



Medical Students Teaching Cardiopulmonary Resuscitation to Middle School Brazilian Students

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Abstract

Background: Diseases of the circulatory system are the most common cause of death in Brazil. Because the general population is often the first to identify problems related to the circulatory system, it is important that they are trained. However, training is challenging owing to the number of persons to be trained and the maintenance of training.

Objectives: To assess the delivery of a medical-student led cardiopulmonary resuscitation (CPR) training program and to assess prior knowledge of CPR as well as immediate and delayed retention of CPR training among middle school students.

Methods: Two public and two private schools were selected. CPR training consisted of a video class followed by practice on manikins that was supervised by medical students. Multiple choice questionnaires were provided before, immediately after, and at 6 months after CPR training. The questions were related to general knowledge, the sequence of procedures, and the method to administer each component (ventilation, chest compression, and automated external defibrillation). The instructors met in a focus group after the sessions to identify the potential problems faced.

Results: In total, 147 students completed the 6-month follow-up. The public school students had a lower prior knowledge, but this difference disappeared immediately after training. After the 6-month follow-up period, these public school students demonstrated lower retention. The main problem faced was teaching mouth-to-mouth resuscitation.

Conclusions: The method used by medical students to teach middle school students was based on the watch-and-practice technique. This method was effective in achieving both immediate and late retention of acquired knowledge. The greater retention of knowledge among private school students may reflect cultural factors. (Arq Bras Cardiol. 2013; [online].ahead print, PP0-0)

Keywords: Cardiopulmonary Resuscitation / education; Students, Medical; Education, Primary and Secondary.

Introduction

Diseases of the circulatory system are the most common cause of death in Brazil, accounting for approximately 29% of all deaths. Approximately 50% of these cases involve sudden death due to ventricular fibrillation as a complication of acute myocardial infarction. Because this is a pre-hospital manifestation, improved education of the general population could potentially reduce mortality by helping people identify the situation and provide appropriate first aid¹.

Various methods of habilitating the general population include mass training; self-learning through commercially available programs; as well as training of individuals occupying strategic positions with respect to the guidance and care of the population (security guards, firemen, policemen), those working at sites of a higher incidence of

events (gyms), those working at places difficult to access (planes), and relatives of at-risk individuals. Education has recently been directed at primary schools because this permits early access to information, with the possibility of repeated exposure during the school year and subsequent transmission of knowledge to the relatives of pupils^{2,3}.

Regardless of the population section targeted, the teaching methodology employed has been the main concern. In contrast with health professionals, the interest in the topic and the time that can be devoted to training are limited. Furthermore, because many instructed individuals will never be confronted with a real-life situation, knowledge retention is a problem. To circumvent these problems, there has been an increased use of video-based teaching, with practice on manikins, also known as the watch-and-practice technique. One of the advantages of this technique is the partial or total independence regarding instructors, persons difficult to recruit for the large segment of the population to be habilitated. It has been proposed that medical students can function as instructors, but they should be appropriately trained and supervised by qualified professionals through the concept of a "training tree"⁴.

The objective of the present study was to test a commercially available kit for teaching cardiopulmonary resuscitation (CPR), supervised by medical students in

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Brazilian middle schools (13–15-year-old students) and to determine its efficacy in terms of both immediate and late (6 months) retention.

Methods

Study Population

Students aged 13 to 15 years were selected from four middle schools; two were public (low socioeconomic level) and two were private (high socioeconomic level). Students were taught in classes of 25–46 and were invited to voluntarily participate. Informed signed consent was obtained from both the students and their parents. The directors of each of these schools approved the project prior to any student being approached. The project was approved by the Research Ethics Committee of the University Hospital of Ribeirão Preto, São Paulo, FMRP-USP (CAE – 0078.0.004.000-09).

Teaching Material

A commercially available kit termed “Family & Friends. CPR Any Time. Self-Learning Program” produced by the American Heart Association (AHA) was used. The kit contained a video presentation in Portuguese and an inflatable manikin for practicing ventilation and chest compression¹. Individual face masks were provided for the practice of artificial ventilation.

Instructors

Three medical students from the Faculty of Medicine of Ribeirão Preto (FMRP) were trained to be instructors by the professor in charge of the Clinical Emergencies course accredited by the American Heart Association⁵. The students participated in all the practical activities, and the content taught was tested in a pilot study.

