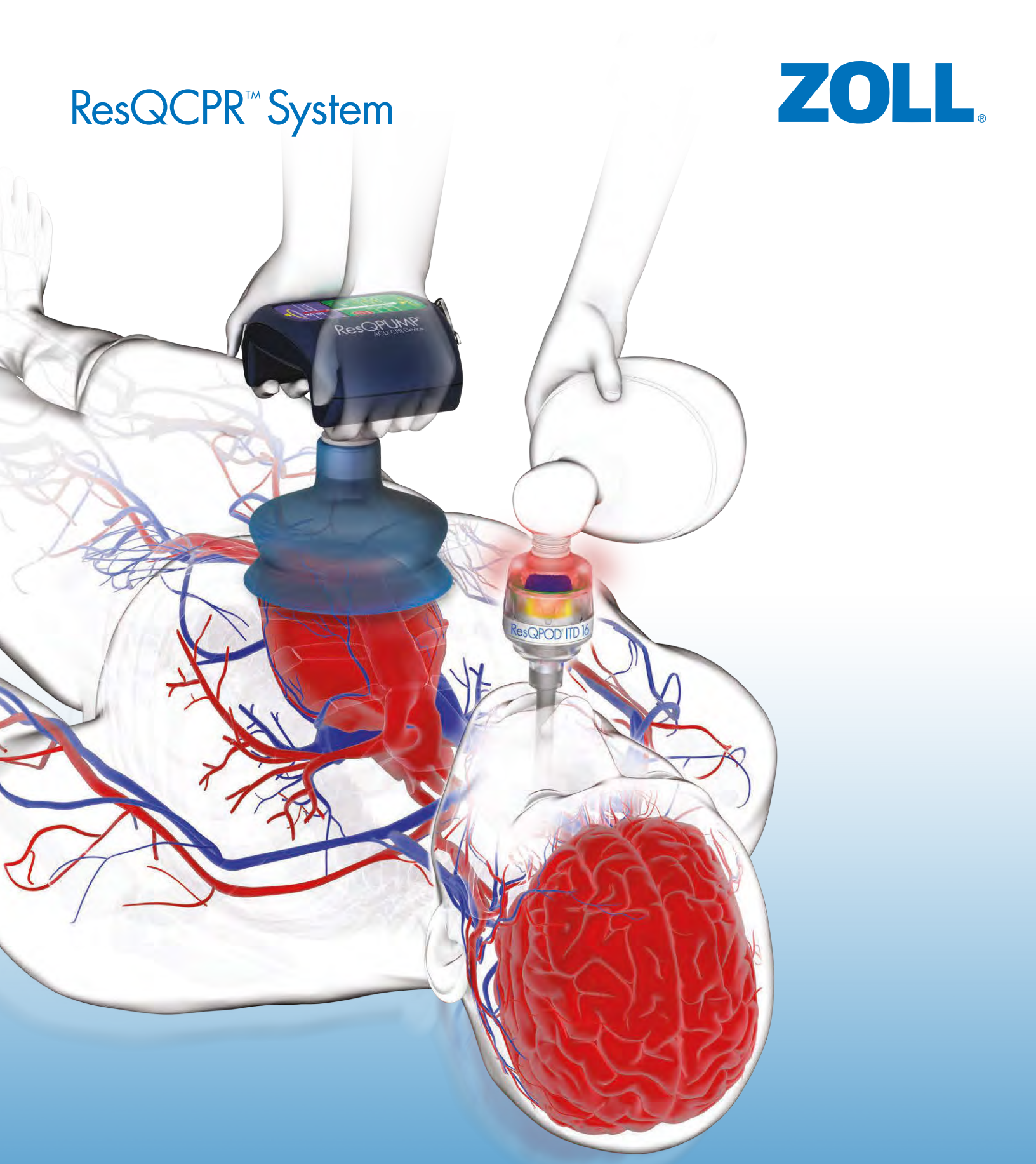
ResQCPR™ System

ZOLL®



Better Blood Flow. Improved Survival.


