



Message from the President

Welcome to the June 2023 ELSO Newsletter.

Many of you will be aware that one of the most prominent ECMO equipment manufacturers has issued a global recall on some of their products because of a packaging issue that can affect sterility.



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This has understandably caused alarm among our community because it threatens to severely affect equipment supplies in many jurisdictions and may have the potential to cripple some centers' ECMO capabilities. Patients of all ages may be adversely affected in some middle-income countries because this manufacturer is the sole supplier of ECMO equipment. These regions may be forced to use cardiopulmonary bypass oxygenators made from polypropylene as an alternative to polymethylpentene, which while potentially lifesaving, brings other problems. In the USA, children may be the most severely affected because of a lack of FDA-approved alternatives.

ELSO has responded to this in several ways. First, we have engaged the US Food and Drug Administration (FDA) to highlight the encroaching threat and discuss how best to combat it, explored how to engage other regulatory agencies outside North America, and directly liaised with the manufacturers. Second, we conducted a global survey, asking individual centers how they may be affected by this product recall. Thank you so much to those who responded. The results of this survey are now available (see page 10). Third, ELSO set up an Equipment page on our website (<https://www.elso.org/ecmo-resources/ecmoequipmentupdates.aspx>) to keep centers abreast of this evolving problem.

In happier news, registration is now open for ELSO's 34th Annual Conference in Seattle, which promises to be a fantastic meeting. I hope to see you all there!

Graeme MacLaren, President, ELSO



Committee Roundup

Conference Committee

Be sure to [register](#) for ELSO's 34th Annual Conference! Please make your hotel reservations soon, while reduced rates (and rooms) are available. Abstracts are due soon (July 15th)! Please submit yours [here](#).

The Conference Committee has been hard at work planning the 34th Annual ELSO Conference. The theme of this year's conference is "Inspiring Innovation". We have an exciting agenda lined up, offering tremendous educational value and packed with both essential and novel content from global experts in ECLS. [Preliminary Agenda](#)

Some highlights include:

- Plenary sessions on ECPR and Innovation in ECMO
- Breakout sessions on ECMO in cardiogenic shock, state of the art in ARDS, advanced mobilization techniques, future horizons in hematology and pharmacology, the role of AI, and life after ECMO
- Joint ELSO – ISHLT session on heart & lung transplant, and so much more!

The Pre-conference is equally exciting filled with interactive sessions offering:

- A deep dive into the fundamentals of ECMO
- Advanced concepts
- Cases and The Great Debates.



Hands-on Simulation Course: ECMO Step 2 Offering

Date: Wednesday, September 27th, 2023

Time: 8:00am - 5:00pm

Location: Hyatt Regency Seattle

- Adult ECMO Step 2 Certification Course
- Neo Peds ECMO Step 2 Certification Course - *first time offered!*



These courses are designed for learners who have completed the ELSO Adult (Foundations), Neo/Peds Virtual ECMO Training Course or for practitioners with a strong foundational knowledge of ECMO patient care. *Limited space availability for these offerings.*

2023 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/>

The latest information on ELSO & Collaborative Meetings can be found [here](#).



Quality Committee - Award of Excellence



The Award for Excellence in Life Support application period has ended for the 2023 cycle!

The next phase for the Committee is to complete the Site Visits. Approximately 10% of applications this year will be randomly selected for a validation of their application. Centers that are chosen will be notified two weeks prior to one of the weeks that they chose. The committee has already completed several visits and June 30th is the last day for site visits.

If you are an applying Center this year and do not hear from the Committee within those guidelines – your Center will not be visited this year!

All centers will be recognized in Seattle, Washington at the Annual ELSO Conference Award Ceremony. Centers will be notified by July 15th of their award status.

Remember, the new cycle award period will open in October!

Center Certification

ELSO is in the process of developing its methodology for center certification. With many centers developing new programs, or expanding their programs, we know how important it is to provide access to safe ECLS care.

We will be sharing more information on this soon with an aim to launch this by the end of 2023!

Research Committee

ELSO Research Grants for 2024 is open, deadline to submit is September 30, 2023. Apply [here](#).

ELSO is expanding its efforts on research. If you would like to be involved in the Research Committee, please email us at research@elso.org.

