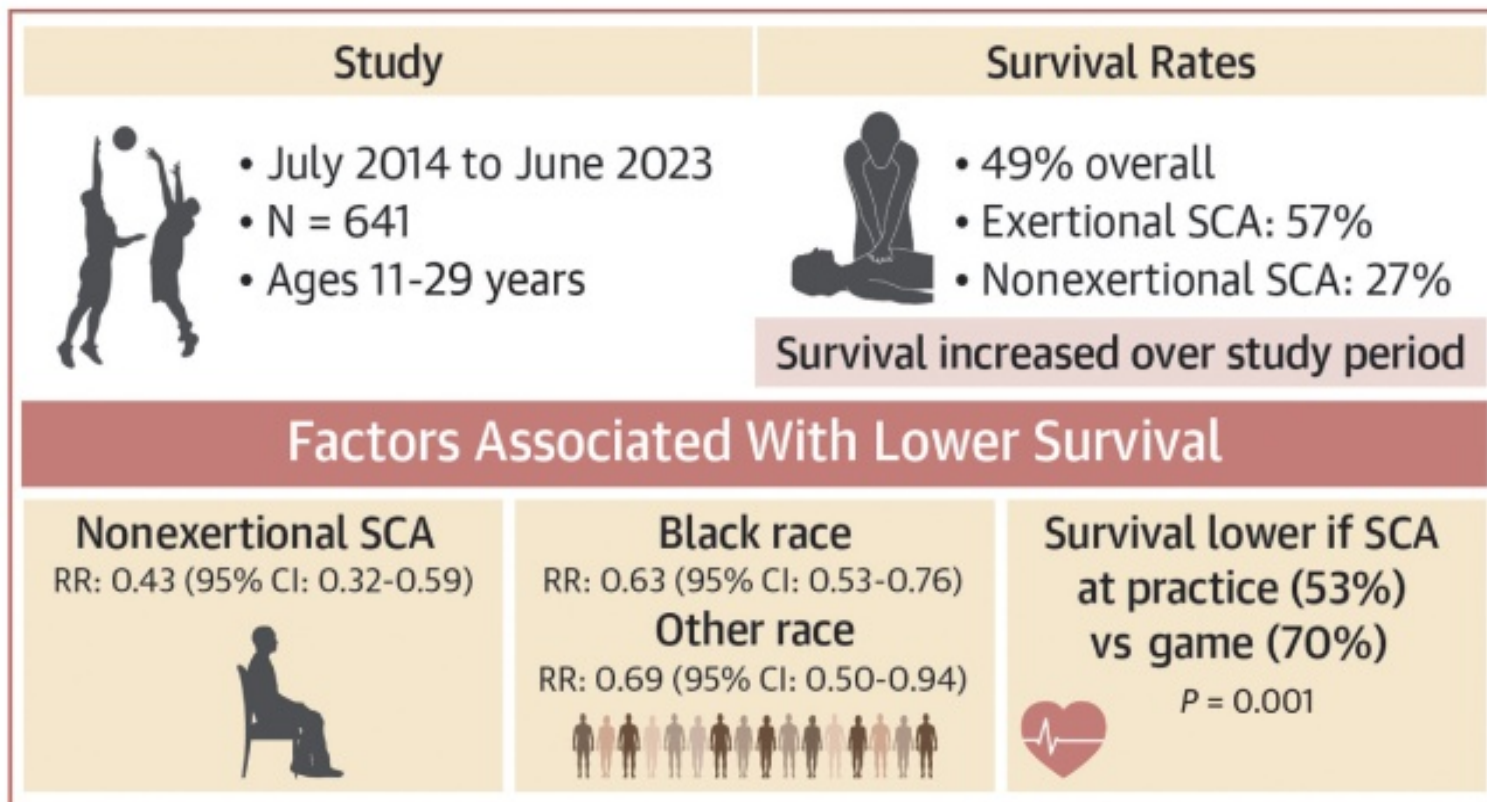
Allo stesso modo, le tecniche di Double Sequential Defibrillation (DSD) e Vector Change (VC) — che prevedono l'uso di due defibrillazione in rapida successione o con pad riposizionati — restano sperimentali: i risultati dei primi studi sono incoraggianti ma non conclusivi.

L'uso di Head-Up CPR (rianimazione con testa sollevata) viene invece sconsigliato al di fuori di studi clinici, per la mancanza di dati solidi sull'efficacia e la sicurezza.

Survival Outcomes After Sudden Cardiac Arrest in Young Competitive Athletes From the United States

Bradley J. Petek, Timothy W. Churchill, Nathaniel Moulson, Randi Delong, Mary Catherine Minnig, Stephanie A. Kliethermes, Aaron L. Baggish, Joseph J. Maleszewski, Kristen L. Kucera, Kimberly G. Harmon, and Jonathan A. Drezner JACC › Archives › Vol. 85 No. 17 30 March 2025

CENTRAL ILLUSTRATION: Survival Outcomes After Sudden Cardiac Arrest in Young Competitive Athletes From the United States



Dal 1 Luglio 2017 obbligo dei defibrillatori per le associazioni sportive



Per le associazioni e le società sportive dilettantistiche - l'entrata in vigore dell'obbligo di dotarsi di defibrillatori semiautomatici esterni (DAE) e di garantire la presenza di collaboratori formati che sappiano utilizzare gli apparecchi nelle emergenze.

