



La desfibrilación pública

Ramon Brugada MD PhD

ALMENDRALEJO
9 DE ABRIL 2016

- Cardiólogo

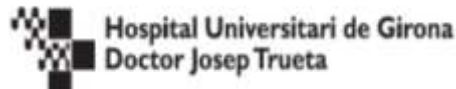
Hospital Josep Trueta, Girona

- Profesor Titular

Facultat de Medicina Universitat de Girona

- Director, Centre Genètica Cardiovascular

Institut Investigació Biomèdica Girona-IDIBGi



Prevención de la muerte súbita



Mejora de los hábitos de salud



Ejercicio bajo control médico



Historia familiar de muerte súbita



Investigación



Traslación



Desfibrilación pública

GenCardio



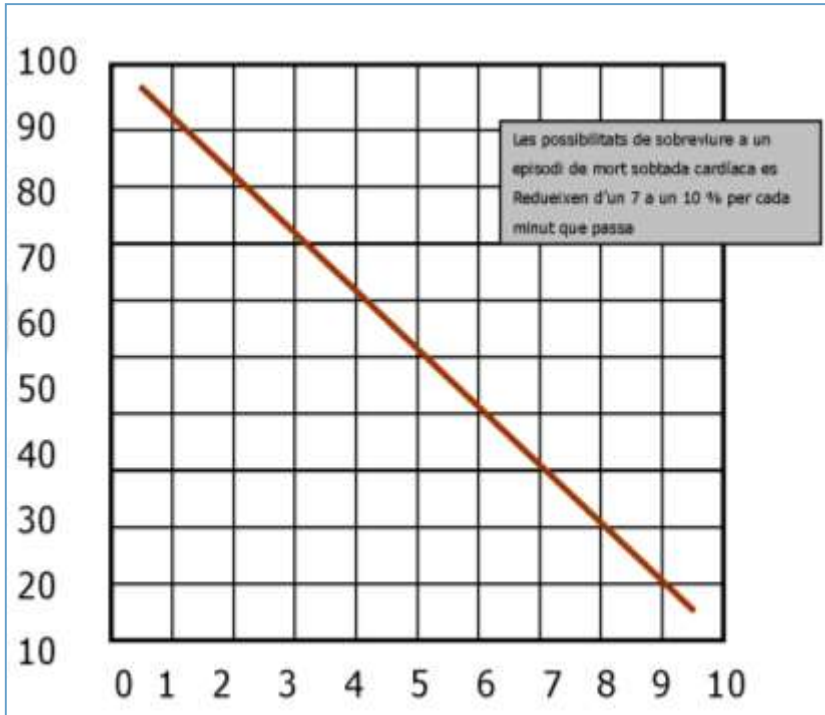


GenCardio



Cuando una persona sufre un paro cardiaco en la calle,
sólo tiene un 5% de posibilidades de sobrevivir

ES CUESTIÓN DE DIEZ MINUTOS



Survival After Application of Automatic External Defibrillators Before Arrival of the Emergency Medical System

Evaluation in the Resuscitation
Outcomes Consortium Population of 21 Million

	Group 1: EMS-Treated OHCA, Excluding EMS Witnessed	Group 2: Bystander CPR, No AED Applied Before EMS	Group 3: AED Applied Before EMS	Group 4: AED Shock Before EMS	Group 5: Bystander CPR, No AED, EMS Shocked
n	13,769	4,403	289	170	1,280
Median age, yrs	67 (26)	65 (27)	62 (24)	60 (20)	63 (22)
Gender					
Male	8,826 (64%)	2,838 (64%)	212 (73%)	141 (83%)	987 (77%)
Unknown	27 (0%)	10 (0%)	0 (0%)	0 (0%)	2 (0%)
Median EMS response time, min	5.3 (2.9); 9	5.4 (2.8); 9.3	5.6 (3.4); 11	5.3 (3.2); 9.6	5.3 (2.7); 8.9
Public location	2,193 (16%)	888 (20%)	171 (59%)	130 (76%)	468 (37%)
Witnessed bystander	5,630 (41%)	2,278 (52%)	180 (62%)	130 (76%)	980 (77%)
Unknown first rhythm	1,273 (9%)	278 (6%)	25 (9%)	13 (8%)	42 (3%)
Shockable	3,278 (24%)	1,341 (30%)	170 (59%)	170 (100%)	1,280 (100%)
Unknown	808 (6%)	175 (4%)	5 (2%)	0 (0%)	0 (0%)
Transported to hospital	8,106 (59%)	2,553 (58%)	224 (78%)	146 (86%)	999 (78%)
Survival to hospital discharge	907 (7%)	382 (9%)	69 (24%)	64 (38%)	286 (22%)