For questions on grants please email ELSOResearchGrants@elso.org



Registry Committee

Thank you to everyone that submits data to the ELSO Registry! We are now over 200,000 ECMO runs and growing. This is the body of information that enables the advancement of knowledge, technology innovation, and quality improvement.

Now seeking new members for the Registry Support Committee! Are you a guru at the Registry? Do you know the Registry Definitions inside and out? Then we can use your help!

ELSO is working with ArborMetrix on improvements to data visualization on our quality dashboard. We look forward to releasing updates over the coming months.

Email: registrysupport@elso.org

ELSO Publications

Please find available publications on our [website](#). We have a growing list of publications available. The electronic version of the 6th edition will be released in August 2023.

- The ELSO Red Book - 6th Edition
- ECMO Specialist Training Manual - 4th Edition (5th Edition in development)
- ECPR and Resuscitative ECMO
- 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

AVAILABLE NOW !!

- 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.

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.

ELSO is pleased to announce the **Spanish translation** is available now!

ELSO Foundations: Neo/Peds ECMO Training Course is under development. An accompanying certification exam will be released later this year.

Course Registration: <https://www.else.org/ecmo-education/else-ecmo-academy.aspx>

ELSO Training Courses

ELSO held its first Cannulation Training Workshops for 2023 on June 9th and 10th. Both workshops were sold out. The dates for the next cannulation workshop will be held on November 12th and 13th.



ELSO CANNULATION WORKSHOP
JUNE 2023



REGISTER NOW >



Upcoming ELSO Training Courses

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

Event: Hands-on Simulation Course: ECMO Step 2 Offering

Date: Wednesday, September 27th, 2023

Time: 8:00am - 5:00pm

Location: Hyatt Regency Seattle

- Adult ECMO Step 2 Certification Course
- Neo Peds ECMO Step 2 Certification Course

Event: ELSO Extracorporeal Membranous Oxygenation (ECMO) Adult Simulation Course

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

Location: ELSO Headquarters

Address: 3001 Miller Road Ann Arbor, MI, USA

Event: 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

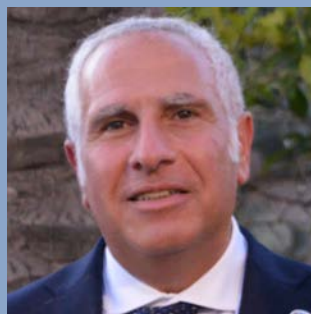
Nominations & Membership Committee

Steering Committee Elections Results

Congratulations to new ELSO Steering Committee members and one returning chair for the upcoming three-year terms starting in January 2024.



Pablo Sanchez, MD, PhD
University of Pittsburgh Medical Center
Pittsburgh, PA, USA
Chair, Nominations & Membership



Roberto Lorusso, MD PhD
Maastricht University Medical Centre
Netherlands
Chair, Research



Natalie Rintoul, MD
Children's Hospital of Philadelphia
Philadelphia, PA, USA
Chair, Conference

Not pictured, Tracy Morrison, RN, Miami Valley Hospital, Dayton, Ohio, USA Chair, Quality



FELSO nominations are now open until June 30, 2023

The ELSO community can now make nominations for induction to FELSO, the honorary designation recognizing extraordinary contributions to the art and science of ECLS. Applications will receive consideration by the FELSO Nominations Committee. Please see the application below for more information. Self-nominations will not be accepted.

[FELSO Nomination Form 2023](#) For more information please email FELSO@elso.org

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, download WhatsApp on your phone. Enter the link(s) below for the communities you would like to join. You should be able to join from there. These are designed to be a support for our members that want to connect, collaborate, and support each other on a topic.



