EURO-ELSO 2015

bridge to future May 7-10

4th International Congress

Regensburg, Germany







Extracorporeal support in respiratory and circulatory failure

www.regensburg-euroelso2015.com

IMPRINT

Editorial Responsibility

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WELCOME NOTE

Dear Colleagues,

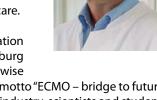
extracorporeal cardiopulmonary support is a rapidly evolving technique in intensive care medicine, cardiothoracic surgery and cardiology worldwide. It has provided new options in the treatment of severe circulatory and respiratory failure in patients of all age groups. The innovative development of miniaturized, technically optimized devices is considered to be a revolution in critical care by many, saving the life of patients. With growing experience in various fields of intensive care medicine, the knowledge of efficiency of ECMO, but also of potential complications expands in a fast pace.

Despite its rapid dissemination, more evidence is needed before ECMO becomes the standard of care.

The 4th international congress of the EuroELSO, branch of the Extracorporeal Life Support Organization (ELSO), will be held in Regensburg/Germany. As an important mediaeval trading centre, Regensburg served as a bridge from south to north and west to east. Extracorporeal life support therapies likewise serve in many instances as a bridge, a bridge to survival. Thus, the congress is organized under the motto "ECMO – bridge to future"

and will be a platform for an extensive scientific exchange among all involved medical specialities, industry, scientists and students in order to improve ECMO therapy in the critically ill.

I cordially welcome you to participate in this exciting event and enjoy the beauty of our mediaeval city.



PD Dr. Thomas Müller

ORGANISING COMMITTEE

Organiser of the Congress

University Medical Centre Regensburg on behalf of EuroELSO



Chairman

University Medical Centre Regensburg PD Dr. Thomas Müller Franz-Josef-Strauss-Allee 11 93053 Regensburg, Germany Email: thomas.mueller@ukr.de

Co-Chairmen

Prof. Dr. Christof Schmid Prof. Dr. Thomas Bein Mr. Alois Philipp

Local Organising Committee

Prof. Dr. Thomas Bein PD Dr. Daniele Camboni Mr. Michael Ertl Dr. Jürgen Kunkel Dr. Matthias Lubnow Dr. Dirk Lunz PD Dr. Thomas Müller Mr. Alois Philipp Dr. Robert Zant

Congress Secretariat

INTERPLAN AG Sonja Hentsch Landsberger Str. 155, House 1 80687 Munich, Germany Email: euroelso2015@interplan.de





SCIENTIFIC PROGRAMME - OVERVIEW

Pre-Congress (University Medical Centre Regensburg)

Thursday, May 7th 2015

	Lecture Theater A2	Seminar Room A2 a – c	Seminar Room Anesthesiology C4	Helicopter Hangar
1:00 – 2:45 pm	Session A: ECLS in 2015	Adult Training Course A	Flow Physiology of Cannulation A Part 1	Practical Aspects of ECLS Transport A
	page 8	page 8	page 8	page 8
2:45 – 3:15 pm		Coffee	Break	
3:15 – 5:00 pm	Session B: Management of ECLS Part 1	Adult Training Course B	Flow Physiology of Cannulation A Part 2	Practical Aspects of ECLS Transport B
	page 8	page 8	page 8	page 8

Friday, May 8th 2015

	Lecture Theater A2	Seminar Room A2 a – c	Seminar Room Anesthesiology C4	Seminar Room Cardiac Surgery C4
8:15 – 9:45 am	Session C: Management of ECLS Part 2	Adult Training Course C	Flow Physiology of Cannulation B Part 1	Prehospital E-CPR Workshop A
	page 9	page 9	page 9	page 9
9:45 – 10:00 am	Coffee Break			
	Lecture Theater A2	Statur	Seminar Room Anesthesiology C4	Seminar Room Cardiac Surgery C4
10:00 – 11:30 am	Session D: Difficult, problematic and unusual cases	Trouble Shooting in pediatric and neonatal ECLS Part 1 – 3	Flow Physiology of Cannulation B Part 2	Prehospital E-CPR Workshop B
	page 9	page 9	page 9	page 9

SCIENTIFIC PROGRAMME - OVERVIEW

Main Congress (University of Regensburg)

Friday, May 8th 2015

1:00 – 1:30 pm	Audimax Congress Opening	
1:30 – 3:00 pm	Session 1: A life time experience of ECMO	page 10
3:00 – 3:30 pm	Coffee Break	
3:30 – 4:30 pm	Session 2: VV ECMO in viral disease	page 10
4:30 – 5:45 pm	Session 3: Assist devices in cardiogenic shock 2015	page 10
5:45 – 6:30 pm	Get together within the Exhibition Area	
7:30 – 8:45 pm	Concert: Regensburger Domspatzen and Cathedral Organ – Cathedral "St. Peter"	

Saturday, May 9th 2015

	Audimax	Room H2	Room H3
7:30 – 9:00 am	Industry Sponsored Workshop (Session Room: H9)		
9:00 – 10:45 am	Session 4a: Cardiopulmonary resuscitation and E-CPR page 11	Session 4b: ECLS in Eastern Europe	Session 4c: Prediction of outcome
10:45 – 11:15 am		Coffee Break	
11:15 – 12:30 pm	Session 5a: Complications of ECMO- inescapable or avoidable?	Session 5b: VA ECMO becoming routine in critical care	Session 5c: Best abstracts I
12:40 – 1:30 pm	In	dustry Sponsored Lunch Sympos	ia
1:30 – 2:00 pm	Coffee Break		
2:00 – 3:00 pm	Session 6a: Adult ECLS: VV ECMO and ventilation	Session 6b: Technique of ECLS in neonates and children page 13	Session 6c: New techniques
3:00 – 4:00 pm	Session 7a: Transport on ECLS	Session 7b: ECMO in specific scenarios	Session 7c: Best abstracts II
	page 13	page 13	page 14
4:00 – 4:30 pm		Coffee Break	
4:30 – 5:30 pm	Session 8a: Extracorporeal CO2 elimination	Session 8b: Ventilation strategies of pediatric patients on ECMO page 14	Session 8c: News from my lab
5:30 – 6:30 pm	Session 9a: Quality improvement in ECLS	Session 9b: Pediatric E-CPR	
7:00 pm	Sightseeing Tour of Castle Thurn	. 3	
7:45 pm	Congress Gala Dinner – Castle 1	hurn und Taxis	



SCIENTIFIC PROGRAMME - OVERVIEW

Main Congress (University of Regensburg)

Sunday, May 10th 2015

	Audimax	Room H2
8:15 – 9:45 am	Industry Sponsored	Workshop (Room H9)
8:30 – 9:45 am	Session 10a: Problems in ECLS: prevention and therapy page 16	Session 10b: Hypothermia and ECMO
9:45 – 10:45 am	Session 11a: ECLS in special situations I	Session 11b: Economy and ethics
10:45 – 11:15 am	Coffee	e Break
11:15 – 12:45 pm	Session 12: ECLS in special situations II	
	page 17	
12:45 – 1:00 pm	Closing remarks and welcome to Glasgo	w 2016



SCIENTIFIC PROGRAMME - PRE-CONGRESS

Thursday, May 7th 2015

1:00 – 2:45 pm Lecture Theater A2	Session A: ECLS in 2015 Session Chairs: Bob Bartlett, US and Bernhard Graf, Germany
	L1: The role of ECLS in intensive care today: methods, indications, evidence Giles Peek, US L2: Physiology of gas transfer: what you should know Antonio Pesenti, Italy L3: Pumps and oxygenators 2015: overview of available technique Christoph Benk, Germany L4: Cannulation in VV ECMO Roberto Roncon-Albuquerque, Portugal L5: Cannulation in VA ECMO Hergen Buscher, Australia L6: Indicators for exchange of oxygenator and pump Maik Foltan, Germany
1:00 – 2:45 pm Seminar Room A2 a / b / c	Adult training course A (Part 1 – 3) Stefan Koch, Germany, Frank Stickel, Germany, Fabio Mancina, Germany, Thomas Lykkeberg, Denmark
1:00 – 2:45 pm Seminar Room Anesthesiology C4	Flow physiology of cannulation A (Part 1) Christiaan Matheve, Belgium, Hans Seiler, Germany
1:00 – 2:45 pm Helicopter Hangar	Practical aspects of ECLS transport A Dirk Lunz, Germany, Alois Philipp, Germany, Dirk Buchwald, Germany
2:45 – 3:15 pm	Coffee Break
3:15 – 5:00 pm Lecture Theater A2	Session B: Management of ECLS Part 1 Session Chairs: Joseph Zwischenberger, US and Matthias Lubnow, Germany
	L1: Anticoagulation on ECLS: goals and options Thomas Bein, Germany L2: ECMO-induced coagulation disorders: how to recognize and treat Enno Wildschut, Netherlands L3: News on haemoglobin content: when to transfuse? Bill Lynch, US L4: Modem sedation on ECMO Daniel Herr, US L5: The practical management of mobilization on ECLS Kathleen Daly, UK
3:15 – 5:00 pm Seminar Room A2 a / b / c	Adult training course B (Part 1 – 3) Stefan Koch, Germany, Frank Stickel, Germany, Fabio Mancina, Germany, Thomas Lykkeberg, Denmark
3:15 – 5:00 pm Seminar Room Anesthesiology C4	Flow physiology of cannulation A (Part 2) Christiaan Matheve, Belgium, Hans Seiler, Germany
3:15 – 5:00 pm Helicopter Hangar	Practical aspects of ECLS transport B Dirk Lunz, Germany, Alois Philipp, Germany, Dirk Buchwald, Germany



SCIENTIFIC PROGRAMME - PRE-CONGRESS

Friday, May 8th 2015

8:15 – 9:45 am Lecture Theater A2	Session C: Management of ECLS, Part 2 Session Chairs: Lars Maier, Germany and Luciano Gattinoni, Italy
	L1: Essentials for quality improvement in ECLS Alain Combes, France L2: Management of VA ECMO: views of a perfusionist Dirk Buchwald, Germany L3: Ventilation in cardiogenic shock on VA ECMO: the risks of two circulations Shinhiro Takeda, Japan L4: Weaning from VA ECMO, practical advices Christian Lindskov, Denmark L5: Weaning from VV ECMO, is there a "best way"? Eddy Fan, Canada
8:15 – 9:45 am Seminar Room A2 a /b/ c	Adult training Course C (Part 1 – 3) Stefan Koch, Germany, Frank Stickel, Germany, Fabio Mancina, Germany, Thomas Lykkeberg, Denmark
8:15 – 9:45 am Seminar Room Anesthesiology C4	Flow physiology of cannulation B (Part 1) Christiaan Matheve, Belgium, Hans Seiler, Germany
8:15 – 9:45 am Seminar Room Cardiac Surgery C4	Prehospital E-CPR workshop A York Zausig, Germany, Roman Herzog, Germany, Alois Philipp, Germany
9:45 – 10:00 am	Coffee Break
10:00 – 11:30 am Lecture Theater A2	Session D: Difficult, problematic and unusual cases Session Chairs: Roberto Lorusso, Italy and Björn Frenckner, Sweden
	L1: VV ECMO (2) Thomas Staudinger, Austria L2: ECCO2R (1) Christian Karagiannidis, Germany L3: VA ECMO (2) Yih-Sharng Chen, Taiwan L4: Pediatric ECMO (2) Sertac Cicek, Turkey
10:00 – 11:30 am Statur	Trouble shooting in pediatric and neonatal ECLS (Part 1 – 3) Matteo Di Nardo, Italy, Jürgen Kunkel, Germany, Robert Zant, Germany, Christian Stocker, Australia
10:00 – 11:30 am Seminar Room Anesthesiology C4	Flow physiology of cannulation B (Part 2) Christiaan Matheve, Belgium, Hans Seiler, Germany
10:00 – 11:30 am Seminar Room Cardiac Surgery C4	Prehospital E-CPR workshop B York Zausig, Germany, Roman Herzog, Germany, Alois Philipp, Germany

Friday, May 8th 2015

1:00 – 1:30 pm Audimax	Congress Opening EuroELSO President's, ELSO President's and Chairman's welcome address; Student Orchestra Roberto Lorusso, Italy/ James Fortenberry, US/ Thomas Müller, Germany
1:30 – 3:00 pm Audimax	Session 1: A life time experience of ECMO Session Chairs: Roberto Lorusso, Italy and Dan Brodie, US
	L1: The early days of ECMO in Germany – my memories Konrad Falke, Germany L2: The role of ECCO2R in modern intensive care – my opinion Antonio Pesenti, Italy L3: 30 Years of ECLS: what time taught me Kenneth Palmer, Sweden L4: Indication and importance of extracorporeal support in the era of protective ventilation – my credo Luciano Gattinoni, Italy L5: The essence of ECLS – my convictions today and in 10 years Robert Bartlett, US Panel discussion
3:00 – 3:30 pm	Coffee Break
3:30 – 4:30 pm Audimax	Session 2: VV ECMO in viral disease Session Chairs: Michael Quintel, Germany and Graham MacLaren, Singapore
	L1: Emerging viral infections – a global threat? Albert Osterhaus, The Netherlands L2: H1N1 and ECMO: best practice from a worldwide experience Hergen Buscher, Australia L3: ECMO in AIDS – indications and limits Gerry Capatos, South Africa Brief report: ECMO in MERS Nick Barrett, UK Panel discussion
4:30 – 5:45 pm Audimax	Session 3: Assist devices in cardiogenic shock 2015 Session Chairs: Ludwig-Karl von Segesser, Switzerland and Matt Bacchetta, US
	L1: Can outcome be improved by combining IABP and VA ECMO? Jan Belohlavec, Czechia L2: Alternatives to ECMO in percutaneous support: Impella, Tandem Heart, when to use? Nicholas Brechot, France L3: Left Ventricular Assist devices – options and indications Christof Schmid, Germany L4: ECLS as bridge to and after heart transplantation: impact on survival Udo Boeken, Germany
5:45 – 6:30 pm	Get Together within the Industrial Exhibition
7:30 – 8:45 pm	Concert: Regensburger Domspatzen and Cathedral Organ – Cathedral "St. Peter"



Saturday, May 9th 2015

7:30 – 9:00 am Room H9	Industry Sponsored Workshop (see page 39 for further details)
9:00 – 10:45 am Audimax	Session 4a: Cardiopulmonary resuscitation and E-CPR Session Chairs: Michael Hilker, Germany and Alain Combes, France
	L1: E-CPR in pulmonary embolism: problems, concomitant therapy, results Federico Pappalardo, Italy L2: VA-ECMO as a bridge in interventional cardiology – indications in 2015 Jan Belohlavec, Czechia L3: In hospital E-CPR: Indications, problems, limits Yang Hyun Cho, Korea L4: OHCA-do we need pre-hospital E-CPR? Dirk Lunz, Germany L5: Future of resuscitation after prolonged cardiac arrest Friedhelm Beyersdorf, Germany Panel discussion
9:00 – 10:45 am Room H2	Session 4b: ECLS in Eastern Europe Session Chairs: Roberto Lorusso, Italy and James Fortenberry, US
	L1: ECLS in Hungary: how we manage cannulation Zoltan Szabolcs, Hungary L2: ECLS in Slovenia: how we use ECMO in the cath-lab Marco Noc, Slovenia L3: ECLS in Czechia: ultrasound as indispensable part of patient's monitoring Martin Balik, Czechia L4: ECLS in Poland: pros and cons of temperature management in severe hypoxemia on ECMO Konstanty Szuldrzynski, Poland L5: ECLS in Russia: how we use intraoperative ECMO in congenital tracheal and bronchial disease Ivan Afukov, Russia Panel discussion
9:00 – 10:45 am Room H3	Session 4c: Prediction of outcome Session Chairs: Matthieu Schmidt, France and Heidi Dalton, US
	L1: Are scores helpful to select patients for VV ECMO? Matthieu Schmidt, France L2: Assessment of neurocognitive outcome on VA ECMO after resuscitation in adults Daniel Herr, US L3: Long term follow up of ECMO patients-the need for an interdisciplinary approach and standardization Hanneke Ijsselstijn, The Netherlands L4: Neurocognitive outcome in children after neonatal ECMO Ravi Thiagarajan, US L5: Predictors of futility – when is it time to stop? Michael Quintel, Germany Panel discussion
10:45 – 11:15 am	Coffee Break