	Group 1: EMS-Treated OHCA, Excluding EMS Witnessed	Group 2: Bystander CPR, No AED Applied Before EMS	Group 3: AED Applied Before EMS	Group 4: AED Shock Before EMS	Group 5: Bystander CPR, No AED, EMS Shocked
n	13,769	4,403	289	170	1,280
Median age, yrs	67 (26)	65 (27)	62 (24)	60 (20)	63 (22)
Gender					
Male	8,826 (64%)	2,838 (64%)	212 (73%)	141 (83%)	987 (77%)
Unknown	27 (0%)	10 (0%)	0 (0%)	0 (0%)	2 (0%)
Median EMS response time, min	5.3 (2.9); 9	5.4 (2.8); 9.3	5.6 (3.4); 11	5.3 (3.2); 9.6	5.3 (2.7); 8.9
Public location	2,193 (16%)	888 (20%)	171 (59%)	130 (76%)	468 (37%)
Witnessed bystander	5,630 (41%)	2,278 (52%)	180 (62%)	130 (76%)	980 (77%)
Unknown first rhythm	1,273 (9%)	278 (6%)	25 (9%)	13 (8%)	42 (3%)
Shockable	3,278 (24%)	1,341 (30%)	170 (59%)	170 (100%)	1,280 (100%)
Unknown	808 (6%)	175 (4%)	5 (2%)	0 (0%)	0 (0%)
Transported to hospital	8,106 (59%)	2,553 (58%)	224 (78%)	146 (86%)	999 (78%)
Survival to hospital discharge	907 (7%)	382 (9%)	69 (24%)	64 (38%)	286 (22%)



Table 3**Survival to Hospital Discharge by Type of Location**

	AED Applied Before EMS	Survival (%)	Bystander CPR, No AED Applied Before EMS	Survival (%)
Public	171	35	888	20
Street/highway	14	36	210	13
Public building	48	38	169	21
Place of recreation	41	49	135	24
Industrial place	18	22	54	15
Other public place	50	24	320	23
Private	117	9	3,510	6
Home residence	71	11	2,805	7
Farm/ranch	1	0	7	0
Residential institution	41	5	668	2
Other private place	4	0	30	10

AED. The survival of 38% with shock by a bystander using the AED should encourage broader awareness of the AED, which may prompt increased use by bystanders even for those lacking medical training.

Girona Territorio Cardioprotegido



750 desfibriladores



Universitat de Girona
Facultat de Medicina



Dipsalut
Organisme de Salut Pública
de la Diputació de Girona



FUNDACIÓ BRUGADA
recerca cardiovascular



Contents lists available at ScienceDirect

American Journal of Emergency Medicine

journal homepage: www.elsevier.com/locate/ajem



Review

Defibrillation in rural areas

Mathias Ströhle, MD ^{a,*}, Peter Paal, MD, DESA, EDIC ^{a,b}, Giacomo Strapazzon, MD ^{b,c},
Giovanni Avancini, MD ^c, Emily Procter ^c, Hermann Brugger, MD ^{b,c}

^a Department of Anesthesiology and Critical Care Medicine, Innsbruck Medical University, Anichstrasse 35, A-6020 Innsbruck, Austria

^b International Commission for Mountain Emergency Medicine, ICAR MEDCOM

^c EURAC Institute of Mountain Emergency Medicine, Viale Druso 1, I-39100 Bozen/Bolzano, Italy



2 tier system better (BLS-ALS)

GIRONA TerritoriCardioProtegit

- Fix, mobile and seasonal AEDs.
- Integration with the emergency services.
- Removal of legal barriers.
- Outreach Project.
- Public training.





GenCardio



**DEPARTAMENT
DE SALUT**

DECRET

151/2012, de 20 de novembre, pel qual s'estableixen els requisits per a la instal·lació i l'ús de desfibril·ladors externs fora de l'àmbit sanitari i per a l'autorització d'entitats formadores en aquest ús.

