

Mayo Clinic's Current Concepts in Extracorporeal Life Support:
 Medical Management and High-Fidelity Cannulation Simulations
 December 1-4, 2021

Pre-Course Workshop – Additional Registration Required Basic Transesophageal Echocardiography for Extracorporeal Membrane Oxygenation Wednesday, December 1, 2021 Simulation Center	
7:00 a.m.	Registration & Continental Breakfast
7:50	Opening Remarks <i>James A. Nelson, M.B.B.S. and Jon M. Christensen, M.D.</i>
8:00	Didactic Lectures (Group A & B) TEE Simulation (Group C & D)
9:00	Didactic Lectures (Group C & D) TEE Simulation (Group A & B)
10:00	High-Fidelity Simulation TEE simulation with Ultrasound Simulator <i>James A. Nelson, M.B.B.S., Jon M. Christensen, M.D., Wesley L. Allen, M.D., and Suraj M. Yalamuri, M.D., Allan M. Klompas, M.B., B.Ch., B.A.O.</i>
11:00	High-Fidelity Simulation TEE simulation with Ultrasound Simulator <i>James A. Nelson, M.B.B.S., Jon M. Christensen, M.D., and Bradford B. Smith, M.D., and Suraj M. Yalamuri, M.D., Allan M. Klompas, M.B., B.Ch., B.A.O.</i>
12:00 p.m.	Lunch
1:00	High-Fidelity Simulation TEE simulation with Ultrasound Simulator <i>James A. Nelson, M.B.B.S., Jon M. Christensen, M.D., and Suraj M. Yalamuri, M.D.</i>
2:00	Closing Remarks and Adjourn <i>James A. Nelson, M.B.B.S. and Jon M. Christensen, M.D.</i>

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Thursday, December 2, 2021	
Mayo Clinic Kinne Auditorium – Cannaday Building	
7:00	Registration & Continental Breakfast
7:20	Welcome & Course Highlights <i>Gregory J. Schears, M.D.</i>
7:30	ECMO History and Overview <i>Gregory J. Schears, M.D.</i>
ECMO Introduction	
8:00	Physiology and Evidences of VA & VV ECMO <i>Heidi J. Dalton, M.D.</i>
8:40	Management Tips <i>Suraj M. Yalamuri, M.D.</i>
9:00	ECPR Rational /Trials <i>Pramod K. Guru, M.B.B.S., M.D.</i>
9:30	Break and Exhibits
9:45	Cannulation Reassessment and Reconfiguration <i>Mauricio A. Villavicencio Theoduloz, M.D.</i>
10:15	Essentials of Anticoagulation during ECMO <i>Troy G. Seelhammer, M.D.</i>
10:45	Heart Failure: Physiology and Management <i>Parag C. Patel, M.D.</i>
11:15	Lunch & Learn <ul style="list-style-type: none"> • Setting up for Success (15 minutes) Gregory J. Schears, M.D. • Questions and Answers (15 minutes)
Afternoon Simulations/Small Groups	
Simulation Center	
Rotation #1 12:15 – 1:00	Group A: Cannulation → Basics of Percutaneous Cannulation (45 minutes) A - <i>Suraj M. Yalamuri, M.D. / Matthew Read, M.D. / Mauricio A. Villavicencio Theoduloz, M.D. / Patrick A. DeValeria, M.D. / Thomas E. Brown, C.C.P. / Mick D. Nichols, R.N. / Kristy L. Pihoda, R.R.T., L.R.T. / Lauren M. Trende, R.R.T, L.R.T.</i>
Rotation #2 1:05 – 1:50	Group B: Extended Reality → VR; AR TEE; 3D Anatomage; Physiology video game B (45 minutes) - <i>James A. Nelson, M.B.B.S.(TEE) / Jon M. Christensen, M.D.(TEE) / Suraj M. Yalamuri, M.D. / Troy G. Seelhammer, M.D. (Videogame) / Jonathan M. Morris, M.D. (VR) / Basar Sareyyupoglu, M.D. (Anatomage)</i>
Break 1:50 – 2:05	
Rotation #3 2:05 – 2:50	Group C: Guided Simulation → Respiratory Failure (45 minutes) C - <i>Michael E. Nemergut, M.D., Ph.D. / Sanjay Chaudhary, M.B.B.S., M.D. / Heidi J. Dalton, M.D. / Devang K. Sanghavi, M.B.B.S., M.D.</i>
Rotation #4 2:55 – 3:40	Group D: High-Fidelity Simulation → Circuit Emergencies & Transport (45 minutes) D - <i>Errin L. Kalvelage, R.R.T., L.R.T. / Joseph R. Shiber, M.D. / Erica L. Beach, C.C.P. / Sean P. Kiley, M.D. / Mick D. Nichols, R.N. / Rachel Hannon, APRN</i>
3:40 – 4:00	Debrief and Adjourn

