



## Message from the President

Welcome to the August 2023 ELSO Newsletter!

ELSO's 34th Annual Conference is happening very soon, but it's not too late to register. The conference will be held in Seattle, Washington from September 28th to October 1st. Major



topics to be addressed include device development, new paradigms in ECMO management, and long-term follow-up and outcomes after ECMO. There will also be a joint session on transitioning from ECMO to other forms of support with the International Society for Heart and Lung Transplantation, plus a celebration of 50+ years of ECMO with some of the original pioneers discussing how and why they did it. More details can be found [here](#).

In recent years, clinicians and researchers have devoted an enormous amount of attention to Extracorporeal Cardiopulmonary Resuscitation (ECPR). Rightly or wrongly, I have always believed that ECPR is the icing on the cake of an ECMO program, something to be tackled only once high-quality ECMO is a daily part of clinicians' working lives. ECPR is not easy to do well. If for in-hospital cardiac arrest, should it only be performed for witnessed arrests in monitored locations? If for out-of-hospital cardiac arrest, should cannulation occur in the Emergency Department or on the sidewalk where the patient arrested? Can we extend these principles to young children or the elderly? What other ICU management strategies should we bundle with it? How can the requisite infrastructure be established? And how robust is the data supporting all this anyway?

The Opening Plenary of the 34th Annual Conference will tackle these questions head-on. There will be a fascinating case study of considerable complexity involving ECPR, Wilderness Medicine, and the US Military, plus lectures and a panel discussion from some of the world's foremost experts on the topic. For anyone with a specific interest in ECPR or in wider applications of ECMO in general, this session is a must.

See you there!

Graeme MacLaren, President, ELSO

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## COMMITTEE ROUNDUP



### Conference Committee

The Conference Committee is excited to welcome you to Seattle for the 34th Annual ELSO Conference, September 28th – October 1st. with the theme of “Inspiring Innovation”. We have developed an exciting and robust scientific agenda delivered by ECMO experts from around the world. Some highlights include a multidisciplinary plenary on ECPR, heroic and miraculous patient rescue, exciting developments in artificial lung technology, moderated discussion on ethics in ECMO, hot topics such as cutting edge research pulmonary hypertension, ECMO transport and mobilization, and so much more! The pre-conference features a robust dive into ECMO physiology, patient management and dissection of challenging clinical scenarios. We’re looking forward to seeing you in Seattle!

### ELSO & Chapter Meetings

**Event:** 34th Annual ELSO Conference

Location: Hyatt Regency Seattle, Washington

Dates: September 28th - October 1st, 2023

[Register Here!](#) [Preliminary Agenda](#)**Event:** AP ELSO Conference

Location: Seoul, South Korea

Dates: November 2th -4th, 2023

Registration Information: <http://apelso2023.org/>**Event:** 10th Annual SWAACELSO Conference

Location: Kuwait City, Kuwait

Dates: February 15th -17th, 2024

Registration Information: Coming Soon!

**Event:** 12th Annual EUROELSO Conference

Location: Krakow, Poland

Dates: April 24th -27th, 2024

Registration Information: Coming Soon!

**Event:** 6th LATAM Conference

Location: Buenos Aires Argentina

11/14/2024 - 11/16/2024

Registration Information: Coming Soon!

## Quality Committee - Award of Excellence



Letters of award recognition have been sent to all ECMO centers that have been recognized for the time period of 2024 through 2026. Congratulations to all! The award ceremony will take place this September in Seattle. Please plan on attending the celebration to honor the recipients, engage in networking, and have a wonderful time meeting new colleagues from all over the globe. All awards will be mailed out starting December 1st. If you have any questions contact [award@elso.org](mailto:award@elso.org).

The opening date for next year's application (2025-2027) for Award of Excellence in Life Support has been changed to December 1st, 2023. Luckily you do not need to wait until then to download the Award Evaluation & Improvement Tool! Fall is a great time to form your application team, review and reflect on quality improvements you have made, and start writing your application.