Instrument for Analysis

A questionnaire comprising 25 multiple choice questions was used. Each question had 4 possible responses, of which only one was correct (see enclosure). The questionnaire was based on the content presented during the AHA video and assessed the following domains: general knowledge in 7 questions; the sequence of procedures in 7 questions; and the correct method of administering each component in 11 questions. The latter section was further broken down as follows: 4 questions concerned ventilation, 3 concerned chest compression, and 4 concerned the use of an automated external defibrillator (AED). The questionnaire was given to a pilot group and to volunteer medical students who had undertaken the first aid course. After further development, two versions of the final questionnaire were prepared that differed only in the order of the questions. The first questionnaire (Version 1) was provided both before and at 6 months after training, and the second questionnaire (Version 2) was provided immediately after training.

Intervention

Each teaching session lasted an average of 120 min. At the beginning of each class, the students completed Version 1 of the questionnaire. After the test, the students were divided into training groups with 1 manikin per 2 students. The video was then shown with predetermined pauses for the separate practice of individual skills (ventilation and chest compression) and to allow coordinated practice (2 ventilations for every 30 chest compressions). The full sequence of care was then presented from the recognition of cardiac arrest to the coordinated implementation of aid, ventilation, and chest compression. Finally, the use of AED was demonstrated.

During practical exercises the instructors assisted the students, corrected improper techniques, and sought to resolve any queries that arose. The instructors intervened only if a problem presented itself or if the students requested their help. The students were continuously observed and were encouraged to resolve problems between themselves, with the instructors only intervening when this was incorrect or if the problem remained unresolved. After the practical sessions, Version 2 of the questionnaire was completed. Six months after the completion of training, the students were tested again with Version 1 of the questionnaire.

Qualitative Analysis

After intervention, the research group held discussion sessions in a focus group according to a previously established methodology. The potentialities and problems detected were isolated by content evaluation⁶.

Statistical Analysis

Statistical analysis was performed using the Stata 10 software. The categorical variables have been reported as a percentage using the Fisher test. Quantitative variables have been reported as mean \pm SD, and central tendency measures were analyzed by the Student t-test. The results of qualitative analysis were descriptive.

Results

A total of 387 students were trained, of which 202 were considered for analysis by corresponding to the first session in each school. Four schools received classes; two were public (public 1 and 2), and two were private (private 1 and 2). The composition was as follows: public 1 included 24 students (11.88%); public 2 included 57 students (28.22%); private 1 included 89 students (44.06%); and private 2 included 32 students (15.84%). No statistically significant differences were detected between either the two public school groups or the two private school groups. Therefore, the subjects were pooled into two main groups: Public (81 students; 47.6% males) and Private (121 students; 52.4% males).

Immediate Retention

Data have been reported quantitatively in Table 1 as absolute values (mean \pm SD for correct responses before and after training and absolute increase in performance) and relative values (percent of correct responses in relation to the initial test). Data have been reported in a stratified manner according to content domain and institution. In the pre-test questionnaire, a difference was observed only between the public and private schools in the general knowledge domains. This difference was lost after the training intervention.

Retention after 6 Months

At 6 months, 53 students were lost to follow-up: 26% and 26.5% from the public and private schools, respectively. Therefore, 149 of the 202 students (73.7%) were included in this part of the study (60 from public schools; 89 from private schools). The results have been reported in Table 2 as the percent of correct response after 6 months. There was greater retention in the students from private schools, particularly in terms of the correct determination of the sequence of technical and ventilation actions.

Qualitative Analysis

The results are presented in Tables 3 and 4.

Discussion

This study has demonstrated the effectiveness of a commercially available training kit (using a video and manikin) in the immediate and late retention of knowledge. Superior knowledge was initially found in the private school group prior to the course, but this immediately equalized following the course. Further, in the domain relating to the correct sequence of actions and ventilation technique, late retention was better in the private school students.

The education of the general population is an important goal, considering that cardiac arrest is a phenomenon that predominantly occurs in the community. Several studies have demonstrated the efficacy of early intervention, but the challenge presented in educating the population is enormous with regard to the number of people to be trained, the efficacy of training, and the retention levels of transmitted knowledge⁷. One option is to utilize commercially available self-learning kits that are often effective but may not achieve their objective because of low levels of uptake of knowledge by the general population. In Brazil in particular, the video format itself may be a limiting factor due to local culture. For example, data provided by the distributor of the kit used in the present study show that 3.5 million units were sold in the United States in 2011 as opposed to only 250 in Brazil. This may be related to important cultural aspects of the Brazilian society that need to be considered while planning future training. Therefore, this study was undertaken to explore the influence of socioeconomic and cultural aspects using public and private schools.

