



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

10:30-10:45 Welcome
Isabelle Opitz | Omer Dzemali |
Pierre Emmanuel Falcoz

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 VIIa: COMPLICATIONS (SURGICAL-RELATED)

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

SESSION VIIb: 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
Pierre Emmanuel Falcoz

17:30-18:00 Patient selection for and initiation of
V-VECMO
Pierre Emmanuel Falcoz

18:00-18:30 V-V ECMO maintenance, recirculation,
mechanical ventilation, weaning of
V-V ECMO
Pierre Emmanuel Falcoz

18:30-18:45 Discussion & recap

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



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LECTURERS



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