PARAMEDIC
ResQPOD ITD 16

ResQCPR™ System

A major clinical study showed a

49% increase

in one-year survival from cardiac arrest.[1]

The ResQCPR™ System is a CPR adjunct comprised of two synergistic devices – the ResQPOD® ITD 16 and the ResQPUMP® ACD-CPR Device. Used together, these devices improve blood flow to the brain and vital organs, and have been show to increase the likelihood of survival.[1,2]

Better Blood Flow

The ResQCPR System has been shown in a pre-clinical study to provide near-normal blood flow to the brain during cardiac arrest.[3] And, the device combination has been shown in a clinical study to provide near-normal systolic and diastolic blood pressures during cardiac arrest.[4]

Improved Survival

The ResQCPR System is the **only CPR device with an FDA-approved indication to improve the likelihood of survival.** A multi-center trial that randomized over 1600 patients showed a **49% increase in survival to one year** in adult cardiac arrest patients who received the ResQCPR System.[1]

"I Woke Up During CPR!"

When Professor Steve Dunn experienced his cardiac arrest in 2008, EMS personnel used the ResQCPR System as part of their resuscitation protocol. Although he did not have a perfusing pulse, Steve woke up repeatedly while ResQCPR was being performed on him. Today he is a happy and healthy cardiac arrest survivor thanks, in part, to the ResQCPR System.

Unique Device Synergy – Improved Likelihood of Survival

The ResQCPR™ System is comprised of two synergistic devices – the ResQPOD® Impedance Threshold Device (ITD) 16 and the ResQPUMP® Active Compression Decompression CPR (ACD-CPR) Device. The ResQPOD regulates airflow during the chest wall recoil phase of CPR to enhance the vacuum in the patient's chest. This results in more blood being returned to the heart (preload) and a lowering of intracranial pressure (ICP).[2] The ResQPUMP further increases blood return by actively re-expanding the chest to further enhance negative pressure. It is the only device FDA-approved for delivering ACD-CPR with a lifting force of up to 10 kg.

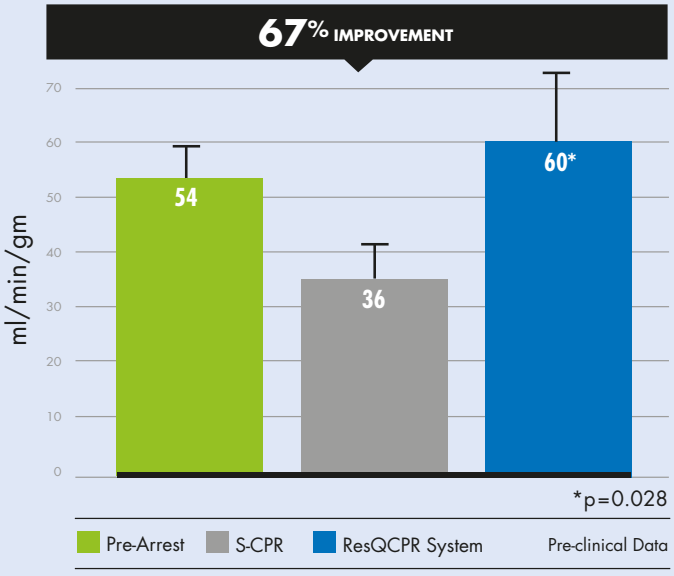
ResQCPR™ System

The synergistic combination of ACD-CPR with an ITD enhances the vacuum in the chest, resulting in increased preload and cardiac output, as well as lowered intracranial pressure. The net result is better hemodynamics and vital organ blood flow than either device provides individually.

Backed by Research

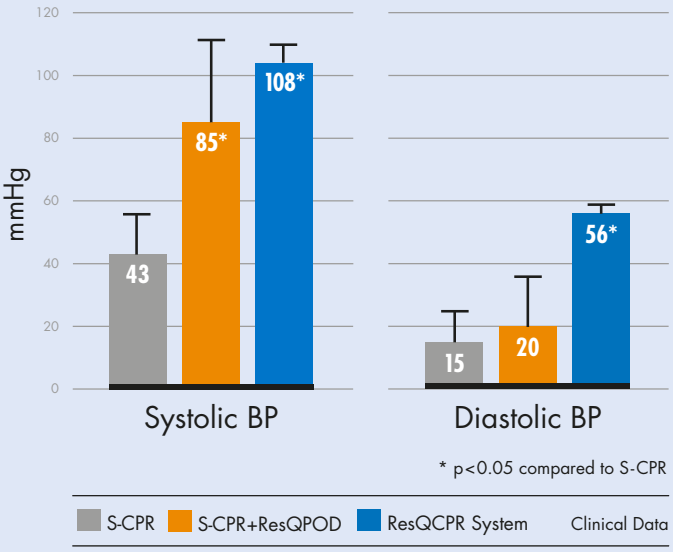
The combination of ACD-CPR with an ITD (ResQCPR) has been studied in 5 clinical trials and more than 35 pre-clinical studies. A summary of data from three of these studies is provided below.

