Advanced Circulatory®

MORE THAN A HEARTBEAT

Enhanced CPR. Better neurologic outcomes.

Steve Dunn, Ph.D., Professor,
University of Wisconsin Oshkosh

Thanks to the ResQPOD and a dedicated EMS team, Steve survived sudden cardiac arrest in 2008 and was able to see his oldest son graduate from college.

ResQPOD®

Save **more** lives.

Improve neurologic outcomes.

Saving a life can mean so much more than simply restoring a pulse. The ResQPOD impedance threshold device (ITD) gives rescuers the potential to return people to a full life after sudden cardiac arrest.

The ResQPOD 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.

The result? In studies, survival with favorable neurologic outcomes increased by 25% or more.[1-6] With the ResQPOD, you can expect more than a heartbeat.

Better blood flow for improved survival

According to research,* the ResQPOD ITD:

- Increases survival rates from cardiac arrest by 25% or more[1-6]
- Doubles blood flow to the heart[7]
- Increases blood flow to the brain by 50%[8]
- Lowers intracranial pressure[2,9]
- Doubles systolic blood pressure[10]

Increases survival by **25%** or more

Rushed to the hospital after sudden cardiac arrest in 2008, Barbara Spoden was saved during CPR with the ResQPOD. Since her cardiac arrest, Barbara has returned to work at an optical company in Sauk Rapids, Minnesota, and enjoys spending time with her granddaughter.

ResQPOD is appropriate for both basic and advanced life support CPR.

Easily add the ResQPOD to your system

With the ResQPOD, CPR is more effective but not more complicated. An impedance threshold device fits easily into all existing cardiac arrest protocols and provides benefit in all cardiac arrest rhythms.[1,3,6,11,12]

Used in basic or advanced life support

Patients benefit from CPR with the ResQPOD early during BLS care, with continued benefit during ALS care.

Compatible with all CPR methods and therapies, including:

- Conventional, manual CPR
- Automated chest compression devices
- Active compression-decompression CPR
- Therapeutic hypothermia

Compatible with all airway adjuncts and ventilation sources, including:

- Face masks
- Endotracheal tubes
- Supraglottic airways
- Ventilation bags
- Transport ventilators

Timing lights promote high-quality CPR

The ResQPOD's timing lights guide rescuers to compress and ventilate at the proper rates recommended for high-quality CPR.

Recommended by the AHA

The ResQPOD strengthens the chain of survival. Like other current CPR adjuncts and medications, an ITD carries a Class IIb recommendation in the American Heart Association guidelines.[13]

Equip your team to perform their best CPR

When the community is counting on you, the ResQPOD offers the opportunity to return neurologically intact survivors to their families.

How the ResQPOD works

The ResQPOD ITD offers a simple solution for more effective resuscitation.

Without the ResQPOD

CPR is inefficient

Conventional CPR is inherently inefficient, providing less than 25% of normal blood flow to the heart and brain.[14] Compressing the chest forces air out of the lungs, and blood out of the heart. When the chest wall recoils, a small but important vacuum (negative pressure) is created inside the chest that helps return blood to the heart. Without the ResQPOD, air rushes back into the lungs and wipes out that critical vacuum, resulting in minimal blood return. With diminished filling, less blood circulates to the heart, brain, and other vital organs.

With the ResQPOD

More blood circulated

The ResQPOD prevents air from entering the lungs during chest wall recoil (except when intended during ventilation). This enhances the vacuum (negative pressure), which pulls more blood back into the heart and lowers intracranial pressure. As a result, more blood is circulated to vital organs until the heart can be restarted.[2,7-9,15,16]

	Conventional CPR	
	Without the ResQPOD	With the ResQPOD
Air Flow	During chest wall recoil, air flows freely back into lungs, reducing the vacuum responsible for filling the heart.	Air is prevented from reentering the lungs, enhancing the vacuum responsible for filling the heart.
Vacuum (Negative Pressure) **in Chest**	Vacuum during chest wall recoil is weak; average range: -1 to -3 mmHg.	Vacuum during chest wall recoil is stronger; average range: -3 to -8 mmHg.
Heart Refilling (Preload)	Heart refills only slightly.	Refilling of heart is doubled.[7]
Hemodynamics	Mean carotid blood flow: 82 ml/min.[16] Mean systolic blood pressure: 43 mmHg.[10]	Mean carotid blood flow: 112 ml/min.[16] Mean systolic blood pressure: 85 mmHg.[10]
Intracranial Pressure (ICP)	Increases during compression. Decreases slightly during chest wall recoil.	Enhanced vacuum is transmitted to the brain. ICP is lowered even further during chest wall recoil, resulting in less resistance to forward blood flow.[2,9]
Patient Ventilation and Exhalation	Not restricted.	Not restricted.
CPR Quality	Rescuer must estimate correct compression and ventilation rates.	Timing lights guide proper compression and ventilation rates.

ResQPOD

Attached to a face mask or other airway adjunct during CPR, the ResQPOD impedance threshold device uses an atmospheric pressure sensor valve to selectively prevent air from entering the chest during chest wall recoil. This enhances the vacuum needed to pull blood back into the heart, improving circulation. Patient ventilation and exhalation are not restricted. Timing lights flash at 10 per minute to promote high-quality CPR (10 compressions per flash, one ventilation per flash).

"No doubt about it, the ResQPOD improves blood flow. We've had cases where people have opened their eyes and woken up during CPR, which is pretty phenomenal."

– Charles Lick, MD, Medical Director
Allina Health EMS, Minneapolis

More than a Heartbeat

With the ResQPOD ITD, you can expect more than a heartbeat. Studies show that survival with favorable neurologic outcomes can improve by 25% or more.[1-6] Widely adopted, this could translate into 15,000 more lives saved each year in the United States.

At Advanced Circulatory Systems, Inc., we believe that surviving cardiac arrest should be ordinary, not extraordinary.

References

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* The generally cleared indication for the ResQPOD available for sale in the United States is for a temporary increase in blood circulation during emergency care, hospital, clinic, and home use. Research is ongoing in the United States to evaluate the long-term benefit of the ResQPOD for indications related to patients suffering from cardiac arrest. The studies listed here are not intended to imply specific outcomes-based claims not yet cleared by the US FDA.

Advanced Circulatory®

Perfusion on Demand

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ResQPOD ITD 10; re-order number #12-0242-000 (US only)
ResQPOD ITD 16; re-order number #12-0247-000 (International)
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