La legge del 4 agosto 2021, n. 116, recante il titolo "**Disposizioni in materia di utilizzo dei defibrillatori semiautomatici e automatici**", è volta ad agevolare e disciplinare la dotazione e l'uso dei defibrillatori in molti luoghi (fino ad ora non regolamentati, se non da leggi regionali) anche da parte di persone non formate con Corso BLSD, regolando l'interazione con la rete dell'emergenza territoriale 112/118, oltre alla promozione di campagne di informazione e sensibilizzazione e introducendo specifici insegnamenti nelle scuole primarie e secondarie.

La Nuova legge estende l'obbligo del defibrillatore per le società sportive dilettantistiche e professionistiche anche **durante allenamenti e competizioni**, oltre che alle gare.

Legge 116/2021

Systems Saving Lives

the Italian Resuscitation Council proposals become an Italian law

THE OUT-OF-HOSPITAL USE OF SEMI-AUTOMATIC AND AUTOMATIC EXTERNAL DEFIBRILLATORS (AED)



1 Mandatory placement of AEDs in public administration offices, public sites (airports, train stations, ports, etc.) and transport systems

Art.

2 AED Placement criteria in public places (local needs and PAD projects, access and availability, etc.)

Art.

3 Legal protection for lay rescuers performing bystander CPR and AED use

Art.

4 Mandatory availability and use of AEDs during sport events (practice and competition) both for professional and amateur teams

Art.

5 CPR education and use of AED in schools taught to students (age 10-18), teachers, administrative and support staff

Art.

6 Inventory of all AEDs made by the EMS

Art.

7 A smartphone application for rescuer recruitment and AED location. National protocol for EMS dispatch-assisted pre-arrival instructions

Art.

8 Awareness campaigns on cardiac arrest and CPR, especially on WRAH occasion (October 16th)

Art.



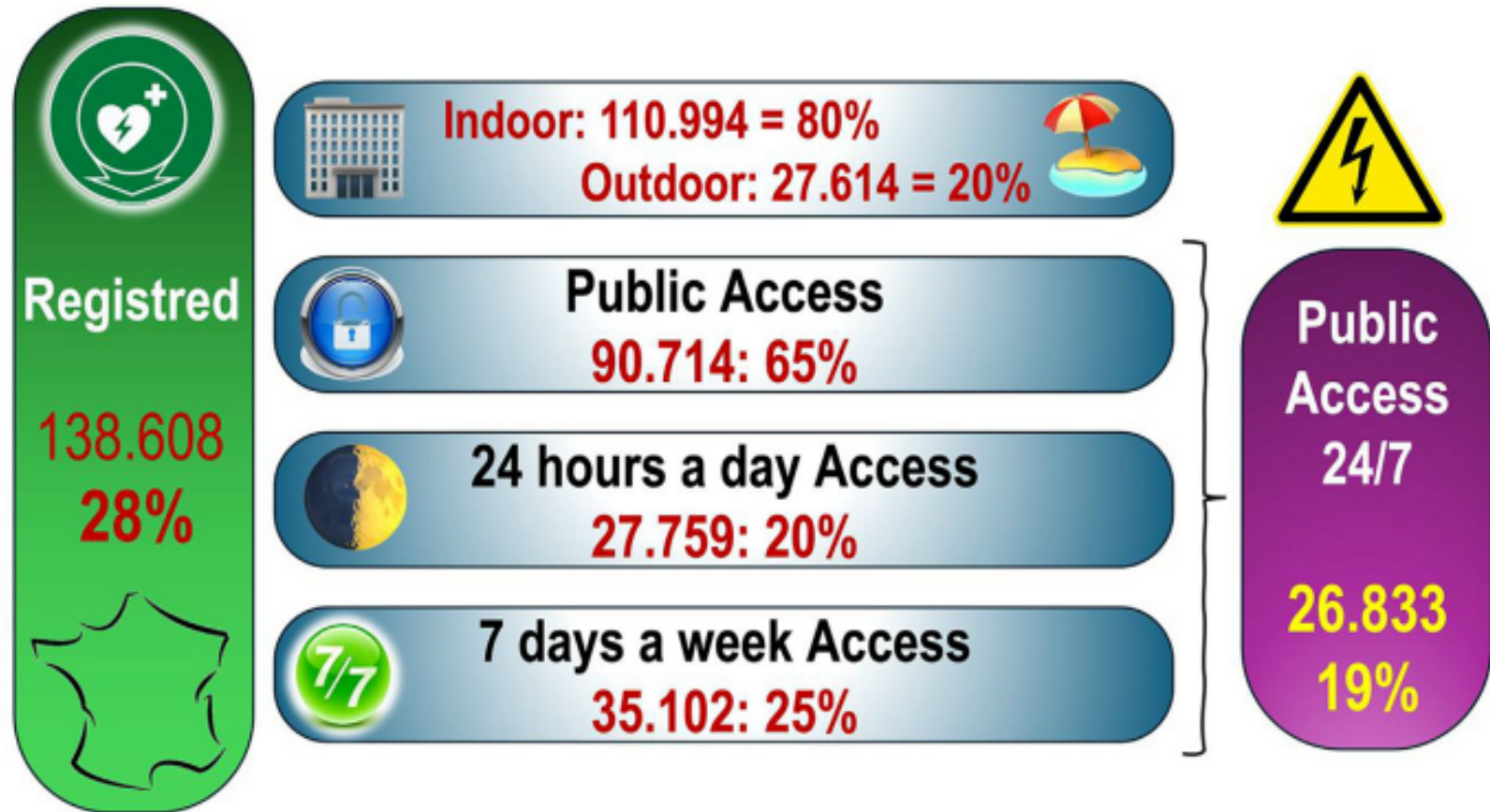
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Available online at ScienceDirect

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitationEUROPEAN
RESUSCITATION
COUNCIL