New ECLS Program: <https://chat.whatsapp.com/HER8SYR5NwfBPlmLaYqEnE>

Description: To connect new programs (or people considering starting a program) with one another for peer support navigating logistics, program development, etc



Adult Cardiac: <https://chat.whatsapp.com/GMLS4xcwmUX1yIlxKQN6kB>

Description: A feed to discuss questions about adult cardiac cases and ECMO program operations



Adult Respiratory: <https://chat.whatsapp.com/EUlug1fGt1pHqtcF7djHA4>

Description: A discussion board for clinical questions about VV ECMO, can also be useful for program operations pertaining to respiratory ECMO like clinical protocols, etc



Coordinators: <https://chat.whatsapp.com/IYEs9mKaeRc6Ab5dv2FIPp>

Description: A place for coordinators to share ideas and help answer each other's questions. Encourage new and experienced people to join



Platinum Mentors: <https://chat.whatsapp.com/DJTbMVjzH6v3fyy9QRYKUA>

Description: Please consider joining if you are from a platinum center. Programs seeking advice from established platinum centers should post questions here



Neo/Peds ECMO: <https://chat.whatsapp.com/LNG9O8RqB715X8lzuZOFjy>

Description: A discussion board for the neo-peds ECMO community

Bedside with Bartlett



Robert Bartlett, MD

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

A 35 year old 80 kilogram man has been on VV ECMO for one week. He is awake and we are trying to ambulate him. Realizing his oxygen requirements will go up with activity we have his hemoglobin at 13. Flow is 5 liters per minute. Arterial saturation is 93 percent. When we sit him up his arterial saturation goes to 88% with no lactate. However in 30 seconds he gets very agitated dyspneic, and has to be sedated. What is the problem?

When his metabolic rate goes up with activity, oxygen requirement increases but CO₂ clearance also has to increase. You have to increase the sweep flow in order to keep his PaCO₂ 40 mmHg or lower.

What can you do at your institution to navigate these issues? Please send your recommendations to newsletter@elso.org.

Patient Story: Ricky Gray's Story

On Oct. 4, 2019, Ricky was changing light bulbs at work using a 10-foot ladder. He fell from that ladder and suffered a right pelvic dislocation and a hip fracture. He was taken to Legacy Emanuel, where he was stabilized. Three days later, Ricky had surgery to rebuild the hip socket using plates and pins. The reconstruction went well. But coming out of surgery, Ricky's oxygen level went low. Because of the type and length of surgery that had occurred, Ricky's immobile state, and his previous history of snoring, doctors were worried about blood clots forming in Ricky's lungs. Both lungs eventually developed huge clots. The evening of the surgery, Ricky was placed on a ventilator with a tube down his throat.

Over the next two days, Ricky experienced a gamut of health challenges: internal bleeding, blood thinners to reduce clots and swelling at the surgical site. Then, on Oct. 9, two more surgeries followed — one to install a filter to catch further clots after the blood thinners had been stopped and another to drain a large 1.5-liter hematoma in the abdomen. During the surgery, Ricky aspirated, adding to a downhill spiral. Ricky was fighting for his life.



Legacy Emanuel Medical Center (ECMO) staff, part of the hospital's Intensive Care Unit

In Ricky's case, the ventilator was not working. The ECMO staff, led by Dr. Joseph Deng, the program's medical director, bypassed Ricky's lungs by taking its blood out, oxygenating it and then putting it back in. In the days following, Ricky's condition improved bit by bit, with smaller procedures happening as needed. By Oct. 17, Ricky was removed from the ECMO machine and switched to a regular ventilator the next day. Ricky would improve enough in the next two weeks to move to a rehabilitation facility for further physical and occupational therapy. On Nov. 7, Ricky returned home for months of rehabilitation and physical therapy.

Everything that happened to Ricky in October and November of 2019 prepared him for the Ironman triathlon in Wisconsin in 2022. Like the gradual steps of his recovery from mid-October to November, his athletic training started slowly: Some walking, then running, then more running, and then training with a bike and swimming.

Several factors helped Ricky get through this journey, he said. First, of course, were the exceptional doctors and staff at Legacy Emanuel and its ECMO team. "We are bonded for life," Ricky says about his medical team.