11:15 – 12:30 pm Audimax	Session 5a: Complications of ECMO – inescapable or avoidable? Session Chairs: Shinhiro Takeda, Japan and Alain Mercat, France
	L1: Blood cell trauma and modern ECMO – views of a perfusionist Leen Vercaemst, Belgium L2: Heparin induced thrombocytopenia – a devastating complication? Gail Annich, Canada L3: We have to protect the brain – facts and future actions Roberto Lorusso, Italy Panel discussion
11:15 – 12:30 am Room H2	Session 5b: VA ECMO becoming routine in critical care Session Chairs: Yih-Sharng Chen, Taiwan and Friedhelm Beyersdorf, Germany
	L1: VA ECMO in acute myocardial infarction – indication, management, problems, future Alain Combes, France L2: My approach to severe myocarditis on ECMO – diagnostic workup, treatment and outcome Yih-Sharng Chen, Taiwan L3: VA ECMO in the ICU – less is more? Matthias Lubnow, Germany Panel discussion
11:15 – 12:30 pm Room H3	5c: Best abstracts I: Session Chairs: Kenneth Palmer, Sweden and Jae Seung Jung, Korea
	BAP 1/1: Extracorporeal membrane oxygenation for adult community acquired pneumonia: survival and predictors of mortality Kollengode Ramanathan, Singapore BAP 1/2: Early extubation to non-invasive ventilation in adult acute respiratory distress syndrome supported by venovenous ECMO improves survival Wai Ching Sin, Hong Kong BAP 1/3: The influence of bilirubin during ECMO Franziska Kaestner, Germany BAP 1/4: ECMO associates with improved survival in severe respiratory failure due to interstitial lung disease Chris Meadows, United Kingdom BAP 1/5: Acute liver failure and ECMO support: The edge of reason? Georg Auzinger, United Kingdom BAP 1/6: Extracorporeal life support for out-of-hospital refractory cardiac arrest: should we still fight for? A single-centre, 5-year experience Matteo Pozzi, France BAP 1/7: Regional brain saturation as a potential predictor of favourable neurological outcome in patients after OHCA Tomas Boucek, Czech Republic BAP 1/8: Long term survival of adults with cardiogenic shock after veno-arterial extra corporeal membrane oxygenation Aidan Burrell, Australia BAP 1/9: Back to the future? Health trajectory in ECMO survivors over time Ralph Tramm, Australia BAP 1/10: Long term survival after adult ECMO treatment in Stockholm Viktor von Bahr, Sweden
12:40 – 1:30 pm Audimax, Rooms H2 – H4	Industry Sponsored Lunch Symposia (see page 38 for further details)



2:00 – 3:00 pm Audimax	Session 6a: adult ECLS - VV ECMO and ventilation Session Chairs: Michael Pfeifer, Germany and Danny McAuley, UK
	L1: Optimal conventional therapy of ARDS today Danny McAuley, UK L2: Ventilation on ECMO: Keep the lung open Steffen Weber-Carstens, Germany L3: Ventilation on ECMO: Rest the lung Kenneth Palmer, Sweden Panel discussion
2:00 – 3:00 pm Room H2	Session 6b: Technique of ECLS in neonates and children Session Chairs: Certac Cicek, Turkey and Gail Annich, Canada
	L1: Hemolysis on ECMO: how can we improve technique? Graham MacLaren, Singapore L2: Choice of pumps in 2015 Steffen Hien, Germany Brief report: Keep the circuit simple to avoid complications Brigitte Stiller, Germany Brief report: We need complex circuits to avoid complications Christian Stocker, Australia Panel discussion
2:00 – 3:00 pm Room H3	Session 6c: New techniques Session Chairs: Leen Vercaemst, Belgium and Joseph Zwischenberger, US
	L1: News on coating – will anticoagulation continue to be necessary? Hans-Peter Wendel, Germany L2: News on pumps – is blood trauma avoidable? Jutta Arens, Germany L3: Membranes in blood oxygenation and CO2 removal: presence and future Stefan Breiter, Germany Panel discussion
3:00 – 4:00 pm Audimax	Session 7a: Transport on ECLS Session Chairs: Dirk Lunz, Germany and Jeremy Cordingley, UK
	L1: Long distance transport: be prepared for anything Björn Frenckner, Sweden L2: Short distance transport: time is crucial Antoine Roch, France L3: News on transport Guidelines Giles Peek, US
3:00 – 4:00 pm Room H2	Session 7b: ECMO in specific scenarios Session Chairs: Carl Davis, Scotland and Igor Kornilov, Russia
	L1: – in preterm neonates: limits and outcome Thomas Schaible, Germany L2: – in hematologic disease: markers of poor prognosis Matteo Di Nardo, Italy L3: – in diaphragmatic hernia: advances over time Carl Davis, Scotland

3:00 – 4:00 pm Room H3	Session 7c: Best abstracts II Session Chairs: John Fraser, Australia and Jan Belohlavec, Czechia				
	BAP 2/1: TCCD and NIRS evidences in infants Venous-Arterial ECMO Piero David, Italy BAP 2/2: Seizures on ECMO: role of routine electroencephalography in infants treated with extracorporeal membrane oxygenation revisited Lisa Dodd, United Kingdom BAP 2/3: Childhood ECMO survivors: Parents highlight need for structured follow-up and support after hospital discharge Aparna Hoskote, United Kingdom BAP 2/4: Differential venous oxygen return: a key factor of differential hypoxia in VA ECMO Xiaotong Hou, China BAP 2/5: Comparing current oxygenator research and commercial devices Georg Wagner, Germany BAP 2/6: Modeling a novel paracorporeal artificial lung with enhanced flow mixing for treatment of end stage chronic obstructive pulmonary disease Piyumindri Fernando, United States BAP 2/7: Quantity assessment of treatment delivery in venovenous extracoporeal membrane oxygenation by different types of cannulations Oscar Palmér, Sweden BAP 2/8: Inhibition of platelet activation during extracorporeal membrane oxygenation (ECMO) and pumpless extracorporeal lung assist (ECLA) in swine model Wiesław Królikowski, Poland				
4:00 – 4:30 pm	Coffee Break				
4:30 – 5:30 pm Audimax	Session 8a: Extracorporeal CO2 elimination Session Chairs: Steve Conrad, US and Steffen Weber-Carstens, Germany				
	L1: Physiology of CO2 elimination and available technique Christian Karagiannidis, Germany L2: Hypercapnia and the brain Ralf Müllenbach, Germany L3: The future of low-flow ECMO in critical care: my judgement Dan Brodie, US Panel discussion				
4:30 – 5:30 pm Room H2	Session 8b: Ventilation strategies of pediatric patients on ECMO Session Chairs: Steffen Hien, Germany and Heidi Dalton, US				
	L1: Conventional ventilation – best practice Christian Stocker, Australia L2: Indications and outcome for the combination of HFOV and ECMO Andreas Flemmer, Germany L3: Spontaneous breathing on ECMO: possible in children? Dick Tibboel, Netherlands Panel discussion				
4:30 – 5:30 pm Room H3	Session 8c: News from my lab Session Chairs: Nick Barrett, UK and Andriy Batchinsky, US				
	L1: San Antonio, Texas Andriy Batchinsky, US L2: Critical Care Research Group, Queensland, Australia John Fraser, Australia L3: Lexington, Kentucky Joseph Zwischenberger, US Panel discussion				



5:30 – 6:30 pm Audimax	Session 9a: Quality improvement in ECLS Session Chairs: Björn Frenckner, Sweden and Daniele Camboni, Germany
	L1: Experience in ECLS: Case Volume impacts outcome James Fortenberry, US Brief Report: ELSO Center of Excellence Award 2015 Tracy Morrison, US L2: The urgent need for real studies in ECLS: what can be done Alain Mercat, France L3: Training in ECLS: what is necessary, how to harmonize in Europe? Alain Vuylsteke, UK
5:30 – 6:30 pm Room H2	Session 9b: Pediatric E-CPR Session Chairs: Brigitte Stiller, Germany and Giles Peek, US
	L1: Indications for and outcome after E-CPR Ravi Thiagarajan, US L2: Cannulation techniques in resuscitation Andre Rüffer, Germany L3: Organization of a successful Team Mark Hayden, UK
7:00 pm	Sightseeing Tour of Castle Thurn and Taxis
7:45 pm	Congress Gala Dinner – Castle Thurn und Taxis



Sunday, May 10th 2015

8:15 – 9:45 am Room H9	Industry Sponsored Workshop (see page 39 for further details)				
8:30 – 9:45 am Audimax	Session 10a: Problems in ECLS: prevention and therapy Session Chairs: Andriy Batchinsky, US and Konrad Falke, Germany				
	L1:of thromb-embolic complications John Fraser, Australia L2:of leg ischemia Ludwig-Karl von Segesser, Switzerland L3:of reperfusion injury after E-CPR Igor Kornilov, Russia L4:of overdistension of the left ventricle Daniele Camboni, Germany Panel discussion				
8:30 – 9:45 am Room H2	Session 10b: Hypothermia and ECMO Session Chairs: Giles Peek, US and Beat Walpoth, Switzerland				
	L1: Deep accidental hypothermia and the role of the International Hypothermia Registry (IHR) Beat Walpoth, Switzerland L2: Near drowning in children: optimal treatment Brigitte Stiller, Germany L3: Hypothermic accidents: practice of successful resuscitation Peter Mair, Austria L4: E-CPR and therapeutic hypothermia: the evidence Shingo Ichiba, Japan Panel discussion				
9:45 – 10:45 am Audimax	Session 11a: ECLS in special situations I Session Chairs: Bernhard Graf, Germany and Federico Pappalardo, Italy				
	L1: ECMO in pulmonary hypertension – my experience Matt Bacchetta, US L2: ECMO in hermatologic and neoplastic disease: futile? Thomas Staudinger, Austria L3: Possible strategies towards long-term use of extracorporeal lung support Rolf Rossaint, Germany Panel discussion				
9:45 – 10:45 am Room H2	Session 11b: Economy and ethics Session Chairs: Thomas Bein, Germany and Mark Ogino, US				
	L1: Diagnosis of brain death on ECMO Thomas Bein, Germany L2: Whom I will not put on ECMO Alain Vuylsteke, UK L3: QALY in ECMO – Quality of ECMO? the UK experience Jeremy Cordingley, UK Panel discussion				
10:45 – 11:15 am	Coffee Break				



11:15 – 12:45 pm Audimax	Session 12: ECLS in special situations II Session Chairs: Christof Schmid, Germany and Carl Davis, Scotland
	L1: VVA-,VAV-ECMO: when and how should it be done? Jae Seung Jung, Korea L2: VA ECMO in severe Sepsis: wise to use in adults? Graham MacLaren, Singapore L3: Hypoxia despite ECMO: what can be tolerated, what can be done? Steve Conrad, US L4: Mobilization on ECMO: when is it useful? Nick Barrett, UK L5: ECMO without ventilation: sensible or fancy at best? Dan Brodie, US
12:45 – 1:00 pm Audimax	Closing remarks and welcome to Glasgow 2016 James Fortenberry, US Thomas Müller, Germany Carl Davis, Scotland



SCIENTIFIC PROGRAMME - EDUCATIONAL FORUM

Please note – as places for the courses are limited – please ensure to reserve your seat at the registration desk on site.

Saturday, May 9th 2015

	Room H6	Room H7	Room H8	Room H4	Forum
	Pediatric MacroSIM	Pediatric MacroSIM	Debriefing	Meet the expert	
9:00 – 10:00 am	High fidelity pediatric simulation, Tim Antonius simulator C. Westrope, A. Riches, UK	High fidelity pediatric simulation M. Di Nardo, F. Stoppa, Italy	Adult Learning Theory: Feed-back versus Debriefing M. Di Nardo, F. Stoppa, Italy	Adult learning Theory M. Ogino, US	ECPR Live Show J. Swol, C. Ull, A. Schlebes, Germany
10:00 – 11:00 am	High fidelity pediatric simulation, Tim Antonius simulator C. Westrope, A. Riches, UK	High fidelity pediatric simulation M. Di Nardo, F. Stoppa, Italy	High fidelity pediatric simulation M. Di Nardo, F. Stoppa, Italy	How to establish an ECLS program in Europe. My experience Gerda van der Vecht- Kroeze, The Netherlands	J. Swol, C. Ull, A. Schlebes, Germany
11:00 – 12:30 pm	High fidelity pediatric simulation, Tim Antonius simulator C. Westrope, A. Riches, UK	High fidelity pediatric simulation M. Di Nardo, F. Stoppa, Italy	High fidelity pediatric simulation M. Di Nardo, F. Stoppa, Italy	How to create an ECMO simulation dummy with little money D. McMullan,US	
			reak		
	Room H6	Room H7	Room H8	Room H4	Forum
	Pediatric MacroSIM	Pediatric MacroSIM	Debriefing	Meet the expert	
2:00 – 3:00 pm	Aplysia Cardiovascular Lab M. Broome, Sweden	ARDS and ECMO: troubleshooting N. Barrett, C. Meadows, S. Tricklebank, N. Ioannou, N. Agnew, UK	ARDS and ECMO: troubleshooting N. Barrett, C. Meadows, S. Tricklebank, N. Ioannou, N. Agnew, UK	Multimodal brain monitoring in children on ECMO: troubleshooting F. Stoppa, Italy	J. Swol, C. Ull, A. Schlebes, Germany
3:00 – 4:00 pm	Aplysia Cardiovascular Lab M. Broome, Sweden	Use of Orpheus perfusion simulator for high fidelity ECLS simulation: Troubleshooting in adult ECLS L. Vercaemst, Belgium, W. Lawnsdowne, T. Jones, D. Machin, UK	Use of Orpheus perfusion simulator for high fidelity ECLS simulation: Troubleshooting in adult ECLS L. Vercaemst, Belgium, W. Lawnsdowne, T. Jones, D. Machin, UK	ECCO2R Hands on M. Belliato, Italy	ECPR Live Show J. Swol, C. Ull, A. Schlebes, Germany
4:00 – 5:00 pm	Aplysia Cardiovascular Lab M. Broome, Sweden	Use of Orpheus perfusion simulator for high fidelity ECLS simulation: Troubleshooting in adult ECLS L. Vercaemst, Belgium, W. Lawnsdowne, T. Jones, D. Machin, UK	Use of Orpheus perfusion simulator for high fidelity ECLS simulation: Troubleshooting in adult ECLS L. Vercaemst, Belgium, W. Lawnsdowne, T. Jones, D. Machin, UK		



