



UPDATE OF THE GUIDELINES FOR CARDIOPULMONARY RESUSCITATION – WHAT WERE THE MAIN CHANGES?

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INTRODUCTION

Cardiac arrest (CA) is a life threatening complication, with a chance of survival varying from 2 to 49%, being directly related to the initial cardiac rhythm, early onset of cardiopulmonary resuscitation (CPR) and the way in which care is provided (Bertolo, 2013 and Alves, 2013). Nevertheless, many professionals affirm knowing the importance of knowing the guidelines that govern the CPR, but they report presenting a deficit of theoretical-scientific knowledge about some aspects arranged by the guidelines (Alves, 2013; American Heart Association, 2015; Gonzalez, 2013 and Bergum, 2015). From this perspective, in November 2015, changes were made to the American Heart Association

2015 Guidelines Update for CPR and Emergency Cardiovascular Care (ECC) which involved approximately 250 reviewers from 39 countries. Thus, as new considerations for CPR and ECC were presented in the 2015 guidelines updates, based on the division of care according to the environment in which the victim is, that is, pre-hospital and in-hospital (American Heart Association, 2015). Given this, it is considered that, in the pre-hospital environment, it will be especially through health education with the general population, promoting the training of lay rescuers, which nursing (along with other health professionals) can contribute to mitigate the cases death due to delayed care (Lyra, 2012 and Ferreira, 2013). In the intra-hospital environment, nursing professionals are the first to encounter a CA situation.

Therefore, it is fundamental that these professionals undergo constant training and theoretical-practical training, in order to appropriate knowledge, skills and attitudes that promote the care to the victim of CA based on the effectiveness of care, without forgetting, however, safety of the patient (Campanharo, 2015 and Heng, 2011). In view of the publication of the new guidelines, it is considered that it is essential for nursing professionals to keep uptodate on the issue in question, since they play a very important role in improving the survival rates of individuals affected by CA independent of the environment in which the event occurs. Therefore, this article aims to comment on some of the new considerations that have occurred in updating the guidelines for CPR.

recommendations for prehospital care, we show in Table 1 the main changes made in this manual for this subject. In addition to what is presented in the previous table, it is currently recommended that health professionals provide flexibility to trigger the emergency medical service and subsequent control in order to better match the clinician's clinical environment. In cases where care occurs with only one rescuer, it is recommended that the emergency medical service be activated by telephone, and there is no need to leave the victim close. In addition, there is no recommendation to consider infusion of naloxone by passers-by in the presence of suspected opioid-associated CA. The new recommendations also show that the survival chain of the patient with extra-hospital CA includes: surveillance and prevention; recognition and activation of the

Table 1. Some of the new considerations occurred in the recommendations for pre-hospital care

Recommendation in 2010	Recommendation in 2015	Rationale for change
Thoracic compressions of at least 2 inches (5 centimeters).	Thoracic compressions to a depth of at least 2 inches (5 cm), avoiding to exceed 2.4 inches (6 cm).	Although the evidence is still incipient, it is believed that compressions with depth beyond the recommended limit can cause complications.
Thoracic compressions at a minimum of 100 compressions per minute.	Thoracic compressions at a frequency of 100 to 120/minutes.	As the frequency of compressions increases and exceeds 120 / min, the depth of compression decreases in a dose-dependent manner
When there is an advanced airway, during CPR with 2 first responders, 1 ventilation should be given every 6 to 8 seconds (which translates into 8 to 10 ventilations per minute).	The rescuer responsible for the advanced airway should give 1 ventilation every 6 seconds (10 breaths per minute) while continuous chest compressions are applied.	This single, simple proportion for adults and children and infants, rather than a range of minute breaths, is easier to learn, memorize and perform.
There were no specific recommendations on the use of naloxone during BLS	Intramuscular or intravenous infusion of naloxone in patients with opioid dependence, by on-site transient, can be considered in cases of emergency	Substantial epidemiological evidence points to a high burden of diseases resulting from overdose of lethal opioids. In the year 2014, the FDA approved the release of naloxone self-injector for lay rescuers and health professionals.