Prior levels of knowledge differed between the public and private school students, with 8.74 and 9.65 correct responses, respectively. This difference may be attributed to the involvement in scouting, to having parents who are health professionals, and to having access to the internet and television as informally reported to the instructors by the private school students. However, these background differences did not limit the efficacy of the method. Although the modification of parental habits is an important outcome, it will be necessary to further assess these differences in later studies.

Primary school students can be educated about resuscitation from 11 years of age. By this age, they will have achieved a certain level of maturity to understand the importance of the topic and will have the necessary strength to be perform chest compressions on adults^{8,9}. Advantageous aspects of training in this population are the possibility of regular training sessions that can be included in the school curriculum and the potential transfer of knowledge to relatives. Children in the pre-teen age range can influence their parents and motivate behavioral changes. The teaching of CPR encourages the discussion of the risk factors for cardiac arrest as well as how this can be avoided, resulting in the questioning of parental habits².

Medical students can be valuable collaborators in establishing the "training tree" of CPR⁴. Their involvement in teaching may be beneficial in reducing the anxiety generated by years of basic learning that is often distant from clinical reality. It also leads to questioning the efficacy of teaching methods as well as an improved appreciation of the cost, dedication, and work necessary for the development of a teaching activity¹⁰. Similarly, considering health professionals often show poor performance with basic life support, the involvement in teaching activities increases the time devoted to the topic and may improve learning; therefore, this strategy may be beneficial to the students themselves¹¹. In addition, medical students appeared to be identified as role models by middle school students. In contrast, senior instructors may be less effective in this role because of the greater age difference.

The retention of knowledge from basic life support courses is difficult to assess. This is because of a myriad of factors such as differences between populations, the nature of the content taught, the assessment itself, and the delay between the course and analysis¹²⁻¹⁴. In general, retention levels in the general adult population are low, approximately 50%–60%, with the possibility of reaching higher levels for specific segments of content¹². Courses that include practical training tend to show improved retention¹³. Furthermore, there does not appear to be a significant difference in retention levels between children and adults¹⁴. When the analysis includes more accurate methods of assessment, such as the volume of air supplied by mouth-to-mouth respiration, the retention levels are lower^{12,15}. Only studies that include populations receiving intensive and frequent training demonstrate consistently better performance¹²⁻¹⁵, although the uptake of re-training courses is low in the general adult population¹⁴. Adaptations to the training methods that are already

Table 1 - Correct performance (mean ± SD) of the eighth grade students of public and private schools according to the domain assessed in the questionnaire at the time of training (before and after). The comparison between public and private is shown in the p column; the comparison between before and after was significant for all comparisons with a p value less than 0.05 (marked with an *)

Variable		Public school (N = 81)	Private school (N = 121)	P	
Total	Before (N = 202)	8.74 (2.14)	9.65 (2.14)	< 0.01	
	After (N = 202)*	21.21 (2.14)	21.75 (3.34)	0.25	
	Difference	12.45 (3.44)	12.0 (3.98)	0.44	
	% increment	2.5 (0.68)	2.36 (0.68)	0.07	
General knowledge	Before (N = 202)	3.04 (1.11)	3.46 (1.15)	0.01	
	After (N = 202)*	5.82 (1.15)	6.06 (1.13)	0.15	
	Difference	2.72 (1.39)	2.54 (1.51)	0.43	
	% increment	2.13 (0.94)	1.94 (0.94)	0.16	
Sequence of actions	Before (N = 202)	2.20 (0.97)	2.39 (1.12)	0.25	
	After (N = 202)*	5.47 (1.59)	5.86 (1.43)	0.07	
	Difference	3.21 (1.91)	3.49 (1.71)	0.29	
	% increment	3.00 (1.80)	2.97 (1.69)	0.89	
Technical aspects	Ventilation	Before (N = 202)	3.53 (1.5)	3.80 (1.42)	0.22
		After (N = 202)*	9.91 (1.13)	9.80 (1.56)	0.82
		Difference	6.39 (1.76)	5.98 (2.02)	0.16
		% increment	3.26 (1.52)	3.10 (2.02)	0.07
	Chest compression	Before (N = 202)	1.51 (0.99)	1.63 (0.82)	0.37
		After (N = 202)*	3.86 (0.38)	3.81 (0.61)	0.75
		Difference	2.33 (1.02)	2.18 (1.06)	0.33
		% increment	2.67 (1.15)	2.52 (1.09)	0.38
	AED	Before (N = 202)	1.14 (0.66)	1.13 (0.80)	0.86
		After (N = 202)*	2.78 (0.56)	2.83 (0.48)	0.5
		Difference	1.64 (0.38)	1.72 (0.92)	0.56
		% increment	2.38 (0.80)	2.32 (0.85)	0.63
	Before (N = 202)	0.87 (0.81)	1.05 (0.89)	0.15	
	After (N = 202)*	3.26 (0.76)	3.13 (0.85)	0.26	
	Difference	2.40 (1.06)	2.06 (1.17)	0.04	
	% increment	2.71 (1.09)	2.41 (1.04)	0.12	