Near-Normal Blood Flow to the Brain with ResQCPR



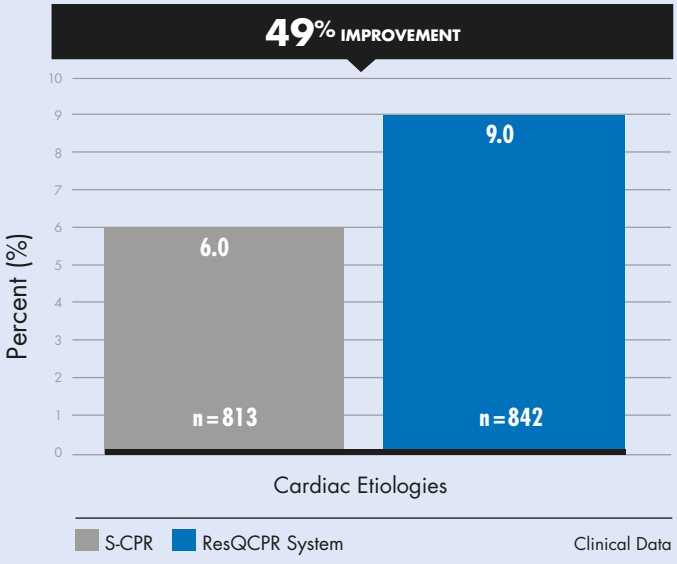
[3] Voelkel et al. Pediatr Res 2002;51:523-527.

Near-Normal Blood Pressure with ResQCPR



[4] Plaisance et al. Circulation 2000;101:989-994.
[5] Pirrallo et al. Resuscitation 2005;66:13-20.

Increased Survival at One Year with ResQCPR



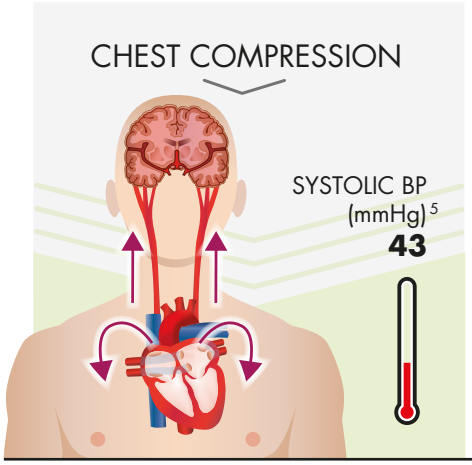
[1] ResQCPR System Summary of Safety and Effectiveness Data submitted to FDA.

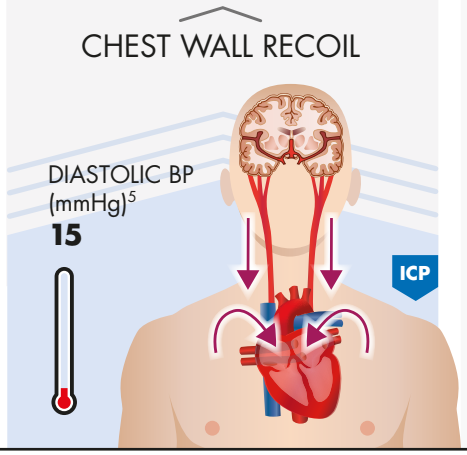
Based upon study results, the ResQCPR System could save thousands of lives each year in the US if widely implemented.[6]

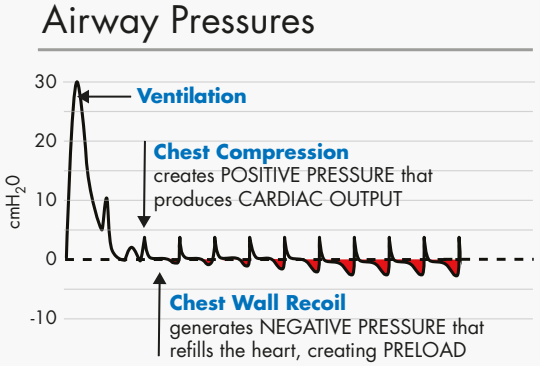
The Novel Physiology of IPR Therapy

The ResQCPR System is a CPR adjunct comprised of two devices – the ResQPOD® ITD 16 and the ResQPUMP® ACD-CPR Device. Used together, these devices increase blood flow to the brain and vital organs, and have been shown to increase one-year survival by 49%.[1,2]