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## Research Committee

*Note from Prof. Dr. Roberto Lorusso, PhD, FLSO*

It is a great honor to chair the ELSO Research Committee. I strongly believe that ELSO, through the numerous initiatives carried out so far (i.e., ELSO books and monographs, studies during the COVID-19 pandemic, and the extraordinary resources and publications based on the Registry data), has been showing the strength and an outstanding level of scientific quality achieved during the years. I hope to provide additional contributions along this pathway, particularly with the help of the many generous people interested in science. As Chair, I will aim to get ELSO and its Chapters even more meaningful and present in the worldwide scientific community.



I welcome all interested people in research to contact ELSO and myself to endeavor to generate clinical and pre-clinical studies (retrospective, prospective, randomized) together in the field of ECLS and related topics. If you would like to be involved in the Research Committee, please email us at [research@elso.org](mailto:research@elso.org).

Communications about planned and available studies will be available soon (together with related information) on the ELSO website.

ELSO Research Grants for 2024 is open, deadline to submit is September 30, 2023. [Apply here](#). For questions on grants please email [ELSOResearchGrants@elso.org](mailto:ELSOResearchGrants@elso.org)



## Registry Committee

The Registry Sub-Committees have the following updates.

The Scientific Oversight Committee (SOC) is transitioning leadership for the upcoming two-year term. We would like to thank the previous Co-Chairs of the Registry Scientific Oversight Committee (Marc Anders, Ram Ramanathan and Aparna Hoskote). Their tireless work over two years increased the diversity of the SOC, enabled a transition to a transparent and formalized review process for research proposals, and decreased the time required for review and processing. Thank you Marc, Aparna and Ram! Going forward, the new SOC Co-Chairs will be Matt Friedman, Justyna Swol and Akram Zaaqoq. We look forward to their leadership over the coming two years.

The Registry Quality Committee (RQC) is working with super-users of the Quality Dashboard to identify new visualizations and opportunities to better report and display data to our member centers. If interested in this process, please reach out to [ELSOQualitySupport@elso.org](mailto:ELSOQualitySupport@elso.org).

Email: [registrysupport@elso.org](mailto:registrysupport@elso.org)

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## ELSO Publications

Please find available publications on our [website](#). We have a growing list of publications available.

- The ELSO Red Book - 6th Edition
- ECMO Specialist Training Manual - 4th Edition (5th Edition in development)
- ECPR and Resuscitative ECMO
- Post-Cardiotomy ECLS and other Temporary Mechanical Circulatory Supports in Adult Patients, with Roberto Lorusso as Senior Editor and a robust team of international authors.
- Neonatal and Pediatric ECMO Simulation Scenarios - developed in partnership with IPSS
- A Korean translation of the ELSO Red Book - 5th Edition
- Spanish translations of the ELSO Red Book - 4th Edition and ECMO Specialist Training Manual - 4th Edition

**Now Available- The e-book of the 6th Edition Red Book. Get your copy today!**

Please check our publications website for the full list: <https://www.elso.org/Publications.aspx>



## Education Committee/ELSO Academy

### ELSO – Adult ECMO Certification (E-AEC) Exam

ELSO has outlined standardized educational criteria and launched an online application process via ELSO Academy for ECMO clinicians who have demonstrated satisfactory completion of criteria listed on our website. This journey is designed to be inclusive of the entire ECMO interprofessional team. Certification is valid for three years; upon which time a renewal can be pursued to maintain certification. For additional information, please visit:

<https://www.else.org/Education/certificationexam.aspx>

### ELSO Foundations

ELSO Foundations: Adult ECMO Training Course is a self-paced ECMO course consisting of 53 modules, covering over 80 learning objectives which are anchored in the foundational concepts that will allow practitioners to develop, strengthen, and refine clinical skills related to ECMO patient care skills.

The Spanish translation version of the Adult ELSO Foundations course has been very popular.

ELSO Foundations: Neo/Peds ECMO Training Course is under development. An accompanying certification exam will be released later this year. [Register Here!](#)

## ELSO Training Courses

We will be announcing more new courses soon. Don't miss anything by checking [here](#).