AED: automated external defibrillator

available do not seem to be effective¹⁶. Considering the data as a whole, we can conclude that knowledge retention is generally low and deteriorates with time regardless of either the assessment performed or the target population. However, the literature also suggests that knowledge retention is favored by periodic courses that involve practical training.

The cause of lower knowledge retention in the public schools may be socioeconomic factors. Students with higher acquisitive power may be exposed to situations that cause them to remember the knowledge acquired. However, the difference mainly occurred in questions regarding the sequence of actions and breathing techniques, which involve greater complexity.

The modifications proposed by the 2010 guidelines of AHA will probably have an impact on this context¹⁷.

Teaching of CPR in schools is an interesting strategy. This is a population with a higher uptake rate that can be frequently re-trained and that has comparable learning and retention abilities to those of adults. The present study supports previous reports, including differences in retention between content domains. A similar strategy involving knowledge of trauma has demonstrated positive effects¹⁸. However, similar to other studies, the present investigation cannot recommend an optimal training interval as only a 6-month interval was measured. Future courses will be necessary to determine an appropriate interval for re-training.

Table 2 - Results, in percentages, of the questionnaires given to the students of public and private schools after 6 months. Both the total content and the content stratified by the learning domain are presented according to the profile of the schools (149 students)

Variable	Public school	Private school	p	
Total	70.6 (23.0)	77.6 (15.7)	< 0.01	
General knowledge	75.5 (28.0)	77.9 (24.8)	0.056	
Sequence of actions	75.7 (58.0)	83.1 (38.7)	0.02	
Technical aspects	71.0 (23.5)	77.7 (23.9)	0.09	
	Ventilation	67.9 (34.9)	85.6 (32.5)	0.001
	Chest compression	75.4 (43.2)	68. (27.4)	0.69
	AED	74.4 (29.0)	78.4 (43.3)	0.72

AED: automated external defibrillator

Table 3 - Qualitative analysis of the learning observed

Learning	
Attention paid to the video by the students	There was a difference in the attention paid to the video and to the content transmitted by the instructors during the training session. The students were more interested in the video, stopped talking and playing, and intently viewed the images on the television.
Interest in performing the activity	They were initially frustrated about being unable to perform the activity in the first attempt; they asked for help and made an effort to succeed. When they achieved their objective they would become enthusiastic; they had fun when they were able to hear the "click" of the dummy or when the lungs filled with air and the chest rose.
Ability to perform the maneuvers	There was no difference in terms of gender, type of physique, or type of school.
Content not covered by the video	Several questions were asked that were not present in the teaching material chosen. These questions were mainly regarding the unblocking of the airways, how to proceed with victims of drowning or trauma, and whether an in vivo click occurred during chest compression.
Performance of the medical student as an instructor	"In addition, it was interesting to be a teacher instead of a student in 12 classes. To perceive the difficulties of a tutor, it is necessary not only to know the topic in depth but also to transmit it in a didactic as well as an easy-to-understand manner to 14-year-old students, using a language and a depth of knowledge of anatomy, physiology, and pathology differing from those we habitually use. However, to perceive that they ask questions, are interested, and look for knowledge differing from what they learn in their curriculum increasingly motivated us every day to continue the project, to give classes, to clarify doubts, and to show other points that may generate doubts when the students did not ask."