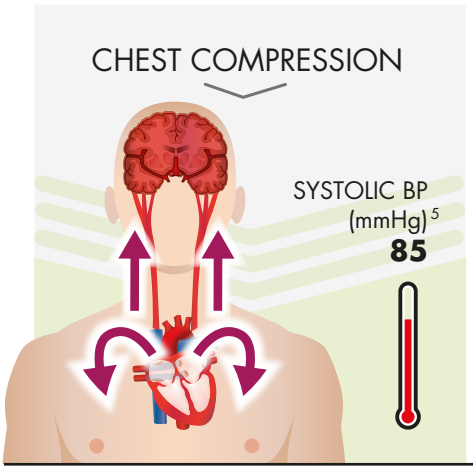
Conventional CPR – Limited Blood Flow

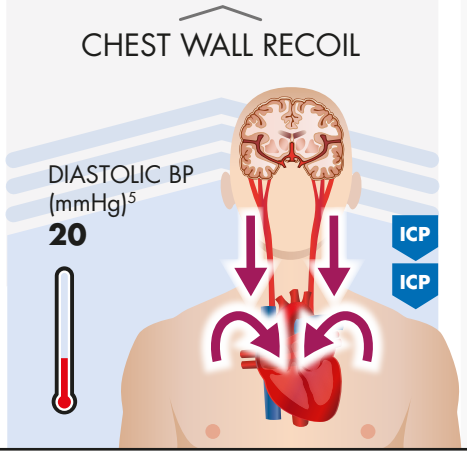


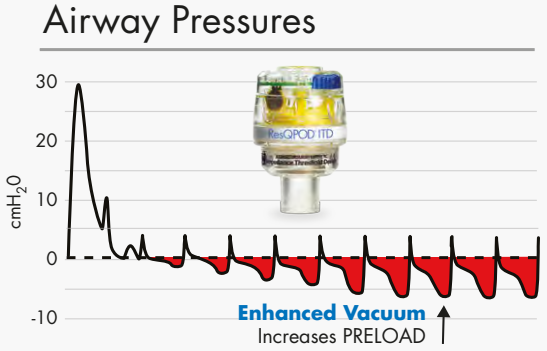




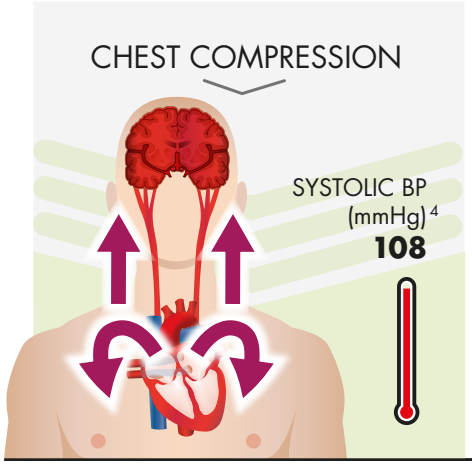
CPR with ResQPOD® ITD – More Blood Circulated

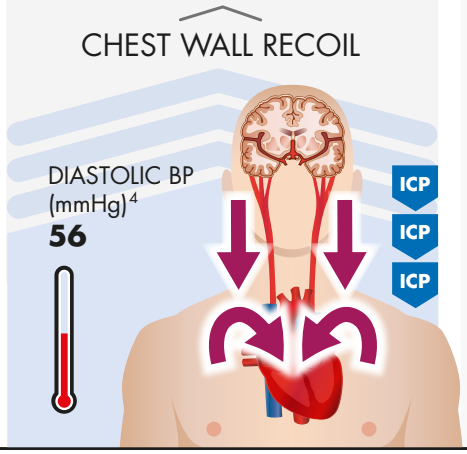


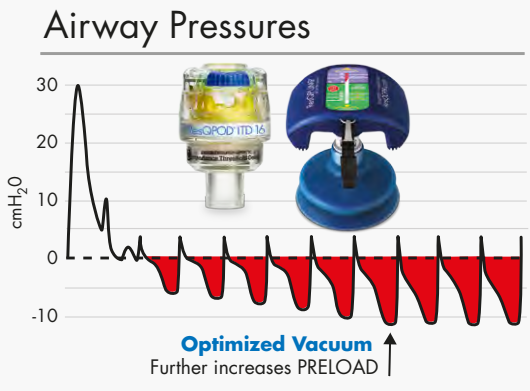




ResQCPR™ System – High Perfusion and Near-Normal Circulation







Intrathoracic Pressure Regulation (IPR) Therapy involves enhancing the negative pressure in the chest to optimize blood flow to vital organs when perfusion is compromised. During cardiac arrest, IPR Therapy is provided by the ResQPOD® ITD and the ResQPUMP® ACD-CPR Device. These devices are uniquely designed to leverage the body's own physiology to provide Perfusion on Demand.