INVITED FACULTY

Ivan Afukov, Russia

Gail Annich, Canada

Jutta Arens, Germany

Matt Bacchetta, US

Martin Balik, Czech Republic

Nick Barrett, UK

Bob Bartlett, US

Andriy Batchinsky, US

Thomas Bein, Germany

Jan Belohlavec, Czech Republic

Christoph Benk, Germany

Friedhelm Beyersdorf, Germany

Udo Boeken, Germany

Nicolas Brechot, France

Stefan Breiter, Germany

Dan Brodie, US

Dirk Buchwald, Germany

Hergen Buscher, Australia

Daniele Camboni, Germany

Gerry Capatos, South Africa

Yih-Sharng Chen, Taiwan

Sertaç Çiçek, Turkey

Alain Combes, France

Steve Conrad, US

Jeremy Cordingley, UK

Heidi Dalton, US

Kath Daly, UK

Carl Davis, UK

Matteo Di Nardo, Italy

Konrad Falke, Germany

Eddy Fan, Canada

Andreas Flemmer, Germany

Maik Foltan, Germany

Jim Fortenberry, US

John Fraser, Australien

Björn Frenckner, Sweden

Luciano Gattinoni, Italy

Bernhard Graf, Germany

Mark Hayden, UK

Daniel Herr, US

Steffen Hien, Germany

Michael Hilker, Germany

Yang Hyun Cho, Korea

Shingo Ichiba, Japan

Hanneke Ijsselstijn, The Netherlands

Christian Karagiannidis, Germany

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Igor Kornilov, Russia

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Roberto Lorusso, Italy

Matthias Lubnow, Germany

Dirk Lunz, Germany

Bill Lynch, US

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Lars Maier, Germany

Peter Mair, Austria

Alain Mercat, France

Ralf Müllenbach, Germany

Thomas Müller, Germany

Marko Noc, Slovenia

Albert Osterhaus, The Netherlands

Mark Ogino, US

Kenneth Palmer, Sweden

Federico Pappalardo, Italy

Giles Peek, US

Antonio Pesenti, Italy

Michael Pfeifer, Germany

Alois Philipp, Germany

Michael Quintel, Germany

Antoine Roch, France

Roberto Roncon-Albuquerque Jr, Portugal

Rolf Rossaint, Germany

Andre Rüffer, Germany

Zoltan Scabolcz, Hungary

Thomas Schaible, Germany

Christof Schmid, Germany

emistor sermina, dermany

Matthieu Schmidt, France

Jae Seung Jung, Korea

Thomas Staudinger, Austria

Brigitte Stiller, Germany

Christian Stocker, Australia

Konstanty Szuldrzynski, Poland

Shinhiro Takeda, Japan

Ravi Thiagarajan, US

Dick Tibboel, The Netherlands

Leen Vercaemst, Belgium

Ludwig-Karl von Segesser, Switzerland

Alain Vuylsteke, UK

Beat Walpoth, Switzerland

Steffen Weber-Carstens, Germany

Hans-Peter Wendel, Germany

Enno Wildschut, Netherlands

Joseph Zwischenberger, US

BEST ABSTRACT PRESENTATIONS I

BAP 1/1 Extracorporeal membrane oxygenation for adult community acquired pneumonia: survival and predictors of mortality

Kollengode Ramanathan, National University of Singapore, Singapore, Singapore

Co-Authors: Ramanathan K.R.¹, Tan C.S.², Rycus P.³, Maclaren G.¹ ¹*National University of Singapore, Cardiothoracic and Vascular Surgery,* Singapore, Singapore, ²National University of Singapore, Saw Swee Hock School of Public Health, Singapore, Singapore, ³Extracorporeal Life Support Organization (ELSO), University of Michigan, Ann Arbor, US

Early extubation to non-invasive ventilation in adult acute respiratory distress syndrome supported by venovenous ECMO improves **BAP 1/2** survival

Wai Ching Sin, Queen Mary Hospital, University of Hong Kong, Hong Kong, Hong Kong

Co-Authors: Sin W.C.S.¹, Chan W.M.², Ngai C.W.W.², Yeung P.N.P.², Tsai N.W.P.² ¹Queen Mary Hospital, University of Hong Kong, Adult Intensive Care, Hong Kong, Hong Kong, ²University of Hong Kong, Adult Intensive Care, Hong Kong, Hong Kong

The influence of bilirubin during ECMO **BAP 1/3**

Franziska Kaestner, University Hospital of Saarland, Homburg, Germany

Co-Authors: Kaestner F.¹, Rapp D.², Coulee L.¹, Trudzinski F.¹, Linn O.¹, Kaiser R.¹, Böhmer P.¹, Fähndrich S.¹, Klingele M.³, Bals R.¹, Lepper P.M.¹ ¹University Hospital of Saarland, Internal Medicine V, Homburg, Germany, ²University Hospital of Saarland, Department of Biometrics, Homburg, Germany, ³University Hospital of Saarland, Internal Medicine IV, Homburg, Germany

ECMO associates with improved survival in severe respiratory failure due to interstitial lung disease **BAP 1/4**

Chris Meadows, Department of Critical Care, London, UK

Co-Authors: Starsmore L.A.¹, Lams B.E.A.², Agarwal S.³, Nair A.⁴, Preston R.⁴, Barrett N.A.¹, Glover G.W.¹, Ioannou N.¹, Langrish C.J.¹, Wyncoll D.L.A.¹, Meadows C.I.S.¹¹Department of Critical Care, Guy's & St Thomas' NHS Foundation Trust, London, UK, 2Department of Chest Medicine, Guy's & St Thomas' NHS Foundation Trust, London, UK, "Department of Rheumatology, Guy's & St Thomas' NHS Foundation Trust, London, UK, ⁴Department of Radiology, Guy's & St Thomas' NHS Foundation Trust, London, UK

Acute liver failure and ECMO support: The edge of reason? **BAP 1/5**

Georg Auzinger, King's College Hospital, London, UK

Co-Authors: Auzinger G.1, Loveridge R.1, Willars C.1, Patel S.1, Kakar V.2, Hurst T.2, Best T.2, Vercueil A.2, Wendon J.1 'King's College Hospital, Department of Liver Intensive and General Critical Care, London, UK, 2King's College Hospital, Department of General Critical Care, London, UK

BAP 1/6 Extracorporeal life support for out-of-hospital refractory cardiac arrest: should we still fight for? A single-centre, ⁵-year experience

Matteo Pozzi, "Louis Pradel" Cardiologic Hospital, Bron (Lyon), France

Co-Authors: Pozzi M.¹, Koffel C.², Pavlakovic l.², Neidecker J.², Fellahi J.-L.², Zouaghi O.³, Bonnefoy E.³, Robin J.¹, Obadia J.F.¹ "Louis Pradel" Cardiologic Hospital, Department of Cardiac Surgery, Bron (Lyon), France, ²"Louis Pradel" Cardiologic Hospital, Department of Anesthesia and ICU, Bron (Lyon), France, ³"Louis Pradel" Cardiologic Hospital, Department of Cardiology, Bron (Lyon), France

Regional brain saturation as a potential predictor of favourable neurological outcome in patients after OHCA BAP 1/7

Tomas Boucek, *General University Hospital in Prague, Prague, Czech Republic*Co-Authors: Boucek T.¹, Belohlavek J.¹, Huptych M.², Skalicka H.¹, Smid O.¹, Linhart A.¹ '*General University Hospital in Prague*, ²nd Department of Internal Medicine, Cardiology, and Angiology, Praque, Czech Republic, ²Czech Technical University in Praque, Department of cybernetics, FEE, CTU, Prague, Czech Republic

BAP 1/8 Long term survival of adults with cardiogenic shock after veno-arterial extra corporeal membrane oxygenation

Aidan Burrell, The Alfred Hospital, Melbourne, Australia

Co-Authors: Burrell A.J.¹, Pellegrino V.A.¹, Cooper D.J.², Kaye D.M.³, Pilcher D.V.¹ 'The Alfred Hospital, Intensive Care, Melbourne, Australia, ²Monash University, ANZICS, Melbourne, Australia, ³Baker Heart Institute, Cardiology, Melbourne, Australia

BAP 1/9 Back to the future? Health trajectory in ECMO survivors over time

Ralph Tramm, Monash University, Melbourne, Australia

Co-Authors: Tramm R.¹, Hodgson C.¹, Ilic D.³, Sheldrake J.⁴, Pellegrino V.⁴
¹Monash University, Australian and New Zealand Intensive Care Research Centre (ANZIC-RC), Department of Epidemiology and Preventive Medicine, Melbourne, Australia, ²The Alfred Hospital, Department of Physiotherapy, Melbourne, Australia, ³Monash University, Department of Epidemiology and Preventive Medicine, Melbourne, Australia, 4The Alfred Hospital, Department of Intensive Care, Melbourne, Australia

Long term survival after adult ECMO treatment in Stockholm BAP 1/10

Viktor von Bahr, Karolinska institutet, Stockholm, Sweden

Co-Authors: von Bahr V.1, Kalzén H.2, Palmér P.2, Hultman J.2, Eksborg S.3

¹Karolinska institutet, Department of Physiology and Pharmacology, Štockholm, Sweden, ²ECMO Center Karolinska, Stockholm, Sweden, ³Karolinska institutet, Department of Women's and Children's Health, Stockholm, Sweden



BEST ABSTRACT PRESENTATIONS II

BAP 2/1 TCCD and NIRS evidences in infants Venous-Arterial ECMO

Piero David, OPBG, Rome, Italy

Co-Authors: David P.¹, Stoppa F.¹, Albanese S.², Amodeo A.², Bravetti G.², Marano M.¹, Pasotti E.¹, Tomasello C.¹, Cecchetti C.¹, Perrotta D.¹, Di Nardo M.¹ ¹OPBG, Paediatric Intensive Care Unit of Emergency Department, Rome, Italy, ²OPBG, Department of Medical Surgical Paediatric Cardiology, Rome, Italy

- BAP 2/2 Seizures on ECMO: role of routine electroencephalography in infants treated with extracorporeal membrane oxygenation revisited Lisa Dodd, *Great Ormond Street Hospital, London, UK*Co-Authors: Dodd L.G., O'Callaghan M., Kakat S., White S.R., Hair M., Thiruchelvam T., Hoskote A., Boyd S.G. *Great Ormond Street Hospital, London, UK*
- BAP 2/3 Childhood ECMO survivors: Parents highlight need for structured follow-up and support after hospital discharge
 Aparna Hoskote, Great Ormond Street Hospital for Children NHS Foundation Trust, London, UK
 Co-Authors: Hoskote A., Kakat S., Shah N., Singagireson S., Patel A., O'Callaghan M., Thiruchelvam T., Wray J. Great Ormond Street Hospital for Children NHS Foundation Trust, Cardiac Critical Care Unit, London, UK
- BAP 2/4 **Differential venous oxygen return: a key factor of differential hypoxia in VA ECMO**Xiaotong Hou, Beijing Anzhen Hospital, Capital Medical University, Beijing, China
 Co-Authors: Hou X.¹, Yang X.¹, Du Z.¹, Xing J.¹, Jiang C.¹, Zeng H.² ¹Beijing Anzhen Hospital, Capital Medical University, Beijing, China
 Infectious Diseases, Beijing Ditan Hospital, Capital Medical University, Beijing, China
- BAP 2/5 Comparing current oxygenator research and commercial devices
 Georg Wagner, Institute of Applied Medical Engineering, Helmholtz Institute, RWTH Aachen University, Aachen, Germany
 Co-Authors: Wagner G., Kaesler A., Schlanstein P.C., Steinseifer U., Arens J. Institute of Applied Medical Engineering, Helmholtz Institute, RWTH
 Aachen University, Department of Cardiovascular Engineering, Aachen, Germany
- BAP 2/6 Modeling a novel paracorporeal artificial lung with enhanced flow mixing for treatment of end stage chronic obstructive pulmonary Disease
 Piyumindri Fernando, University of Michigan, Ann Arbor, US
 Co-Authors: Fernando P.¹, Cheriyan H.¹, Bull J.L.¹, Bartlett R.H.² ¹University of Michigan, Biomedical Engineering, Ann Arbor, US, ²University of Michigan, Surgery, Ann Arbor, US
- BAP 2/7 Quantity assessment of treatment delivery in venovenous extracoporeal membrane oxygenation by different types of cannulations
 Oscar Palmér, *Karolinska Institute, Stockholm, Sweden*Co-Authors: Palmér O.¹, Broman M.² '*Karolinska Institute, Stockholm, Sweden,* ²*Karolinska University Hospital, ECMO Centre Karolinska, Stockholm, Sweden*
- BAP 2/8 Inhibition of platelet activation during extracorporeal membrane oxygenation (ECMO) and pumpless extracorporeal lung assist (ECLA) in swine model
 Wiesław Królikowski, Jagiellonian University, Kraków, Poland

Co-Authors: Królikowski W.¹, Szułdrzyński K.¹, Gawlikowski M.², Janiczak K.², Kustosz R.², Seczyńska B.¹, Nowak I.¹, Trojan-Królikowska A.¹, Sanak M.¹, Musiał J.¹ ¹Jagiellonian University, Second Department of Internal Medicine, Kraków, Poland, ²Foundation of Cardiac Surgery Development, Zabrze, Poland

Adult

Duration of veno arterial extracorporeal life support (VA ECMO) and outcome in the extracorporeal life support organization (ELSO) Α1 registry

Myles Smith, St Vincent's Hospital, Sydney, Australia

Co-Authors: Smith M.W.', Vukomanovic A.', Brodie D.', Thiagarajan R.R.', Rycus P.T.', Buscher H.', 13 St Vincent's Hospital, Department of Intensive Care Medicine, Sydney, Australia, ²Extracorporeal Life Support Organization (ELSO), Ann Arbor, US, ³University of New South Wales, Sydney, Australia

- A2 Lung transplantation in patients with acute onset respiratory failure requiring extracorporeal membrane oxygenator (ECMO) Sang-Bum Hong, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea
 Co-Authors: Lee D.H.¹, Lee S.O.², Shim T.S.¹, Choi S.H.³, Kim H.R.³, Kim Y.H.³, Kim D.K.³, Park S.I.³, Hong S.-B.¹¹ Asan Medical Center, University of Ulsan College of Medicine, Department of Pulmonary and Critical Care Medicine, Seoul, Republic of Korea, 2Asan Medical Center, University of Ulsan College of Medicine, Department of Infectious Disease, Seoul, Republic of Korea, 3Asan Medical Center, University of Ulsan College of Medicine, Department of Chest Surgery, Seoul, Republic of Korea
- Veno-venous ecmo in a young woman with severe ards after prolonged resuscitation due to amniotic fluid embolisation and А3 haemorrhagic shock

Alenka Golicnik, University clinical center Ljubljana, Ljubljana, Slovenia

Co-Authors: Golicnik A., Jazbec A., Knafelj R., Gorjup V. University clinical center Ljubljana, Department for Intensive Internal Medicine, Ljubljana,

A retrospective observational case series of low flow veno-venous extracorporeal carbon dioxide removal use in patients with respiratory A4 failure

Nicholas Barrett, Guy's and St Thomas' NHS Foundation Trust, London, UK

Co-Authors: Moss C.E., Galtrey E.J., Gillon S., Langrish C., Meadows C., Wyncoll D., Ioannou N., Camporota L., Tricklebank S., Daly K., Evans S., Ong D., Sanderson B., Waldie J., Dando R., Elliott-Hammond C., Lozinski M., Nichols H., Barrett N. Guy's and St Thomas' NHS Foundation Trust, ICU, London, UK

