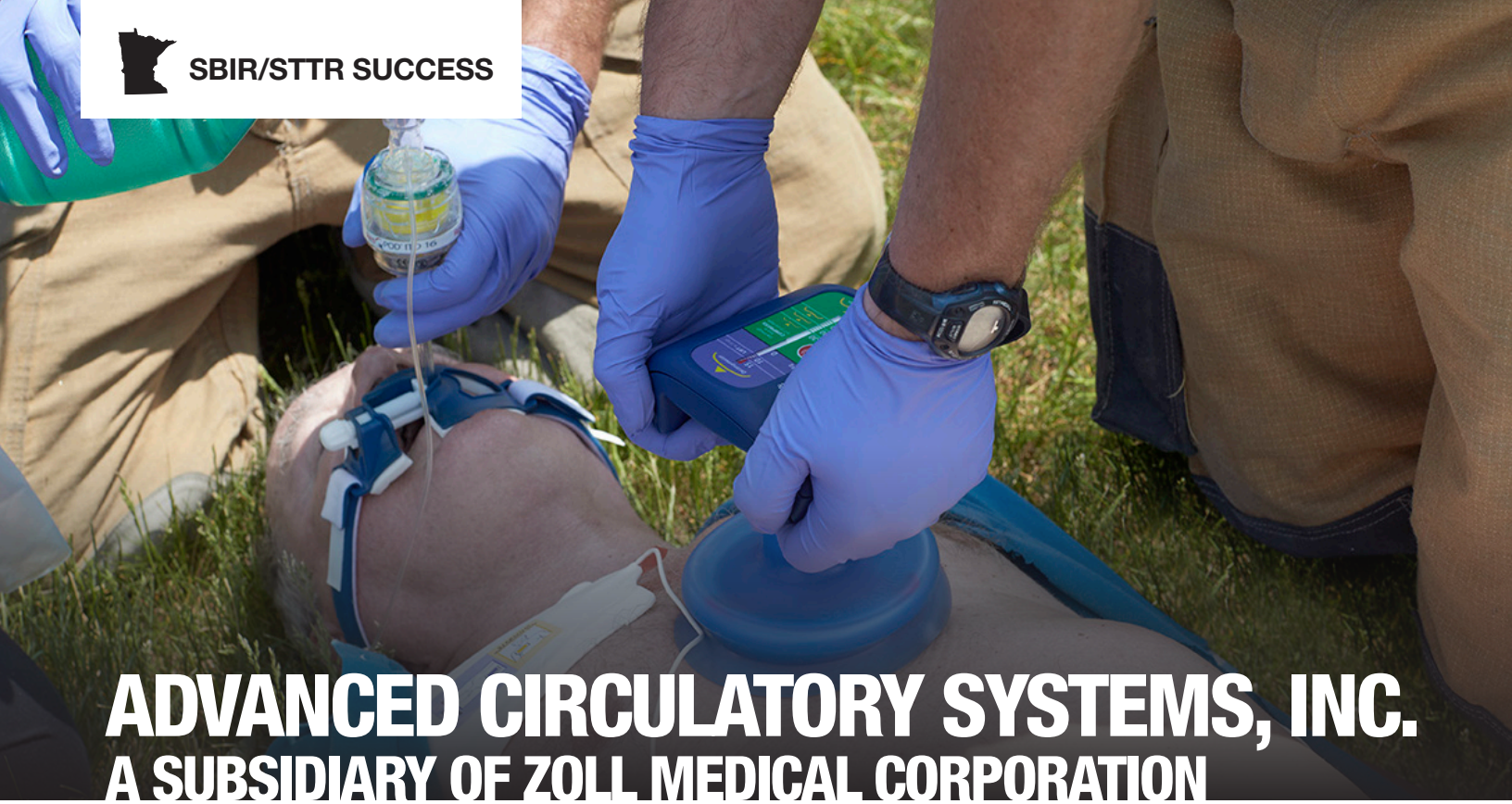
SBIR/STTR SUCCESS



ADVANCED CIRCULATORY SYSTEMS, INC.
A SUBSIDIARY OF ZOLL MEDICAL CORPORATION

What's better than one life-saving technology? Several life-saving technologies, of course, and a product suite that has propelled the success of small business Advanced Circulatory, furthering the company's reach and saving more lives.

PHASE III SUCCESS
In 2015 the US Food and Drug Administration (FDA) granted premarket approval to the ResQCPR System. ZOLL Medical acquired the small business and sells its devices to over 1,500 hospitals and EMS systems.

AGENCIES
NIH, DoD

SNAPSHOT
Advanced Circulatory Systems, Inc. turned numerous SBIR awards into FDA-approved, commercially successful, life-saving technologies. Its valuable Intrathoracic Pressure Regulation Therapy (IPR) solutions led to acquisition by ZOLL Medical in 2015.

