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# Resuscitation

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## Letter to the Editor

# The challenge of laypeople cardio-pulmonary resuscitation training during and after COVID-19 pandemic



To the Editor,

COVID-19 pandemic is impacting on all our life aspects,<sup>1</sup> included out-of-hospital cardiac arrest (OHCA) and resuscitation: the challenge is ensuring the best survival chance to OHCA patients, with or without COVID-19, without compromising rescuers' safety.<sup>2,3</sup> Regarding laypeople, this issue is even more relevant as they are unlikely to have personal protective equipment (PPE) immediately available and as the risk of infection and the reluctance to perform mouth-to-mouth ventilation, the most common fears also in the pre-epidemic era,<sup>4,5</sup> may lead to hesitation in performing CPR. ILCOR and national societies promoted guidance about how to perform CPR in COVID-19 era,<sup>3</sup> suggesting at least compression-only CPR reserving mouth-to-mouth ventilation only if willing and able, especially in case of household member victim. Considering that OHCA most often occurs at home, the contagion risk seems therefore limited. However, a growing trouble we must deal with is the CPR training issue.

Bystander CPR is crucial in improving OHCA victims' survival and its increase over the years is the result of a massive training effort by scientific societies, institutions and associations. This was essentially based on Basic Life Support (BLS) courses where groups of people learned chest compressions and mouth-to-mouth ventilation on the same manikin separated by a simple personal face-shield. An unthinkable scenario henceforth. Social distancing and protective facemask will be our companions for months, perhaps years.<sup>1</sup> Training centers will try to make extraordinary efforts to organize

themselves limiting the learners' number in training sessions, providing gloves, hand-sanitizers and hygienizing premises, manikins and AED trainer, but the issue related to mouth-to-mouth ventilation remains (Table 1). Sharing the same manikin for teaching this technique appears unthinkable, even using pocket masks, both because it's difficult to ensure safety (ventilation is an aerosol-generating procedure and trainees should remove their protective mask) and because of attendees' fear in performing this skill. A solution could be ensuring that each learner uses only "personal" manikin throughout the session, guaranteeing distancing during the course and perfect manikin hygienization after the course, also exchanging some parts (face, lungs). However, beyond the costs, it is difficult to guarantee a perfect hygienization, also considering the presumed learner's fear to perform mouth-to-mouth on a manikin used soon before by another person. Moreover, a person resulted infected by COVID-19 some days after the course could blame the training center of an improperly manikin hygienization.

Considering all aspects, the more straightforward and feasible thing seem to be withdrawing mouth-to-mouth ventilation at least until pandemic end. However, mouth-to-mouth ventilation is a required skill to obtain a BLS certificate and the BLS certificate acquisition is required even for laypeople in certain settings. Therefore, we believe that a scientific societies' position statement is urgently needed to allow a safe restart of CPR training for learners and instructors,

**Table 1 – Issues related to CPR training and possible solutions to be adopted by CPR training centers.**

Issue	Possible solutions
Maintaining correct social distancing	Limit the number of learners in training sessions Guarantee distancing among trainees during the course "Personal" manikin and AED trainer throughout the session (if possible)
Reducing droplet diffusion	Wear facemask for all the session Provide gloves to instructors and learners Hand sanitizers available to instructors and learners Hygienize the premises, the manikins and the AED trainer Avoid mouth-to-mouth ventilation
Reducing learners' fear of virus transmission	Clear information and preliminary session to adequately inform the learners about the measures put in place to reduce the risk of contagion

probably allowing only compression-only CPR teaching to acquire a BLS certification at least until the epidemic disappears.

The risk is wiping out decades of training efforts in resuscitation field, causing an increase in OHCA mortality as COVID-19 indirect effect.

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