Cualquier persona puede utilizar un desfibrilador



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation



Clinical paper

Local lay rescuers with AEDs, alerted by text messages, contribute to early defibrillation in a Dutch out-of-hospital cardiac arrest dispatch system[☆]

Jolande A. Zijlstra^{a,*,1}, Remy Stieglis^{a,1}, Frank Riedijk^b, Martin Smeekes^b,
Wim E. van der Worp^c, Rudolph W. Koster^a

^a Academic Medical Center, Department of Cardiology, Amsterdam, The Netherlands

^b Veiligheidsregio Noord-Holland Noord, Alkmaar, The Netherlands

^c Ambulance Oost, Hengelo, The Netherlands



Rescuers alerted by text messages

29 vidas salvadas



Universitat de Girona
Facultat de Medicina



Dipsalut
Organisme de Salut Pública
de la **Diputació de Girona**



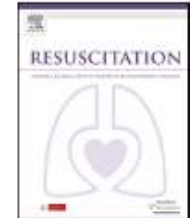
FUNDACIÓ BRUGADA
recerca cardiovascular



Contents lists available at [ScienceDirect](http://www.sciencedirect.com)

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation



Short communication

Defibrillation in the movies: A missed opportunity for public health education[☆]

Ofole U. Mgbako^{a,b,1}, Yoonhee P. Ha^{a,b,d,1}, Benjamin L. Ranard^{a,b}, Kendra A. Hypolite^b, Allison M. Sellers^b, Lindsay D. Nadkarni^b, Lance B. Becker^c, David A. Asch^{b,d}, Raina M. Merchant^{b,c,d,*}

^a Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA

^b Social Media and Health Innovation Lab, Penn Medicine Center for Health Care Innovation, Philadelphia, PA, USA

^c Department of Emergency Medicine, University of Pennsylvania, Philadelphia, PA, USA

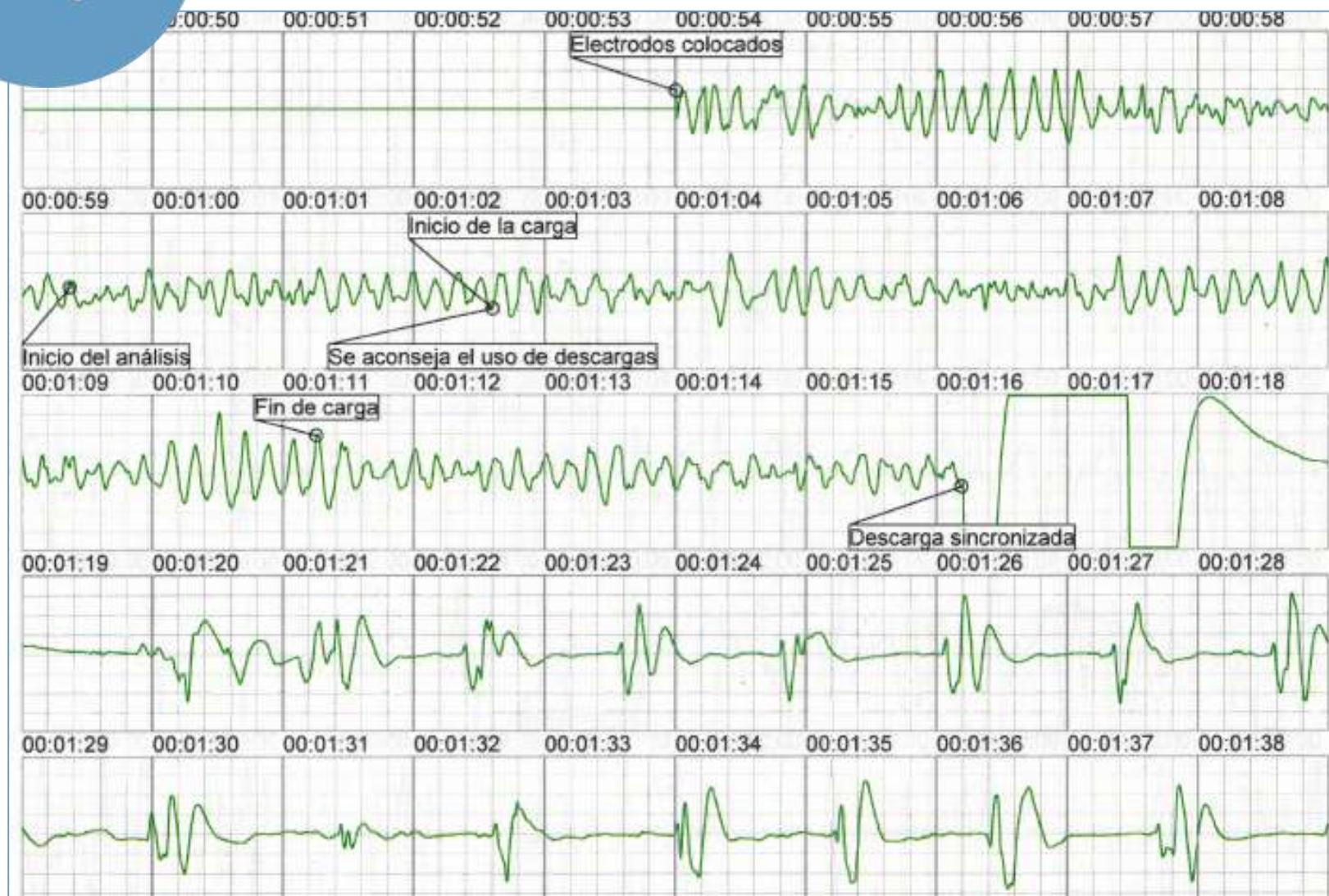
^d Penn Medicine Center for Health Care Innovation, Philadelphia, PA, USA