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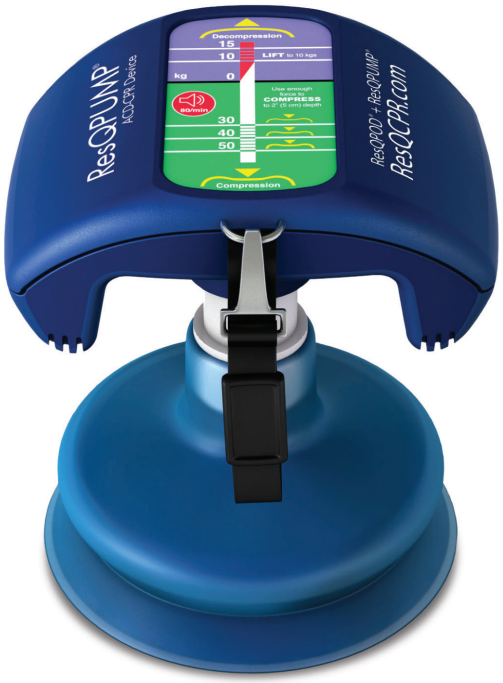
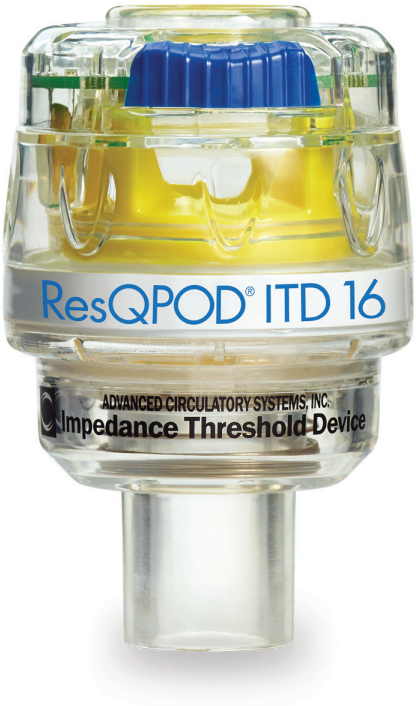
Founded almost 20 years ago by Dr. Keith Lurie, an electrophysiologist and CPR expert, Advanced Circulatory Systems, Inc. developed and commercialized technologies through the SBIR programs to restore life and improve the quality of life for patients experiencing cardiac arrest, low blood pressure, and head injury. The company's work interested ZOLL Medical Corporation, which purchased the company in 2015 and now markets its ResQCPR™ System.

Advanced Circulatory Systems, Inc., is based in Roseville, Minnesota and develops technologies to non-invasively increase circulation, meaning they use the body's own mechanisms to enhance circulation without the use of pharmaceutical or other agents. Multiple studies have demonstrated how these technologies may assist in increasing circulation, cardiac output, and systolic blood pressure. Its ResQCPR System is a CPR adjunct that consists of two synergistic devices, the ResQPOD® ITD 16 and the ResQPUMP® ACD-CPR device. Together, they increase blood flow during CPR. In 2015, the FDA approved the ResQCPR System as the only CPR adjunct to improve the likelihood of survival from cardiac arrest. The ResQCPR System is an exciting and significant development. A major clinical study showed a 49% increase in one-year survival from cardiac arrest when the system was used vs. standard CPR alone.[1]

"We are very proud to have received such a unique approval for the ResQCPR System. No other CPR device has an FDA indication to improve the likelihood of survival from cardiac arrest," said Advanced Circulatory Systems President, Michael Black.

[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.





Advanced Circulatory Systems received its first SBIR grant in 2000 from NIH and credits the program's early-stage funding with much of its success. The NIH SBIR and DoD SBIR funding helped to develop products and conduct pre-clinical and clinical studies to demonstrate their feasibility. In addition to product development the company forged a strategic partnership with the US Army Institute of Surgical Research through the SBIR program that helped the company understand the impact of its therapy.

"We are very proud to have received such a unique approval for the ResQCPR System. No other CPR device has an FDA indication to 'improve the likelihood of survival' from cardiac arrest."

MICHAEL BLACK
PRESIDENT

Intrathoracic pressure regulation (IPR) therapy creates a vacuum inside the chest cavity that enhances circulation, increases blood pressure, and lowers intracranial pressure. The development of this unique therapy was funded, in part, by NIH and manifested in the ResQPOD ITD product that received 510(k) clearance from the US Food and Drug Administration in 2003. Studies have shown that when combined with high-quality CPR, the ResQPOD ITD doubles blood flow to the heart, increases blood flow to the brain by 50%, and increases survival from cardiac arrest by 25% or more.[2,3,4]

The ResQPOD ITD 16 returns more blood to the heart (preload) and lowers intracranial pressure by regulating airflow during CPR to increase the vacuum in a patient's chest during chest wall recoil. The ResQPUMP ACD-CPR device further increases blood return by re-expanding the chest with a lift force of up to 10 kg. It is the only approved system for delivering true active compression-decompression CPR.

Based upon study results, the ResQCPR System could save thousands of lives each year in the U.S. if widely implemented.

Building upon the successes of Advanced Circulatory Systems, ZOLL Medical is committed to building out its pipeline of new products and potential applications of the IPR platform therapy. Presently, Advanced Circulatory Systems is focusing on developing next-generation products for use in CPR. The company continues to maintain its ties to the SBIR program by utilizing funding from the NIH SBIR program and its own funds to conduct clinical studies on brain injured patients to demonstrate the benefit of the therapy in that patient group.

"The combination of the ZOLL Medical and Advanced Circulatory resuscitation technology platforms will allow us to take our therapy to the next level," said Mr. Black. "ZOLL is committed to building out the IPR therapy platform as a key component of their resuscitation portfolio and we are excited about all of the possibilities that brings."

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[2]Langhelle A, et al. *Resuscitation*. 2002;52:39-48.
[3]Lurie KG, et al. *Chest*. 1998;113(4):1084-1090.
[4]Yannopoulos D, et al. *Resuscitation*. 2015;94:106-113.