



HAL
open science

Chest-compression-only versus standard CPR.

Alexis Descatha, Daniel Jost

► **To cite this version:**

Alexis Descatha, Daniel Jost. Chest-compression-only versus standard CPR.. The Lancet, 2011, 377 (9767), 717-8; author reply 718-9. 10.1016/S0140-6736(11)60267-5 . inserm-00672639

HAL Id: inserm-00672639

<https://inserm.hal.science/inserm-00672639>

Submitted on 21 Feb 2012

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Caution with conclusion of observational studies in meta-analysis on instruction for bystanders who started cardiopulmonary resuscitation

Descatha Alexis ^{1,2,3}, Daniel Jost ^{4,5}

1. Inserm U1018, Centre for research in Epidemiology and Population Health, Epidemiology of occupational and social determinants of health, Villejuif, France ;
2. Université de Versailles St-Quentin, UMRS 1018, France ;
3. AP-HP, Poincaré University Hospital, Occupational health department/ EMS92 (SAMU92), Garches, France.
4. Service médical d'urgence – Brigade de sapeurs pompiers de Paris (Paris Fire Brigade)– 1 place Jules Renard 75017 Paris- France
5. Département d'Epidémiologie et de Santé Publique Nord, Ecole du Val-de-Grâce, Paris, France

Corresponding author. Alexis Descatha MD PhD, Inserm U1018, UVSQ, Unité de pathologie professionnelle SAMU92, CHU Poincaré, 104 bd Poincaré, 92380 Garches, France

- (i) **Declaration of interest: the author reports no conflicts of interest. The author alone is responsible for the content and writing of the paper.**
- (ii) No copyright constraints.
- (iii) No prior or duplicate publication or submission had been made elsewhere
- (iv) **Author: contribution: Alexis Descatha and Daniel Jost are responsible for the content and writing of the paper.**

Tel: +33 (1) 47 10 77 54; Fax: +33 (1) 47 10 77 68; email: alexis.descatha@rpc.aphp.fr

Funding : none, ICMJE complete, no conflict of interest

Words 250

Sir,

we read with a particular interest the well-conducted meta-analysis performed by Hüpfl, et al (1). However, we feel there is a difference between comparing bystander cardiopulmonary resuscitation (CPR, hands-only and traditional) and what authors concluded the instructions to bystanders from emergency medical services. In the three RCT, the inclusion criteria was clearly randomized instructions given by emergency medical services (2-4). However, in the presented epidemiological studies, the choice of CPR method by bystanders (instruction from EMS or own decision) was unclear at least for 6 on the 7 studies selected (5-10). Furthermore, in these observational studies, the reasons of not to perform complete CPR by bystanders are probably important and might lead to biased conclusions (and probably explained the unspooled meta-analysis in this part). For instance, delay of initiation CPR, level of training of the bystanders, and relationship between the bystander and the victim could influence the choice of CPR and survival (10). A trend for better survival was observed for complete CPR than hands-only recently (11;12). Actually, the study was conducted in a country with a low level of awareness of first-aid in the general population, and complete CPR was here a proxy of a better knowledge of basic life support.

In conclusion, we feel that authors should be more careful in the conclusion of their meta-analysis of observational part. We also feel one important perspective could be added about spreading of basic life support and studies on influence of this knowledge on hands-only CPR assisted by dispatcher.

References

1. Hüpfl M, Selig HF, Nagele P. Chest-compression-only versus standard cardiopulmonary resuscitation: a meta-analysis. *Lancet* 2010;On-line first (15 October, 2010).

2. Hallstrom A, Cobb L, Johnson E, Copass M. Cardiopulmonary resuscitation by chest compression alone or with mouth-to-mouth ventilation. *N.Engl.J.Med.* 2000;342(21):1546-53.
3. Rea TD, Fahrenbruch C, Culley L, Donohoe RT, Hambly C, Innes J et al. CPR with chest compression alone or with rescue breathing. *N.Engl.J.Med.* 2010;363(5):423-33.
4. Svensson L, Bohm K, Castren M, Pettersson H, Engerstrom L, Herlitz J et al. Compression-only CPR or standard CPR in out-of-hospital cardiac arrest. *N.Engl.J.Med.* 2010;363(5):434-42.
5. Iwami T, Kawamura T, Hiraide A, Berg RA, Hayashi Y, Nishiuchi T et al. Effectiveness of bystander-initiated cardiac-only resuscitation for patients with out-of-hospital cardiac arrest. *Circulation* 2007;116(25):2900-7.
6. Olasveengen TM, Wik L, Steen PA. Standard basic life support vs. continuous chest compressions only in out-of-hospital cardiac arrest. *Acta Anaesthesiol.Scand.* 2008;52(7):914-9.
7. Ong ME, Ng FS, Anushia P, Tham LP, Leong BS, Ong VY et al. Comparison of chest compression only and standard cardiopulmonary resuscitation for out-of-hospital cardiac arrest in Singapore. *Resuscitation* 2008;78(2):119-26.
8. Cardiopulmonary resuscitation by bystanders with chest compression only (SOS-KANTO): an observational study. *Lancet* 2007;369(9565):920-6.
9. Van Hoeyweghen RJ, Bossaert LL, Mullie A, Calle P, Martens P, Buylaert WA et al. Quality and efficiency of bystander CPR. Belgian Cerebral Resuscitation Study Group. *Resuscitation* 1993;26(1):47-52.
10. Waalewijn RA, Tijssen JG, Koster RW. Bystander initiated actions in out-of-hospital cardiopulmonary resuscitation: results from the Amsterdam Resuscitation Study (ARRESUST). *Resuscitation* 2001;50(3):273-9.
11. Jost D, Degrange H, Verret C, Hersan O, Banville IL, Chapman FW et al. DEFI 2005: a randomized controlled trial of the effect of automated external defibrillator cardiopulmonary resuscitation protocol on outcome from out-of-hospital cardiac arrest. *Circulation* 2010;121(14):1614-22.
12. Jost, D., Descatha, A., Banville, I., Verret, C., and Carpentier, J. C. Does Bystander-Initiated Chest Compressions-only Result in Better Patient Outcome Than Full Cardiopulmonary Resuscitation (CPR) for Out-of-Hospital Cardiac Arrest? Unexpected Result From a Post-Hoc Analysis of the DEFI 2005 Trial. *Resuscitation* . 2010.