Table 4 - Qualitative analysis of the problems faced

Problems	
Difference between public and private schools	The public school students were not tired of the repetitive and constructivist method of the instrument used. In contrast, the students of the private school frequently complained about the repetition of the video and the excessive quantity of similar exercises performed during the 60 min of practical class.
Ability to perform the maneuvers	In general, there was a greater difficulty with respiration compared with chest compression. We believe that this may have been because of the difficulty in opening the airways of the manikin.
Content not covered in the video	Another interesting aspect is that the middle school students approached the medical students with other questions about how the medical course is, how much the medical students must strive to achieve this objective, and explored questions about the health of relatives. The medical student was seen as a reference point for the future objective of entering university life and as a close and trustworthy person for discussing health topics that the middle school student could not discuss with their parents or guardian.

Limitations

Knowledge was only assessed through a simple questionnaire. Although knowledge retention is known to be universally low, this loss is more marked when using assessment methods that involve performance; therefore, the data obtained may not provide a true reflection of the differences. The main goal of the training in this study was the wider education of the general population on the correct management of out-of-hospital cardiac arrest. However, the dissemination and acquisition of basic concepts must be provided before cardiac arrest can occur. With respect to this, the evaluation used permits a comparison of knowledge retention at two points in time and is sufficient for the initial assessment. Because periodic training is proposed, the complexity of training could be progressively increased, which may have an impact on subsequent performance at assessment¹⁹.

The methodology employed is associated with inherent difficulties, and these were encountered with regard to the method, the population under study, and the continuity of the project. First, this method requires audiovisual equipment as well as a physical space that can accommodate 20 persons. Thus, the schools must have at least one suitable room. It was notable that private schools differed greatly in terms of the availability of audiovisual resources. Therefore, classes were dependent upon the availability of suitable rooms, and the ability of the school to provide audiovisual equipment, which was more difficult in public schools. A way of circumventing this limitation would be the expansion of the material and instructors available using mass training techniques.

Conclusion

This study has demonstrated that CPR training provided by medical students using a commercially available training kit (with a video and manikin) was effective in both the immediate and late retention of knowledge. Greater knowledge retention in private schools may have been associated with cultural factors.

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Author contributions

Conception and design of the research, Obtaining funding, Writing of the manuscript and Critical revision of the manuscript for intellectual content: Ribeiro LG, Germano R, Menezes PL, Schmidt A, Pazin-Filho A; Acquisition of data and Analysis and interpretation of the data: Ribeiro LG, Germano R, Menezes PL, Pazin-Filho A; Statistical analysis: Ribeiro LG, Schmidt A, Pazin-Filho A.

Potential Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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Study Association

This study is not associated with any post-graduation program.

ENCLOSURE 1:

NAME: _____

Date: ____/____/20____

School: _____

Check with an X the correct alternative for each question. Only one alternative is correct.

SELF-EVALUATION:

Did you ever have a cardiopulmonary resuscitation (CPR) lesson in your life?

() Yes, () No

01. What is the importance of studying CPR?

- a) Teaching my parents and siblings
- b) Rescuing a drowning person
- c) Being qualified to rescue somebody
- d) It is of no importance to me

02. What is the first step that should be taken when you find somebody lying unconscious on the ground?

- a) Call for help
- b) Check if the victim is breathing
- c) Check if the victim responds when called
- d) Leave the victim lying

03. After taking the first step (above) what should you do?

- a) Call for help
- b) Check if the victim is breathing
- c) Check if the victim responds when called
- d) Leave the victim lying

04. You already took two important steps; what is the last one?

- a) Call for help
- b) Check if the victim is breathing
- c) Check if the victim responds when called
- d) Leave the victim lying

05. Which number should you dial for help?

- a) 911
- b) 192
- c) 193
- d) I call my parents

06. What should you do when you call emergency?

- a) Say "Somebody is unconscious," and disconnect the call
- b) Inform where you are and disconnect the call
- c) Wait for the operator to ask and disconnect the call
- d) Say "I need help"; keep the call on hold and return to the victim

07. You find a person unconscious on the ground and you are alone. What should you do?

- a) Look, listen, and feel
- b) Begin performing ventilations and chest compression to avoid wasting time
- c) Get the AED
- d) Call emergency yourself