FIGURE 1

Conventional CPR – Limited Blood Flow

Even though high-quality CPR has been shown to increase survival, it only provides 25-40% of normal blood flow to the heart and brain.[7] Limited blood flow is due, in part, to the open airway. During chest wall recoil, air is drawn in and eliminates the vacuum (negative pressure) that is needed to fill the heart. This limits cardiac output and blood circulated with compressions.

FIGURE 2

CPR with the ResQPOD® ITD – More Blood Circulated

Attached to a facemask or other airway adjunct, the ResQPOD is an impedance threshold device (ITD) that selectively prevents air from entering the lungs during the chest wall recoil phase (except when intended during ventilations). This enhances the vacuum, which pulls more blood back into the heart and lowers intracranial pressure (ICP).[2]

FIGURE 3

ResQCPR™ System – High Perfusion and Near-Normal Circulation

The ResQPUMP allows the rescuer to perform active compression decompression CPR (ACD-CPR), which promotes complete and active chest recoil. It is the only CPR device approved to provide ACD-CPR with 10 kg of lifting force. When the ResQPOD ITD 16 is combined with ACD-CPR, the result is a synergy that provides an even greater vacuum in the chest, lowering ICP and improving preload and cardiac output even further.[2] A multi-center trial that randomized over 1600 patients showed a **49% increase in one-year survival** in patients who received ResQCPR.[1]

ResQCPR™ System

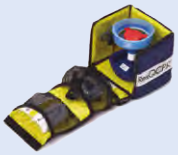
Key Features and Benefits

- Only CPR device with an FDA-approved indication for improved likelihood of survival
- Only CPR device FDA-approved to provide ACD-CPR with 10 kg of re-expansion force
- Promotes High Quality CPR by providing guidance on critical ResQCPR quality parameters (e.g. compression and lifting forces, compression and ventilation rates)
- Easy to learn, and simple to use
- Compact, lightweight, and easy to store
- Can be used by both basic and advanced life support personnel
- Ideal first line therapy option that complements automated CPR
- Comprehensive training resources available

1. Adults in cardiac arrest from cardiac etiology. Summary of Safety and Effectiveness Data submitted to FDA; http://www.accessdata.fda.gov/cdrh_docs/pdf11/p110024b.pdf.
2. Metzger et al. Crit Care Med 2012;40(6):1851-1856.
3. Voelckel et al. Pediatr Res 2002;51:523-527.
4. Plaisance et al. Circulation 2000;101:989-994.
5. Pirrallo et al. Resuscitation 2005;66:13-20.
6. Calculated based upon survival benefit applied to existing national survival outcomes in Cardiac Arrest Registry to Enhance Survival (CARES); www.myCARES.net.
7. Andreka et al. Curr Opin Crit Care 2006;12:198-203.

The ResQCPR System is intended for use as a CPR adjunct to improve the likelihood of survival in adult patients with non-traumatic cardiac arrest. Risk information: Improper use of the ResQCPR System could cause ineffective chest compressions and decompressions, leading to suboptimal circulation during CPR and possible serious injury to the patient. The ResQCPR System should only be used by personnel who have been trained in its use. The ResQPUMP should not be used in patients who have had a recent sternotomy as this may potentially cause serious injury. Improper positioning of the ResQPUMP suction cup may result in possible injury to the rib cage and/or internal organs, and may also result in suboptimal circulation during ACD-CPR. Pre-clinical studies may not be indicative of clinical outcomes.

Products and Accessories

PRODUCT		ORDER #
	ResQCPR™ System includes: ResQPUMP ACD-CPR Device (1 ea) ResQPOD ITD 16 (2 ea)	12-0825-000
	ResQPOD ITD 16 Replacement Component	12-0822-000
	ResQPUMP ACD-CPR Device Replacement Component	12-0823-000
	Replacement Suction Cup	12-0586-000
	ResQCPR Carrying Case	12-0935-000

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