CARL.
A HEARTBEAT AHEAD

CARL. SAM

Next Level of Simulation Training

High fidelity cannulation and ECPR trainer for extracorporeal support systems.
Train interdisciplinary team workflows, strengthen communication, and gain confidence in emergency situations.



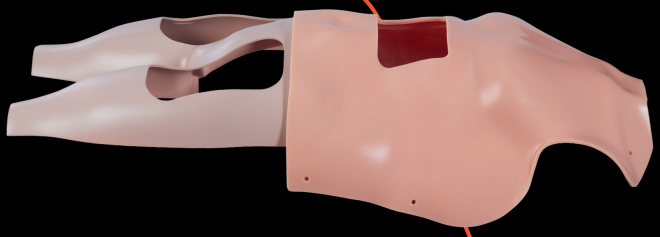
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CARL. SAM

Realistic cannulation training achieved through the integration of a high fidelity simulator.

Thoracic Cover & Ventral Panel

Abdominal ultrasound window for wire and cannula position control via ultrasound.
Adequate chest compression transfers to palpable pulse in circulation.





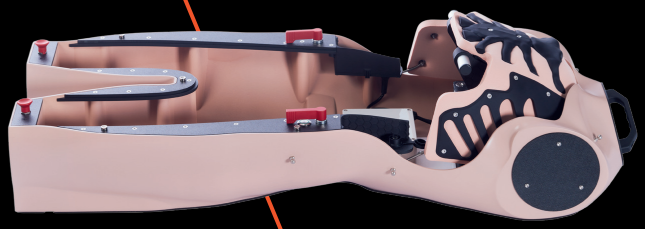
Cannulation Pads

Realistic femoral anatomy featuring replicas of vascular and osseous structures.
Anatomical landmarks and realistic tissue texture.

Fluid Kit

Realistic simulation of arterial and venous circulation.





Body

Portable body for easy relocation of the simulator.
Integrated mechanism for chest compression.

Flight case

For secure storage and easy transportation.



CARL. SAM Training Concept

Train workflows, strengthen communication, and gain confidence in emergencies



Realistic ECPR instruction

CARL SAM facilitates authentic ECPR training by integrating a CPR, cannulation and ECMO compatible trainer, enhanced by pulse palpation, simulated blood flow, and the option of two perfusion modes:

In Continuous Mode, a physiological circulation is simulated, whereas in CPR Mode, the quality of chest compressions is assessed and relayed into a derived circuit.

Ready, set, go.

The modular plug-and-play concept allows for the seamless utilization of the system including the Fluid Kit and Cannulation Pads.

Cannulation Pads

The pads consist of a tissue replicated from recyclable ballistic gelatin, a simulated vascular tube system adapted to the physiology of the groin, and a replica of the iliac and femoral bones.

Priming

Thanks to the self-priming priming program, the system can be automatically vented and is ready for use in just a few minutes.





Cannulation

Femoral puncture and cannulation can be performed using landmarks, palpation or ultrasound.

CARL. SAM Implementation Concept

Tailored solutions for your ECPR and cannulation training

The purchase of CARL SAM pays off after just a few training sessions. Your program will benefit from high fidelity training sessions, designed to shorten time to extracorporeal flow and build long-term in-house expertise in ECPR and cannulation.

It is also reccommended by the ELSO 2025 Guidelines: *"[...] high-fidelity simulation, has proven to be an essential educational tool to enhance team communication, improve crisis resource management skills, and bolster the collective ability to handle ECMO emergencies. Studies have demonstrated that this approach not only reduces errors but also leads to more effective clinical decision-making and improves leadership and communication skills among clinicians."* [1]



CARL. SAM

CARL. SAM in Operation

Contact us to discover more about our purchasing options.

thomas.shannon@resuscitec.com

TECHNICAL DATA:

Capacity	Approx. 2.5 Liters
Filling medium	Water
Measurements	Length 1065 mm ±5 mm Width 400 mm ±5 mm Height 285 mm ±5 mm.
Medical device	No

REFERENCES

1. Moore EA, et al. ELSO 2025 Narrative Guideline on ECMO Training and Continuing Education. ASAIO Journal 2026:72(4):274–83. doi:10.1097/MAT.0000000000002686.

Resuscitec Corp.
7200 Wisconsin Ave, Suite 500
Bethesda MD 20814
United States

Thomas Shannon
thomas.shannon@resuscitec.com
Mobile +1612.803.9534
www.resuscitec.com

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