- The utility of the transesophageal echocardiography guided canulation in Veno-Venus Extracorporeal Membrane Oxygenation Α5 Takayuki Ogura, Advanced Medical Emergency Department and Critical Care Center, Japan Red Cross Maebashi Hospital, Maebashi, Japan Co-Authors: Ogura T.¹, Suzuki H.¹, Nakano M.¹, Nitta M.², Harasawa T.¹¹Advanced Medical Emergency Department and Critical Care Center, Japan Red Cross Maebashi Hospital, Maebashi, Japan, ²Gunma University, Graduate School of Medicine, Gunma, Japan, Anesthesia, Maebashi, Japan
- International survey of adult extracorporeal membrane oxygenation (ECMO): The role and responsibilities of the ECMO specialist in Α6 circuit management Kathleen J Daly, Guy's and St Thomas' NHS Foundation Trust, London, UK

Co-Authors: Daly K.J.R., Camporota L., Elliott-Hammond C., Evans S.J., Ong D., Sanderson B., Waldie J., Dando R., Barrett N.A. Guy's and St Thomas' NHS Foundation Trust, Critical Care, London, UK

Α7 Under-target anticoagulation during ECMO: relative role of antithrombin and fibrinogen levels

Giacomo lapichino, *Università degli Studi di Milano, Milano, Italy*Co-Authors: lapichino G.E.¹, Protti A.², Panigada M.², L'Acqua C.¹, Gattinoni L.¹,² ¹*Università degli Studi di Milano, Fisiopatologia Medico-chirurgica* e dei Trapianti, Milano, Italy, ²Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Anestesia, Rianimazione ed Emergenza Urgenza, Milano, Italy

Patients previously supported by veno-arterial extra corporeal membrane oxygenation have good long term quality of life Α8 Katarzyna Hryniewicz, Abbott Northwestern Hospital, Minneapolis, US

Co-Authors: Hryniewicz K., Anderson K., Pai A., Sun B. Abbott Northwestern Hospital, Minneapolis Heart Institute, Minneapolis, US

- Results of extracorporeal cardiopulmonary resuscitation for out-of-hospital cardiac arrest: propensity score matching Α9 ES Chung, Inje University, Seoul, Republic of Korea Co-Authors: Chung E.¹, Lee J.¹, Dondwon K.¹, Kim B.², Byun Y.², Chung I.², Lee H.², Ryu S.Y.³, Oh S.C.³, Cho S.J.³ Inje University, Thoracic and Cardiovascular Surgery, Seoul, Republic of Korea, Inje University, Cardiology, Seoul, Republic of Korea, Inje University, Emergency Medicine, Seoul, Republic of Korea
- A10 International survey of adult extracorporeal membrane oxygenation (ECMO): The education and training of the ECMO specialist Kathleen J Daly, Guy's and St Thomas' NHS Foundation Trust, London, UK Co-Authors: Daly K.J.R., Camporota L., Elliott-Hammond C., Evans S.J., Ong D., Sanderson B., Waldie J., Dando R., Barrett N.A. Guy's and St Thomas' NHS Foundation Trust, Critical Care, London, UK
- 4-year experience of veno-arterial extracorporeal membrane oxygenation for mechanical circulatory support in heart transplant A11 candidates

Vitaly Poptsov, Snumakov Federal Research Center of Transplantology and Artificial Organs, Moscow, Russian Federation Co-Authors: Poptsov V.N., Spirina E., Eremeeva O., Masutin S. Snumakov Federal Research Center of Transplantology and Artificial Organs, anesthesia and ICU, Moscow, Russian Federation

Red blood cell transfusion requirement and weaning outcome of extracorporeal pulmonary support for adults with acute respiratory A12 distress syndrome

Eun Kyong Goag, Institute of Chest Disease, Severance Hospital, Yonsei University College of Medicine, Seoul, Republic of Korea Co-Authors: Goag E.K.¹, Chung K.S.¹, Lee S.H.², Joo H.C.², Park M.S.¹, Kim Y.S.¹, Youn Y.N.², Song J.H.¹ Institute of Chest Disease, Severance Hospital, Yonsei University College of Medicine, Division of Pulmonology, Department of Internal Medicine, Seoul, Republic of Korea, Severance Cardiovascular Hospital, Yonsei University College of Medicine, Division of Cardiovascular Surgery, Seoul, Republic of Korea,

- High dose intravenous selenium treatment during extracorporeal membrane oxygenation in the septic patient A13 Mikael Broman, Karolinska University Hospital, Stockholm, Sweden Co-Authors: Broman M. Karolinska University Hospital, ECMO Centre Karolinska, Stockholm, Sweden
- A14 Outcomes in patients with venous arterial extra-corporeal membrane oxygenation as a bridge to left ventricular assist device therapy Sunu Thomas, Massachusetts General Hospital, Boston, US

Co-Authors: Thomas S.S.¹, Song T.H.², Milley K.², Camuso J.², McEachern K.², Shah R.V.³, Carroll B.J.³, Ennis S.², MacGillivray T.², Baker J.², Semigran M.J.¹, Lewis G.D.¹, Garcia J.P.²¹ Massachusetts General Hospital, Cardiology, Boston, US, ² Massachusetts General Hospital, Cardiothoracic Surgery, Boston, US, 3Beth Israel Deaconess Medical Center, Cardiology, Boston, US



Adult (continued)

- A15 An arterio-venous bridge for gradual weaning from adult veno-arterial extracorporeal life support
 Ajay Sharma, Maastricht University Medical Centre, Maastricht, The Netherlands
 Co-Authors: Babar Z.U.D. Maastricht University Medical Centre, Cardiothoracic Surgery, Maastricht, The Netherlands
- A16 To Lassoe an Avalon®
 Jacob Gjested, Aarhus University Hospital, Skejby, Aarhus N, Denmark
 Co-Authors: Ryhammer P.K.¹, Lassen J.F.², Vejen M.³, Lindskov C.⁴¹Aarhus University Hospital, Skejby, Dept Anaesthesiology and Intensive Care,
 Aarhus N, Denmark, ²Aarhus University Hospital, Skejby, Dept Cardiology, Aarhus, Denmark, ³Bispebjerg Hospital, Anaesthesiology, Copenhagen,
 Denmark, ⁴Aarhus University Hospital, Skejby, Dept Anaesthesiology and Intensive Care, Aarhus, Denmark
- A17 Limb ischemia in veno-arterial ECMO cannulated via the femoral vessels

 William Jakobleff, Jr., Albert Einstein College of Medicine Montefiore Medical Center, Bronx, US

 Co-Authors: Jakobleff, Jr. W.A.¹, Leff J.², Flores M.³¹Albert Einstein College of Medicine Montefiore Medical Center, Division of Cardiovascular and Thoracic, Bronx, US, ²Albert Einstein College of Medicine Montefiore Medical Center, Anesthesiology, Bronx, US, ³Albert Einstein College of Medicine Montefiore Medical Center, Clinical Perfusion, Bronx, US
- A18 Early vascular complications after percutaneous cannulation for Extracorporeal Membrane Oxygenation for cardiac assist
 Leonello Avalli, San Gerardo Hospital, Monza, Italy
 Co-Authors: Avalli L.¹, Sangalli F.¹, Maggioni E.¹, Migliari M.¹, Gallieri S.², Pesenti A.² 'San Gerardo Hospital, Emergency and Acute Care Department,
 Monza, Italy, ²University Milano-Bicocca, Department of Health Sciences, Monza, Italy
- A19 Retrieval of critically ill adults using extracorporeal membrane oxygenation: a single-centre experience of eight years
 Jens-Christian Schewe, *Universitätsklinikum Bonn, Bonn, Germany*Co-Authors: Schewe J.-C., Pütz B., Lenkeit S., Kreyer S., Günther U., Theuerkauf N., Muders T., Dahmen F., Weißbrich C., Strater C., Scholz M.,
 Putensen C. *Universitätsklinikum Bonn, Anaesthesiology and Intensive Care Medicine, Bonn, Germany*
- A20 Predictors of mortality in severe ARDS patients successfully weaned from extracorporeal membrane oxygenation
 Yonghao Xu, The First Affiliated Hospital of Guangzhou Medical University, Guangzhou, China
 Co-Authors: Liu X., Xu Y., Zhang R., Sang L., Chen S., Nong L., He W., Li Y. The First Affiliated Hospital of Guangzhou Medical University, Critical Care
 Medicine, Guangzhou, China
- A21 Ecmo as bridge to transplantation: a life-saving support
 Marta Talayero Giménez de Azcárate, 12 de Octubre University Hospital, Madrid, Spain
 Co-Authors: Talayero Giménez de Azcárate M., Perez Vela J.L., Viejo Moreno R., Corres Peiretti M.A., Renes Carreño E., Barea Mendoza J.A.,
 Gutiérrez Rodríguez J., Grau Carmona T., Prieto Portillo I., García Gigorro R., Chacón Alves S., Marín Mateos H., Morales Vara G 12de Octubre
 University Hospital, Cardiologic ICU. Intensive Care Department, Madrid, Spain
- A22 Neuron-specific enolase for prediction of neurological outcome after refractory out-of hospital cardiopulmonary resuscitation treated with ECMO
 Hana Skalicka, First Faculty Of Medicine, Charles University, Prague, Czech Republic
 Co-Authors: Skalicka H., Belohlavek J., Smid O., Boucek T., Linhart A. First Faculty Of Medicine, Charles University, Cardiology, Prague, Czech Republic
- A23 In patients under extracorporeal CO² removal therapy (ECCO²R) for ARDS can we do prone position? Efficiency, stability and safety of the maneuver

 Jean Francois Georger, Centre Hospitalier Intercommunal de Villeneuve Saint Georges Lucie et Raymond AUBRAC, Villeneuve Saint Georges, France Co-Authors: Georger J.F., Tchir M., Amilien V., Ponthus J.P., Ngasseu P., Lehericey P., Barsam E. Centre Hospitalier Intercommunal de Villeneuve Saint Georges Lucie et Raymond AUBRAC, Reanimation Polyvalente, Villeneuve Saint Georges, France
- A case report of ultrasound guided fluid management during venovenous ECMO
 Bhavesh Patel, Mayo Clinic, Phoenix, US
 Co-Authors: Callisen H.¹, Herr N.¹, Dalton H.², Patel B.¹¹Mayo Clinic, Critical Care Medicine, Phoenix, US, ²Phoenix Children's Hospital, Critical Care Medicine, Phoenix, US
- A25 When Extracorporeal Life Support is feasible in poly-traumatized patients with refractory cardiopulmonary failure?
 Leonardo Torracchi, Cardiac Surgery Università degli Studi di Firenze, Firenze, Italy
 Co-Authors: Torracchi L.¹, Di Lascio G.², Harmelin G.¹, Vannini A.¹, Bugetti M.¹, Sani G.¹, Bonacchi M.¹ Cardiac Surgery Università degli Studi di Firenze, Sperimental and Clinical Medicine, Firenze, Italy, ²Anesthesia and Resuscitation Università degli Studi di Firenze, Italy
- A26 Legionella pneumonia managed with Extracorporeal Membrane Oxygenation (ELSO): A review of the Extracorporeal Life Support Organization
 Thomas Brogan, University of Washington, Seattle, US

Thomas Brogan, University of Washington, Seattle, US

Co-Authors: DorfMan M.¹, Clark J.², Rycus P.³, McMullan D.M.⁴, Brogan T.V.¹ ¹University of Washington, Pediatrics, Seattle, US, ²University of Washington, Seattle, WA, US, ³ELSO, Ann Arbor, US, ⁴University of Washington, Surgery, WA, US

- A27 Peripheral VAV ECMO for cardiopulmonary failure after postpartum massive bleeding
 Igor Kornilov, Novosibirsk Research Institute of Circulation Pathology, Novosibirsk, Russian Federation
 Co-Authors: Skopets A.A.¹, Dumanyan E.S.¹, Kornilov I.A.²¹Research Institute Regional Clinical Hospital, Anesthesiology, Krasnodar, Russian Federation, ²Novosibirsk Research Institute of Circulation Pathology, Anesthesiology, Novosibirsk, Russian Federation
- Anticoagulation practice and complications in a multicenter study of 2013-2014 Influenza-associated Extracorporeal Membrane Oxygenation

 Katherine Klein, *University of Michigan, Ann Arbor, US*Co-Authors: Klein K.M.¹, Park P.¹, Napolitano L.¹, Bartz R.², Hollingsworth J.W.², Daneshmand M.A.², Aguilar P.³, Babcock H.³, Kor D.J.⁴, Bohman J.K.⁴, Schuller D.⁵, Blough B.⁵, Swink A.⁵, Bartels K.⁶, Foley L.⁶, Barron M.⁶, Babuk A.⁶, Wolfe C.² ¹University of Michigan, Ann Arbor, US, ²Duke University, Durham, US, ³Washington University School of Medicine, St. Louis, US, ⁴Mayo School of Medicine, Rochester, US, ⁵Baylor Health System, Dallas, US, ⁶University of Colorado School of Medicine, Denver, US
- A29 Clinical outcomes of ECLS support for patients with hematologic diseases: Retrospective analysis
 Seok Chan Kim, The Catholic University of Korea, Seoul, Republic of Korea
 Co-Authors: Kim S.C., Kang H.S., Rhee C.K., Lee J.W. The Catholic University of Korea, Internal Medicine, Seoul, Republic of Korea

Adult (continued)

A30 Neurological complications in patients with refractory cardiogenic shock supported by veno-arterial extracorporeal membrane oxygenation

Katarzyna Hryniewicz, Abbott Northwestern Hospital, Minneapolis, US

Co-Authors: Sandoval Y.1, Bennett M.1, Samara M.3, Zimbwa P.3, Cabuay B.3, Seatter S.4, Hryniewicz K.3 Abbott Northwestern Hospital, Minneapolis, US, ²Hennepin County Medical Center, Minneapolis, US, ³Abbott Northwestern Hospital, Minneapolis Heart Institute, Minneapolis, US, ⁴Abbott Northwestern Hospital, Critical Care Medicine, Minneapolis, US

Case series of protective ventilation for ARDS Using partial extracorporeal CO² removal A31

Stefan Rauch, ALB FILS KLINIKEN, Göppingen, Germany

Co-Authors: Rauch S.¹, Roth H.², Deininger T.², Kuhwald A.², Lund L.³, Fischer M.¹ ALB FILS KLINIKEN, Anesthesiology, Göppingen, Germany, ²ALB FILS KLINIKEN, Internal Medicine, Göppingen, Germany, ³ALung Inc., Pittsburgh, US

Clinical correlates of thrombotic deposition on extracorporeal membrane oxygenators A32

Charles Evans, University of Maryland School of Medicine, Baltimore, US

Co-Authors: Evans C.F., Li T., Pratt D.L., Mohammed I.S., Kon Z.N., Griffith B.P. University of Maryland School of Medicine, Department of Surgery, Division of Cardiac Surgery, Baltimore, US

Two-year experience of veno-venous ECMO in severe respiratory failure A33

Hiroyuki Suzuki, Red Cross Hospital Maebashi Japan, Maebashi Gunma, Japan

Co-Authors: Suzuki H., Nakano M., Takahashi E., Nakamura M., Miyazaki D., Machida H., Fujizuka K., Amemiya Y., Kikuya Y., Harasawa T., Ogura T., Kikukawa T., Tanaka Y., Sakurazawa S., Okajima M., Horiguchi M., Otaki Y., Kobayashi Y., Hoshino E., Toda Y., Tanoue D., K *Red Cross Hospital* Maebashi Japan, Adavanced medical emergency and Critical care center, Maebashi Gunma, Japan