Poor learning from movies

GenCardio



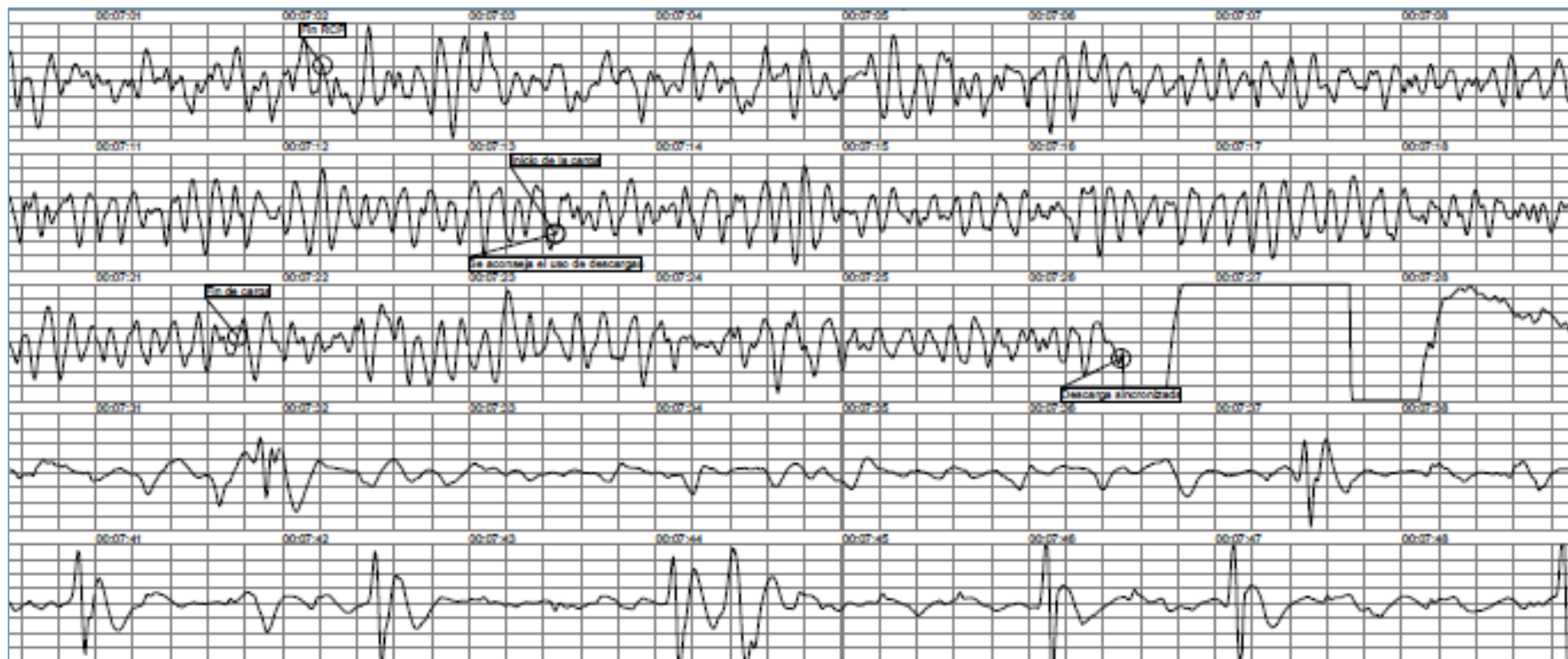
86 años



GenCardio



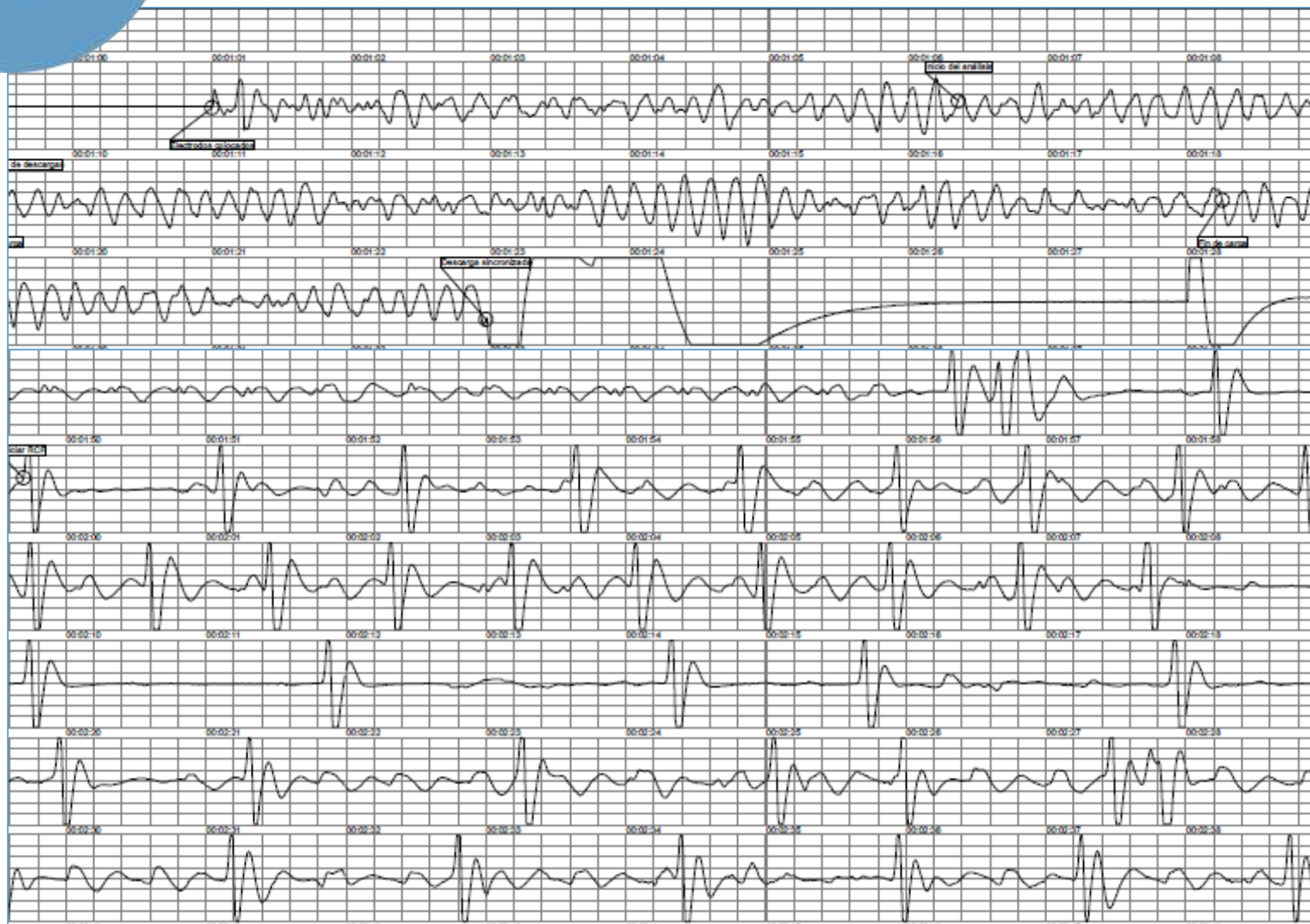
