

# Evidence-based educational pathway for the integration of first aid training in school curricula

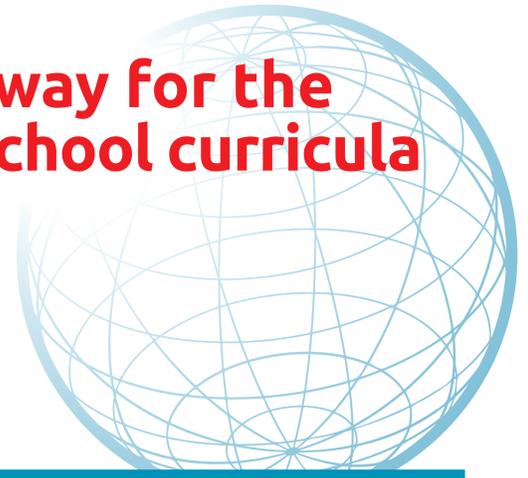
De Buck E<sup>1</sup>, Van Remoortel H<sup>1</sup>, Dieltjens T<sup>1</sup>, Borra V<sup>1</sup>, Verstraeten H<sup>2</sup>, Clarysse M<sup>2</sup>, Moens O<sup>3</sup>, Vandekerckhove P<sup>4</sup>

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## INTRODUCTION & OBJECTIVES

Currently in Belgium (Flanders), “calling for help, performing first aid and providing Basic Life Support (BLS)” is part of the educational goals in secondary schools. However, for teachers it is not always clear at what age children can learn the different aspects of first aid. In addition, it is not clear what is part of “performing first aid” and we strongly advocate that the first aid curriculum is broader than BLS training alone. Our objective for this project was to develop evidence-based educational materials to enable the integration of first aid knowledge, skills and attitudes in every grade of primary and secondary school.

## METHODS <sup>[1]</sup>

- We formulated the following PICO question: “Is first aid education (Intervention) an effective intervention in children (3-18 years) (Population) to improve first aid knowledge, first aid skills and/or first aid attitudes (Outcome) compared to no first aid training (Comparison)?” In addition, we searched for evidence about the helping behaviour of children.
- Evidence-based materials were developed according to our methodological charter, adhering to the principles of AGREE II <sup>[2,3]</sup>. For every pillar of ‘Evidence-Based Practice’ the corresponding steps of guideline development are given below:

### BEST AVAILABLE EVIDENCE

- We searched Medline (PubMed interface) and Embase (Embase.com):
  - In January 2012 for a first set of questions (emergency number, resuscitation, AED use, choking, Rautek, recovery position, and helping behaviour)
  - In March 2014 for a second set of questions (cuts and grazes, burns, bleeding, fainting, injuries to muscles/joints/bones and poisoning)
- The quality of the scientific evidence was determined using the GRADE methodology <sup>[4]</sup>.



### PREFERENCES OF THE TARGET GROUP

- The target group (i.e. school children from 3-18 y) was represented by panel members with experience in working with the target group.
- A practical educational pathway was developed in order to assist teachers in integrating first aid training in the school curriculum.
- This pathway contains educational goals to be achieved for knowledge, skills and attitudes, for every grade of primary and secondary school (including preschool).

### PRACTICAL EXPERIENCE AND EXPERTISE OF EXPERTS IN THE FIELD

- We composed a multidisciplinary expert panel of primary and secondary school teachers, educational advisers, experts in first aid education (including Red Cross employees and volunteers), an expert in health promotion, experts in Evidence-Based Practice, a medical doctor and a child psychologist.
- We held two consensus meetings (1/02/2012 and 6/05/2014) with the same expert panel.

## RESULTS

- We finally selected 30 studies, including 13 experimental and 17 observational studies.
- These were studies concerning emergency call (7 studies), cardiopulmonary resuscitation (18 studies), AED (Automated External Defibrillator) use (6 studies), recovery position (5 studies), choking (2 studies), injuries (5 studies) and poisoning (2 studies).

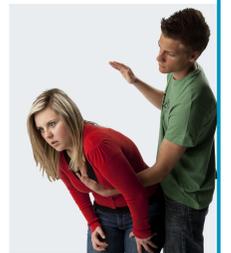
### EXAMPLE 1: Emergency call

- Based on 7 studies we concluded that children from 6 to 16 years are capable of calling the emergency number (Level of evidence: low).
- The expert panel discussed that a child should be able to technically use a phone, to know and explain where he is oriented, and to synthesize a certain situation, which is at the age of 9-10 years old.
- It was decided to add to the educational pathway that:
  1. children of 7-8 years (1st grade primary school) should know the emergency number
  2. children of 9-10 years (2nd grade primary school) should be able to alert the emergency services correctly and to recognize the importance of alerting the emergency services
  3. children of 11-12 years (3rd grade primary school) should know the tasks of the emergency services and recognize the emergency services symbols



### EXAMPLE 2: Choking

- In two studies increased knowledge about first aid for choking in children from 10 to 12 years, and increased skills in children of 11 to 16 years was shown after training (Level of evidence: low).
- The expert panel discussed the difference between the “back slap” and “abdominal thrust” technique and formulated a Good Practice Point concerning knowing the difference between mild and serious choking.
- It was decided to add to the educational pathway that:
  1. children of 11-12 years (3rd grade primary school) should know the difference between mild and serious choking, administer first aid for choking correctly, and correctly apply the “back slap” technique
  2. children of 13-14 years (1st grade secondary school) should be able to correctly apply the “abdominal thrust” technique for choking



## CONCLUSIONS

- Based on the available evidence and practice experience of a multidisciplinary expert panel, an educational pathway with educational goals concerning learning first aid for each age group was developed (see Table 3 in ref <sup>[1]</sup>).
- This educational pathway can be used for the integration of first aid training in school curricula.