Extracorporeal life support as a bridge to ventricular assist device in cardiogenic shock A34

Felix Hennig, Deutsches Herzzentrum Berlin, Berlin, Germany
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Extracorporeal membrane oxygenation in the elderly population with Septic shock A35

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Which cannulation for VV-ECMO? The AVALON ELITE® Bi-Caval Dual Lumen Catheter compared to the femoro-jugular approach A36 Federico Pappalardo, IRCCS San Raffaele Scientific Institute, Milan, Italy

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A37 How we have setup a CO2-removal ECLS(PALP) program in an ICU with no experiences with ECLS(PALP)

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The relationship between staff education and mortality in patients with ECMO A38

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A39 Veno-arterial extracorporeal membrane oxygenation (VA-ECMO) as a bridge to mechanical ventricular assist device (VAD), as a bridge to transplantation

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Evaluation of the RESP-score in patients at point of referral to a severe respiratory failure (SRF) service: a single centre study A40 Chris Meadows, Department of Critical Care, London, UK

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Combination of Impella and Extra Corporeal Membrane Oxygenation (ECMO) as a Bridge to full recovery in cardiogenic shock due to A41 myocardial infarction

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Intraoperative extracorporeal lung support in thoracic surgery: which mode for which patient? A42

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Loss of Oxygenator Function during Prolonged VV ECLS: When should the oxygenator be changed? A43 Edmund Carton, Mater Misericordiae University Hospital, Dublin, Ireland

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ECMO in University Medical Center Ljubljana (Department of intensive internal medicine) chronology and future A44

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A45 Anticoagulation in patients on Extracorporeal membrane oxygenator (ECMO); Nafamostat mesilate versus Heparin Ju Yong Lim, Asan Medical Center, Seoul, Republic of Korea

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Age/Sex difference in outcome of in-hospital extracorporeal cardiopulmonary resuscitation - Does age discrimination" exist? A46 Yih-Sharng Chen, National Taiwan University Hospital, Taipei, Taiwan, Republic of China Co-Authors: Chen Y.-S.¹, Wang C.-H.², Tseng L.-J.¹, Yu H.-Y.¹, Chou N.-K.¹, Chi N.-H.¹, Huang S.-C.¹ 'National Taiwan University Hospital,

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Suppressing neuro-pulmonary "drowning' reflex" (DR) using adaptive periodic paralysis allows for weaning deep sedation in ECMO A47

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A48 Extracorporal cardiopulmonary rescucitation in a Scandinavian tertiary university hospital setting

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Extracorporeal membrane oxygenation for 67 days as a bridge to heart transplantation A50

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Hemoglobin levels and weaning outcome of extracorporeal pulmonary support for adults with acute respiratory distress syndrome A51 Ji Eun Park, Institute of Chest Disease, Severance Hospital, Yonsei University College of Medicine, Seoul, Republic of Korea Co-Authors: Park J.E.1, Chung K.S.1, Lee S.H.2, Joo H.C.2, Park M.S.1, Kim Y.S.1, Youn Y.N.2, Song J.H.1 Institute of Chest Disease, Severance Hospital, Yonsei University College of Medicine, Division of Pulmonology, Department of Internal Medicine, Seoul, Republic of Korea, Severance Cardiovascular Hospital, Yonsei University College of Medicine, Division of Cardiovascular Surgery, Seoul, Republic of Korea

Veno-venous low-flow ECLS using a jugulary twin-port cannula does not influence hemodynamic monitoring by transpulmonary A52 thermodilution

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Single twin-port veno-venous extracorporeal lung support during pulmonary resection in patients with severely compromised A53 pulmonary function

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Mobile Veno-Arterial Extracorporeal Membrane Oxygenation (VA-ECMO) for cardiogenic shock due to Calcium Channel (CCB) and Beta-A54 Blocker (BB) overdose

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A55 Inter- and intra-hospital transport of patient with life support devices

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Perioperative ECMO support in liver transplantation – feasibility and outcome A56

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A single, non-academic experience with use of ECPR A57

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V-A ECMO as bridge to late myocardial recovery after long term LVAD assistance & pump failure A58

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An advanced approach to massive pulmonary embolism in the postpartum period: veno-arterial ECMO and bilateral uterine artery A59 embolization

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A novel technique using a bronchial blocker in extracorporeal membrane oxygenation A60

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A61 Use of two oxygenators during extracorporeal membrane oxygenation (ECMO) for a patient with acute respiratory distress syndrome

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A62 Plasma concentrations of pyridoxal ^{5′}-phosphate are lower in patients on venovenous ECMO as compared with those on venoarterial ECMO

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A63 Successful use of extracorporeal membrane oxygenation in patients with transfusion related acute lung injury

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A64 The Application of Changeout Criteria Improves Oxygenators' Lifespan

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A65 Implementation and outcomes of a respiratory therapist driven ECMO program

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A66 Extracorporeal membrane oxygenation in acute respiratory failure with uncontrollable hemoptysis

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A67 A case of prolonged cardiac resuscitation with ECMO initiation in postoperative cardiac arrest after double valve replacement: Is it worth the effort?

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A68 Extracorporeal membrane oxygenation as a bridge therapy to lung transplantation in a patient with ARDS by influenza pneumonia

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A69 ECMO support during pregnancy: Literature review and case report for life-threatening Hantavirus cardiopulmonary syndrome

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A70 Levosimendan improves weaning from Venoarterial ECMO in patients with high risk of explantation

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A71 Injection of agitated saline to detect recirculation with transthoracic echocardiography during venoveneous extracorporeal oxygenation

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A72 Case report: ECMO as a bridge to recovery

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A73 Implementation and feasibility of extra corporeal CO² removal (ECCO²R) in an intensive care unit which doesn't use ECMO and its utilization

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A74 Venoarterial extracorporeal support in refractory cardiac failure: a realistic treatment

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A75 ECMO in patients with several hypothermia and cardiac arrest

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Anti-coagulation and transfusion in the venous-venous ECMO cohort; A lack of inter-centre consensus on best practice A76 Rachael Pocock, Guy's and St Thomas' NHS Foundation Trust, London, UK Co-Authors: Pocock R., Tavabie O., Retter A., Barrett N. Guy's and St Thomas' NHS Foundation Trust, London, UK

ExtraCorporeal Membrane Oxygenation in the therapy of Cardiogenic Shock: rationale and design of a multicenter, randomized trial (The A77 ECMO-CS Trial)

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The feasibility of extracorporeal membrane oxygenation in the variant airway problems A78 Dohyung Kim, Pusan National University Yangsan Hospital, Yangsan, Republic of Korea Co-Authors: Kim D., Kim C., Son B. Pusan National University Yangsan Hospital, Yangsan, Republic of Korea

ECMO for graft failure after heart transplantation A79

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Awake veno-arterial ECMO in cardiac failure patient: Case decription A80 Francesca Volpi, Santa Maria della Misericordia Hospital, Perugia, Italy Co-Authors: Volpi F., Cianchella M., Mancini G., Merenda C., Manini E.V. Santa Maria della Misericordia Hospital, Post Operative Cardiac-surgery Intensive Care, Perugia, Italy

A81 Extracorporeal membrane oxygenation and cyclophosphamide treatment in a patient with steroid refractory acute interstitial pneumonia

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Cardiac surgery with ECLS in patients with preoperative cardiogenic shock. A retrospective analysis of 140 patients A82 Dietrich Metz, Martin Luther University Halle-Wittenberg, Halle (Saale), Germany
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Medos versus Paragon oxygenators in the adult ECMO patient A83

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Nutrition support and gastrointestinal management using endoscopy in patients receiving extracorporeal membrane oxygenation A84

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A85 Use of Blood Microplegia Technique and inclusion of lidocaine in Cardioplegic solution in adult patients undergoing coronary revascularization

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A report on a case of inducing VA-ECMO with an occurrence of massive air embolism during endscopic treatment **A86** Yoshihiro Hagiwara, Metropolitan Tama Medical Center, Tokyo, Japan

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Disseminated CMV infection treated by venovenous ECMO after liver transplantation A87

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ECMO with continuous renal replacement therapy (CRRT) - dilemma of the redundant vascular access? **A88**

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Characterization of aortic root pressure during administration of blood and crystalloid cardioplegia A89

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A90 Birthday Present -Case report of the first Hungarian tracheo-bronchial resection supported by ECMO

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Sucselull weanig ECMO patient implanted in severe postcardiotomy cardiogenic shock qualificated to transplant A91

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- Use of the SAPS II to predict ECMO outcomes for patients with acute circulatory and/or respiratory failure in the ED: A retrospective study Hyoung Soo Kim, Hallym University Sacred Heart Hospital, Hallym University Medical Center, Anyang, Republic of Korea Co-Authors: Park S.¹, Kim H.S.², Lee H.S.³, Lee S.H.⁴, Ha S.O.⁵, Lee Y.⁵¹Hallym University Sacred Heart Hospital, Hallym University Medical Center, Pulmonary, Allergy & Critical Care Medicine, Anyang, Republic of Korea,²Hallym University Sacred Heart Hospital, Hallym University Medical Center, Thoraic and Cardivascular Surgery, Anyang, Republic of Korea, ³Hallym University Sacred Heart Hospital, Hallym University Medical Center, Thoracic & Cardiovascular Surgery, Whaseong, Republic of Korea, ⁴Hallym University Sacred Heart Hospital, Hallym University Medical Center, Thoracic & Cardiovascular Surgery, Anyang, Republic of Korea, ⁵Hallym University Sacred Heart Hospital, Hallym University Medical Center, Emergency Medicine, Anyana. Republic of Korea
- A93 Outcomes of extracorporeal membrane oxygenation as a rescue therapy after thoracic surgery: Single center experience with ³⁶ patients Hyoung Woo Chang, Samsung Medical Center, Seoul, Republic of Korea
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- Patients with refractory cardiogenic shock supported with ECMO followed by LVAD implantation have reasonable clinical outcomes
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 Hospital, Minneapolis Heart Institute, Minneapolis, US, ²Hennepin County Medical Center, Minneapolis, US, ³Abbott Northwestern Hospital, Critical
 Care Medicine, Minneapolis, US
- A95 **Early acquired Von Willebrand Syndrome in post-cardiotomy veno-arterial ECMO: management and case description**Francesca Volpi, *Santa Maria della Misericordia Hospital, Perugia, Italy*Co-Authors: Volpi F., Mancini G., Cianchella M., Merenda C., Manini E.V. *Santa Maria della Misericordia Hospital, Post Operative Cardiac-surgery Intensive Care, Perugia, Italy*
- A96 veno-arterial extracorporeal membrane oxygenation for cardiac allograft antibody-mediated rejection with severe hemodinamic compromise

 Vitaly Poptsov, Snumakov Federal Research Center of Transplantology and Artificial Organs, Moscow, Russian Federation

 Co-Authors: Poptsov V.N., Spirina E., Eremeeva O., Masutin S. Snumakov Federal Research Center of Transplantology and Artificial Organs, anesthesia and ICU, Moscow, Russian Federation
- A97 Haemodynamic, technical and ethical dilemmas before ECMO insertion in Down syndrome patient with ARDS, ASD and new onset right to left shunt
 Vojka Gorjup, University Medical Centre Ljubljana, Ljubljana, Slovenia
 Co-Authors: Gorjup V.¹,², Goslar T.¹,², Zorman S.¹,²¹University Medical Centre Ljubljana, Ljubljana, Slovenia,²Faculty of Medicine, University of Ljubljana, Ljubljana, Slovenia
- Post cardiac surgery application of extracorporeal membrane oxygenation in adult patients: Indonesian experience.

 Dudy Hanafy, Universitas Indonesia, National Cardiovascular Center Harapan Kita, Jakarta, Indonesia

 Co-Authors: Hanafy D.A., Ayesha R., Wartono D., Sugisman, Arinto Bono Adji, Amin Tjubandi, Bagus Herlambang, Tri Wisesa Universitas Indonesia, National Cardiovascular Center Harapan Kita, cardiac and Vascular Surgery, Jakarta, Indonesia

Experimental

- Body position during transport in refractory cardiac arrest model
 Jan Belohlavek, General University Hospital, Prague, Czech Republic
 Co-Authors: Belohlavek J.¹, Mlcek M.², Huptych M.³, Boucek T.¹, Belza T.², Krupickova P.², Linhart A.¹, Kittnar O.² ¹General University Hospital,
 Prague, Czech Republic, ²Charles University in Prague, Institute of Physiology, Prague, Czech Republic, ³Faculty of Electrical Engineering, BioDat
 Research Group, Department of Cybernetics, Prague, Czech Republic
- E2 The important point that we should be careful for effective single-cannulation of venovenous extracorporeal membrane oxygenation Konomi Togo, National Cerebral and Cardiovascular Center, Suita, Japan
 Co-Authors: Togo K.¹, Takewa Y.¹, Katagiri N.¹, Fujii Y.¹, Tanabe K.², Miyamoto Y.³, Tatsumi E.¹¹National Cerebral and Cardiovascular Center, Suita, Japan, ²Maquet Japan K.K., Shinagawa, Japan, ³Hyogo College Of Medicine, Nishinomiya, Japan
- Pharmacokinetics of midazolam and its metabolites in healthy and critically ill sheep receiving ECMO
 Kiran Shekar, Critical Care Research Group, University of Queensland, Brisbane, Australia
 Co-Authors: Shekar K.¹, Roberts J.A.², Diab S.³, Ghassabian S.⁴, Dunster K.R.³, McDonald C.³, Platts D.G.¹, Smith M.T.⁴, Fraser J.F.¹, The ECMO PK
 Project ¹Critical Care Research Group, University of Queensland, Brisbane, Australia, ²Burns Trauma and Critical Care Research Centre, University of
 Queensland, Brisbane, Australia, ³Critical Care Research Group, Brisbane, Australia, ⁴Centre for Integrated Preclinical Drug Development, University of
 Queensland, Brisbane, Australia
- Usefulness of a bypass conduit for minimizing the risk of a renal replacement therapy circuit connected to extracorporeal membrane oxygenation circuit

 Natsumi Suga, Chiba University Graduate School of Medicine, Chiba, Japan

 Co-Authors: Suga N., Abe R., Hattori N., Matsumura Y., Oda S. Chiba University Graduate School of Medicine, Department of Emergency and Critical Care Medicine, Chiba, Japan
- E5 Central hemodynamic assessment in infants during VA ECMO
 Nikolai Krivitski, *Transonic Systems inc., Ithaca, US*Co-Authors: Krivitski N., Galyanov G., Thuramalla N. *Transonic Systems inc., Ithaca, US*
- E6 Dual lumen catheters: performance increase with self-expanding design
 Saad Abdel-Sayed, Research Laboratory, University Hospital-CHUV, Lausanne, Switzerland
 Co-Authors: Abdel-Sayed S., von Segesser L.-K. Research Laboratory, University Hospital-CHUV, Lausanne, Switzerland



Experimental (continued)

E7 Microcirculation in a porcine model of cardiac arrest

Petra Krupickova, First Faculty of Medicine, Charles University in Prague, Prague, Czech Republic Co-Authors: Krupickova P.^{1,2}, MIcek M.³, Huptych M.⁴, Boucek T.⁵, Belza T.¹, Belohlavek J.⁵ 'First Faculty of Medicine, Charles University in Prague,