63 años



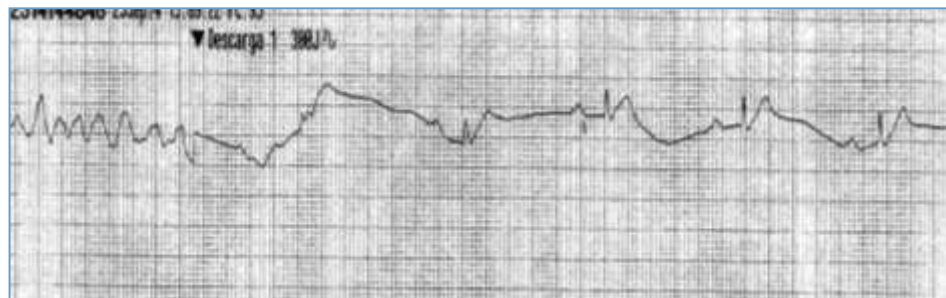
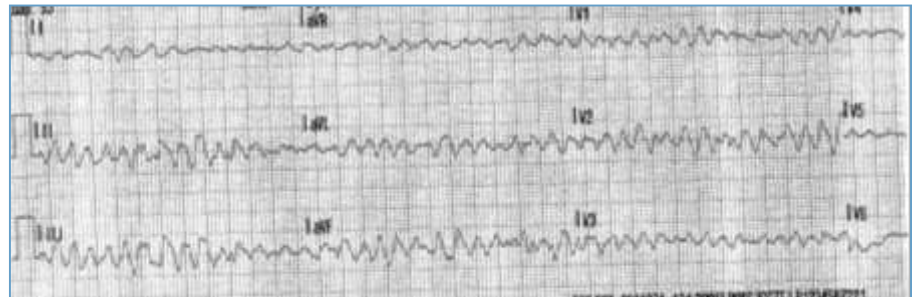
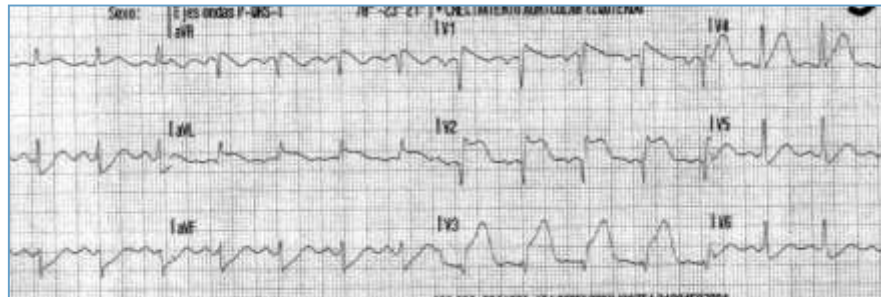
GenCardio