Letter to the Editor

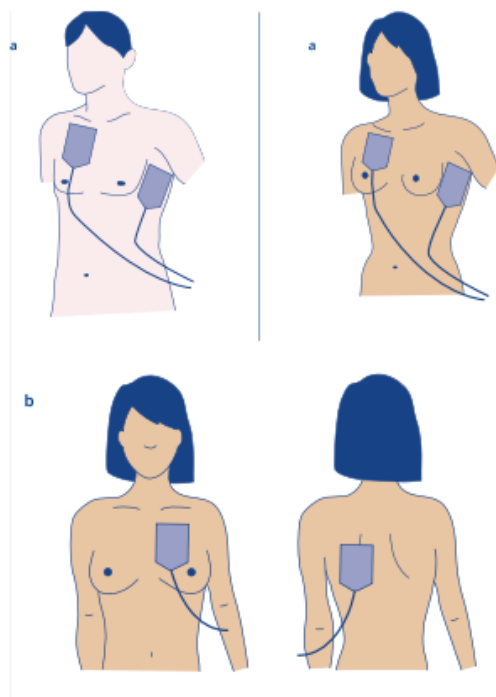
Public access defibrillators: The stark reality**Fig. 1 – Accessibility of the 138.608 AED recorder in the French registry.**

Practice Guideline

European Resuscitation Council Guidelines 2025 Adult Basic Life Support

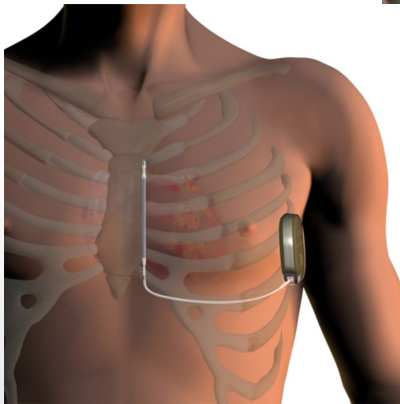


Michael A. Smyth^{a,b,*}, Sander van Goor^c, Carolina Malta Hansen^{d,e,f}, Nino Fijačko^g, Naomi Kondo Nakagawa^h, Violetta Raffayⁱ, Giuseppe Ristagno^{j,k}, Jessica Rogers^l, Tommaso Scquizzato^m, Christopher M. Smith^{a,b}, Anastasia Spartinou^{n,o}, Keck Wolfgang^p, Gavin D. Perkins^{a,b,q}, for the ERC Adult Basic Life Support Collaborators



SEQUENCE / ACTION	TECHNICAL DESCRIPTION
SAFETY 	Make sure that you, the victim and bystanders are safe
RESPONSE Check for a response 	Shake the victim gently by the shoulders and ask loudly: "Are you all right?"
ALERT EMERGENCY SERVICES 	- If victim is unresponsive, ask a helper to call the emergency medical services or call them yourself - Stay with the victim if possible - Activate the speaker function or hands-free option on the telephone so that you can start CPR whilst talking to the dispatcher
AIRWAY Open the airway 	- If there is no response, position the victim on their back - With your hand on the forehead and your fingertips under the point of the chin, gently tilt the victim's head backwards, lifting the chin to open the airway
BREATHING Look, listen and feel for breathing 	- Look, listen and feel for breathing for no more than 10 seconds - A victim who is barely breathing, or taking infrequent, slow and noisy gasps, is not breathing normally
SEND FOR AED Send someone to get an AED 	- Send someone to find and bring back an AED, if available - If you are on your own, fetch an AED only if you can get and apply it within one minute; otherwise, start CPR immediately
CIRCULATION Start chest compressions 	- Kneel by the side of the victim - Place the heel of one hand in the centre of the victim's chest - this is the lower half of the victim's breastbone (sternum) - Place the heel of your other hand on top of the first hand and interlock your fingers - Keep your arms straight - Position yourself vertically above the victim's chest and press down on the sternum at least 5 cm (but not more than 6 cm) - After each compression, release all the pressure on the chest without losing contact between your hand and the chest - Repeat at a rate of 100-120 min⁻¹
COMPRESSION-ONLY CPR 	If you are untrained, or unable to give rescue breaths, give chest-compression-only CPR (continuous compressions at a rate of 100-120 min⁻¹)

Christian Eriksen, 13 giugno 2021- Danimarca-Finlandia
Sonny Colbrelli, 22 marzo 2022, Giro di Catalogna, Spagna



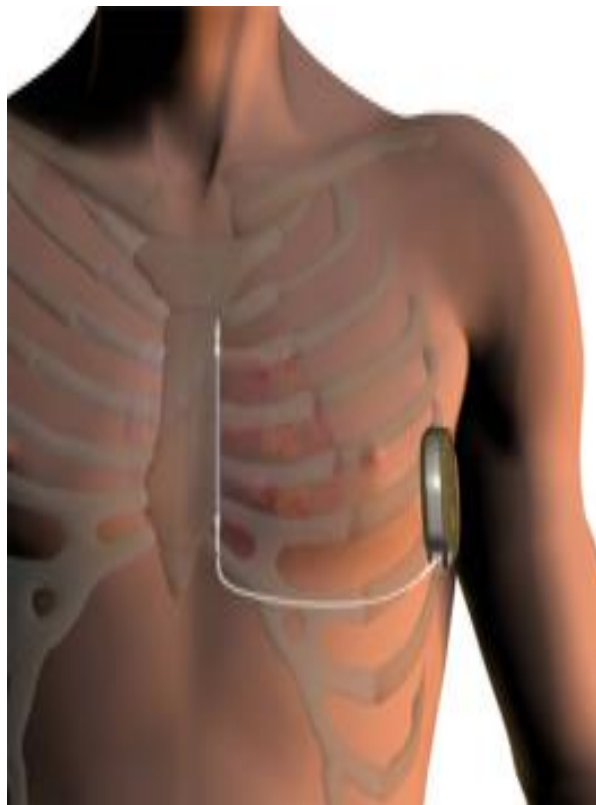
COMITATO ORGANIZZATIVO CARDIOLOGICO
PER L'IDONEITÀ ALLO SPORT AGONISTICO
FMSI - SIC SPORT - ANCE - ANMCO - SIC