Praque, Czech Republic, ²University Hospital in Motol, Department of Neonatology with IRCU, Praque, Czech Republic, ³First Faculty of Medicine, Charles University in Prague, Department of Physiology, Prague, Czech Republic, ⁴Faculty of Electrical Engineering, Czech Technical University in Prague, BioDat Research Group, Department of Cybernetics, Prague, Czech Republic, First Faculty of Medicine, Charles University in Prague and General University Hospital in Prague, 2nd Department of Medicine - Department of Cardiovascular Medicine, Prague, Czech Republic

An experimental model of veno-arterial-venous ECMO (VAV ECMO) **E8**

Mirko Belliato, Fondazione IRCCS Policlinico S. Matteo Pavia - Servizio Anestesia e Rianimazione II, Pavia, Italy Co-Authors: Belliato M.¹, Aina A.², Degani A.³, Pellegrini C.³, Caneva L.², Sciutti F.¹, lotti G.¹ 'Fondazione IRCCS Policlinico S. Matteo Pavia -Servizio Anestesia e Rianimazione II, Pavia, Italy, ²Università degli Studi di Pavia, Pavia, Italy, ³Fondazione IRCCS Policlinico S. Matteo Pavia - SC Cardiochirurgia, Pavia, Italy

E9 Shunting blood from oxygenator to centrifugal pump reduces thrombus formation in ECMO oxygenators – 1 year experience Thomas Neitzel, Universitätsklinikum Halle, Halle, Germany

Co-Authors: Neitzel T. Universitätsklinikum Halle, Kardiotechnik, Halle, Germany

Miscellaneous

Five-year follow-up of adverse events during Inter-hospital transports on extracorporeal membrane oxygenation Mikael Broman, Karolinska University Hospital, Stockholm, Sweden

Co-Authors: Broman M., Ericsson A. Karolinska University Hospital, ECMO Centre Karolinska, Stockholm, Sweden

M2 Evaluation of an innovative ECMO course at a smaller volume ECMO center

Sean Skinner, University of Kentucky, Lexington, US

Co-Authors: Skinner S.C.¹, Ballard H.O.², Krishna A.³, Wittkamp M.³, Iocono J.¹, Maul E.³ ¹ University of Kentucky, Surgery, Lexington, US, ²University of Kentucky, Neonatolgy, Lexington, US, 3University of Kentucky, Pediatrics, Lexington, US

М3 Extracoporeal cardiopulmonary resuscitation for the patient with cardiac tamponade by blunt chest trauma Seunghwan Song, Pusan National University Hospital, Busan, Republic of Korea

Co-Authors: Song S., Kim J.W., Chung S.W., Kim S.-P., Lee C.W., Bae M.J., Choi J. Pusan National University Hospital, Busan, Republic of Korea

Use of ECMO for patient with refractory cardiac arrest induced by hypothermia and near-drowning from falling into a frozen lake: A case M4 report

Hyoung Soo Kim, Hallym University Sacred Heart Hospital, Hallym University Medical Center, Anyang, Republic of Korea Co-Authors: Lee H.S.¹, Kim H.S.², Lee J.J.³, Lee S.H.² ¹Dontan Sacred Heart Hospital, Hallym University Medical Center, Thoracic & Cardiovascular Surgery, Whaseong, Republic of Korea, 2 Hallym University Sacred Heart Hospital, Hallym University Medical Center, Thoracic & Cardiovascular Surgery, Anyang, Republic of Korea, Seoul Adventist Hospital, Thoracic & Cardiovascular Surgery, Seoul, Republic of Korea

The contribution of critical incident management in improving the safety of the patient requiring extracorporeal membrane oxygenation M5 Janet Taylor, Alder Hey Childrens Foundation Trust, Liverpool, UK Co-Authors: Taylor J.L., Burrows J., Horan M. Alder Hey Childrens Foundation Trust, PICU, Liverpool, UK

An ELSO Center OF Excellence in life support: Staffing and compensation M6

Tracy Morrison, Extracorporeal Life Support Organization, Ann Arbor, US

Co-Authors: Morrison T., Haney B., Heard M. Extracorporeal Life Support Organization, Center of Excellence, Ann Arbor, US

Use and activity of antithrombin during ECMO: Ten year experience M7

Pramod Guru, Mayo Clinic, Rochester, US

Co-Authors: Guru P.K.¹, Riley J.B.², Schears G.J.¹¹Mayo Clinic, Anesthesia, Critical Care and ECMO service, Rochester, US, ²Mayo Clinic, Department of Cardiovascular surgery, Rochester, US

M8 An ELSO center of excellence in life support: Demographics of the current center of excellence in life support designees

Tracy Morrison, Extracorporeal Life Support Organization, Ann Arbor, US

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ParaMount - The simple answer to movement of patients on ECMO within the hospital environment. M9

Richard Hartshorne, Chalice Medical Ltd, Nottinghamshire, UK Co-Authors: Hartshorne R.W. Chalice Medical Ltd, Nottinghamshire, UK

ECMO education and training: survey report on learning needs of ICU nurses of an Italian University Hospital M10

Marta Antonini, University Hospital of Parma, Parma, Italy
Co-Authors: Antonini M.V.¹, Bertani L.², Formaggioni H.³, Vezzani A.², Caspani M.L.¹ ¹University Hospital of Parma, ¹st Anesthesia and Intensive Care Unit, Parma, Italy, ²University Hospital of Parma, Cardiac Surgery Intensive Care Unit, Parma, Italy, ³University Hospital of Parma, Cardiac Surgery Unit, Parma, Italy

Successful use of V-A Extracorporeal Membrane Oxygenation for rewarming and cardiac support post prolonged hypothermic cardiac M11 arrest: A case study

Amandeep Sidhu, Vancouver General Hospital, Vancouver, Canada

Co-Authors: Sidhu A.¹, Dhingra V.², Brown D.³ ¹Vancouver General Hospital, ECMO Coordinator, Perfusion Services, Vancouver, Canada, ²Vancouver General Hospital, Division of Critical Care Medicine, Vancouver, Canada, 3Royal Columbian Hospital, New Westminister, Canada

M12 Extra corporeal membrane oxygenation (ECMO) in India

Sandeep Chauhan, All India Institute of Medical Sciences, New Delhi, India

Co-Authors: Chauhan S., Bisoi A., Yadav S.C., Kumar A. All India Institute of Medical Sciences, Cardiac anaesthesia, New Delhi, India

Miscellaneous (continued)

Pharmacokinetics of protein bound and lipophilic antibiotics is more significantly altered during ECMO in healthy and critically ill sheep Kiran Shekar, Critical Care Research Group, University of Queensland, Brisbane, Australia
Co-Authors: Shekar K.¹, Roberts J.A.², Barnett A.G.³, Diab S.⁴, Dunster K.R.⁴, Fisquet S.⁴, Wallis S.C.², Platts D.G.³, Fraser J.F.³, The ECMO PK Project ¹Critical Care Research Group, University of Queensland, Brisbane, Australia, ²Burns Trauma and Critical Care Research Centre, University of Queensland, Brisbane, Australia, ³Critical Care Research Group, Queensland University of Technology, Brisbane, Australia, ⁴Critical Care Research Group, Brisbane, Australia

Neonatology

N2 Audit of incidence of acute kidney injury in neonatal ECMO patients
Sarah Clarke, University Hospitals Leicester NHS Trust, Leicester, UK

Co-Authors: Clarke S. University Hospitals Leicester NHS Trust, PICU/ECMO, Leicester, UK

N3 Use of a scorecard to maintain excellent neonatal ECMO outcomes

Sean Skinner, University of Kentucky, Lexington, US

Co-Authors: Skinner S.C.¹, Ballard H.², Maul E.³, Krishna A.³, Wittkamp M.³, Ruzic A.¹, Iocono J.¹ 'University of Kentucky, Surgery, Lexington, US, ²University of Kentucky, Neonatology, Lexington, US, ³University of Kentucky, Pediatrics, Lexington, US

Perflubron for lung recruitment and rescue of a neonate on prolonged extracorporeal life support for refractory meconium aspiration Kendra Smith, Seattle Children's Hospital/University of Washington, Seattle, US

Co-Authors: Smith K.M.¹, Jackson J.C.¹, Deutsch G.H.², DiBlasi R.M.³, McMullan D.M.⁴, Brogan T.V.⁵¹Seattle Children's Hospital/University of Washington, Neonatology, Seattle, US, ²Seattle Children's Hospital, Laboratory Medicine/Pathology, Seattle, US, ³Seattle Children's Hospital, Respiratory Care, Seattle, US, ⁴Seattle Children's Hospital, Cardiothoracic Surgery, Seattle, US, ⁵Seattle Children's Hospital, Critical Care Medicine, Seattle, US

N5 Diagnoses and current profile of neonatal extracorporeal membrane oxygenation results

Steffen Hien, *University Medicine Mannheim, Mannheim, Germany*

Co-Authors: Hien S., ECMO Mannheim University Medicine Mannheim, Neonatology, Mannheim, Germany

Pediatrics

- Continuous Quality Review (CQR) of a pediatric rapid response ECMO program: Identification of utilization trends and safety threats Jillian Bybee, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, US

 Co-Authors: Bybee J.¹, Byron D.², El-Tayeb O.³, Monge M.³, Backer C.L.³, Reynolds M.⁴, Moga M.-A.¹,⁵¹Ann & Robert H. Lurie Children's Hospital of Chicago, Division of Critical Care Medicine, Chicago, US, ²Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, US, ³Ann & Robert H. Lurie Children's Hospital of Chicago, Division of Pediatric Surgery, Chicago, US, ⁵Ann & Robert H. Lurie Children's Hospital of Chicago, Division of Cardiology, Chicago, US
- P2 **ECMO** support in single ventricle patients after the glenn procedure: review of the Extracorporeal Life Support Organization registry Scott Aydin, *The Children's Hospital at Montefiore/Albert Einstein College of Medicine, Bronx, US*Co-Authors: Aydin S.I.¹, Duffy M.², Rodriguez D.³, Thiagarajan R.R.⁴, Weinstein S.² ¹The Children's Hospital at Montefiore/Albert Einstein College of Medicine, Pediatric Cardiology, Bronx, US, ²Montefiore Medical Center/Albert Einstein College of Medicine, Cardiothoracic and Vascular Surgery, Bronx, US, ³Montefiore Medical Center/Albert Einstein College of Medicine, Perfusion, Bronx, US, ⁴Boston Children's Hospital/Harvard Medical School, Cardiology, Boston, US
- P3 A review of blood product usage in children Receiving Extracorporeal Membrane Oxygenation (ECMO) in a tertiary paediatric intensive care unit

Shirley Nolan, Alder Hey Children's NHS Foundation Trust, Liverpool, UK

Co-Authors: Nolan S.¹, Shackleton T.², Venugopal P.³, Baines P.¹, Horan M.¹ 'Alder Hey Children's NHS Foundation Trust, PICU, Liverpool, UK, ²Alder Hey Children's NHS Foundation Trust, Department of Transfusion, Liverpool, UK, ³Alder Hey Children's NHS Foundation Trust, Department of Cardiac Surgery, Liverpool, UK

P4 Standardized anticoagulation management protocol using Anti-Xa activity for Heparin dose titration reduces bleeding and clotting events during ECMO

Patrick Henke, Boston Children's Hospital, Boston, US

Co-Authors: Henke P.¹, McLaughlin S.R.¹, Thiagarajan R.R.²¹Boston Children's Hospital, Boston, US, ²Boston Children's Hospital/Harvard Medical School, Cardiology, Boston, US

- P5 Ecmo support for failure to wean from cardiopulmonary bypass in children: an analysis of elso registry data Ravi Thiagarajan, Boston Children's Hospital/Harvard Medical School, Boston, US
 - Co-Authors: Polito A.¹, McMullan D.M.², Garisto C.¹, Rajagopal S.K.³, Rycus P.T.⁴, Cogo P.E.¹, Thiagarajan R.R.³ ¹Bambino Gesù Pediatric Hospital, Cardiac Intensive Care Unit, Rome, Italy, ²Seattle Children's Hospital, Seattle, US, ³Boston Children's Hospital/Harvard Medical School, Cardiac Intensive Care Unit, Boston, US, ⁴Extracorporeal Life Support Organization (ELSO), University of Michigan, Ann Arbor, US
- P6 Extended use of VA ECMO cannulae for renal replacement therapy in children

Anastassia Boltruchenko, Novosibirsk Research Institute of Circulation Pathology, Novosibirsk, Russian Federation

Co-Authors: Boltruchenko A., Kornilov I.A., Borisov A. Novosibirsk Research Institute of Circulation Pathology, Anesthesiology, Novosibirsk, Russian Federation

P7 Implementation of a checklist for patient and equipment check in ECMO patients on an interdisciplinary pediatric intensive care unit Anke Helleken, Universitätskinderklinik Tübingen, Tübingen, Germany

Co-Authors: Helleken A., Hägele M., Goertz P., Kumpf M., Hanelt M., Gerbig I., Neunhoeffer F., Heimberg E., Hofbeck M. *Universitätskinderklinik Tübingen, Tübingen, Germany*



Pediatrics (continued)

P8 Early urinary neutrophil gelatinase-associated lipocalin is associated with renal injury following extracorporeal membrane

Alexandra Zwiers, Erasmus Medical Center-Sophia Children's Hospital, Rotterdam, The Netherlands

Co-Authors: Zwiers A.J.¹,², Cransberg K.², de Rijke Y.B.³, van Rosmalen J.⁴, Tibboel D.¹, de Wildt S.N.¹¹ Erasmus Medical Center-Sophia Children's Hospital, Intensive Care and Department of Pediatric Surgery, Rotterdam, The Netherlands, ¹Erasmus Medical Center-Sophia Children's Hospital, Department of Pediatric Nephrology, Rotterdam, The Netherlands, ¹Erasmus Medical Center-Sophia Children's Hospital, Clinical Chemistry, Rotterdam, The Netherlands, ⁴Erasmus Medical Center, Department of Biostatistics, Rotterdam, The Netherlands

P9 **Paediatric ECMO outcomes in a "low volume" centre – strategies to achieve good outcomes**Ajay Desai, *Royal Brompton Hospital, London, UK*

Co-Authors: Desai A., Ghez O., Timms D., Peralta S.-G., Jackson T., Burmester M., Macrae D. Royal Brompton Hospital, PICU, London, UK