57 años



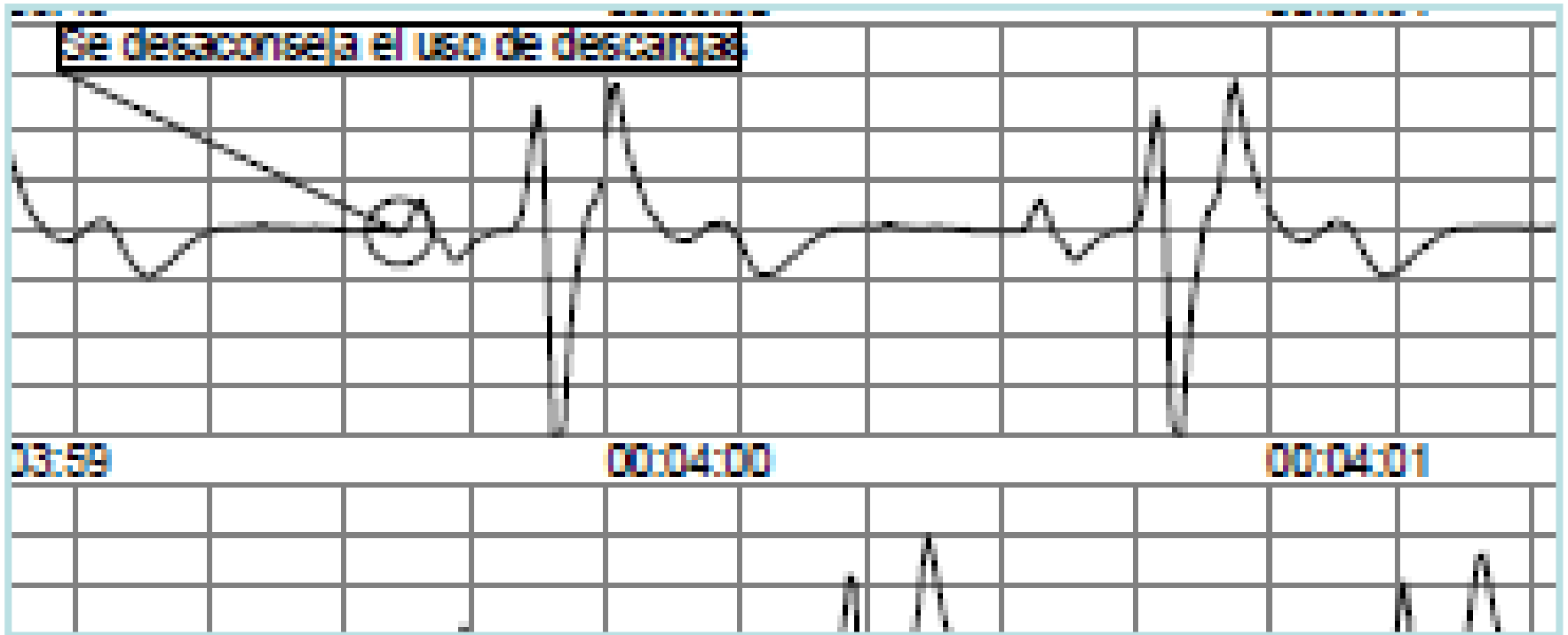
56 años



GenCardio



EL DEA NO PUEDE HACER NINGÚN DAÑO



GenCardio



Barcelona, ciutat cardioprotegida



Farmacias en Barcelona ciudad