Protocolli cardiologici per il giudizio di idoneità allo sport agonistico (COCIS) 2023

Raccomandazioni per la concessione dell'idoneità agonistica nei soggetti con ICD

II C in assenza di una cardiopatia incompatibile con lo sport

III negata in presenza di cardiopatia incompatibile con lo sport indipendente da interventi appropriati e non dell'ICD



In Italia il defibrillatore non viene usato!

Pescara: Piermario Morosini

14 Aprile 2012

Castel Bisenzio : Mattia Giani

14 Aprile 2024





5-3-2018 - Davide Astori

Morto nel sonno a 31 anni



**Napoli, morta nel sonno a 28 anni la
nuotatrice Mariasofia Paparo
12 apr 2022**

**Atleta Master del Circolo Nautico Posillipo nel 2019
aveva fatto parte dello staff del Trofeo Swim4Life, valido
per il Circuito Supermaster FIN che si è svolto a
dicembre dello stesso anno nella piscina Scandone di
Napoli. Aveva fatto parte del Master Team Speedo. Nel
2020 aveva partecipato alla traversata dello stretto di
Messina, nonché alla Capri-Napoli.**

SUPPORTO VITALE DI BASE E AVANZATO PER ADULTI

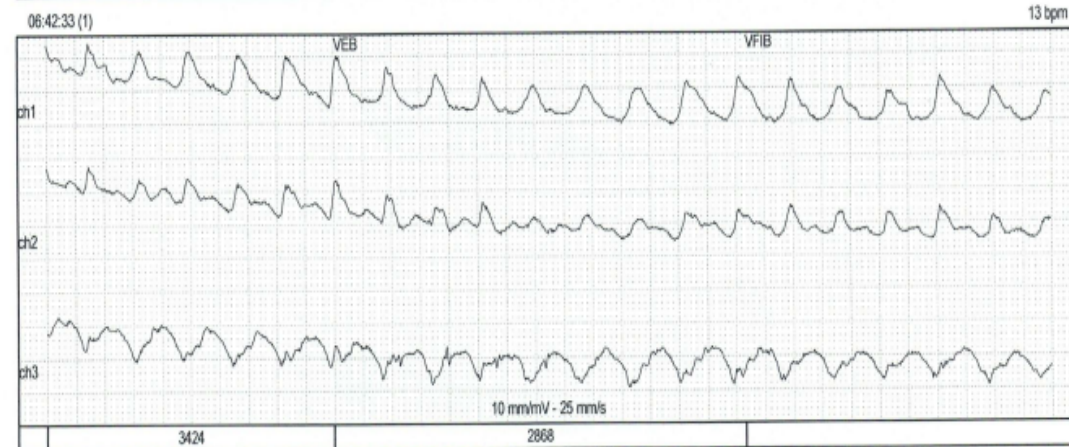
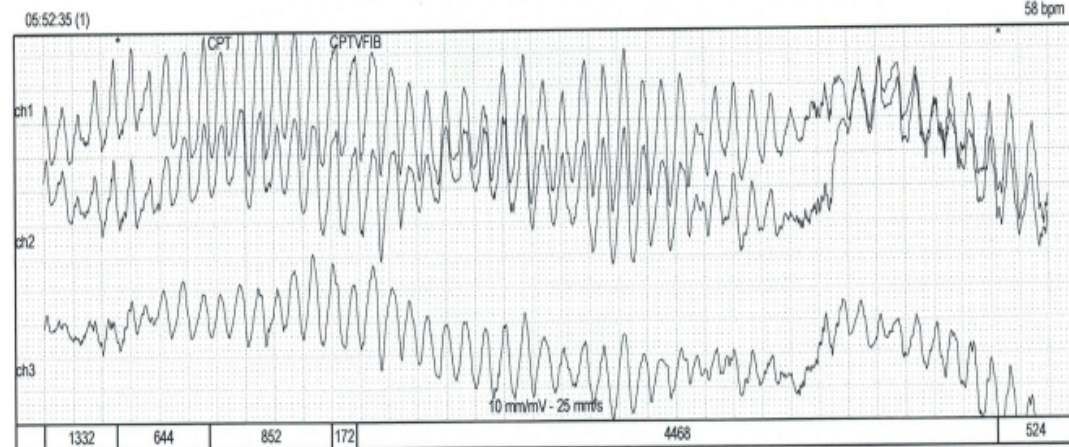
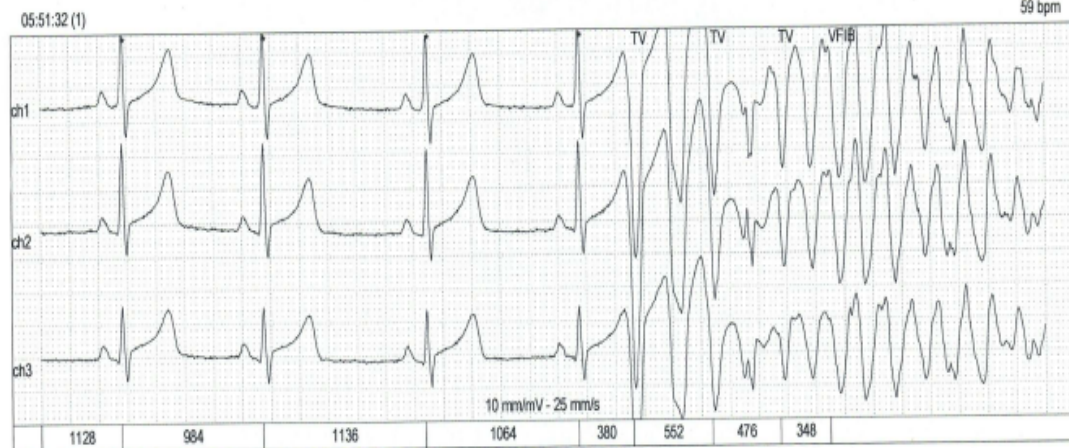
Nonostante i recenti dati positivi,
 meno del 40% degli adulti riceve una
RCP e in meno del 12% si utilizza un
 AED prima dell'arrivo dell'EMS.