- P10 Comparison of centrifugal vs. roller pump in pediatric extracorporeal membrane oxygentaion & our 20 years of experience
 Mojca Grošelj Grenc, University Medical Centre Ljubljana, Ljubljana, Slovenia
 Co-Authors: Grošelj Grenc M., Kalan G., Štumpfl A., Vidmar I., Mencigar D. University Medical Centre Ljubljana, Department for Paediatric
 Surgery and Intensive Care, Ljubljana, Slovenia
- P11 Tissue Factor Pathway Inhibitor (TFPI) levels increase in pediatric patients on ECMO
 Jun Teruya, Texas Children's Hospital, Houston, US
 Co-Authors: Kostousov V.¹,², Pelkey G.¹, Chandler H.¹, Loftis L.¹, Hartman S.K.¹,², Hui S.-K.¹,², Teruya J.¹,² ¹Texas Children's Hospital, Houston, US,
 ²Baylor College of Medicine, Houston, US
- P12 Developing an Extracorporeal Life Support (ECLS) education programme: The costs and benefit
 Ruth Phillips, Birmingham childrens hospital, Birmingham, UK
 Co-Authors: Phillips R., Heward Y., Farley M., Edwards L., Jones T. Birmingham childrens hospital, PICU, Birmingham, UK
- P13 Implementing and maintaining a successful ECPR protocol in a Cardiac PICU A nursing perspective Donna Kelly, Freeman Road Hospital, Newcastle upon Tyne, UK Co-Authors: Kelly D.K. Freeman Road Hospital, Cardiac PICU, Newcastle upon Tyne, UK
- P14 **Pediatric ventricular mechanical support. First** ¹¹ **cases experience in Colombia.**Leonardo Salazar, Fundacion Cardiovascular de Colombia, Floridablanca, Colombia
 Co-Authors: Basto M.C.¹, Bermon A.², Moreno O.L.³, Salazar L.A.¹ ¹Fundacion Cardiovascular de Colombia, Anaesthesia, Floridablanca, Colombia,
 ²Fundacion Cardiovascular de Colombia, Epidemiology and medical research, Floridablanca, Colombia, ³Fundacion Cardiovascular de Colombia,
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- P15 Reduction in transfusion of blood and blood products is associated with better survival of post cardiotomy ECMO patients
 Giuseppe Pelella, Alder Hey Children's NHS Foundation Trust, Liverpool, UK
 Co-Authors: Pelella G.¹, Scott E.², Nolan S.³, Daly P.⁴, Horan M.⁵, Guerrero R.¹, Dhannapuneni R.¹, Vanugopal P.¹¹Alder Hey Children's NHS
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 PICU Research, Audit and Education Office, Liverpool, UK, ³Alder Hey Children's NHS Foundation Trust, Perfusionist and ECMO department, Liverpool, UK, ⁵Alder Hey Children's NHS Foundation Trust, Paediatric
 Intensive Care Unit, Liverpool, UK
- P16 Successful use of VV ECMO in pediatric acute chest syndrome related to sickle cell syndrome
 Carol Ann Rosenberg, University of Virginia, Charlottesville, US
 Co-Authors: Rosenberg C.A.¹, Herold J.²¹University of Virginia, Charlottesville, US, ²Georgia Regents Medical Center, Pediatrics, Augusta, US
- P17 Contribution of ECMO in arterial switch operations
 Suresh Yadav, Institute of Medical Sciences, New Delhi, India
 Co-Authors: Yadav S.C., Chauhan S., Bisoi A.K., Airan B. Institute of Medical Sciences, New Delhi, India
- P18 Excellent outcomes in a small volume neonatal/pediatric ECMO center
 Sean Skinner, University of Kentucky, Lexington, US
 Co-Authors: Skinner S.C.¹, Wittkamp M.², Krishna A.², Maul E.², Ballard H.C.³, Ruzic A.¹, Iocono J.¹¹University of Kentucky, Surgery, Lexington, US,
 ²University of Kentucky, Pediatrics, Lexington, US, ³University of Kentucky, Neonatology, Lexington, US
- P19 Accidental ECMO Decannulation: Case studies with lessons learned and changes in practice Michelle Macpherson, Freeman Hospital, Newcastle Upon Tyne, UK Co-Authors: Macpherson M., Busby C. Freeman Hospital, Cadiac PICU, Newcastle Upon Tyne, UK
- Prolonged VA ECMO in the child

 Anton Subbotovsky, Novosibirsk Research Institute of Cirulation Pathology, Novosibirsk, Russian Federation
 Co-Authors: Subbotovsky A.P., Kornilov I.A., Omelchenko A. Novosibirsk Research Institute of Cirulation Pathology, Novosibirsk, Russian Federation
- P21 A case of respiratory failure secondary to measles virus infection requiring extracorporeal membrane oxygenation (ECMO)
 Florian Beske, National University Hospital, Singapore, Singapore
 Co-Authors: Beske F.¹, Kimpo M.S.¹, Shankar S.²¹National University Hospital, Department of Paediatrics, Division of Critical Care, Singapore, Singapore, National University Hospital, Department of Cardiac, Thoracic and Vascular Surgery, Singapore, Singapore
- Paediatric cases of severe pertussis infection and pulmonary hypertension required extracorporeal membrane oxygenation
 N. Shimizu, *Tokyo Metropolitan Children's Medical Center, Tokyo, Japan*Co-Authors: Shimizu N.¹, Sueishi T.¹, Watanabe I.¹, Motomura M.¹, Saito M.¹, Nakayama Y.¹, Imai K.¹, Niitsu T.¹, Saito O.¹, Ikeyama T.² ¹Tokyo
 Metropolitan Children's Medical Center, Paediatric Emergency & Critical Care Medicine, Tokyo, Japan, ²Aichi Children's Health and Medical Centre,
 Division of Paediatric Critical Care Medicine, Nagoya, Japan
- P23 Implementation of ECMO simulation team training programme in cardiothoracic unit in Great Ormond Street Hospital Mirjana Cvetkovic, *Great Ormond Street Hospital, London, UK*Co-Authors: Cvetkovic M., O'Collaghan M., Muthialu N., Thiruchelvam T. *Great Ormond Street Hospital, London, UK*
- P24 Successful use of ECMO to treat acute chest syndrome in a toddler with sickle cell disease
 Rita Jotta, Department of Pediatrics, Santa Maria Hospital CHLN, Academic Medical Center of Lisbon, Lisbon, Portugal
 Co-Authors: Jotta R.¹, Abecasis F.², Boto L.², Rios J.², Camilo C.², Abecasis M.³, Vieira M.²¹Department of Pediatrics, Santa Maria Hospital CHLN,
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 Academic Medical Center of Lisbon, Lisbon, Portugal, Cardiothoracic Surgery Department, Santa Cruz Hospital CHLO, Lisbon, Portugal

Pediatrics (continued)

P25 Serial trend of case volume and change of HCP professionalism in paediatric ECMO management: single-centre experience in Tokyo Takayuki Sueishi, *Tokyo Metropolitan Children's Medical Center, Tokyo, Japan*

Co-Authors: Sueishi T., Saito O., Watanabe I., Motomura M., Nakayama Y., Imai K., Niitsu T., Shimizu N. Tokyo Metropolitan Children's Medical Center, Paediatric Emergency & Critical Care Medicine, Tokyo, Japan

P26 Successful explantation of paediatric biventricular Berlin Heart EXCOR device in a life threatening DCM

Claudio Barbanti, University Hospital Necker Enfants Malades - Pediatric Cardiac Intensive Care, Anaesthesia and Perfusion Unit, Paris, France Co-Authors: Barbanti C., Giorni C., Biselli C., Aboumerouane N., Gabaldon M., Pouard P. University Hospital Necker Enfants Malades - Pediatric Cardiac Intensive Care, Anaesthesia and Perfusion Unit, Reference center for Complex Congenital Heart Disease, Paris V Descartes University, Paris, France

- P27 Respiratory support with veno-venous ECMO during biventricular assist device as a bridge to pediatric heart transplantation
 Camilla Biselli, Pediatric Cardiac Intensive Care, Anaesthesia and Perfusion Unit Reference center for Complex Congenital Heart Disease University
 Hospital Necker Enfants Malades Paris V Descartes University, Paris, France
 Co-Authors: Biselli C., Barbanti C., Gabaldon M., Aboumerouane N., Pouard P. Pediatric Cardiac Intensive Care, Anaesthesia and Perfusion Unit
- Reference center for Complex Congenital Heart Disease University Hospital Necker Enfants Malades Paris V Descartes University, Paris, France

 A patient on extracorporeal membrane oxygenation with prolonged hemostasis markers not attributed to over anticoagulation or

coagulopathy Brian Castillo, *Texas Children's Hospital, Houston, US*

Co-Authors: Castillo B.¹,², Pelkey Ġ.¹,², Kostousov V.¹,², Hartman S.K.¹,², Duran T.¹,², Teruya J.¹,², Hui S.K.R.¹,² ¹Texas Children's Hospital, Houston, US, ²Baylor College of Medicine, Department of Pathology & Immunology, Houston, US

P29 A ⁶ year retrospective analysis of the demographics and outcomes in children requiring continuous renal replacement therapy whilst on ECMO in Scotland

Nicole Perry, PICU, Glasgow, UK

Co-Authors: Perry N.M.^T, Simone M.^T, MacFarlane L.^T, Kidson C.^T, PICU, Royal Hospital for Sick Children, Glasgow, UK, ²University of Glasgow, Faculty of Medicine, Glasgow, UK



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Uditha Piyumindri Fernando, University of Michigan, Ann Arbor, USA

Josh Ihle, The Alfred, Melbourne, Australia

Petra Krupickova, Charles University Prague, Czech Republic

Nicole Perry, Royal Hospital for Sick Children, Glasgow, Scotland

Leonardo Torracchi, Azienda Ospedaliera San Camillo-Forlanini, Rome, Italy

Alexandra Zwiers, Erasmus University Medical Center Rotterdam, The Netherlands

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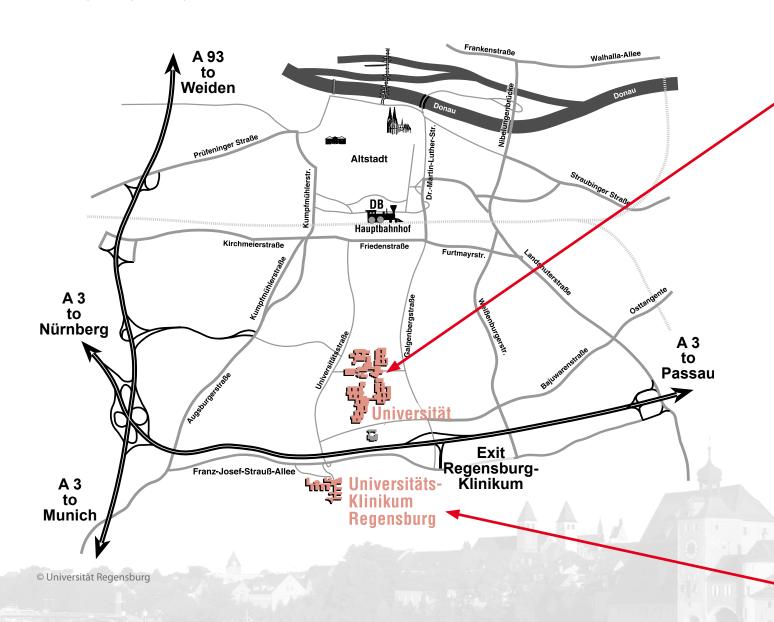
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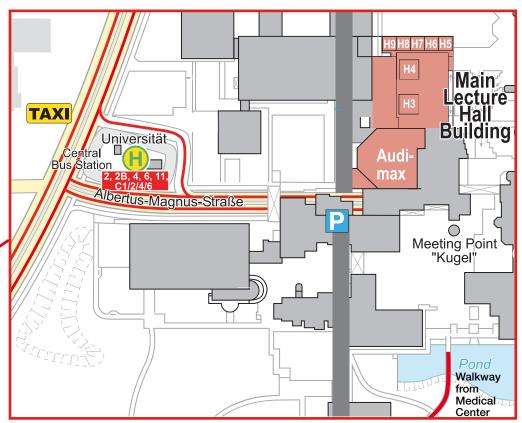
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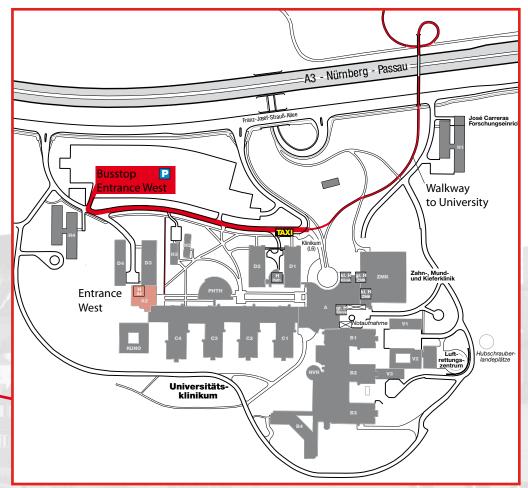
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Maquet, a trusted partner for hospitals and physicians for more than 175 years, is a global leader in medical systems. The company offers innovative therapy solutions and infrastructure capabilities for high-acuity areas within the hospital – including the operating room (OR), hybrid OR/cath lab, and intensive care unit (ICU) – as well as intra- and inter-hospital patient transport. Additionally, Maguet develops intelligent and sustainable room concepts that exceed the expectations of modern hospitals, working in close cooperation with customers, production engineers and architects to integrate high quality products and Services.

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Sorin Group, global leader in Heart-Lung Machines and CardioPulmonary Bypass products, translates its commitment to the circulatory by-pass support by providing a full range of ECMO devices, including disposables and equipments. Sorin offers three different Polymethilpentene oxygenators combinable with customizable circuits, entirely covered with phosphorylcholine coating, for both pediatric and Adults patients. Sorin disposables are approved for long term use. Sorin Group completes its offering by providing fixed and portable consoles to allow cardiopulmonary support in the most different situations. SCPC consoles for hospital use and Lifebox for transportation are both empowered by the Sorin HLM technology, leveraging the Revolution 5 centrifugal pump head. Versatile, tailored solutions and leadership in the cardiac arena are the pillars of the Sorin ECMO solutions.

Xenios is dedicated to translating medical need into pioneering therapies and devices together with caregivers and patients. The Xenios is a fast paced, sustainable group of companies with a robust technology base and an ambitious product pipeline. Xenios strive to be the technology and market leader in extracorporeal therapies. The management team combines entrepreneurial, medical, scientific, and biomedical engineering expertise with proven business execution. Xenios core technology are artificial lungs, blood pumps, vascular access devices, temperature control, and biocompatible surfaces.

The brands Novalung, Medos, i-cor and Xenios Pediatrics provide extracorporeal therapy systems that respond to the medical need in pulmonary and cardiac failure. We meet the needs of patients and caregivers, and speak their individual language. We closely collaborate with caregivers and patients to provide solutions comprised of enabling devices, training and clinical support. Xenios stands for continuity in maintaining and developing the Novalung, Medos, i-cor and Xenios Pediatrics brands.

