



Editorial

Learning CPR at school – Everyone should do it

There is widespread support for the inclusion of classes in basic cardio-pulmonary resuscitation in the school curriculum; the ERC have endorsed the policy since 1992.¹ Following the lead provided by Norway (where CPR has been a mandatory part of the school curriculum since 1961)² many European countries have well developed programs to teach CPR in schools. In the UK there is currently a major campaign to persuade the government to include the subject in the mandatory National Curriculum.

Although school age children are not the age group most likely to witness a cardiac arrest, school does present a captive audience and provides the chance to train all future citizens in life-saving procedures. It is also relatively easy to revise previous learning, something notoriously difficult with conventional adult CPR classes. School children are easy to motivate and learn the techniques readily, although few studies in this age group have measured skill retention over periods greater than six months.^{3–6}

While there is general agreement on the merit of teaching CPR to all school children, there is considerable debate about the precise syllabus, the optimal age to start (ages of 7–16 have been reported),⁷ the educational methods used and who should provide the instruction. Several class formats have been employed including self instruction, instructor led classes, video or DVD instruction and interactive computer training. Not all have employed practical training on a mannikin although learning does appear to better when mannikin practice is an integral part of the class.⁴

The instructors in published series have included school teachers, medical students, healthcare professionals, volunteer first aid personnel and members of the emergency services.^{7,8} Logically, school teachers would be best placed to undertake the task, and administratively it would be much easier than relying on instructors from outside the school. There are few studies of their effectiveness in this role however, and here is no general agreement on the training in first aid that they require.

While teachers themselves have supported the concept of teaching CPR in school,^{9,10} barriers that prevent this include finding time in a busy curriculum, funding the classes and equipment, and scheduling instructors.¹⁰ Ideally, classes should not need to be frequent, should be relatively brief and provided by the teachers themselves without the need for external assistance. Any extra training required for the teachers should be modest.

Against this background, a paper from Germany published in this edition of *Resuscitation* investigates some of these questions.¹¹ The authors studied two different starting ages (10 and 13 years), two class frequencies (once or twice yearly) and two types of

instructor (school teachers or emergency physicians). All the teachers had previously attended a 12 h first-aid course in accordance with German state law, which requires all student teachers to attend a first-aid course before their final examinations. The only extra instruction provided for the teachers was a 1 h theoretical and practical CPR training update. The report covered a period of four years and is therefore one of the longest studies of teaching CPR in this age group.

The trained pupils received a single 3 h class consisting of 1 h of theoretical instruction featuring a standardized computer presentation, and 2 h of hands-on training on mannikins. Half the students were retrained at intervals of six months, the remainder were retrained annually. Half were taught by school teachers, the other half by emergency physicians. Theoretical knowledge was subsequently tested by a multiple choice questionnaire while practical skills were assessed on a Laerdal PC SkillReporting System in a scenario based test.

The impact of the CPR course was measured by comparing the progress of the trained pupils with a control group in another town who had never received training in CPR, and agreed not to undergo such training for two years of the study. Consistently better results were seen in the trained group compared to the control group for all performance parameters.

While the older children starting at age 13 demonstrated better theoretical knowledge, there was no important difference in practical skills compared to those who started as 10 year olds. No advantage was seen with twice yearly training compared to annual classes. There was no difference in performance between those pupils taught by teachers compared to those taught by emergency physicians except for a larger ventilation volume in the latter group. This volume exceeded current recommendations and the practical significance of this finding is unclear.

With increasing knowledge came increased confidence to attempt resuscitation although at the end of the training one quarter still thought they would be too nervous to intervene in the case of a real emergency.

The authors conclude that implementation of CPR training in schools is practicable, requiring an annual class with only minimal disruption to the curriculum (3 h per year). Furthermore, effective training can be provided by the existing teaching staff. Like other authors their results support the concept of starting tuition in CPR at an early age,¹² and as a planned part of school education.

Conflict of interest

There are no conflicts of interest.

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