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Friday, December 3, 2021	
Mayo Clinic Kinne Auditorium – Cannaday Building	
ECMO Intermediate	
7:00 a.m.	Continental Breakfast
8:00	What does the Echo Show? – Echo in Weaning ECMO <i>James A. Nelson, M.B.B.S.</i>
8:30	To Breathe or Not to Breathe? - Mechanical Ventilation on ECMO <i>J. Kyle Bohman, M.D. – Remote Presentation</i>
9:00	Dollars & Cents <i>J. Kyle Bohman, M.D. – Remote Presentation</i>
9:30	Break and Exhibits
9:45	What Does the Circuit Eat? - Pharmacology and Drug Dosing on ECMO <i>Scott D. Nei, Pharm.D., R.Ph.</i>
10:15	Is it Time to Come Off? – Weaning Strategies for VV/VA ECMO <i>Christoph G. Nabzdyk, M.D. – Remote Presentation</i>
10:45	Avoiding the “Bloody Mess”: Transfusion and ECMO <i>Allan M. Klompas, M.B., B.Ch., B.A.O.</i>
11:15	Lunch & Learn <ul style="list-style-type: none"> • Prognostication: Power and Limitation of Prediction (15 minutes) Troy G. Seelhammer, M.D. • Questions and Answers (15 minutes)
Afternoon Simulations/Small Groups	
Simulation Center	
Rotation #1 12:15 – 1:00	Group A: Cannulation → Adding a Third Cannula/Circuit Reconfigurations (45 minutes) A <ul style="list-style-type: none"> - <i>Suraj M. Yalamuri, M.D. / Matthew Read, M.D. / Mauricio A. Villavicencio Theoduloz, M.D. / Patrick A. DeValeria, M.D. / Thomas E. Brown, C.C.P. / Mick D. Nichols, R.N. / J. Ross Renew, M.D. / Errin L. Kalvelage, R.R.T., L.R.T.</i>
Rotation #2 1:05 – 1:50	Group B: Extended Reality → VR; AR TEE; 3D Anatomage; Physiology video game B <ul style="list-style-type: none"> - <i>James A. Nelson, M.B.B.S.(TEE) / Jon M. Christensen, M.D.(TEE) / Wesley L. Allen, M.D.(TEE) / Suraj M. Yalamuri, M.D. (Videogame) / Jonathan M. Morris, M.D. (VR) / Basar Sareyyupoglu, M.D. (Anatomage)</i>
Break 1:50 – 2:05	
Rotation #3 2:05 – 2:50	C1: Bedside Simulation → Refractory Hypoxemia on VV ECMO (45 minutes) C <ul style="list-style-type: none"> - <i>Juan C. Diaz Soto, M.D. / Michael E. Nemergut, M.D., Ph.D. / Nathan D. Peffley, M.D. / Kristy L. Prihoda, R.R.T., L.R.T. / Erica L. Beach, C.C.P.</i>
Rotation #4 2:55 – 3:40	C2: Bedside Simulation → Refractory Hypoxemia on VV ECMO (45 minutes) <ul style="list-style-type: none"> - <i>Sanjay Chaudhary, M.B.B.S., M.D. / Gregory J. Schears, M.D. / Lauren M. Trende, R.R.T., L.R.T. / Stephanie A. Blakeman, R.N.</i>
	Group D: Small Group #1 → Coagulation Management (45 minutes) D <ul style="list-style-type: none"> - <i>Troy G. Seelhammer, M.D. / Anirban Bhattacharyya, M.D. / Heidi J. Dalton, M.D. / Allan M. Klompas, M.B., B.Ch., B.A.O.</i>
3:40 – 4:00	Debrief and Adjourn

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Saturday, December 4, 2021	
Mayo Clinic Kinne Auditorium – Cannaday Building	
ECMO Advanced	
7:00 a.m.	Continental Breakfast
8:00	COVID Corner – Latest on the Pandemic and ECMO <i>Pablo Moreno Franco, M.D.</i>
8:30	What About the Liver and Kidneys? – CRRT and MARS on ECMO <i>Nathan D. Peffley, M.D.</i>
9:00	Not Just Rescue – ECMO for Lung Transplant <i>Archer K. Martin, M.D.</i>
9:30	Break and Exhibits
9:45	Play Nice – Other Mechanical Circulatory Support Devices and ECMO <i>Atta Behfar, M.D., Ph.D.</i>
10:15	You Did What?!? – Unique ECMO Strategies <i>Suraj M. Yalamuri, M.D.</i>
10:45	Common Weaning Mistakes and How to Avoid Them <i>Gregory J. Schears, M.D.</i>
11:15	Lunch & Learn <ul style="list-style-type: none"> • Ethical Considerations in the MCS Era (15 minutes) Pramod K. Guru, M.B.B.S., M.D. • Questions and Answers (15 minutes)
Afternoon Simulations/Small Groups	
Simulation Center	
Rotation #1 12:15 – 1:00	Group A: Mega Code Simulation #1 → ECPR Head-to-Head (45 minutes) - <i>Suraj M. Yalamuri, M.D. / Matthew Read, M.D. / Thomas E. Brown, C.C.P. / Mick D. Nichols, R.N. / Errin L. Kalvelage, R.R.T., L.R.T.</i>
Rotation #2 1:05 – 1:50	Group B: Mega Code Simulation #2 → Cardiogenic Shock (45 minutes) - <i>Sanjay Chaudhary, M.B.B.S., M.D. / Gregory J. Schears, M.D. / Heidi J. Dalton, M.D. / James L. Johnson, Jr. C.C.P. / Erica L. Beach, C.C.P. / Michael E. Nemergut, M.D., Ph.D.</i>
Break 1:50-2:05	C1: Small Group #1 → Saving Heart & Limbs (LV Venting & DPC Strategies) (45 minutes) - <i>Atta Behfar, M.D., Ph.D. / Michael E. Barfield, M.D. / Sean P. Kiley, M.D.</i>
Rotation #3 2:05 – 2:50	C2: Small Group #2 → Saving Heart & Limbs (LV Venting & DPC Strategies) (45 minutes) - <i>Patrick A. DeValeria, M.D. / Si M. Pham, M.D.</i>
Rotation #4 2:55 – 3:40	D1: Small Group #1 → COVID (45 minutes) - <i>Devang K. Sanghavi, M.B.B.S., M.D. / Pablo Moreno Franco, M.D. / Pramod K. Guru, M.B.B.S., M.D. / Nathan D. Peffley, M.D.</i>
3:40 – 4:00	Debrief and Adjourn