

## THE NEED FOR CONSTANT UPDATE ON CARDIOPULMONARY RESUSCITATION REGULATIONS IN THE EXTRA-HOSPITAL ENVIRONMENT

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**Abstract:** From the development of techniques for extra-hospital care of patients with cardiorespiratory arrest, the importance of constant updating of health professionals and other members of the population about Cardiopulmonary Resuscitation (CPR) techniques is noted. This update is essential given the need to provide a quality technique in care, advocating patient safety, preventing the occurrence of sequelae and seeking to rule out behaviors that can lead to death. That said, the present work envisages the approach to CPR (Cardiopulmonary Resuscitation) practices, its importance and the best way to develop it within our society.

**Keywords:** Basic Life Support. Cardiopulmonary arrest. Cardiopulmonary Resuscitation.

## INTRODUCTION

Changes in regulations that establish Cardiopulmonary Resuscitation (CPR) are frequently observed, improving the adoption of practices aimed at carrying out the procedure. These new implementations help in the better execution of the technique and increase the patient's prognosis. Therefore, it is possible to identify and act in an effective and qualitative way, leading in the best way the performance of health professionals and lay people trained to perform CPR.

In order to assess the need to update and adapt this procedure, certain points are observed, such as the lack of professional skills and the need for better training for non-health professionals to play this role. The professional's ability to use Basic Life Support (BLS) must be considered, which is considered essential in CPR for patients who are in cardiorespiratory arrest (CPA). These practices are essential within the first patient care in the extra-hospital environment.

Not infrequently, one can observe some health professionals performing

CPR improperly, either due to incorrect execution or in an outdated way, which can be characterized as malpractice. In addition, the lack of training, little practice and/or deficiency in basing the methodology used in outdated scientific studies can trigger disastrous ends for the patient, whether death or sequelae.

Therefore, it can be concluded that with the technical preparation for the practice of CPR, in view of the updates in the protocols, the process is improved, avoids failures in the service and facilitates the performance by anyone, seeking to reduce the risk of the presence of sequelae and increase patient survival.

The constant updates developed with the aim of disseminating, training and educating the community are more effective when associated with campaigns and teaching and awareness programs based on the protocols of the AHA - American Heart Association. This service is provided to patients who need urgent pre-hospital care, preventing the risk of death or serious and permanent sequelae.

In this study, we seek to show that the updates in Basic Life Support (BLS) and CPR practices seek to increase the patient's chance of survival and that, the lack of preparation of the health professional or the lack of knowledge of the practice by an individual can compromise achieving the objective. desired. To reverse this situation, the adherence and level of education of practitioners of the act must be increased, providing them with the knowledge provided by the appropriate guidelines of the American Heart Association (AHA) for CPR and BLS, supporting each rescuer's act.

The importance of disseminating knowledge in CPR is noted, given the significant number of occurrences. These numbers must be used in order to warn about the need to raise awareness about the procedure. The

information to the community increases the survival rates in patients. CPA victims who received CPR, in most cases, survived the arrest and rarely had sequelae. The continuity of the dissemination of guidance, instruction and knowledge for practice is essential for efficient action in emergency situations.

## **METHODOLOGY**

The present work consists of a qualitative literature review that sought to address results found in research on the emergency theme and cardiorespiratory arrest, whether in a comprehensive, orderly or systematic way. To carry out the work, the following steps were followed:

- 1) Selection of the corresponding themes;
- 2) Selection of samples found and used;
- 3) Analysis of the characteristics of the original research;
- 4) Analysis of the results obtained;
- 5) Conducting the review.

The databases of scientific literature and techniques used in carrying out the review were Google Scholar, Scientific Electronic Library Online (SciELO), Virtual Health Library, Latin American and Caribbean Literature on Health Sciences (LILACS), using the following search engines: "Basic Life Support", "CPR in CPR", "Update in cardiopulmonary resuscitation practices". The American Heart Association tutorials and protocols were also used.

Thus, the present work seeks not only to analyze the emergency interface, but also to highlight its focus on cardiac and pulmonary issues, applying it to cardiopulmonary resuscitation and its available protocols, aiming to shed light on an educational path, clarifying and raising awareness about the subject in question.

## **RESULTS AND DISCUSSIONS**

Cardiopulmonary resuscitation is a

practice first described by Dr John Cook, who sought to establish in Brazil the practice of combating cardiorespiratory arrest, given the high rates of deaths and sequelae resulting from this situation. In 1960, Cook observed that Brazilian studies on the subject were shallow, when they existed, leading him to promote the development of research and teaching projects on the subject, contributing to the national literature on cardiopulmonary resuscitation.

John Cook initially brought studies that involved manual CPR, without the use of equipment, using mouth-to-mouth ventilation associated with external chest compression. Later, he joined the study of the defibrillator and expanded the knowledge surrounding the use and importance of the device. Finally, the author and researcher was able to notice how the lack of skill and/or knowledge about the use of the device affects the patient's out-of-hospital care.

Trying to reverse the Brazilian reality mentioned above, Cook developed extension projects that even covered the pediatric population, in which trained children successfully performed CPR. Thus, with this method, the entire population would be prepared to perform the resuscitation procedure.

However, despite John Cook's constant efforts in Brazilian public health, CPR guidelines are based on the BLS (Basic Life Support), based on the AHA (American Heart Association) regulations aimed at professionals.