Hands-on Simulation Course: ECMO Adult and Neo/Peds Step 2 Offering - *Course is full*

Date: Wednesday, September 27th, 2023

Time: 8:00am - 5:00pm

Location: Hyatt Regency Seattle

ELSO Extracorporeal Membranous Oxygenation (ECMO) Adult Simulation Course - *Course is full*

Dates: November, 8th-9th, 2023 (Session 1) November 10th-11th, 2023 (Session 2)

Location: ELSO Headquarters

Address: 3001 Miller Road Ann Arbor, MI, USA

ECMO Cannulation Workshop (1-Day Workshop)

Dates: November 12th, 2023 (Session 1) and November 13th, 2023 (Session 2)

Location: ELSO Headquarters

Address: 3001 Miller Road Ann Arbor, MI, USA

[Register Here!](#)

ELSO Extracorporeal Membranous Oxygenation (ECMO) Adult Simulation Course at SCCM

Dates: January 19th - 20th, 2023

Location: Phoenix, AZ

[Register Here!](#)

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## Nominations & Membership Committee

Interested in getting involved in ELSO? Great News! ELSO will be having a Meet & Greet networking event at this year's annual conference in Seattle, WA. Come and speak with some of the ELSO Steering Committee Members about opportunities to get involved in various committees.

Date: Friday September 29, 2023

Time: 10:40am - 11:10am and 3:00pm - 3:30pm

Location: ELSO Registration Area (more details can be found in conference program)

## ELSO Communities



As a global nonprofit organization, we wanted to be able to provide a communication tool that was accessible on cell phones, an app that was globally available (or close), free, and had encryption technology for secure messaging. We selected WhatsApp as the platform for ELSO Communities for these reasons. It is not perfect, but a good way to start.

To join a community visit the ELSO [website](#). You will be required to download WhatsApp on your phone. Communities are designed to be a support for our members that want to connect, collaborate, and support each other on a topic.

ELSO has several communities for you to participate in including New ECLS Program, Adult Cardiac, Adult Respiratory, Coordinators, Directors, ECMO Equipment, Procedures and ECMO, Platinum Mentors, Neo/Peds ECMO, and ELSO ECMO Patients & Families.

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## Coordinator's Corner

Please mark your calendars for the Coordinator's Meeting the morning of Saturday, September 30th from 7:00am-8:00am (PST). ELSO will be collecting initial questions for the Q&A discussion through the ELSO Coordinator's WhatsApp thread beginning the first week of September. The session will also include opportunity for in-person questions to be put to the group during the meeting. For those questions submitted via WhatsApp and discussed during the Coordinator's Meeting, we will summarize the discussion via WhatsApp following the meeting for those unable to attend.

We look forward to seeing everyone in person and having the time to collaborate during the upcoming 34th Annual ELSO Conference in Seattle, WA!

## BEDSIDE WITH BARTLETT



**Robert Bartlett, MD**

*Founder, Board of Directors Emeritus  
ELSO Professor Emeritus of Surgery University of Michigan*

### Case Study

A 70 year old man with end-stage lung disease due to COPD developed bronchitis. His PaCO<sub>2</sub> is 70, bicarbonate 45, pH 7.35, PO<sub>2</sub> 80, respiratory rate 45. Confused, getting exhausted. This is a typical and stage lung disease exacerbation. He is admitted to your ICU. Noninvasive ventilation assistance does not help. He is getting worse. Someone suggests ECCO<sub>2</sub>R but you do not have an ECCO<sub>2</sub>R machine. What do you do?

ECCO<sub>2</sub>R is extracorporeal CO<sub>2</sub> removal. It is one component of ECMO. You could put this patient on VVECMO at low flow and high sweep gas which will remove CO<sub>2</sub> selectively. If you don't want to use full ECMO cannulation and flow you can use a neonatal ECMO circuit with neonatal double lumen cannula and a flow rate around 400-500 ml per minute. A small membrane lung and pump combination specifically for CO<sub>2</sub> removal called Hemolung is recently on the market. It is similar to a neonatal ECMO circuit and is intended to be used at flow 400-500 ml/min.

