



ResQPOD®

ResQPOD ITD 16

The ResQPOD is an impedance threshold device (ITD) that quadruples blood flow during cardiac arrest. Using the ResQPOD can improve survival with favourable neurologic outcome by 50% or more compared to conventional CPR. Animal and clinical studies have shown that during active compression decompression CPR (ACD-CPR), the ResQPOD:

- Quadruples blood flow to the heart
- Doubles blood flow to the brain
- Provides near-normal systolic blood pressure
- Increases survival with favourable neurologic outcome up to one year
- Increases the likelihood of successful defibrillation
- Provides benefit in all arrest rhythms
- Circulates drugs more effectively

The ResQPOD can be used with all methods of CPR but is most effective when combined with ACD-CPR. In a recent clinical trial, patients who received an ITD with ACD-CPR had a 53% improvement in survival to hospital discharge with favourable neurologic outcome, compared to conventional CPR alone. A survival benefit of 49% persisted to one year! (Aufderheide et al. Lancet 2011)

How it works:

Even when performed correctly, conventional CPR provides only about 20% of normal blood flow to vital organs. Attached to a facemask or other airway, the ResQPOD regulates the flow of air into the chest during CPR. It prevents air from rushing into the chest during the chest wall recoil phase of CPR, but ventilation and patient exhalation are not restricted in any way. This enhances the vacuum (negative pressure) that we rely on to fill the heart, resulting in more blood being drawn back to the heart. As a result, enhanced preload leads to improved cardiac output on the subsequent compression. Improved blood flow improves your opportunity to save more lives!

The ResQPOD is the only ITD on the market. It is simple, non-invasive, and promotes the performance of high-quality CPR with timing lights, which promote the proper compression and ventilation rates.

ResQPOD. Code: 8000-0223-40



ResQGARD™

Impedance Threshold Device

ResQGARD ITD 7

The ResQGARD is an impedance threshold device (ITD) that provides a rapid and non-invasive way to significantly enhance blood flow in patients with low blood pressure from a variety of causes:

- Blood loss or blood donation
- Early sepsis
- Heat shock
- Dialysis
- Orthostatic intolerance

How It Works:

During inhalation, a slight negative pressure (or vacuum) is created from expansion of the chest as air is drawn into the lungs. Attached to a facemask or mouthpiece, the ResQGARD provides a small amount (-7 cmH₂O) of therapeutic resistance during patient inhalation. This enhances the vacuum in the chest, which pulls more blood back to the heart. As a result, increased preload results in enhanced cardiac output on the subsequent cardiac contraction. The ResQGARD provides a therapeutic benefit as soon as the patient begins to breathe through it.

The ResQGARD can be used on a facemask or with a mouthpiece. Supplemental oxygen may also be administered through an O₂ port on the device.

Available configurations:

ResQGARD FM Kit: Code: 12-0707-000

Includes ResQGARD ITD 7, facemask, oxygen tubing, and ResQSTRAP in hard plastic "clamshell" package



ResQGARD MP Kit: Code: 12-0705-000

Includes ResQGARD ITD 7, mouthpiece, and nose clip in a re-sealable plastic package



ResQGARD ITD 7: Code: 12-0708-000

Includes ResQGARD ITD 7 in a re-sealable plastic package



CardioPump®

Active Compression Decompression



CardioPump ACD-CPR Device

The CardioPump is a device that performs active compression decompression CPR (ACD-CPR). When combined with the ResQPOD ITD, ACD-CPR can improve survival with favourable neurologic outcome by 50% or more compared to conventional CPR. Animal and clinical studies have shown that using the CardioPump with a ResQPOD:

- Quadruples blood flow to the heart
- Doubles blood flow to the brain
- Provides near-normal blood pressure
- Increases survival with favourable neurologic outcome up to one year
- Increases the likelihood of successful defibrillation
- Provides benefit in all arrest rhythms
- Circulates drugs more effectively

The CardioPump may be used by itself but is most effective when combined with the ResQPOD ITD. One study showed that the device combination resulted in rescuers achieving near-normal systolic and diastolic blood pressures during CPR (Plaisance et al; Circulation 2000). In a recent clinical trial, patients who received an ITD with ACD-CPR had a 53% improvement in survival to hospital discharge with favourable neurologic outcome, compared to conventional CPR alone. A survival benefit of 49% persisted to one year! (Aufderheide et al. Lancet 2011).

How it works:

Filling of the heart during CPR is critically dependent upon the creation of negative pressure (a vacuum) that occurs during chest wall recoil. During conventional manual CPR, chest compliance is often poor, resulting in inadequate chest wall recoil. The CardioPump corrects this problem. The suction cup attaches to the chest, allowing the rescuer to actively decompress (pull up) and promote better filling of the heart. This enhances the vacuum that we rely on to fill the heart, resulting in more blood being drawn back to the heart. As a result, enhanced preload leads to improved cardiac output on the subsequent compression. Improved blood flow improves your opportunity to save more lives!

The CardioPump is simple, non-invasive, and promotes high-quality CPR. A version with a metronome is available to encourage proper chest compression rate.



CardioPump - Standard Code: 12-0483-000

CardioPump with Metronome Code: 12-0582-000