IMPROVING OUTCOMES WITH AN ENHANCED RESUSCITATION PROGRAM
SUCCESS DEPENDS ON YOUR CPR QUALITY

High-quality CPR is the cornerstone of a system of care that can optimize resuscitation outcomes. The AHA 2015 Guidelines underscore just how important CPR quality is. To deliver high-quality CPR, providers need to focus on depth, rate, limited interruptions, and release.

ZOLL solutions provide robust information that can help improve CPR performance without being distracting—so that rescuers can reach and maintain proficiency in each of these four critical areas:

**DEPTH**

The Guidelines recommend a depth greater than 2 inches but not more than 2.4 inches (5 to 6 centimeters). Compressions move blood through the body to protect vital organs. Adequate depth is required to essentially trap the heart between the sternum and spine and effectively squeeze the blood out.

**How ZOLL technology helps:** If a rescuer does not deliver compressions at an adequate depth, an audible and visual prompt to “Push Harder” will be initiated. Once proper depth is reached, it’s reinforced with a “Good Compressions” message. ZOLL’s professional defibrillators also display depth numerically.

**RATE**

The Guidelines recommend a compression rate between 100 and 120 compressions per minute. A rate of at least 100 compressions per minute is necessary to achieve perfusion sufficient to support minimal circulation, while a rate that is too fast often results in inadequate depth or leaning.

**How ZOLL technology helps:** An easy-to-follow metronome beep helps rescuers achieve the correct rate to ensure sufficient perfusion. ZOLL’s professional monitor/defibrillators also display the rate numerically.
The Guidelines emphasize that rescuers should not lean on the chest during compressions. The full upstroke, or release of a compression, is necessary to allow the heart to fill for the next compression. When rescuers fail to release the compression by not coming off the chest, pressure builds—making CPR ineffective.

How ZOLL technology helps: ZOLL’s patented See-Thru CPR® technology filters the CPR artifact so rescuers can see if an organized rhythm develops, thereby minimizing the duration of pauses.

A key Guidelines recommendation is to minimize interruptions in CPR and to strive to increase the percentage of time compressions are performed during a resuscitation to at least 60%. Interruptions in chest compressions during CPR substantially reduce blood flow to the heart and brain. In addition, shock success is directly tied to pauses and begins to fall significantly after a pause as brief as 10 seconds.

How ZOLL technology helps: ZOLL provides a release indicator that shows the rescuer whether he or she is fully releasing and doing so fast enough to support filling the heart for the next down stroke. A “Release Fully” prompt reminds rescuers not to lean.
ADVANCED SUPPORT FOR EVERY RESUSCITATION

| Achieving high-quality CPR with ZOLL |

ONESTEP ELECTRODES

Working in conjunction with the R Series® monitor/defibrillator, ZOLL OneStep™ electrodes offer Real CPR Help® and See-Thru CPR® technologies to help clinicians achieve high-quality CPR that meets the AHA Guidelines.

The integrated CPR sensor records compression data and transfers it to the defibrillator. With OneStep electrodes, clinicians benefit from:

• **Real CPR Help** - provides real-time audio and visual feedback on depth, rate, and release during compressions

• **See-Thru CPR** - filters out compression artifact during compressions, allowing clinicians to see the underlying rhythm that is forming while compressions are still being performed. This can help to minimize pauses during compressions

OneStep electrodes are available for both adult and pediatric patients and can be pre-connected to the R Series defibrillator to allow an automatic daily code-readiness test without disconnecting the electrodes or compromising the packaging. Additionally, OneStep Complete electrodes have integrated ECG leads, eliminating the need for a separate cable when pacing.
The ResQPOD® impedance threshold device (ITD) enhances circulation during chest wall recoil and pulls more blood back to the heart. When used in conjunction with high-quality CPR, this simple device:

- Can enhance perfusion to the brain and vital organs and lower intracranial pressure
- Has been shown to increase survival by 25% or more

Adding the ResQPOD ITD into the airway circuit can transform your high-quality CPR to high-perfusion CPR during either manual or automated CPR.

The AutoPulse® resuscitation system delivers customized, high-quality CPR wherever and whenever it’s needed. The AutoPulse will automatically size the load-distributing band to the patient’s chest so the ideal compression, to meet that patient’s needs, is delivered. AutoPulse provides:

- A tool to ensure high-quality CPR can be performed even when staffing levels may not be optimal – nights, weekends, long codes, or when it might put a clinician at risk – cath lab
- High-quality CPR while clinicians evaluate best course of care for a patient
- A bridge to ECMO [extracorporeal membrane oxygenation] that can help ensure a well-perfused patient when ECMO is initiated
HIGH-QUALITY CPR AND CODE DATA REVIEW

Education and software solutions

Clinical Education Programs
Designed to cultivate and enhance a culture of high-quality CPR within the hospital, these programs reinforce the importance of high-quality CPR, help maximize usage of the CPR technology available in your ZOLL defibrillator, and emphasize the importance and utilization of post-code data review.

CPR KICKSTARTER COURSE
This one-day course focuses on improving resuscitation outcomes and maximizing available technologies and resources. The course details the science of high-quality CPR and trains clinicians to take full advantage of the ZOLL CPR feedback technology with specific initiatives to help improve CPR quality.

CPR DATA & ANALYTICS COURSE
This half-day, computer-based course is a supplement to CPR Kickstarter and provides comprehensive training on the importance of code data collection and review. Ideal for small groups of clinicians who are actively involved in code data management. Includes post-course mentorship and support for review of the next 10 in-hospital cardiac arrests.
RescueNet® CaseReview

When the chaos of the code is over, the RescueNet® CaseReview debriefing data system collects, collates, and manages code data to improve accuracy and simplify debriefing. Data files from your ZOLL defibrillator can be sent immediately to CaseReview, and when using the OneStep electrodes you’ll have a complete picture of vital code metrics: CPR compression depth and rate, chest compression fraction, ECGs, defibrillation shock details, and more. These insights can help enable process improvements and improve outcomes from sudden cardiac arrest.

Easily installed inside the hospital firewall for secure data collection and review, CaseReview is a powerful tool that will quickly become an essential part of your resuscitation program.
PROCEDURAL ELECTRODES

Specialized electrodes to meet specific clinical needs

Beyond the family of OneStep electrodes for emergency resuscitation needs, ZOLL also provides an extensive selection of procedural electrodes to meet other clinical demands.

ZOLL Pro-padz® electrodes, for adult patients, are available in both solid and liquid gel formats, offer both sterile and non-sterile versions, and are available in a radiolucent option to provide unobstructed views when used during cath or EP lab procedures.

And for pediatric patients, ZOLL offers Pedi-padz® electrodes in solid gel, liquid gel, and radiolucent versions.

All ZOLL electrodes go through extensive testing and validation and are designed specifically to be used with your ZOLL defibrillators.

Same brand. Same quality. Same peace of mind.

References