08. How will you check if the victim is breathing?

- a) Open his mouth and place a finger in his throat to "check" for any obstruction
- b) Look, listen, and feel
- c) See if the victim's lips and fingers are turning purple
- d) Check if the victim's tongue is blocking the passage of air

09. The person is not breathing; what will you do?

- a) I will try to remove the obstruction in his throat
- b) I will press his abdomen to make him cough (Valsalva maneuver)
- c) I will apply two mouth-to-mouth ventilations
- d) I will pull out the victim's tongue to let air pass

10. The person is not breathing; how would you open the victim's airways?

- a) I will hold his forehead and pull his chin up
- b) I will push his chin forward
- c) I will open his mouth while pushing the chin down
- d) I will cover his nose and wait for him to open his mouth and breathe

11. How will you know if you should or should not perform chest compressions in an unconscious person?

- a) Check if the person has a pulse in the arm (radial artery)
- b) Check if the person is breathing through the mouth
- c) Check if the chest is moving; listen and feel if the person is breathing
- d) Check if the person has a pulse in the neck (carotid artery)

12. Where are chest compressions performed?

- a) In the center of the chest
- b) On the left side of the chest i.e., the side of the heart
- c) On the right side of the chest to push the heart to the left
- d) It is not performed on the chest

13. How should chest compressions be applied?

- a) Strongly but slowly
- b) Weakly and slowly
- c) Weakly and rapidly
- d) Strongly and rapidly

14. How many chest compressions should be applied between ventilations?

- a) 30 chest compressions
- b) 15 chest compressions
- c) 5 chest compressions
- d) No ventilation is applied

15. How many ventilations are applied in the intervals between chest compressions?

- a) 1 ventilation
- b) 2 ventilations
- c) No ventilation
- d) 3 ventilations

16. Regarding ventilation, how long should you blow into the victim's mouth?

- a) No ventilation is applied
- b) Blow for approximately 1 s to fill the entire lung
- c) Blow for approximately 5 s to permit enough air to enter the lungs
- d) Blow rapidly several times to aid rapid air exchange

17. What is the function of chest compression?

- a) An attempt to wake up the victim
- b) Permitting oxygen to reach the lungs
- c) Cause the victim to have a pulse
- d) Pump blood through the body

18. In an emergency situation, what is the correct sequence (full cycle)?

- a) Checking respiration -> Checking if the victim responds when called -> Ventilation and chest compression -> Calling for help
- b) Ventilation and chest compression -> Checking if the victim responds when called -> Calling for help -> Checking respiration
- c) Calling for help -> Checking if the victim responds when called -> Ventilation and chest compression -> Checking respiration
- d) Checking if the victim responds when called -> Calling for help -> Checking respiration -> Ventilation and chest compression

19. After the CPR cycle, the victim does not breathe and his heart did not start beating again but you have an automated external defibrillator (AED) on hand. What should you do?

- a) I don't use it. Only adults can use it
- b) I ask somebody to take it while I continue chest compressions
- c) I go to the pharmacy to get it

20. If you get the AED, how will you use it?

- a) I follow the manual inside it
- b) I first switch the instrument on
- c) I place the paddles on the victim's chest and I switch the instrument on
- d) I don't know what to do first, I only know that the instrument gives a shock to the victim

21. What is the first step for using the AED?
 - a) Plug the paddles into the instrument
 - b) Stick the paddles to the victim
 - c) Turning on the instrument
 - d) Press the shock button to see if it is working
22. Where should you place the paddles?
 - a) Over each nipple
 - b) Over the right part of the chest and below the left part of the chest
 - c) Below the two parts of the chest
 - d) In the center of the chest, over the bone (sternum)
23. What should you do immediately before "switching on" the shock button?
 - a) Move everybody away from the victim, including myself
 - b) Hold the paddles in place to make sure that they will not detach
 - c) Ask somebody to hold the victim, so he will not jump
 - d) Check if the paddles are switched on
24. After giving the shock, what should you do?
 - a) Follow the instructions of the instrument
 - b) Remove the paddles and start chest compression
 - c) Check the victim's pulse and breathing
 - d) Wait for help
25. Help has arrived. What should you do?
 - a) Help them with chest compressions
 - b) Make room for them to work
 - c) Continue with chest compressions even in their presence
 - d) Call emergency and tell them that the ambulance arrived

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