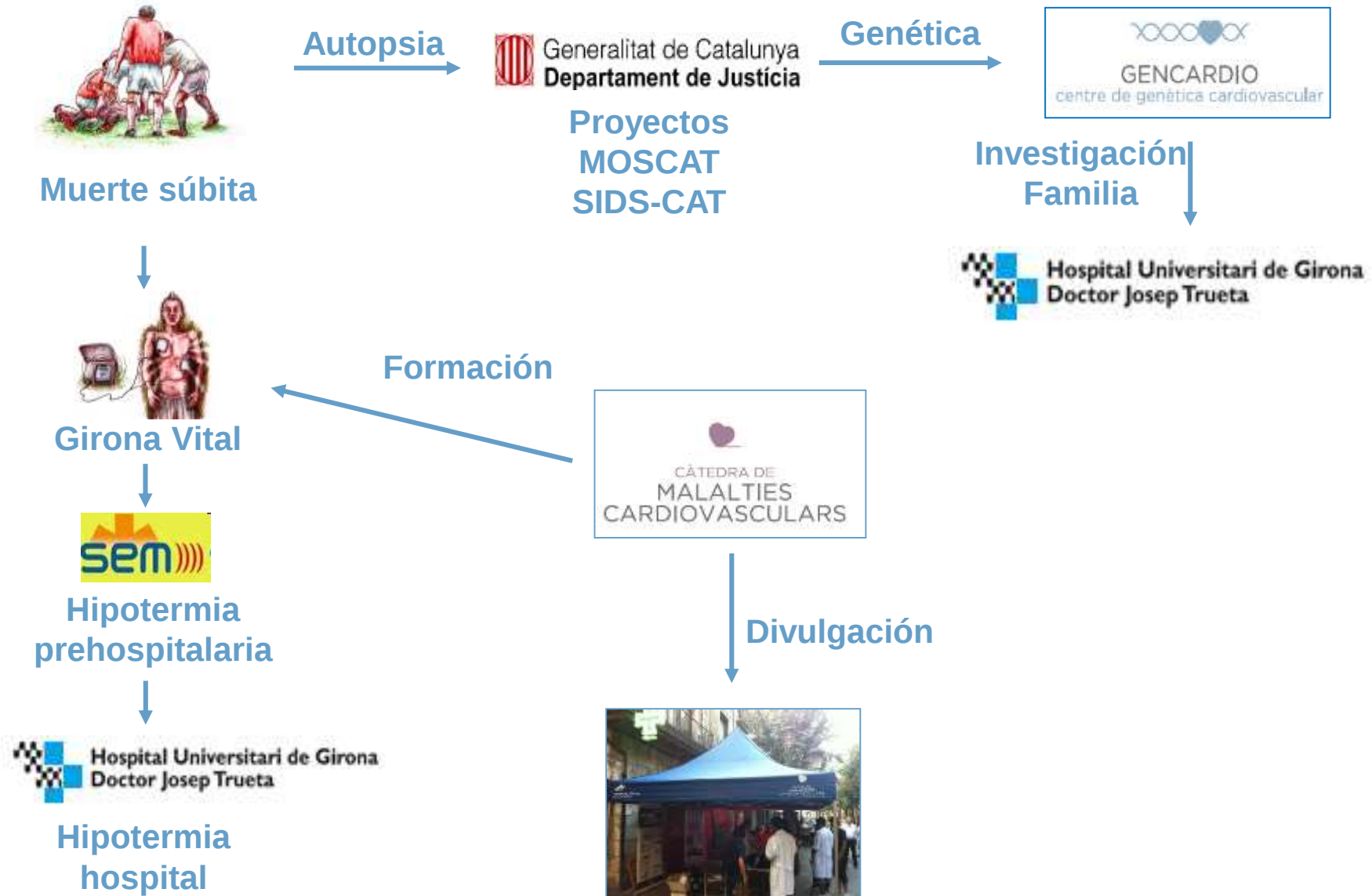
- Número de farmacias: 1.024
- Habitantes por farmacia: 1.660
- Tránsito diario de personas: 89.000
- Tránsito mensual de personas: 2,5 millones

Barcelona, ciudad cardioprotegida.

