

# Feedback

noun | feed•back | \ˈfēd-,bak\

- [1] Process in which the effect or output of an action is ‘returned’ (fed-back) to modify the next action.
- [2] Information sent to an entity about its prior behavior so that the entity may adjust its current and future behavior to achieve the desired result.

The delivery of high-quality CPR remains an essential component to patient survival, but “high-quality” can be difficult to achieve. Various studies have shown that it can be difficult to judge the quality of CPR being delivered.<sup>1</sup> One such study demonstrated the poor ability of instructors to actually perceive CPR error in class participants.<sup>2</sup>

There is good evidence supporting the use of CPR feedback/prompt devices during CPR training to improve CPR skill acquisition and retention, and their use in clinical practice as part of an overall strategy to improve the quality of CPR may be beneficial.<sup>3,4</sup>



**Marion Leary, MPH, MSN, Director of Innovation Research, University of Pennsylvania**

*“For in-hospital codes, getting healthcare providers to do Guidelines compressions is difficult, and you really need some sort of feedback device to know how fast your rate is or how deep your depth is, and not a lot of institutions have implemented these devices yet - that is one way at our institution that we are starting to use these devices, because we know it is difficult for healthcare providers to perform quality CPR - not because they can’t do Guidelines CPR quality not because they can’t, but because they just don’t know what 2 inches of depth is on me, vs. you, vs. somebody else, without some sort of feedback.”*



**Holly Ortega, Nurse Educator and Leader, San Antonio Military Medical Center**

*“People think, ‘Oh, I’ve been doing CPR for 25 years and I know how to do CPR,’ but when you bring these devices out there giving people real-time feedback, they’re like, ‘I’m going too slow – I better pick it up!’ They can correct right on the spot, and it’s like a muscle memory thing: you practice it and you practice it, ‘Okay, I know what 100 to 120 is...I know how hard I have to compress to do the 2 inches...’ – but if you’re not getting feedback and it’s just me looking at you, I can kind of tell or hear some clicking on a machine, but the CPR may not actually be high quality.”*



**Craig Baughnsmith, M.Ed, MICP, Training Center Coordinator, Northwest Medical Training Center**

*“You train people how to do the best possible CPR and doing it with feedback devices I think is critical, because it gives you a good model of how to do as perfect CPR as you can get.”*


**Tom Aufderheide, MD, Professor of Emergency Medicine, Medical College of Wisconsin**

*"We need to first measure our performance, and second, implement continuous, quality improvement processes - both real time and systematic feedback - in a very calculated way, to identify benchmarking - where are we today? Identify weaknesses in our performance, implement changes in that, measure our changes, and then continue that process continuously. It is a difficult process, but evidence shows us today that we can at least double our survival rates by doing that, without implementing any new therapy other than implementing what we know works today and implementing it consistently and well."*

It is important to provide a feedback loop focused on continuous quality improvement that can help the system improve as well as identify needs for targeted learning/performance improvement.<sup>5</sup> In 2015, ILCOR, the American Heart Association and the European Resuscitation Council re-emphasized the need for resuscitation systems to establish ongoing assessment and improvement of their systems of care: "Community- and hospital-based resuscitation programs should systematically monitor cardiac arrests, the level of resuscitation care provided, and outcome." Continuous quality improvement includes systematic evaluation and feedback, measurement or benchmarking, and analysis. Furthermore, feedback to members of a cardiac arrest team about their performance in an actual cardiac arrest (as opposed to the training environment) can lead to improved outcomes. This can either be real-time and data-driven (e.g. use of feedback devices on cardiac compression metrics) or in a structured post-event performance focused debriefing.<sup>6,7</sup> Measuring performance and implementing quality improvement initiatives will further enhance systems to deliver optimal results.<sup>8</sup>

As such, CPR prompt or feedback devices can improve CPR skill acquisition and retention in BLS and might also be used to improve proper application of these basic CPR skills during advanced level training and in the clinical environment. However, the use of CPR feedback or prompt devices during real CPR should only be considered as part of a broader system of care that should include comprehensive CPR quality improvement initiatives, rather than as an isolated intervention.<sup>9,10</sup>

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