

## Chest-compression-only versus standard CPR.

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

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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.