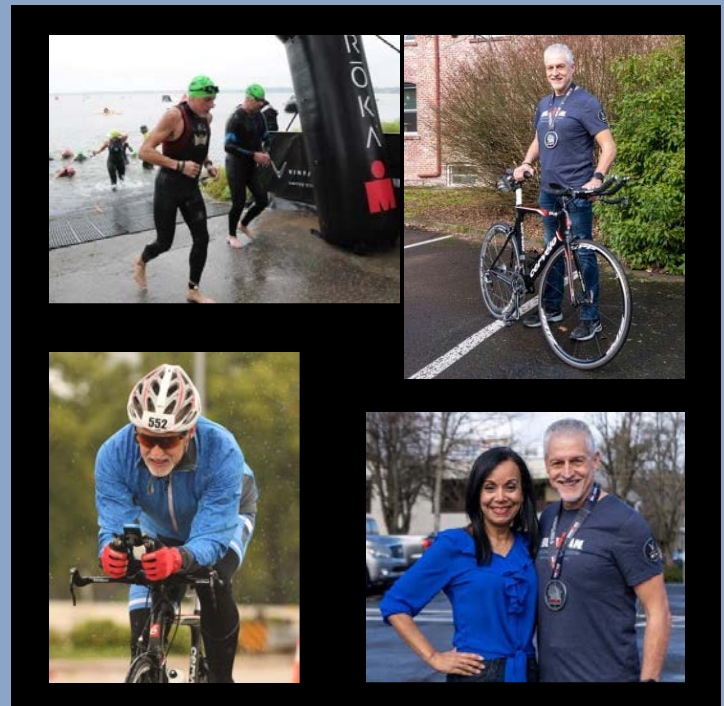
Ricky also believed his faith kept him and his family inspired and strong. "I had only my faith to hold onto," he says. "My wife Sharon had summoned prayer warriors from around the world. They carried my burden."

Looking back with the spirit of an ironman and the heart and will of a true survivor, Ricky has found a nice way to sum up the past few years.

"I was never going to give up."

In September of 2022, Ricky Gray completed the Ironman Wisconsin triathlon. Ricky was one of 1,400 participants and one of about 1,000 competitors who finished the course — a 2.4-mile swim, 112 miles of biking, and 26.2 miles of running. It took Ricky 15 hours and 48 minutes.

ELSO would like to thank Ricky Gray, Vicki Guinn, Legacy Emanuel and its ECMO team for sharing such an amazing story!



Do you have a patient story that you would like to share in the ELSO Newsletter?
 e-mail: family@elso.org



ECMO Equipment Updates

ELSO has a new [ECMO Equipment](#) updates page, which will be an important site for sharing information on equipment updates.

With the recent global voluntary recall of Getinge's Quadrox Oxygenators, we heard concerns from our community. We conducted a survey to gather perspectives from ECMO centers around the world. Thank you for participating in this important survey! 267 of you responded in a matter of ~ two weeks, representing 45 countries.

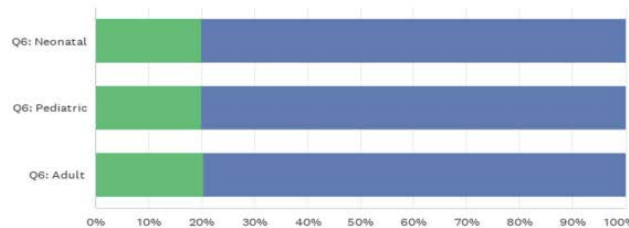
Since that time, ELSO has been working closely with leadership of device developers and the FDA to communicate your feedback and concerns. Additional surveys may be forthcoming.

We encourage all device developers and regulatory agencies to work together with us so that we can do our part to improve availability of ECMO equipment access at the bedside, around the world. A snapshot of the survey results is shown below. Please see our ECMO Equipment Updates page for more information.

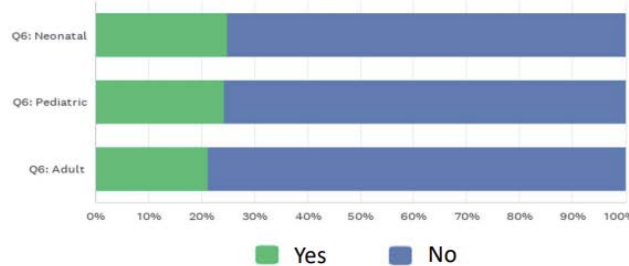
Quadrox-iD Oxygenator: Future Anticipated Global ECMO Access

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

As the use of ECMO support becomes more liberal, we are conducting a survey of ELSO and ASA Comm on CCM membership to ascertain and subsequently describe in literature the arising ethical and moral issues during the decision-making phases. We also would like to poll how many anesthesiologist members of the committee are involved in such decision-making.

We would appreciate 5 minutes of your time to fill out this important survey on the ethical/ moral issues around ECMO support in the ICU.

