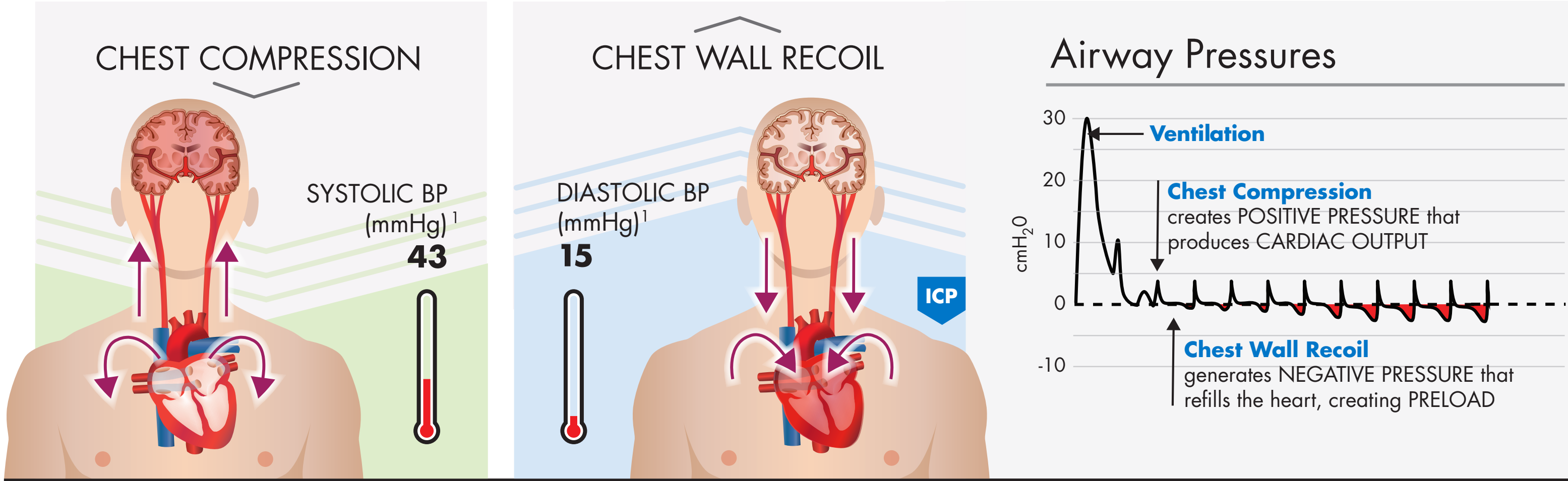


The Novel Physiology of IPR Therapy



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 CardioPump® ACD-CPR device. These devices are uniquely designed to leverage the body's own physiology to provide high-perfusion CPR.

