



## Editorial

## Kids Save Lives – ERC position statement on school children education in CPR.



### “Hands that help – Training children is training for life”

Sudden out-of-hospital cardiac arrest (OHCA) with unsuccessful cardiopulmonary resuscitation (CPR) is the third leading cause of death in industrialised nations.<sup>1</sup> After OHCA, the overall survival rates are 2–10%.<sup>2–4</sup> In Europe and in the US together, 700,000 people die of OHCA every year. The same applies to other industrialised regions of the world. Many of these lives could be saved if more lay people provided immediate CPR.<sup>2</sup> Emergency medical services (EMS) response times can be several (6–12) minutes or even longer. Unfortunately, following cardiac arrest, the brain starts to die after only 3–5 min without blood flow.<sup>5</sup>

Up to 70% of OHCA are witnessed by family members, friends and other bystanders.<sup>2,5</sup> Thus, the potentially lethal gap in time before EMS personnel reach the patient can be successfully bridged by laypeople. During the first minutes after OHCA in adults there is still oxygen in the blood and lungs, and immediate bystander chest compressions can save hundreds of thousands of lives each year.<sup>6</sup> Effective CPR is quite easy – laypeople are very unlikely to cause harm by attempting CPR. Bystander CPR increases the patient's chances of survival two- to four-fold.<sup>2</sup> However, bystander CPR rates are 60–80% in only a very few countries; in most countries the rate is far below 20%.<sup>7</sup>

Mandatory nationwide training of school children has the highest impact for improving the bystander CPR rate.<sup>8–13</sup> This appears to be the most successful way to reach the entire population. The highest bystander CPR rates are in some Scandinavian countries where education of school children in CPR has been mandatory for decades,<sup>12</sup> and this concept is starting to spread.

In support, the World Health Organization (WHO) has endorsed the “Kids Save Lives” Statement in 2015, a joint statement from the European Resuscitation Council (ERC), the European Patient Safety Foundation (EPSF), the International Liaison Committee on Resuscitation (ILCOR) and the World Federation of Societies of Anesthesiologists (WFSA).<sup>6,10,11</sup> This statement recommends two hours of CPR training annually from the age of 12 years in all schools worldwide. At this age, children are more responsive to instructions and they learn more easily to help others.<sup>9</sup> Starting at a young age also means that CPR is like swimming or riding a bike: children will not forget how to save a life.<sup>14</sup> Healthcare professionals, teachers trained to teach CPR and others can successfully teach school children, and all can serve as multipliers.<sup>15</sup> CPR knowledge and skills can be spread further by asking children to teach their family and friends.



**Fig. 1.** The “Kids Save Lives” logo has been developed by the Italian Resuscitation Council (IRC). We very much appreciate and acknowledge that the IRC is providing this logo for free to all participating in the “Kids Save Lives” campaign in Europe.

With the “Kids Save Lives” initiative (Fig. 1), we can help to improve the survival rate of people with OHCA by the factor of two- to fourfold. We can easily save 300,000 additional lives worldwide every year, nearly a thousand every day, and nearly one life every minute.

## The 10 ERC principles – increasing survival with “Kids Save Lives”:

1. Everyone can save a life – even children can save a life.<sup>9–16</sup>
2. Up to two hours of CPR training a year for school children is enough.<sup>9–11,15,16</sup>
3. Training must involve hands-on practice which may be augmented with theoretical – including virtual – learning.<sup>9</sup> Such training has also been performed without sophisticated equipment or specific resuscitation manikins.
4. Annual training of school children should start by the age of 12 years or earlier.<sup>9–11,15</sup>
5. Trained children should be encouraged to train other people. The homework for all children after such training should be: please train 10 other people within the next two weeks and report.
6. A wide range of people, including anaesthesiologists, cardiologists, emergency physicians, nurses, paramedics, medical and other healthcare students, trained teachers and many other volunteers can successfully teach school children in CPR – in schools, in hospitals and elsewhere.<sup>6,9,15,16</sup>
7. The responsible people in the Ministries of Education and/or Ministries of Schools and other leading politicians of each country should implement a nationwide programme for teaching CPR to school children.<sup>12</sup>
8. Every National Resuscitation Council (NRC) or similar organisation should support the implementation of a national initiative and “Kids Save Lives” campaign in its country.
9. With “Kids Save Lives”, children will also learn relevant social responsibility and social skills.<sup>9–11</sup>
10. National programmes that train school children in CPR can save more lives, improve productivity of society, and reduce healthcare costs.<sup>12,17</sup>

## Conflicts of interest statement

Bernd W. Böttiger is ERC Board Director Science and Research; Associated Editor, European Journal of Anaesthesiology; Speakers honorarium from Medupdate, FoMF, Baxalta, Bayer Vital; Chairman, German Resuscitation Council (GRC); Board Member, German Society of Anaesthesiology and Intensive Care Medicine (DGAI); Board Member, German Society of interdisciplinary Intensive Care and Emergency Medicine (DIVI); Associated Editor, Resuscitation. Leo Bossaert is ERC Board Representative of the Advisory Committee. Maaret Castren is Chair, European Resuscitation Council. Diana Cimpoesu has no conflicts, Advisory Representative of NRCs – ERC Board. Marios Georgiou is ERC Board Director External Affairs. Robert Greif is ERC Board Director Training and Education; Editor in Chief, Trends in Anaesthesia and Critical Care; Associate Editor, European Journal of Anaesthesiology. Monika Grünfeld has no conflicts. Andy Lockey has no conflicts. Carsten Lott has no conflicts. Ian Maconochie has no conflicts; Lead of the working group on the paediatric guidelines for ERC. Ronald Melieste is ERC Board Director Marketing. Koenraad G. Monsieus is ERC Director Guidelines and ILCOR. Jerry P. Nolan is Vice-Chair, European Resuscitation Council; Editor-in-Chief, Resuscitation. Gavin D. Perkins is Editor, Resuscitation; National Institute for Health Research Senior Investigator; Director of Research, Intensive Care Foundation, UK. Violetta Raffay has no conflicts. Joachim Schlieber is Chair, ERC International Course Committee for Immediate Life Support; Board Member, Austrian Resuscitation Council (ARC); Federico Semeraro is Chairman, Italian Resuscitation Council (IRC). Jasmeet Soar is Editor, Resuscitation. Anatolij Truhlar is ERC Board Effective NRC Representative. Patrick Van de Voorde has no conflicts. Jonathan Wyllie is ERC non-voting Board

member; Resuscitation Council UK executive member. Sabine Winzen has no conflicts.

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