Figura 3. Catene della sopravvivenza AHA per IHCA e OHCA negli adulti.

IHCA



OHCA





ORIGINAL ARTICLE

Sudden Cardiac Arrest during Participation in Competitive Sports

Cameron H. Landry, M.D., Katherine S. Allan, Ph.D.,
Kim A. Connelly, M.B., B.S., Ph.D., Kris Cunningham, M.D., Ph.D.,
Laurie J. Morrison, M.D., and Paul Dorian, M.D., for the Rescu Investigators*

Rescu Epistry database from the beginning of 2009 to the end of 2014

Table 3. Incidence of Sudden Cardiac Arrest among Competitive Athletes.

Variable	Age Group			
	12–17 yr	18–34 yr	35–45 yr	All
Athlete-years of observation from 2009 through 2014	342,600	1,036,974	735,420	2,114,994
No. of athletes who had sudden cardiac arrest	4	9	3	16
No. of cases per 100,000 athlete-yr	1.167	0.868	0.408	0.756

Table 4. Causes of Sudden Cardiac Arrest among Competitive and Noncompetitive Athletes, According to Age Group.

Variable	Age Group			
	12–17 yr	18–34 yr	35–45 yr	All
Competitive				
No. of athletes	4	9	3	16
Percent of athletes who survived	50.0	44.4	33.3	43.8
Diagnosis				
Ischemic*	0	0	3	3
Primary arrhythmic	0	6	0	6
Structural†	2	3	0	5
Commotio cordis	2	0	0	2
Noncompetitive				
No. of athletes	9	18	31	58
Percent of athletes who survived	66.7	50.0	35.5	44.8
Diagnosis				
Ischemic*	0	5	21	26
Primary arrhythmic	4	5	0	9
Unknown	2	2	0	4
Structural‡	3	6	8	17
Other§	0	0	2	2