Source: American Heart Association (adapted). Legend: BLS: Basic Life Support; FDA: Food and Drug Administration

Table 2. Some of the new considerations occurred in the recommendations for intra-hospital care

Recommendation in 2010	Recommendation in 2015	Rationale for change
One dose of 40 units per vasopressin Endovenous / Intraosseous route may replace the first or second dose of epinephrine in the treatment of CRP	Vasopressin in combination with epinephrine offers no advantage as a substitute for the standard dose of epinephrine in CRP. Thus, vasopressin was removed from the algorithm.	Administration of epinephrine and vasopressin during CRP showed to improve CRF. Analysis of available evidence shows that the efficacy of the two drugs is similar and there is no proven benefit of administering epinephrine together with vasopressin compared to epinephrine alone
Comatose adults with RCE after extraventricular ventricular fibrillation should be cooled to 32 ° C to 34 ° C for 12 to 24 hours. Hypotherm induced in comatose adults with CER after an HBPP, with any initial rhythm, or after extra-hospital CRP with initial rhythm of pulseless electrical activity or asystole may also be considered.	All comatose adults with CER after CA should be submitted to DTC (Directed temperature control), having a target temperature between 32°C and 36°C, kept constantly for at least 24 hours.	There was improvement in the neurological outcome in the subjects in whom hypothermia was induced, from the institution of well-defined protocol for DTC.
Evidence on the Rapid Response Teams (TRR) is still conflicting.	Establishing TRR systems can assist in reducing the incidence of CAs, especially in the general care sectors	Evidence is growing, however, there is a clear consensus that having teams trained to identify early and act more properly in cases of HICPH may favor the reduction of occurrences and / or improvement of outcomes.

Source: American Heart Association (adapted).

Pre-hospital care: Basic life support

Presenting new considerations that aim to improve the effectiveness of the care of subjects with CA, the manual published in 2015 provides information, guiding that health professionals, when witnessing a PCR, should seek help nearby, in order to minimize delays In the treatment of all victims, until the arrival of an Automatic External Defibrillator (AED). It recommends, the use of technologies for the incorporation of devices that facilitate the communication of the rescuers who are close to the place, in order that they can assist in the first care (American Heart Association, 2015). In addition, as a way of improving the visualization of the

emergency medical service; the accomplishment of CPR and high quality and as soon as the recognition of the situation is made; rapid defibrillation; the promotion of advanced life support and post-CPR care (American Heart Association, 2015).

In-hospital cardiorespiratory arrest (IHCR) - Special recommendations

CPR in hospitalized subjects is considered to be more complex, since, even with advanced life support resources, the individual in an in-hospital emergency situation does not rarely have diseases that further aggravate their prognosis,

requiring a union Of measures to be carried out in a synchronous, coherent and efficient manner by all the health team, being indispensable the theoretical-practical knowledge (Ferreira, 2013). Thus, with special concern about the occurrence of HICRA and its outcomes, the AHA presents in its 2015 Guidelines recommendations intrinsic to care within health institutions, including elaborating survival links and a specific algorithm for such cases. With this, the survival links include: vigilance and prevention; Recognition and activation of the emergency medical service (basic health professionals); Immediate and high quality CPR; Rapid defibrillation (resuscitation team); Advanced life support and post-PCR care (hemodynamic laboratory examination and intensive care unit admission). Following the provisions, we present, in Table 2, the main recommendations of 2010 and their updates for the year 2015, regarding the attendance occurred in the in-hospital environment. The current AHA guidelines also include the following notes: after the initiation of CRP, epinephrine should be given as soon as possible; There is no proven evidence regarding the benefits of routine post-CRP use of lidocaine; Also during post-CPR care, to avoid and / or correct immediately hypotension (systolic blood pressure less than 90 mmHg, mean arterial pressure less than 65 mmHg) (American Heart Association, 2015). Given the new considerations, it is recommended that, in the intra-hospital environment, the nurse acts as a leader during the care, coordinating and managing the actions, as well as guiding the team and the multiprofessional team. For this, it is necessary to present participative leadership, delegating and performing functions (Pereira, 2015). In this way, managing Nursing care, establishing effective communication among team members and collaborating with decision making is also one of their duties (Morais, 2014). It is also emphasized that the Nursing praxis before the CRP should occur from the early diagnosis of the event, to the replacement of materials and medicines used during the care, as well as to the recording of the occurrence (Bellan, 2010).

Conclusion

It is essential that all nursing professionals are aware of the new considerations for care of victims in cardiorespiratory arrest, since the guidelines should guide the practice in order to increase the survival rates of the subjects, regardless of the environment in which they are attended. Likewise, there is a need for ongoing education with the nursing and health staff to ensure that all members are able to work in CRP situations, whether inside or outside the emergency service.

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