ACLS Virtual Reality Simulation

In-hospital cardiac arrest survival rates significantly vary between hospitals, from 11% to 35% and patients in which clinical staff reported adequate resuscitation training have greater than 3-fold odds of higher survival rates than patients where adequate training programs are lacking[1].

ACLS certification is active for two years; however, knowledge of this life saving competency decays at 6 months for those who work in non-critical care areas (majority of the hospital)[2]. Health systems have struggled to implement cost-effective and adequate refresher training due to the volume of individuals needing training and limited numbers of clinical educators.

ACLS Virtual Reality Simulation training was created in response to this need. Our immersive VR application is designed to complement AHA's HeartCode® training program. The virtual simulation instructs participants and validates the competencies requisite to diagnosing and resuscitating adults with cardiopulmonary arrest and other common cardiopulmonary emergencies. By virtualizing training, organizations are able to provide refresher training at scale and 50% less than the cost of physical simulation.

Learners play the role of the clinician running the mega code and are provided thirteen total scenarios that reflect both cardiac and non-cardiac arrest scenarios. The experiential learning method requires learners to identify the different cardiac waveforms and direct non-player virtual team members to shock, give meds, and/or perform CPR as necessary using state of the art voice recognition technology.

The *ACLS VR Simulation* works on Oculus VR headsets and is available as an independent simulation or as part of **Health Scholars in-hospital simulation suite**.

1 Resuscitation Practices Associated with Survival After In-Hospital Cardiac Arrest: A Nationwide Survey. JAMA Cardiol. 2016 May 1; 1(2): 189–197 2016, 189-197
2 Resuscitation Education Science: Educational Strategies to Improve Outcomes From Cardiac Arrest. Circulation. 2018;138:e82–e122. August 2018

AT-A-GLANCE:

ACLS Virtual Reality Simulation can be used as a pre-learning application before physical simulation or as supplemental training to validate and refresh competencies requisite to identifying and managing the ACLS core rhythms in stable and unstable patient conditions. Our VR simulation was designed in accordance with ILCOR guidelines and specifically to reinforce:

1. Addressing team members by name and making eye contact
2. Situational awareness of team member fatigue and performance of tasks
3. Closed loop communications

Non-Cardiac Arrest:
Learner must recognize rhythms to inform management of a non-arrest patient.

- SVT (AVNRT)
- Sinus Tachycardia
- Ventricular Tachycardia
- Sinus Bradycardia
- 2nd Degree AV Block - Type 1
- Atrial Fibrillation with RVR
- Atrial Flutter
- AV Block

Cardiac Arrest:
Learner must demonstrate situational awareness of the patient's condition and manage the following rhythms:

- Ventricular Fibrillation
- Ventricular Tachycardia
- Pulseless Ventricular Tachycardia
- Agonal/ Asystole

ACLS Virtual Reality Simulation
Product Overview

CAPABILITIES

- Realistically models cardiac and non-cardiac scenarios.
- Provides a virtual, zero-risk, environment to practice and learn critical resuscitation skills.
- Provides learners a readiness score, determined by assessing core competencies throughout the simulation. Assess readiness at individual, team, and organization level.
- Features Health Scholars' AI-Enabled voice technology.
- Ultra-realistic in-hospital environment specific to first responders.
- 24/7 accessibility and schedule training software to incentivize repeated practice.
- Delivers in application micro-debriefs to reinforce learning gains.
- Turnkey implementation and seamlessly scaled across small and large organizations.
- Available on the Oculus Quest 2 Headsets

BENEFITS

- Learners build confidence and learn critical resuscitation skills, reducing error and stress once back in the field.
- Ensure your providers are retaining critical training. VR learners are 275% more confident to apply skills after training. (The VR Advantage, 2020)
- Have peace of mind as your learners are building vital teamwork and management skills directly transferable to the field.
- Build confidence in your organization's ACLS readiness and easily find and address skill gaps.
- Save your organization crucial training budget. Cost 83% less than traditional mannequin simulation training. (Katz, 2020)
- Reduces time providers are out of service to train and can be completed during down time.