Conventional CPR – Limited Blood Flow

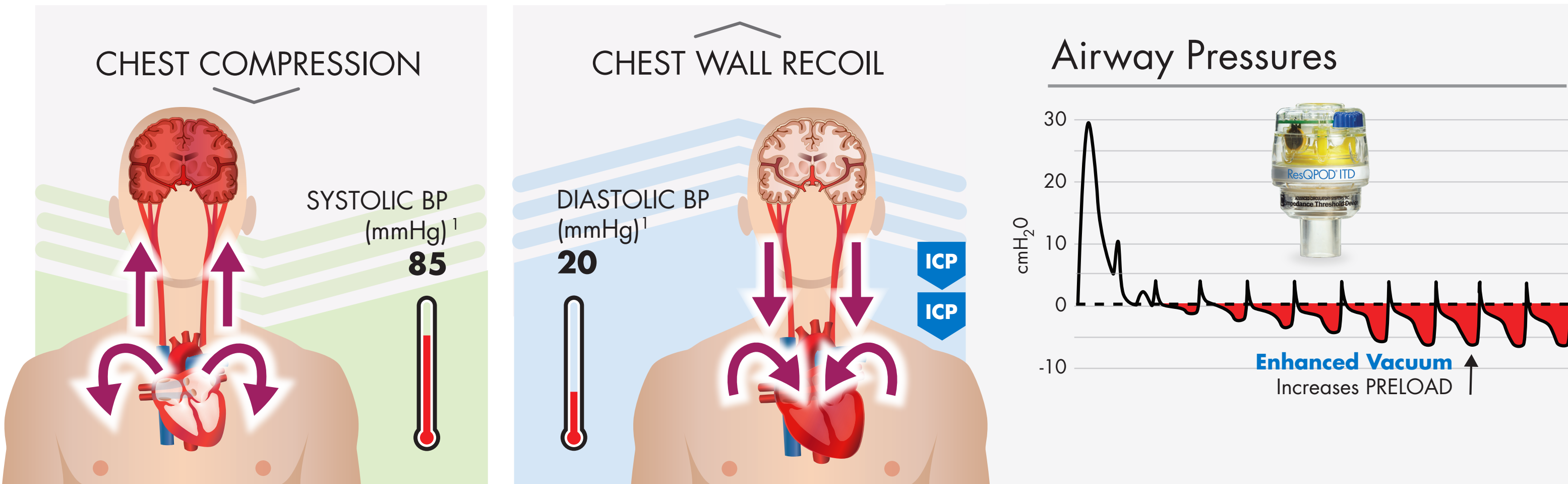


Conventional CPR—Limited Blood Flow

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.³ 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.



CPR with ResQPOD ITD – More Blood Circulated

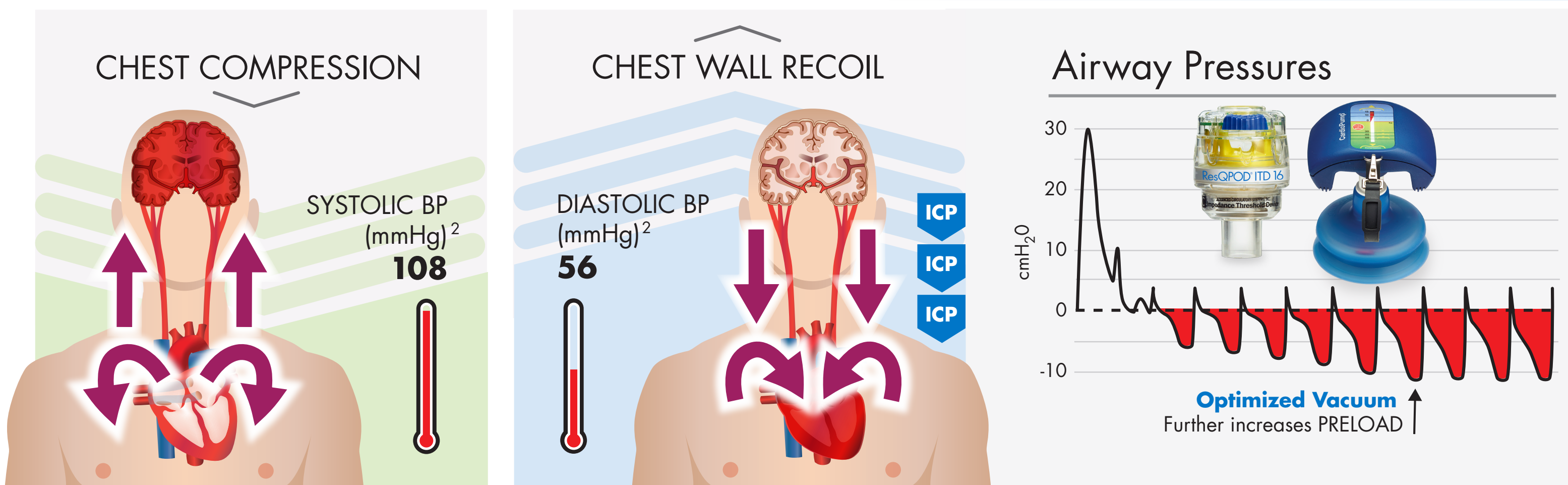


CPR with the ResQPOD ITD—More Blood Circulated

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).⁴



ResQCPR System – High Perfusion and Near-Normal Circulation



ResQCPR System—Near-Normal Circulation for High-Perfusion CPR

The CardioPump allows the rescuer to perform active compression-decompression CPR (ACD-CPR), which promotes complete and active chest recoil with up to 10 kg of lifting force. When the ResQPOD ITD 16 is combined with ACD-CPR (ResQCPR™), the result is a synergy that provides an even greater vacuum in the chest, lowering ICP and improving preload and cardiac output.⁴ A multi-center trial that randomized over 1600 patients showed a **53% increase in long-term, functional survival with ResQCPR versus standard CPR alone.**⁵



¹Pirrallo RG, et al. *Resuscitation*. 2005;66:13-20.
²Poisance P, et al. *Circulation*. 2000;101:989-994.
³Andrea P, et al. *Curr Opin Crit Care*. 2006;12:198-203.

⁴Metzger AK, et al. *Crit Care Med*. 2012;40(6):1851-1856.
⁵Aufderheide TP, et al. *Lancet*. 2011;377(9762):301-311.