However, the scientist's effort was not wasted and contributed significantly on a global scale. The AHA, American Heart Association, is a non-profit foundation, located in the United States of America, responsible for promoting updates on cardiac care, preventing injuries and proposing to increase the survival of patients affected by cardiovascular diseases

and strokes.

Noting the difficulties pointed out by Cook regarding the difficulty of capacity of professionals, as well as the need to improve the execution of the practice, the AHA promotes periodic updates, following international evaluations, based on diverse scientific and observational evidence. These updates aim to constantly improve the quality of CPR available to patients who need and influence the effectiveness of the assistance provided.

The AHA is incessantly seeking to provide emergency cardiovascular care (ACE) in the extra-hospital environment (EH) in order to facilitate the in-hospital care that will later be available to the patient, providing techniques that are understandable and performed not only by health professionals, but by individuals considered laymen as well.

In addition to making it accessible to all, the AHA also recommends performing CPR that is considered to be of good quality, as follows:

- Compressions of 100 and 120 per minute – previously, approximately 100 per minute were recommended;
- Compression depth of 5 to 6 cm in adults;
- Compression depth of 4 to 5 cm in children;
- Depth of one third of the anteroposterior diameter of the chest in infants
- There must be complete recoil of the chest between compressions;
- Minimize compressions performed.

It can be noted that some changes were adopted, namely, the rhythmic specification of compressions, leaving an approximate value, the current specification of the depth at which compressions must be performed, the complete return of the chest at the end of each compression, in addition to to avoid over-ventilation and always minimize chest

interruptions. All the above points were not addressed in the old AHA resolutions for the provision of CPR and ACE.

It is also worth mentioning that the old guideline provided that the BLS sequence must follow the A-B-C pattern (airway, breathing, chest compressions) in individuals of all age groups, except for newborns. In the last update, it was recommended that chest compressions will be made available for patients who are unresponsive and have no perceptible carotid pulse by the rescuer. Immediate compressions took the place of the airway given the immediate need to make immediate chest compressions available to those with cardiac arrest.

## **FINAL CONSIDERATIONS**

The relevance of the recurrent updating of the regulations governing cardiopulmonary resuscitation is relevant, given its effectiveness and benefits in everyday reality. These changes are carried out with the aim of increasing the possibilities, quality and effectiveness of care, also associated with the training of health professionals and the general population so that they know how to perform the practice.

We aim to show that the need to update CPR regulations is due to poor or even lack of population adherence to the techniques, not correlating with the incapacity of existing guidelines. Thus, adaptations are made to the theoretical points so that, consequently, the practical question can evolve.

The AHA often seeks health professionals and lay people to verify the effectiveness of CPR following the sequence guided by the entity, prioritizing measures that reduce the sequelae that the patient may have and even preventing death. These regulations are established focused on the training of every citizen, whether health professional or not, training them to know whether or not the patient is in a CRA, successfully applying in

practice each action oriented to follow the protocol. of BLS.

The AHA also provides a booklet accompanied by support material that seeks to understand, provide dexterity and skill to the trainee, so that he can perform cardiopulmonary resuscitation effectively. According to the American Heart Association, in 2010, the booklet was “developed so that professionals performing resuscitation and AHA instructors can focus on the science of resuscitation and on the most important or controversial guideline recommendations or that result in changes in resuscitation practice or training. In addition, it explains the reasoning adopted in the recommendations”.

Thus, the constant updating of BLS practices, as well as the proper training of the same, also associated with the training of the general population, will make CPR more effective, thus disseminating knowledge about an EH service in a patient with CRP properly.

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## REFERENCES

AMERICAN HEART ASSOCIATION. Destaques das Diretrizes da American Heart Association 2010 para RCP e ACE.

CARE, CARDIOCEREBRAL RESUSCITATION IN AN INTENSIVE; REANIMACIÓN, PARO CARDÍACO Y. Conhecimento teórico da enfermagem sobre parada cardiorrespiratória e reanimação cardiocerebral em unidade de terapia intensiva. 2017.

GUIMARÃES HP, A História da Ressuscitação Cardiopulmonar no Brasil. *Rev Bras Clin Med*, São Paulo, v. 7, p. 238-244, 2009;

HAZINSKI MF, Destaques das Diretrizes da American Heart Association 2010 para RCP e ACE. Guidelines CPR ECC 2010. Disponível em: <[http://www.heart.org/idc/groups/heart-public/@wcm/@ecc/documents/downloadable/ucm\\_317343.pdf](http://www.heart.org/idc/groups/heart-public/@wcm/@ecc/documents/downloadable/ucm_317343.pdf)>.

PASSARINI, Jade Sabariego et al. CONHECIMENTO DE ENFERMEIROS SOBRE O ATENDIMENTO À PARADA CARDIORRESPIRATÓRIA: NURSES'KNOWLEDGE ABOUT CARDIAC ARREST CARE. **Revista Recien-Revista Científica de Enfermagem**, v. 11, n. 36, p. 472-482, 2021.

ROCHA MPS, Suporte Básico de Vida e Socorros de Emergência, AVM instituto Brasília-DF, 2011. Disponível em: <[http://lms.ead1.com.br/webfolio/Mod5986/mod\\_suporte\\_basico\\_v5.pdf](http://lms.ead1.com.br/webfolio/Mod5986/mod_suporte_basico_v5.pdf)>.

TALLO, Fernando Sabia et al. Atualização em reanimação cardiopulmonar: uma revisão para o clínico. **Rev Bras Clin Med**, v. 10, n. 3, p. 194-200, 2012.