Further Sponsors









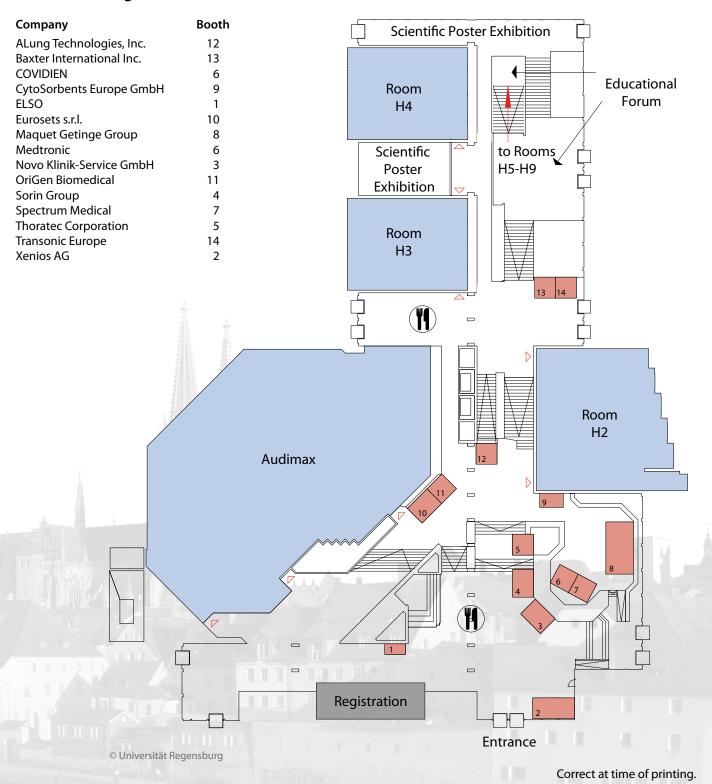


EXHIBITORS

Exhibition Opening Hours

Friday, May 8th 2015 11:00 am – 05:45 pm Saturday, May 9th 2015 09:00 am – 06:15 pm Sunday, May 10th 2015 08:30 am – 01:00 pm

Exhibitor Listing



INDUSTRY SPONSORED LUNCH SYMPOSIA

Saturday, May 9th 2015, 12:40 – 1:30 pm

Audimax	ECMO center set-up: Concepts and Philosophies from different Global perspectives Session Chairs: Alain Combes, Paris, France and Tilmann Schwab, Basel, Switzerland presented by GETINGE GROUP
	ECMO Center Regensburg: Lessons learnt from empiricism and rationalism Thomas Müller, Regensburg, Germany The Mater Misericordiae University Hospital Experience, ECMO coordinater perspective Serena O'Brien, Dublin, Ireland Redefining early interventions in lung failure: Continuous ELS en route from point of injury till definitive care Andriy Batchinsky, Texas, USA
Room H2	Pediatric ECMO Different Perspectives – One Team Session Chairs: Dick Tibboel, Rotterdam and Robert Cesnjevar, Erlangen presented by
	TECHNICAL ASPECTS – Specific Needs of the Pediatric Patient Christoph Benk, Freiburg, Germany PRACTICAL ASPECTS – Starting an ECMO Program – The Bonn Experience Florian Kipfmüller, Bonn, Germany NURSING ASPECTS – The Unique Rotterdam Nursing Training Concept Miranda van Bommel-van Doorn, Rotterdam, The Netherlands
Room H3	Current and future developments of ECMO therapy Session Chair: L. Corazza, Italy presented by SORINGROUP AT THE HEART OF MEDICAL TECHNOLOGY
	Welcome L. Corazza, Italy Requirements for ECMO – Different scenarios for in-center and out-of-center use A. Philipp, Regensburg, Germany Percutaneous ECLS-implantation in patients with refractory cardiogenic shock: the Munich experience S. Günther, Munich, Germany New insights in ECMO applications: the S. Raffaele experience F. Pappalardo, Milan, Italy
Room H4	Extracorporeal CO2 Removal – New Horizons Session Chairs: Thomas Bein, Germany and Nick Barrett, UK presented by ALUNG.
	Efficiency, evidence and possible indications of CO2 dialysis Nick Barrett, UK Super-protective ventilation facilitated by ECCO2R – goals, complications, future directions. Eddy Fan, Canada ECCO2R to avoid intubation: facts and fiction 2015 Stefan Kluge, Germany



INDUSTRY SPONSORED WORKSHOPS

Saturday, May 9th 2015, 07:30 – 09:00 am

Н9	Bleeding complications in ECMO patients Chair: Philipp Lepper, Homburg and Thomas Mueller, Regensburg	presented by CSL Behring Biotherapies for Life [™]
	How to diagnose bleeding complications in ECMO patients Fabian Dusse, Essen, Germany Role of coagulation factor XIII Dirk Lunz, Regensburg, Germany	
	How to treat bleeding ECMO patients (case reports) Philipp Lepper, Homburg, Germany	

Sunday, May 10th 2015, 08:15 – 09:45 am

Н9	Converting patients to CentriMag Faculty: Dr Diyar Saeed, Gerrit Paprotny, Alexander Kraft	presented by	THORATEC FILE
	Theory Session: transferring patients onto a CentriMag ECMO system Practical Session: transporting CentriMag ECMO patients		



ART MEETS ECMO

"Art meets ECMO", a pioneering common project of the University Medical Centre and the Institute for Arts, University of Regensburg. Art students, introduced into the technique of ECMO by physicians and perfusionists, developed digital collages and paintings from their point of view. Interesting works of art resulted, which surely will please many participants of the congress. A special thanks is due to Josef Mittlmeier, instructor and lecturer at the Institute for Arts, for his continuous inspiring support; without his enthusiasm this project would not have been possible.



© Ann-Kathrin Müller

"The oxygenator is presented as an exhibit in a Cabinet of Curiosities. This digital collage is based on an etching from the Collection of Rarities of Levinus Vincents (1658 – 1727) – such a machine was far beyond the imagination of physicians of the time. The vivid colour and gigantic proportion of the hich-tech apparatus give a surreal and absurd touch to the collage. A historic advertisement poster for a gas to support respiration and a picture by the Regensburg painter Albrecht Altdorfer (1480 – 1538) create additional moments of irritation: Time will create new concepts and let established ones retreat into the past – as will the ECMO…"



EVENING FUNCTIONS

Get Together

Friday, May 8th, 2015 – 5:45 – 6:30 pm

Location: University of Regensburg (Industrial Exhibition)

The Get Together will be held in the Exhibition Area at the University of Regensburg and is open to all registered delegates to attend. At 6:00 pm the "Art meets ECMO" exhibition will be unclosed.

Concert: Regensburger Domspatzen and Cathedral Organ

Friday, May 8th, 2015 Entry: 7:00 pm Concert: 7:30 – 8:45 pm

Location: Cathedral "St. Peter" EUR 17.50* per Ticket

The Regensburger Domspatzen are one of the most famous sights in Regensburg and an important part of its cultural life. The Cathedral Organ of Regensburg is the largest and heaviest hanging organ in the world and will be played by Prof. Franz Stoiber. After the concert of the Regensburger Domspatzen you will have the opportunity to have dinner at the restaurant "Leerer Beutel". A shuttle bus will take you from the University of Regensburg to the city centre. As the cathedral is not heated, we recommend to bring warm clothing.



© Regensburger Domspatzen



© Restaurant "Leerer Beutel"

Post Concert Dinner

Friday, May 8th, 2015 – 9:00 pm Location: Restaurant "Leerer Beutel" **EUR 30.00* per Ticket**

The restaurant "Leerer Beutel" is located in walking distance to the Dom St. Peter. Enjoy the Post Concert Dinner in a historic atmosphere with regional food and take the opportunity to socialise with other delegates. Cost includes 3 course buffet menue. Beverages at own expense

Congress Gala Dinner

Saturday, May 9th, 2015

Sightseeing Tour of the Castle: 7:00 – 7:30 pm

Dinner: 7:45 - 10:30 pm

Location: St. Emmeramsplatz 5, Castle Thurn und Taxis

EUR 65.00* per Ticket

EuroELSO delegates are invited to enjoy the Congress Gala Dinner at the Castle Thurn und Taxis and to network with other participants of the congress in a charming ambience. Delegates have the opportunity to visit the castle and the medieval cloister of the old dominican monastery St. Emmeram.



© Schloss St. Emmeram

Tickets for the Concert, Post Concert Dinner and the Congress Gala Dinner are available via the registration desk.

^{*}Price per Person, including German VAT, collected by INTERPLAN in its own Name and for account of EuroELSO Associates Enterprise Ltd., Floor A. Milburn House, Dean Street, Newcastle upon Tyne, NE1 1LE, United Kingdom, VAT-ID GB 202542260.

CONGRESS REGISTRATION

Opening Hours of Registration Desk

Pre-Congress

Main Congress

Thursday, May 7th 2015 11:00 am – 05:00 pm Friday, May 8th 2015 07:30 am – 11:30 am Friday, May 8th 2015 11:00 am - 06:30 pm Saturday, May 9th 2015 07:00 am - 06:30 pm Sunday, May 10th 2015 07:30 am - 01:00 pm

Registration Fees*

On-Site Registration (from Thursday, May 7th 2015)

	ELSO and ESICM Member		Non Member	
	Pre-Congress	Main Congress	Pre-Congress	Main Congress
Physician	EUR 250.00	EUR 480.00	EUR 270.00	EUR 580.00
Perfusionist	EUR 220.00	EUR 280.00	EUR 240.00	EUR 320.00
Nurse	EUR 200.00	EUR 260.00	EUR 210.00	EUR 280.00
Student			EUR 120.00	EUR 120.00

Pre-Congress Courses*

Booking only in combination with registration at the Pre- Congress possible

Course-Fee Early Bird EUR 15.00
Course-Fee Late Registration EUR 20.00
Course-Fee On-Site Registration EUR 30.00

*Price per Person, including German VAT, collected by INTERPLAN in its own Name and for account of EuroELSO Associates Enterprise Ltd., Floor A. Milburn House, Dean Street, Newcastle upon Tyne, NE1 1LE, United Kingdom, VAT-ID GB 202542260.





CONGRESS SHUTTLE

Euro ELSO 2015 Congress Shuttle

Thursday, May 7th 2015

From	via	То	Departure Time
Arnulfsplatz	Main Railway Station	University Medical Center	12:00 pm / 12:15 pm / 12:30 pm / 12:45 pm / 01:00 pm
University Medical Center	Main Railway Station	Arnulfsplatz	05:00 pm / 05:15 pm / 05:30 pm / 05:45 pm / 06:00 pm

Friday, May 8th 2015

From	via	То	Departure Time
Arnulfsplatz	Main Railway Station	University Medical Center	07:30 am / 07:45 am / 08:00 am
University Medical Center	-	University of Regensburg	11:45 am / 12:00 pm / 12:15 pm / 12:30 pm / 12:45 pm
University of Regensburg	Main Railway Station	Arnulfsplatz	06:00 pm / 06:15 pm / 06:30 pm / 06:45 pm / 07:00 pm
University of Regensburg	-	Concert: Regensburger Domspatzen	06:45 pm / 07:00 pm

Saturday, May 9th 2015

From	via	То	Departure Time
Arnulfsplatz	Main Railway Station	University of Regensburg	07:00 am / 08:15 am / 08:30 am
University of Regensburg	Main Railway Station	Arnulfsplatz	06:30 pm / 06:45 pm / 07:00 pm / 07:15 pm / 07:30 pm

Sunday, May 10th 2015

From	via	То	Departure Time
Arnulfsplatz	Main Railway Station	University of Regensburg	07:45 am / 08:00 am / 08:15 am / 08:30 am/ 08:45 am / 09:00 am
University of Regensburg	Main Railway Station	Arnulfsplatz	01:00 pm / 01:15 pm / 01:30 pm / 01:45 pm / 02:00 pm

Both bus stops are clearly sign posted with 'EuroELSO Shuttle Bus'. To get to the bus stop at the main railway station, exit the railway building and turn right into Bahnhofstraße. This service is free of charge for registered congress delegates.

Regensburg Public Transport

Please note – each congress delegate will also receive a congress ticket – which entitles you to travel on RVV public transport zone 1 between May 7^{th} – 10^{th} 2015.

Line 6 an 11 run regularly from the city center to the University Medical Center and University of Regensburg. For detailed information visit www.rvv.de or ask at the registration desk on site.

GENERAL INFORMATION

Abstracts

The congress abstracts will be published on the congress website.

Bank, Cash machine

A cash machine can be found next to the University of Regensburg. (Universitätsstraße 31)

Certificate of Attendance

Participating delegates will receive a Certificate of Attendance before departure.

Climate and Dress Code

In May the average temperature in Regensburg is approx. 19 °C with an overnight low of approx. 7 °C

The dress code will be informal throughout the congress. For the evening functions smart business attire is recommended. It may still be chilly in the Cathedral, so warm clothing is recommended during the concert

Cloakroom

There is a cloakroom located next to the registration desk at the University of Regensburg. Please note the cloakroom is not supervised – items left there are not covered by insurance.

CME credits

The Landesärztekammer Bayern has credited the following CME points.

Pre Congress Main Congress

May 7th 2015: **3 CME credits**, Category B May 8th 2015: **3 CME credits**, Category B May 9th 2015: **3 CME credits**, Category B May 9th 2015: **6 CME credits**, Category B May 10th 2015: **6 CME credits**, Category B

Congress Shuttle Bus

Detailed timetable and route information can be found on page 43 of this progamme handbook.

Disclaimer

The organisers cannot accept liability for injuries or losses of whatever nature incurred by participants, nor for loss of or damage to their luggage and/or personal belongings.

Internet Access

Please note that free WLAN is NOT available at the congress venue.

Public Transport

A detailed city map can be found in your congress bag.

Each congress delegate will receive a congress ticket – which entitles you to travel on RVV public transport zone 1 between May 7th – 10th 2015. The Regensburger Verkehrsverbund (RVV) runs the public transport system and their site www.rvv.de has many different features (also in English) including a helpful route planner, maps, and schedules. You may also call +49 9416012888 to reach customer service.

Smoking Policy

In general – the ban on smoking in public places, including bars and restaurants, is now nationwide in Germany. Therefore smoking is not allowed at the meeting venue.

Telephone

The international access code for Germany is +49.

Local emergency telephone numbers are 110 for Police and 112 for Fire and Ambulance.

Tourist Information

The closest Tourist Information to the congress venue is: Regensburger Tourist Information, Rathausplatz 4

Visa Information

EU nationals:

EU nationals do not require a visa to enter the Federal Republic of Germany.

Non-EU nationals:

Generally speaking, all other foreigners require a visa for stays in Germany. A visa is not required for semi-annual visits of up to three months for nationals of those countries for which the European Community has abolished the visa requirement. Please refer to the Federal Foreign Office's Website (http://www.auswaertiges-amt.de/EN/EinreiseUndAufenthalt/Visabestimmungen_node.html) for further information.



In occasion of the Congress EURO ELSO 2015 Sorin Group has the pleasure of inviting you to attend the Lunch Symposium:

CURRENT AND FUTURE DEVELOPMENTS OF ECMO THERAPY

PROGRAM

Welcome

L. Corazza - Sorin Group

Requirements for ECMO

Different scenarious for in-center and out-of-center use

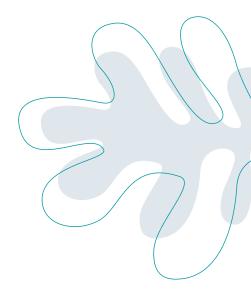
A. Philipp - Universitätsklinikum Regensburg, Regensburg (Germany)

Percutaneous ECLS-implantation in patients with refractory cardiogenic shock: the Munich experience

S. Günther - Klinikum der Universität München, Munich (Germany)

New insights in ECMO applications: the S. Raffaele experience

F. Pappalardo - San Raffaele Hospital, Milan (Italy)







NOTES

The 5th EuroELSO International Congress

EuroELSO 2016

JUNE 1-4 GLASGOW SCOTLAND

WWW.GLASGOW-EUROELSO2016.COM







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Lunch Symposium

Saturday, May 9, 12:40 - 13:30





ECMO center set-up: Concepts and Philosophies from different Global perspectives

Topics:

ECMO Center Regensburg: Lessons learnt from empiricism and rationalism

Thomas Müller, MD, Regensburg

The Mater Misericordiae University Hospital Experience, ECMO coordinater perspective

Serena O'Brien, ECMO coordinator, Dublin

Redefining early interventions in lung failure: Continuous ELS en route from point of injury till definitive care

Andriy Batchinsky, MD, Texas

Chairmen:

Alain Combes, MD, PhD, Paris Tilmann Schwab, MD, Basel

Place:

Plenary hall