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Position Statement on Monitoring of Resuscitation Quality

Following the release of the 2020 Guidelines on CPR and ECC, the American Heart Association (AHA) recommends the use of real-time feedback devices to monitor CPR and Resuscitation Quality. This document serves to localize this recommendation for the African and South African setting where Emergency Care Providers may be operating in a resource-limited setting.

The AHA and RCSA recommend the implementation of a “**CPR Coach**” to monitor the quality of resuscitation performed. This role can be assigned to a member of the resuscitation team who is in a position to monitor the characteristics listed below and could be the monitor / defibrillator person, the airway / breathing person, or any other member of the team who will not be hindered in the performance of their own role.

The five characteristics of high-quality BLS (CPR) are listed as follows with recommendations on monitoring and / or maximizing on each:

1. Press hard at a depth of at least 5cm but no more than 6cm

Best practice	Use of a feedback device that provides real-time corrective feedback on the depth of compressions
Additional and alternative considerations	<ul style="list-style-type: none"> • Ensure ideal position of rescuer and patient • Swap compressors every 2 minutes to avoid fatigue • Use of quantitative capnography is highly recommended following the placement of an advanced airway to achieve a reading of greater than 10mmHg

2. Press fast at a rate of 100-120 per minute

Best practice	Use of a feedback device that provides real-time corrective feedback on the rate of compressions
Additional and alternative considerations	<ul style="list-style-type: none"> • Use a metronome application downloaded to a smart device and set at a rate of 110 per minute

3. Allow full chest recoil

Best practice	Use of a feedback device that provides real-time corrective feedback that ensures full chest recoil
Additional and alternative considerations	<ul style="list-style-type: none"> • Swap compressors every 2 minutes to avoid fatigue and “leaning” on the chest • Use of quantitative capnography is highly recommended following the placement of an advanced airway to achieve a reading of greater than 10mmHg



4. Minimize interruptions in chest compressions to 10 seconds or less

Chest Compression Fraction (CCF) is the percentage of time during a resuscitation that chest compressions are provided. The current recommendation is to achieve a minimum CCF of 60% but aiming to get as close to 80% as possible.

Best practice	Measuring the CCF for the duration of each resuscitation
Additional and alternative considerations	<ul style="list-style-type: none"> • Ensure that the BLS team members position themselves on one side of the patient only (So as not to hinder performance of ALS skills on the other side of the patient) • Swap compressors every 2 minutes to avoid fatigue • Ensuring seamless transition when swapping rescuers and having the new rescuer hover over the chest during acceptable pauses (such as during rhythm analysis and / or defibrillation) • Providing compressions while the manual defibrillator charges; or using the concept of pre-charging the defibrillator if trained and well-practiced in this technique • Placement of an advanced airway so that asynchronous CPR can occur without pauses for ventilations (But take care to avoid hyperventilation – see number 5 below) • Have the CPR coach verbally count to 10 seconds every time compressions are paused and instruct the compressor to re-commence compressions at 10 seconds • Avoid inappropriate pulse checks

5. Avoid hyperventilation

Best practice	Ensure correct rate and volume of each ventilation delivered
Additional and alternative considerations	<ul style="list-style-type: none"> • When CPR is performed without an advanced airway, ensure that the ventilation delivered via the bag-mask (BVM) resuscitator is delivered over 1 second and is only sufficient to cause the start of visible chest rise • After placement of an advanced airway, ensure that the ventilation rate is appropriate (1 every 6 seconds for adult; or 1 every 2-3 seconds of children and infants) • Use only 1 hand to deliver ventilations with BVM taking care not to provide volumes that are too large

Summary

The RCSA recommends that these guidelines be implemented in all RCSA approved training courses; and in real life resuscitations with the following minimum criteria:

- Use of a CPR Coach in all resuscitations.
- Use of a metronome.
- Use of a qualitative capnograph following placement of an advanced airway.