Sudden Cardiac Arrest During Sports Activity in Older Adults

Lauri Holmstrom et al. *J Am Coll Cardiol EP.* , 2022

Salient findings



RARE: Annual incidence
~2-3 cases per 100,000



LOW prevalence of
risk factors and
comorbidities



HIGHER SURVIVAL: 4-
fold better than non-
sports-related cardiac
arrest



Implications



BENEFITS OF EXERCISE likely
outweigh risk of
cardiac arrest

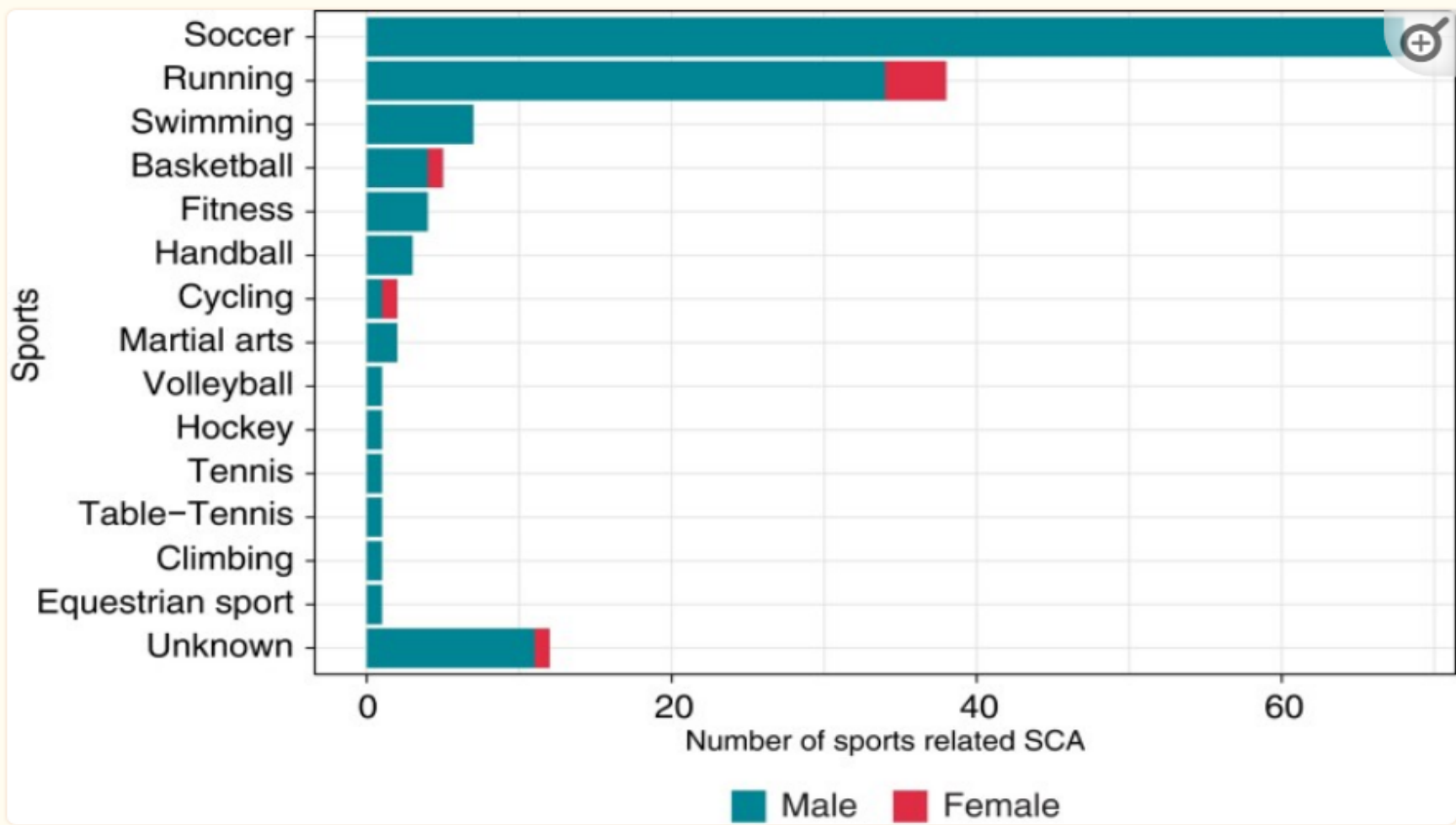


PUBLIC LOCATION and
bystander response are
key determinants of
survival outcome

Conclusions: Among free-living community residents age ≥ 65 years, SrSCA is uncommon, predominantly occurs in men, and is associated with lower disease burden than non-SrSCA. These results suggest that the risk of SrSCA is low, and probably outweighed by the high benefit of exercise

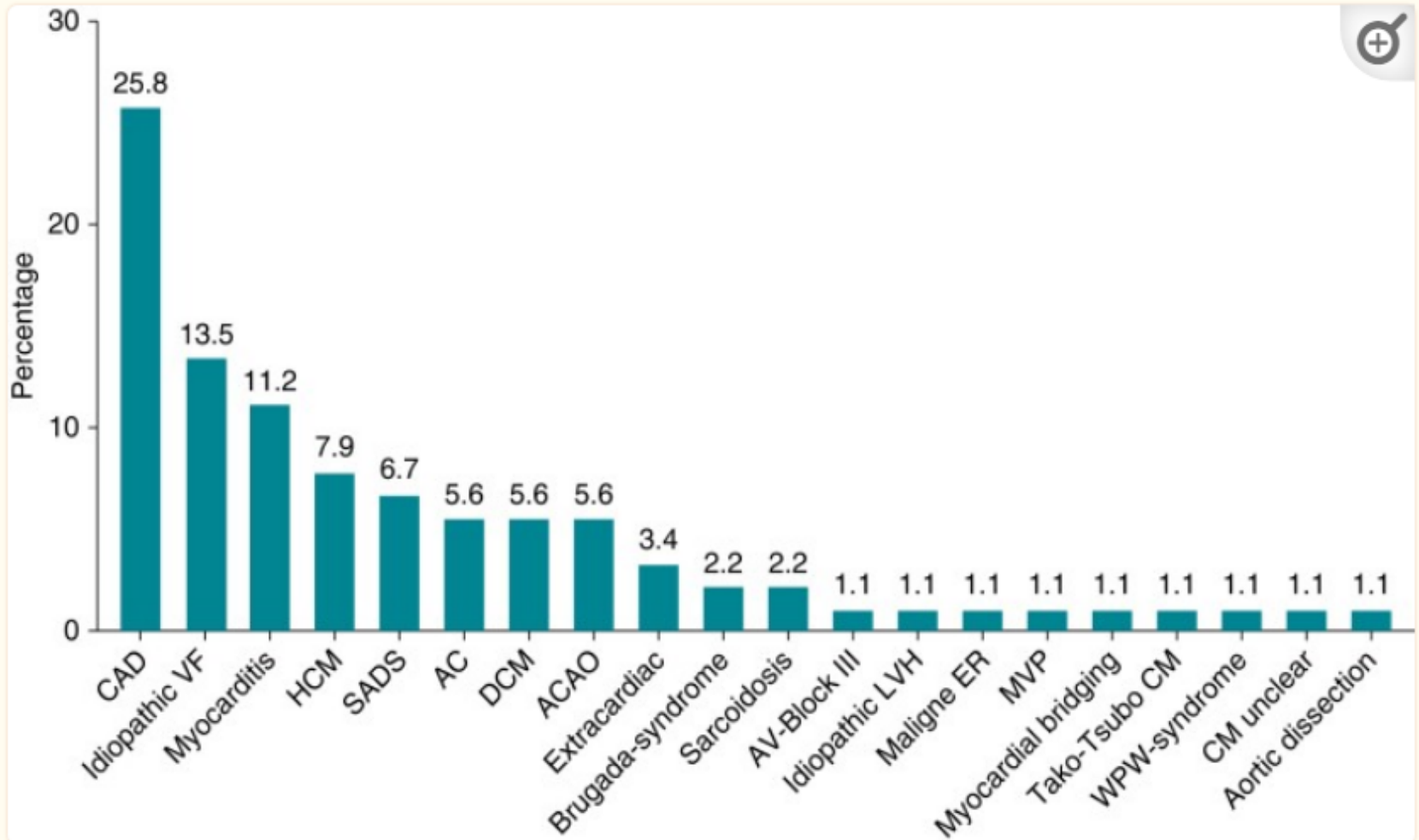
Sports-related sudden cardiac arrest in young adults

