

Why PaceAid:

An Executive Brief

Overview

High-quality CPR is one of the strongest determinants of survival in cardiac arrest, yet real-world performance remains highly inconsistent. Even in well-trained clinical environments, chest compression rate, depth, and continuity frequently fall outside American Heart Association (AHA) guidelines. As the attached white paper notes, *“one of the most consistent observations in resuscitation science is the gap between guideline-based standards and the CPR delivered in practice.”* PaceAid directly addresses this gap by providing a visual, human-factor-driven support tool that reinforces structured, guideline-aligned CPR during high-stress events.



The Problem: Performance Variability Under Stress

Hospitals invest heavily in CPR training, but training alone cannot overcome the human-factor challenges that arise during real cardiac arrests:

- Stress and cognitive overload impair recall of CPR steps.
- Compression rate and depth drift without real-time reference points.
- Team coordination becomes difficult in noisy, chaotic environments.
- Skill decay occurs quickly, especially among infrequent responders.

The white paper highlights that *“stress and cognitive load are central to the gap between training and performance,”* underscoring the need for tools that reduce cognitive burden and support consistent execution.

The Solution: A Visual, Low-Complexity Process-Support Tool

PaceAid is an FDA-registered Class I device designed to guide responders through CPR using clear visual prompts and timing cues. It does **not** diagnose, treat, or replace training; instead, it strengthens human performance by:

- Providing a stable external pacing reference aligned with AHA compression-rate targets.
- Reducing cognitive load through step-by-step visual sequencing.
- Supporting team coordination with a shared, non-auditory cue source.
- Minimizing environmental noise by avoiding audio alarms.
- Ensuring safety through nonconductive materials suitable for use during defibrillation.

This design aligns with evidence showing that visual cues improve CPR performance and help responders maintain consistent compression quality.

System-Level Value

PaceAid supports hospital-wide resuscitation reliability and readiness by:

- Enhancing CPR consistency across diverse responder groups.
- Strengthening rapid response and code blue workflows.
- Supporting non-clinical staff who may be first responders in public areas.
- Complementing existing quality improvement and training initiatives.
- Offering a low-maintenance, low-cost intervention with high usability.

In beta testing across 16 cardiac arrest events, clinicians strongly agreed that PaceAid was easy to use, improved confidence, and effectively guided CPR. As the white paper reports, *“96% of respondents said they would recommend PaceAid to others learning or practicing CPR.”*

Strategic Rationale for Adoption

The Joint Commission's 2022 updated resuscitation standards underscore the critical importance of consistent, evidence-based resuscitation practices in hospitals and critical access hospitals. These standards align closely with PaceAid's mission and functionality by emphasizing ongoing education, adherence to evidence-based protocols, data-driven performance monitoring, and interdisciplinary review to improve resuscitation outcomes.

PaceAid fits seamlessly into this framework by providing a visual, human-factor-driven tool that supports staff education and training through real-time guidance during resuscitation events. It helps hospitals adhere to evidence-based protocols by reinforcing guideline-aligned CPR performance, thereby reducing variability and enhancing quality of care.

Moreover, PaceAid facilitates data collection and analysis by supporting consistent CPR delivery, which can improve the accuracy of performance metrics such as return of spontaneous circulation (ROSC). Its design encourages team coordination and communication, complementing the interdisciplinary review process that the Joint Commission advocates for continuous system improvements.

By integrating PaceAid, hospitals can proactively meet the Joint Commission's standards aimed at reducing preventable variations in CPR practice and maximizing patient survival with optimal neurological outcomes. This alignment strengthens hospital readiness, patient safety, and quality improvement initiatives, making PaceAid a strategic asset in fulfilling the Joint Commission's resuscitation requirements.

For hospital executives, PaceAid represents:

- **A scalable, system-level enhancement** to resuscitation reliability.
- **A human-factors solution** that addresses the real-world challenges of CPR performance.
- **A readiness tool** that supports both clinical and public-facing environments.
- **A cost-effective complement** to training, AED programs, and quality initiatives. By reinforcing structured, guideline-aligned CPR actions, PaceAid helps hospitals strengthen patient safety, improve emergency preparedness, and support staff performance when seconds matter most.