Enhanced Perfusion During CPR
Improve Perfusion During CPR

Over the past 15 years, we’ve seen little improvement in survival-to-discharge rates among patients experiencing in-hospital cardiac arrest. But today, a focus on high-quality CPR and adoption of new technologies are helping many systems improve their outcomes. ZOLL’s resuscitation platform is designed to help hospitals achieve the highest level of CPR quality, improving overall outcomes.

ZOLL’s ResQPOD® ITD 10 Increases Perfusion During High-Quality CPR

The ResQPOD impedance threshold device (ITD) is a simple, non-invasive device that delivers intrathoracic pressure regulation (IPR) therapy during basic or advanced life support CPR to improve perfusion. The ITD lowers intrathoracic pressure during the recoil phase of CPR by selectively restricting unnecessary airflow into the chest. This vacuum increases preload, lowers intracranial pressure, and improves blood flow to the brain and vital organs. Pre-clinical studies have shown that the ResQPOD ITD 10:

- Doubles blood flow to the heart
- Increases blood flow to the brain by 50%
- Doubles ECoV

When used with high-quality CPR, the ITD has been shown in clinical studies to improve survival by 25% or more.
A Simple Solution for More Effective Resuscitation

Attached to a facemask or other airway adjunct, the ResQPOD ITD contains airway pressure-sensing valves to selectively prevent air from entering the chest during chest wall recoil. This enhances the vacuum that pulls blood back to the heart, increasing preload. Patient ventilation and exhalation are not restricted. When used with an advanced airway, timing lights flash at 10 per minute and guide ventilations at the Guidelines-recommended rate to discourage hyperventilation.

ResQPOD Features and Benefits

- Easy to integrate into resuscitation protocols
- Can be used during BLS and ALS care
- Compatible with all airway adjuncts and ventilation sources
- Timing lights guide ventilations at 10 per minute
- Compatible with automated CPR devices
- Cost effective

Enhancing Perfusion During CPR

The ResQPOD ITD enhances circulation during basic or advanced life support CPR. This simple, non-invasive device regulates pressures in the chest and improves blood flow to the heart and brain.

**Conventional CPR**

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. Limited blood flow is due, in part, to the open airway. During chest wall recoil, air is drawn in and depletes the vacuum (negative pressure) that is needed to fill the heart. This limits cardiac output and blood circulated with compressions.

**CPR with the ResQPOD® ITD 10**

CPR with the ResQPOD ITD—More Blood Circulated

Attached to a facemask or other airway adjunct, the ResQPOD selectively prevents air from entering the lungs during the chest wall recoil phase (except when intended with ventilations). This enhances the vacuum, which pulls more blood back into the heart and lowers intracranial pressure (ICP). As a result, more blood is circulated to the brain and vital organs until the heart can be restarted. When used with high-quality CPR, the ITD has been shown in clinical studies to improve survival by 25% or more.
The release indicator shows rescuers whether they are releasing fully and fast enough to support cardiac refilling. A “Release Fully” prompt reminds rescuers not to lean on the chest ensuring proper recoil.

See-Thru CPR reduces pause time by filtering the CPR artifact, and EICO₂ to signal the earliest changes in patient condition. Utilizing these technologies to help achieve the highest quality CPR will ensure that you recognize the full benefit of the ResQPOD ITD.
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Studies available upon request. The generally cleared indication for the ResQPOD ITD available for sale in the United States (U.S.) is for a temporary increase in blood circulation during emergency care, hospital, clinic, and home use. Research is ongoing in the US to evaluate the long-term benefit of the ResQPOD for other specific indications. The studies referenced here are not intended to imply specific outcomes-based claims not yet cleared by the US FDA.