Philipp Bohm, et al *Europace* 2023 Feb; 25(2): 627–633

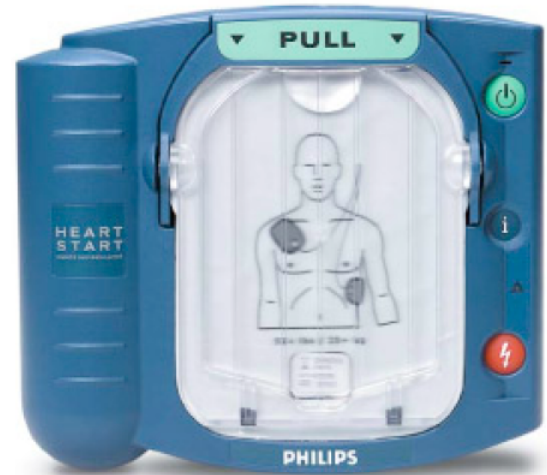


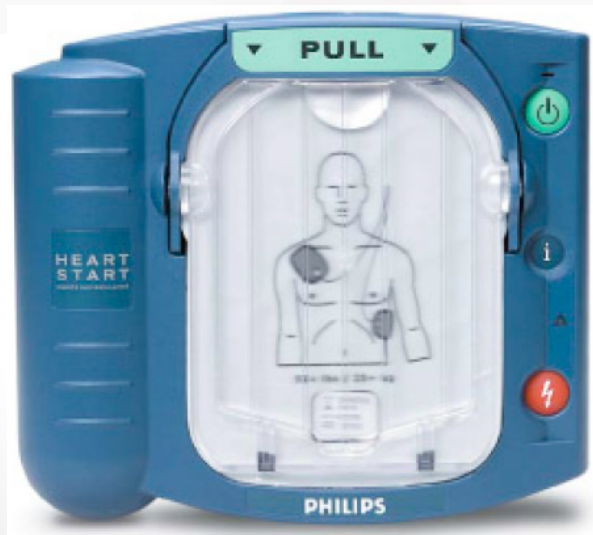
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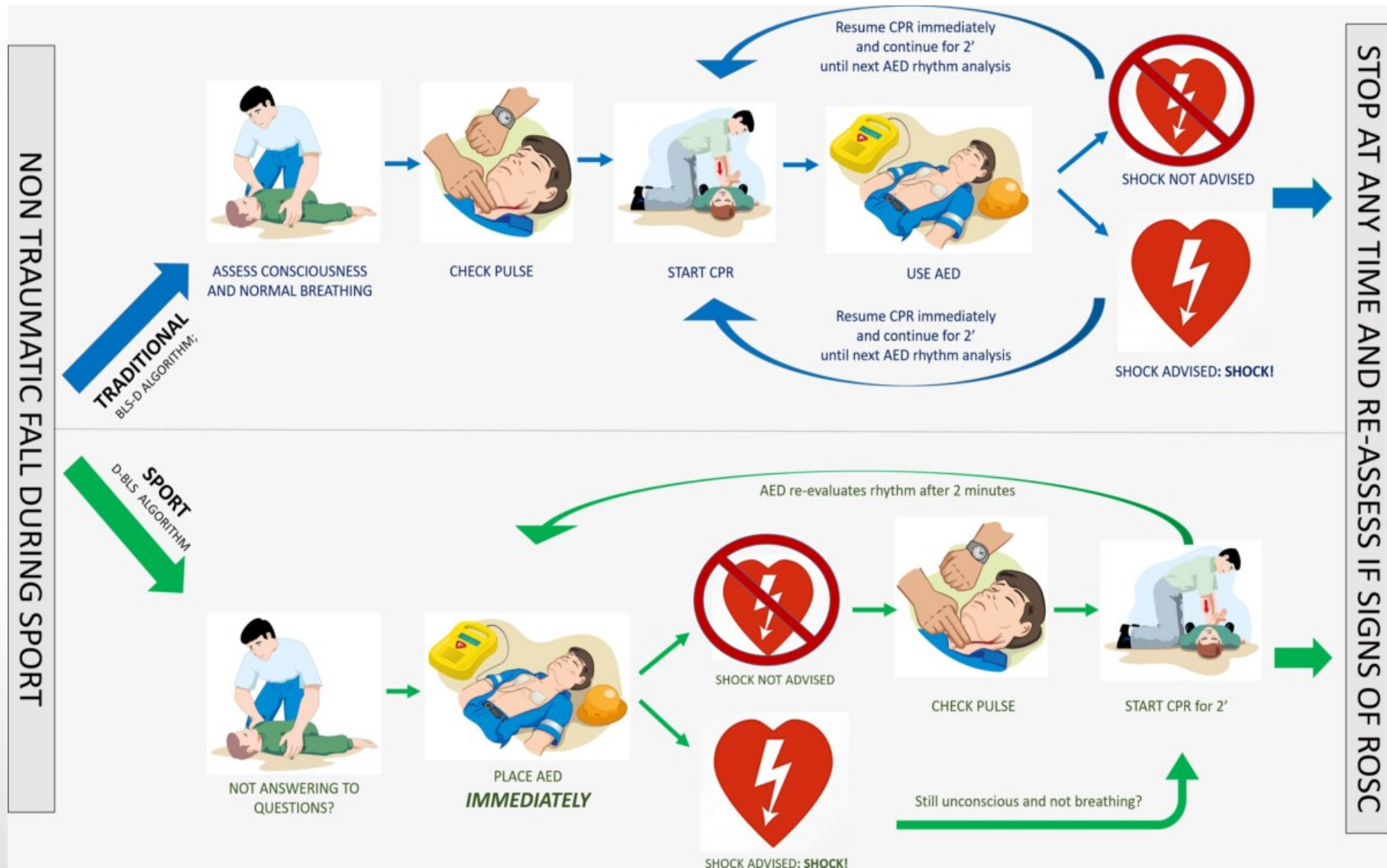
Solo l'AED non basta!
1 shock ogni 2 min: linee guida AHA e ILCOR 2025





Association between basic life support and survival in sports-related sudden cardiac arrest: a meta-analysis

Laurianne Michelland al. Eur Heart J 2023 Jan 14;44(3):180-192.