Bring the PaCO<sub>2</sub> down at 10 mm/hour to avoid intracranial bleeding due to rapid pH shift. In a few hours the patient is alert and awake and very comfortable with respiratory rate of 10. The patient states that he has not felt normal for a year. You should treat bronchitis with the hope that he will return to baseline but, this is a short-term symptomatic solution (unless he is listed for transplant). When ECCO<sub>2</sub>R is weaned or discontinued the patient will return to hypercarbia, renal compensation, and dyspnea. Research in this area is aimed at palliative care with a small wearable membrane lung with automatic sweep gas control for long-term CO<sub>2</sub> removal.

What would you do? Please send questions and responses to [newsletter@elso.org](mailto:newsletter@elso.org).

Dr. Bartlett is looking for individuals that are interested in contributing cases to the ELSO Newsletter. If you are interested please let us know.



## ECMO EQUIPMENT UPDATES

ELSO has had the opportunity to share the survey results with regulatory agencies and device developers. Our community and key stakeholders have been working hard on access to equipment, and innovation at the bedside. We continue to check in with device developers and regulatory agencies. Heading into the Fall of 2023, we understand that equipment issues continue to be an increasing concern for many.

We would like to develop a more quantitative survey to better portray access to ECMO constraints that centers may be experiencing in a manner where those that can act have the information they need available. Please let us know if you would like to be involved in the survey design – as an ECMO practitioner, device developer, or regulatory agency. We are interested in an inclusive approach for this second survey.

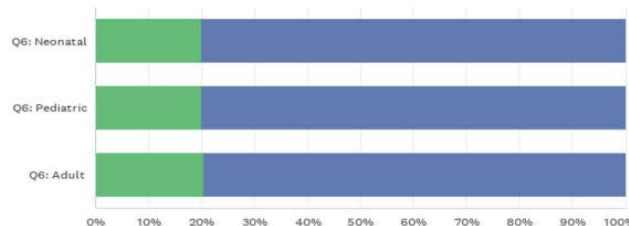
Thank you, again, for those of you that participated in the first survey. We continue to share updates in a variety of places: the [ECMO Equipment page](#), the WhatsApp group: ELSO ECMO Equipment, Newsletter, and social media.

In our next survey, we will revisit some of the earlier questions like the one below:

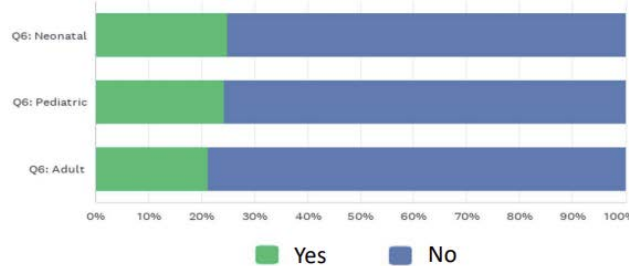
### Quadrox-iD Oxygenator: Future Anticipated Global ECMO Access

In the **next 6 months**, almost 25% of **neonatal and pediatric** ECMO care access globally is anticipated to be limited for centers who **typically utilize** this product.

**3 Months**  
(August 2023)



**6 Months**  
(November 2023)







## SURVEY ALLEY

### **Anticoagulation management and Monitoring in ECMO: An International Survey**

Description: The primary aim is to understand how different institutions care for adult and pediatric patients that undergo ECMO therapy, including the type of equipment used, anticoagulation drugs and monitoring practices.

Link: [https://cmich.co1.qualtrics.com/jfe/form/SV\\_3m9WobUvIIlgM0S](https://cmich.co1.qualtrics.com/jfe/form/SV_3m9WobUvIIlgM0S)

Thank you for participating!



