ESTS SCHOOL

ESTS SCHOOL OF THORACIC SURGERY

BASIC ADULT ECMO COURSE AND SIMULATION TRAINING FOR THORACIC SURGEONS

17-18 December 2026 | **University Hospital Zurich · Switzerland**





Join us for an immersive ESTS Basic Adult ECMO Course and Simulation Training tailored for thoracic surgeons on December 2026, in Zurich.

Delve into the intricacies of ECMO technology and its historical evolution, grasp essential circuit components, and master cannulation techniques for both VV and VA ECMO configurations. Engage in hands-on sessions, covering a spectrum of skills from percutaneous implantation to troubleshooting, alongside insightful discussions on patient management strategies.

This unique opportunity promises to enhance your proficiency in ECMO implementation and optimize patient care.

Reserve your spot soon for an enriching educational experience!

INFORMATION & REGISTRATION: www.ests.org

DAY 1: THURSDAY 17 DECEMBER 2026

10:30-10:45 Welcome
Isabelle Opitz | Omer Dzemali | Sara Pieropan

SESSION I: INTRODUCTION

10:45-11:05 **ECMO overview & History of ECMO and ELSO (different modes of ECMO support, milestones in the development of ECMO)**
Tobias Aigner

SESSION II: CIRCUIT COMPONENTS

11:05-11:25 **Circuit Overview, Cannulas & Tubing, Pump, Membrane Lung and Blender, Pressure Monitoring, Other circuit components**
Tobias Aigner

SESSION III: CANNULATION & CONFIGURATION

11:25-11:45 **Cannulation, VV ECMO configurations, VA ECMO configurations, Cannulation complications**
Martin Schmiady

11:45-12:45 Lunch break

SESSION IV: PHYSIOLOGY

12:45-13:05 **Oxygen delivery & uptake, gas transfer in the membrane lung, hemodynamic monitoring on VV & VA ECMO, drainage insufficiency, return obstruction**
Sebastian Bründler

SESSION VIIIa: COMPLICATIONS (SURGICAL-RELATED)

13:05-13:35 **Complications Overview, Neurological Complications, Bleeding, thrombosis, hemolysis, limb ischemia, cardiac arrest during ECMO, HIT**
Laura Rings

SESSION VIIIb: COMPLICATIONS (CIRCUIT-RELATED)

13:35-14:05 **Blood cell trauma, membrane lung dysfunction, air embolism, pump failure, circuit disruption, accidental decannulation, coming off ECMO emergently**
Tobias Aigner

14:05-14:35 Coffee break

14:35-15:35 **HANDS-ONS SESSION**

Group 1 **Training on mannequin (percutaneous implantation): overview material, cannulation techniques, ideally ultrasound-guided**

Group 2 **Priming and troubleshooting with the perfusion simulator: priming the circuit, simulation of gas supply failure, Harlequin syndrome, membrane oxygenator clotting**

15:35-15:50 Coffee Break

15:50-16:50 **HANDS-ONS SESSION**

Group 1 **Priming and troubleshooting with the perfusion simulator: priming the circuit, simulation of gas supply failure, Harlequin syndrome, membrane oxygenator clotting**

Group 2 **Training on mannequin (percutaneous implantation): overview material, cannulation techniques, ideally ultrasound-guided**

16:50-17:00 Break

SESSION V: V-V ECMO

17:00-17:30 **Respiratory failure**
Sara Pieropan

17:30-18:00 **Patient selection for and initiation of V-VECMO**
Sara Pieropan

18:00-18:30 **V-V ECMO maintenance, recirculation, mechanical ventilation, weaning of V-V ECMO**
Sara Pieropan

18:30-18:45 **Discussion & recap**

ESTS SCHOOL OF THORACIC SURGERY

DAY 2: FRIDAY 18 DECEMBER 2026

08:30-09:15 Welcome back & questions
All faculty

SESSION VI: V-A ECMO

09:15 -09:40 **Cardiac failure & intraoperative use for ECMO**
Martin Schmiady

09:45-10:10 **Perioperative Support for Lung Transplant**
György Lang

10:15-10:45 **Bridge to Lung Transplan**
György Lang

10:45-11:15 *Coffee break*

11:15- 12:45 **HANDS-ONS SESSION**

11:15- 12:15
Group 1 **eCPR: theoretical and practical aspects: mechanical and medical resuscitation on ECMO, management of left ventricular distension**

11:15- 11:45
Group 2 **Proning on ECMO: practical aspects: practical exercise of proning an ECMO patient, simulation of gas supply failure or venous air entrainment**

12:15- 12:45
Group 1 **Proning on ECMO: practical aspects: practical exercise of proning an ECMO patient, simulation of gas supply failure or venous air entrainment**

12:15- 12:45
Group 2 **eCPR: theoretical and practical aspects: mechanical and medical resuscitation on ECMO, management of left ventricular distension**

12:45-13:00 *Coffee break*

SESSION VII: PATIENT MANAGEMENT

13:00-13:40 **Sedation, Physiotherapy, Anticoagulation, Procedures, Renal Replacement Therapy, Hospital Transport**
Tobias Renner

13:40-14:00 **Discussion & recap**



COURSE DIRECTORS



Isabelle Opitz
Zurich, Switzerland



Omer Dzemali
Zurich, Switzerland



Sara Pieropan
Strasbourg, France

LECTURERS



Martin Schmiady, MD
University Hospital Zurich
Department of Cardiac Surgery



György Lang, MD, Prof.
University Hospital Zurich
Department of Thoracic Surgery



Laura Rings, MD
University Hospital Zurich
Department of Cardiac Surgery



Pierre-Emmanuel Falcoz, MD, PhD, Prof.
University Hospital Strasbourg
Head Department of Thoracic Surgery



Tobias Aigner, B.Sc.
University Hospital Zurich
Department of Thoracic Surgery,
Chief Perfusionist



Omer Dzemali, MD, Prof.
University Hospital Zurich
Head Department of Cardiac Surgery



Tobias Renner, MD
University Hospital Zurich
Institute of Anaesthesiology



Sebastian Bründler
Stadtspital Zurich
Department of Cardiac Surgery