2026 : CRITICITA' NEGLI AMBIENTI SPORTIVI

- **Gestione di un piano efficace per il soccorso**
- **Per legge ogni società sportiva è obbligata a detenere un defibrillatore e disporre di personale addestrato** presente durante gli allenamenti e le competizioni.
- **documento di valutazione del rischio (DVR).** : dirigenti, allenatori, accompagnatori, atleti, inclusi i manutentori, magazzinieri e amministrativi della società, ad ognuno dei quali sono assegnati specifici compiti.
- **Ritardi dell'équipe medica dotata di DAE a bordo campo:** reazione rallentata dallo stupore dovuto all'evento inatteso, il lungo tentativo di aprire le vie aeree e prevenire la “deglutizione della lingua”, e l'errata interpretazione della respirazione agonica e dei movimenti involontari degli arti.
- **Il 90% dei DAE delle ASD sono inaccessibili!**
- **Il 50% dei DAE non sono registrati presso la centrale 112/118**
- **Il 10% dei DAE delle ASP non vengono periodicamente controllati!**

Responsabile della sicurezza

- **Team leader**
- **Alcuni sport richiedono considerazioni speciali**
- **L'ambiente dove si svolge l'attività gioca un ruolo determinante nella gestione dell'emergenza.**
- **Sport out-door: maratona** si verificano frequentemente in tutto il mondo e l'assistenza medica di emergenza mobile è fornita a intervalli regolari (ogni 1-2 km) per tutta la durata del tracciato. **Canottaggio**, uno sport che prevede l'allenamento in due ambienti completamente diversi.

Mobile Automated External Defibrillator Response System during Road Races

Kinoshi, T., Tanaka, S., Sagisaka, R., et al. (2018). The New England Journal of Medicine, 379(5), 488–489.)

Between January 1, 2005, and March 7, 2017, we used the system to support 1,965,265 runners in 251 road races of a distance of 10.0 to 42.2 km, and during that period we responded to 30 runners with cardiac arrest. There was 1 cardiac arrest per 65,509 runners (1.53 cardiac arrests per 100,000 runners). Regardless of the length of the race, a total of 21 of the cardiac arrests (70%) occurred in the last quarter of the distance run or near the finish line of the race. Gasping was noted in 26 of the runners with cardiac arrest (87%).

In the 28 runners with witnessed cardiac arrest, the median interval between collapse and the initiation of basic CPR was 0.8 minutes (interquartile range, 0.5 to 1.0) and the median interval between collapse and delivery of the first AED shock was 2.2 minutes (interquartile range, 1.6 to 4.4).

Table 1. Characteristics of Races, Runners, and Sudden Cardiac Arrests.*

Variable	All Runners with Cardiac Arrest (N=30)	Runners with Witnessed Cardiac Arrest (N=28)	Runners with Unwitnessed Cardiac Arrest (N=2)
Distance of race — no. (%)			
>21.1 to full marathon, 42.2 km	19 (63)	19 (68)	0
Half-marathon, 21.1 km	7 (23)	6 (21)	1 (50)
10.0 to <21.1 km	4 (13)	3 (11)	1 (50)
Demographic characteristics of runners			
Median age (IQR) — yr	51 (35–59)	52 (36–59)	28 (27–29)
Male sex — no. (%)	27 (90)	25 (89)	2 (100)
Cardiac arrests			
Median time from start of race to cardiac arrest (IQR) — min	159 (121–192)	161 (134–195)	Unknown
Gasping — no. (%)	26 (87)	25 (89)	1 (50)
Median time from collapse to contact with rapid mobile AED system team (IQR) — min	0.8 (0.5–1.1)	0.8 (0.5–1.0)	Unknown
Median time from witnessed cardiac arrest to initiation of CPR (IQR) — min	Unknown	0.8 (0.5–1.0)	Unknown
Person who initially performed CPR — no. (%)			
Rapid mobile AED system team member	23 (77)	21 (75)	2 (100)
Another runner	7 (23)	7 (25)	0
AED analysis			
Defibrillation performed — shocks delivered/patients with ventricular fibrillation (%)	23/24 (96)	23/24 (96)	0
Median time from collapse to delivery of AED shock (IQR) — sec	131 (99–263)	131 (99–263)	Unknown
Documented ECG waveform according to initial AED data — no. (%)			
Ventricular fibrillation	24 (80)	24 (86)	0
Pulseless electrical activity	5 (17)	4 (14)	1 (50)
Asystole	1 (3)	0	1 (50)
Outcome			
Return of spontaneous circulation in field — no. (%)	28 (93)	28 (100)	0
CPC 1 or 2 — no. (%)†			
At 1 mo	28 (93)	28 (100)	0
At 1 yr	28 (93)	28 (100)	0
Median hospital stay (IQR) — day	5 (3–8)	5 (3–8)	Unknown

* AED denotes automated external defibrillator, ECG electrocardiographic, and IQR interquartile range.

† The Cerebral Performance Category (CPC) is graded on a scale from 1 (good cerebral performance) to 5 (death or brain death).