



Adult ECMO Simulation Course

October 23 – 24, 2025



ECMO

OVERVIEW

The University of Michigan Health ECMO Program, established in 1981 by Dr. Robert Bartlett —known as the “Father of ECMO” — was the world’s first ECMO program. The department became further formalized in 1989 with the addition of dedicated, full-time ECMO specialists. With decades of experience in ECMO training and a rich history and tradition, the University of Michigan Health ECMO Program has been an industry leader in ECMO education from its founding and remains committed to excellence in training today. Recognized for its high standards, the program holds ELSO platinum certification, a mark of distinction in ECMO care and education.

This commitment to quality is exemplified by our achievement of ELSO Step 2 simulation endorsement. Achieving ELSO endorsement requires meeting rigorous standards in both didactic content and high-fidelity simulation. To obtain the full benefit of the simulation course, learners are required to complete ELSO foundations Step 1 course online. Participants can complete ELSO foundations and this endorse simulation course will thoroughly prepare them for the ELSO E-AEC certification exam.

This two-day simulation course will follow one patient from their indication for cannulation through their complications during their hospital stay over a series of 7 simulations (with one additional optional simulation), followed by a final “megacode” that incorporates all the skills learned and practiced.

INTENDED AUDIENCE

- Physicians
- Advanced practice providers
- Nurses
- Respiratory Therapists
- Perfusionists
- Any other healthcare professional who provides direct care for patients supported on extracorporeal membrane oxygenation devices

LOCATION

Medical Science Building II
1137 Catherine Street, Suite 2727
Ann Arbor, MI 48109



PRICING

External Participants.....\$1,875
Internal U-M Participants.....\$100

REGISTRATION

[URL Placeholder](#)

Maximum Capacity of course: 20

- 15 External Participants
- 5 Internal Participants

ACCREDITATION AND CREDITS

The University of Michigan Medical School is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The University of Michigan Medical School designates this live activity for a maximum of XX AMA PRA Category 1 Credit(s)[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

QUESTIONS ABOUT THE COURSE

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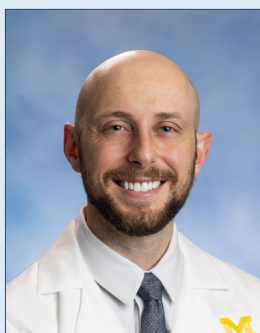
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FACULTY



C. Todd Sower, MD

Clinical Assistant Professor of Pediatrics
Specialty: Pediatric Cardiology, Pediatrics



Aaron Surrey, MD, E-AEC

Clinical Assistant Professor, Emergency Medicine
Clinical Assistant Professor, Anesthesia,
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Assistant Clerkship Director, Emergency Medicine
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Specialty: Emergency Medicine

SIMULATION STAFF

- Anne Bayes
- Andrew Frankowiak
- Spencer Hanson
- Ken Hunt
- Kelli Kennedy
- Gretchen Lawson
- Tessa Nicholl
- Yuki Peterson
- Todd Sower
- Aaron Surrey

AGENDA

DAY 1 – THURSDAY, OCTOBER 23, 2025

7:30 – 8 a.m.	Breakfast
8:00 – 10:00	Simulation 1 (Initial Patient Discussion)
10:00 – 10:15	BREAK
10:15 – 12 p.m.	Simulations 2 & 3
12:00 – 1:00	LUNCH
1:00 – 4:00	Simulations 4 & 5

DAY 2 – FRIDAY, OCTOBER 24, 2025

8 – 9:45 a.m.	Simulation 6 (Additional Sim)
9:45 – 10:00	BREAK
10:00 – 12 p.m.	Simulation 7 (Megacode)

COURSE OBJECTIVES

- Familiarize with the ECMO circuit components
- Understand the knobology for various ECMO controllers, including changing RPM, changing sweep, silencing/turning off alarms, changing alarms, etc.
- Familiarize and practice wet-to-wet connections, and de-air the circuit in a “wet-lab” environment
- Discuss recommendations with respect to determining candidacy for vvECMO
- Recognize and manage venous drainage insufficiency
- Understand the differential of venous drainage insufficiency
- Recognize hypoxia on vvECMO
- Understand the differential for hypoxia on vvECMO
- Recognize the signs of oxygenator failure
- Complete an oxygenator exchange (or circuit exchange depending on circuit)
- Understand the risks of air entrainment and cavitation
- Recognize signs of air in the circuit
- Implement various techniques for de-airing
- Understand indications to clamp off ECMO in the setting of air in the circuit
- Recognize indication for ECPR
- Perform the integration of an additional/new limb into an ECMO circuit
- Understand the causes for pump or console failure
- Recognize the indication for switching to back up pump
- Execute exchanging the pump head motor
- Identify and manage limb ischemia on VA ECMO
- Perform the integration of a distal perfusion catheter
- Demonstrate competency in successfully managing:
 - o Venous drainage insufficiency
 - o Oxygenator failure
 - o Air embolism
 - o Pump failure
 - o Incorporation of new/additional ECMO limb
 - o Circuit exchange