- Mercados de Barcelona
- Estaciones de Metro
- Instalaciones deportivas
- Bibliotecas
- Autobuses



PROYECTO DE MUERTE SÚBITA





Pediatr Cardiol (2012) 33:402–406

DOI 10.1007/s00246-012-0158-2

REVIEW ARTICLE

Automated External Defibrillators and Secondary Prevention of Sudden Cardiac Death Among Children and Adolescents

Joshua Kovach • Stuart Berger

School CPR-AED programs improve outcomes

GIRONA

TerritoriCardioprotegit



Formación de los estudiantes de 16 años

5.000 formados cada año

GenCardio





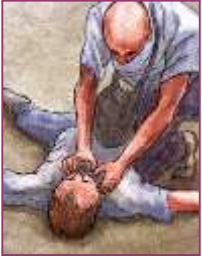
POSICIÓN LATERAL DE SEGURIDAD

LLAMAR 112

USAR UN DESFIBRILADOR

MASAJE CARDÍACO

ACTUA-DEA



AC ANALIZA CONCIENCIA



TU TELEFONEA URGENCIAS 112



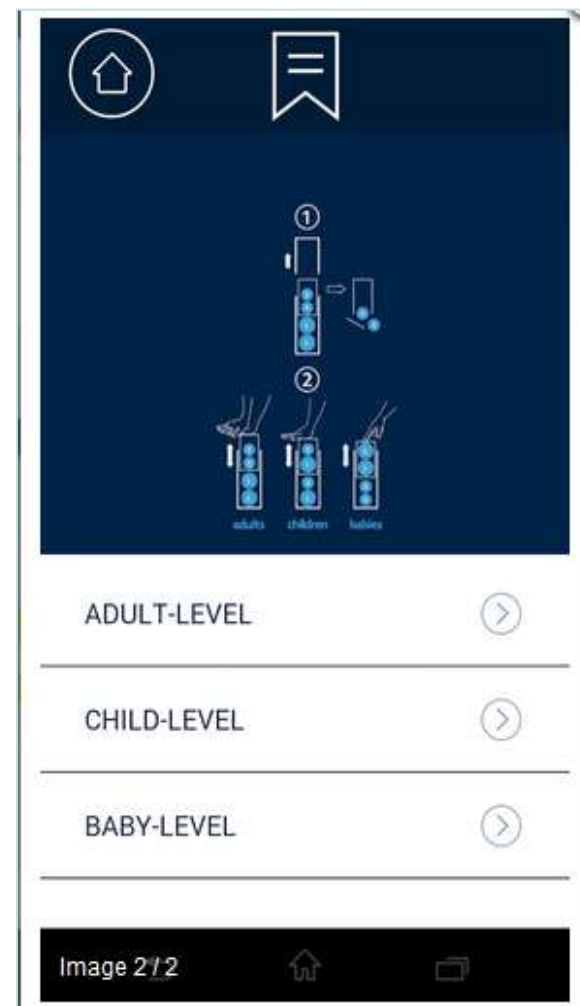
AD APLICA EL DESFIBRILADOR



EA ESPERA LA AMBULANCIA

GenCardio





Desfibriladores públics

diaridegirona.cat NOTÍCIES **Girona** HEMEROTECA »

PORTADA ACTUALITAT ESPORTS ECONOMIA OPINIÓ

Girona Comarques Catalunya Espanya/Internacional Cultura Ciència i Tecnologia Successos Fotos

diaridegirona.cat » Girona

La policia salva la vida a un esportista de 33 anys que va patir un aturada cardíaca

El noi feia fútnic a la Creu de Palau i els agents el van reanimar amb un desfibril·lador mòbil

01:58 ☆☆☆☆☆

✉ 📄 T+ T-

Un desfibrilador del centre comercial Diagonal Mar de Barcelona salva la vida a un m dico italiانو

14:05 - 17/12/2008





GenCardio



Gràcies

IdIB[®]
Gi

Institut d'Investigació
Biomèdica de Girona
Dr. Josep Trueta