Katherine Regling, DO, Assistant Professor of Pediatrics, Central Michigan University

## ELSO CHAPTER UPDATES: ECMO AROUND THE WORLD

### LAELSO Updates

VI ELSO Latam Conference in Buenos Aires Argentina, November 14th – 16th, 2024.



We are pleased to inform the entire Spanish-speaking ELSO community that most of the ELSO Guidelines are now available in Spanish on the page [here](#).

We invite you to join each of our monthly meetings in the form of a webinar, sessions on selected topics or literature reviews; which are published monthly on the social networks of [ELSOLATAM](#).

See you in the next newsletter!

### APELSEO Update

APELSEO 2023 will be in Seoul this year! Registration is currently open and the programme overview can be accessed [here](#).

Keep an eye on APELSEO website and social media platforms for announcements, including when the call for abstracts opens.





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## EUROELSO Updates

EUROELSO working groups are currently available and active. These working groups are opened to participation for ELSO members (centre or individual). The working groups are listed below. You can find more information on each group [HERE](#).

- Infection
- Sustainability
- Rehabilitation
- Normothermic regional perfusion (EISOR)
- Neurological outcomes
- Simulation and artificial intelligence in ECMO
- Haematological impact of ECMO
- Transport
- ECPR
- Innovation
- Septic Shock

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## SWAAC ELSO Updates

Planning and development is underway for the 2024 SWAAC ELSO Conference located in Kuwait City, Kuwait February 15th - 17th, 2024. We look forward to seeing everyone there!

## CHIEF EXECUTIVE OFFICER REMARKS

We are avidly preparing for the 34th Annual Conference of ELSO's global community. After the welcome return to in-person meetings last year, I am particularly looking forward to coming together this year in Seattle. Since last year, more has been achieved in practice and in scientific knowledge that is better shared for the benefit of us all. In particular, the work that is done across and among teams has a measurable impact on outcomes. What must be done next? I hope we each ask this question heading into Seattle - and leave with more answers than we can get to in the near term. Inspiring innovation - it's what we do.

Our community is also exceptional at working together to solve issues. I am impressed with how our industry partners are working with us while there are recalls affecting much of the world. ELSO is working with you and on your behalf to share your experiences and concerns with industry and regulatory agencies to get us all through this period where innovation can be part of the solution. We will be spending time in the next few weeks developing a more quantitative and comprehensive equipment survey. If you would like to be involved, please let us know at [support@elso.org](mailto:support@elso.org). We aim to have the next survey ready by mid-October, where we hope your experience will help shape how, as a collective community, we can work together to address issues when they come up, and mitigate against future issues.

For those of you that are brave, Dr. Bartlett is interested in having guests contribute content to the Bedside with Bartlett section in future editions. If you are up for the challenge, this is a nice opportunity to share a case you believe others could learn from.

The WhatsApp communities continue to foster robust conversation and support. I appreciate those of you that have stepped up to help us manage the chats. We are watching the groups so that they support the conversations you want to have. We will add more when there is demand for new topics. Thank you for participating (near 800 in some), and for those of you helping us with the issues that do arise with an open access process.

As summer comes to a close in North America, I cannot help but be excited for the Fall. There is beauty in all seasons. I hope you are each enjoying your season where you are with the people you love.

See you in Seattle in September.

Christine Stead, CEO



# The Extracorporeal Life Support Organization

## Our Mission

Providing global leadership in extracorporeal life support through innovation, advocacy, and advancing knowledge.

## Our Vision

ELSO will be the premier organization for the advancement of extracorporeal life support throughout the world.

## Guiding Principles

### Innovation

Seeking to identify and promote advances for the application of extracorporeal therapies.

### Expertise

Bringing together world leaders in the care of critically ill patients for collaboration to advance quality of care through education and publication.

### Clinical Support

Maintaining a comprehensive registry of data to assist in reducing morbidity and improving survival of patients requiring extracorporeal therapies.

### Community

Fostering communication and collaboration among professionals who apply advanced technologies in the treatment of refractory organ failure.



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For editorial concerns related to this newsletter, please contact [newsletter@elso.org](mailto:newsletter@elso.org).

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