If you choose to be in the study, you will be asked to complete an anonymous survey. The survey questionnaire will be sent via email from ASA committee on CCM and the ELSO newsletter. Your name or email address will not be provided to the PI of the study or study team. The survey will take 5 mins of your time to complete. Again, all identifiable data will not be made public. If you do not manage ECMO patients or are not involved in ECMO decision making pls indicate in the first question of the survey and end the survey.

You can skip any questions that you do not want to answer. Even if you start the survey, or interview, you are not required to complete it. You can stop at any time. Partial responses will be deleted.

No identifiable data will be made public. All your answers will be confidential and deidentified data will only be shared with the study team, any potential funding agency and potentially in a manuscript publication. There are no risks to your employment.

If you want to participate, click this link to start the survey: <https://redcap.link/axdywyn0>
If you do not wish to receive further communication about this study, please contact Shahla Siddiqui at shahlasi@yahoo.com or +1(781) 742-4837.

There is no compensation for this study. There are no risks of disclosure of identity or otherwise involved with this study. If you have questions about your rights participating in research or would like to speak with someone independent from the research team, please contact the Human Subject Protection Office +1(617) 975-8500.

Drs. Shahla Siddiqui, Lovkesh Arora, Michael Wall, Monica Lupei, Miguel Cobas, Gozde Demirilap, and Raquel Bartz



Trial of Indication-based Transfusion of Red Blood Cells in ECMO

www.ecmotitretrial.org



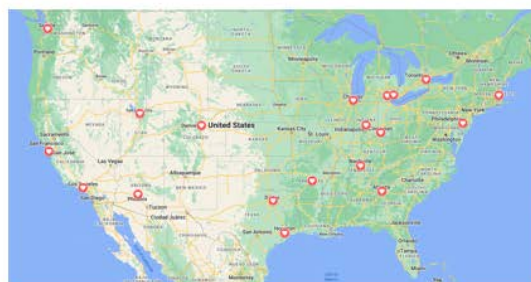
Multicenter Randomized Trial comparing Threshold-based with Indication-based Red Blood Cell Transfusion on Organ Dysfunction and Neurodevelopment in Children on ECMO



SCAN ME

Funded by U.S. Department of Defense

Now enrolling



Current U.S. and Canada Trial Sites

For information about trial design or participation, please contact: peta.alexander@cardio.chboston.org; lynn.sleeper@cardio.chboston.org; ravi.thiagarajan@cardio.chboston.org; Boston Children's Hospital

TITRE: Trial of Indication-Based Transfusion of Red Blood Cells in ECMO



SCAN ME



Compares Impact of **Center-Specific Threshold-Based** with **Indication-Based** RBC Transfusion on Organ Function and Long-Term Neurodevelopment in Pediatric ECMO

For information about trial design or participation, please contact: peta.alexander@cardio.chboston.org; lynn.sleeper@cardio.chboston.org; ravi.thiagarajan@cardio.chboston.org

U.S. DoD PRMRP Clinical Trial Award
#W81XWH2210301
ecmotitretrial.org

Lynn Sleeper, PI of the study, with Ravi Thiagarajan and Peta Alexander Trial Co-Chairs

ECMO Around The World

LAELSO Updates

Preparations for the 6th Latin American conference of ELSO (LATAM) is underway. The next conference will take place in Buenos Aires Argentina, November 14th – 16th, 2024.

We continue with our bi-monthly webinars with interesting topics presented by each country from our Latin American region.

See you in the next newsletter!!



APELSO Update

APELSO 2023 will be in Seoul this year! Registrations is currently open and programme overview can be accessed here:

<http://apelso2023.org/sub03/sub01.php>

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



EUROELSO Update

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:

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

SWAAC ELSO Updates

SWAAC ELSO Conference 2023: Completed with success

In its fourteenth year, SWAAC ELSO organized many CMEs and workshops and also celebrated its annual conference at Ludhiana in March 2023 – all events were a great scientific feast. The ninth annual conference at Ludhiana under the leadership of Dr. Vivek Gupta and the ECMO Society of India (ESOI), brought out a new journal called “Indian Journal of ECMO” which was released under the auspices of ESOI. This successful conference disseminated knowledge with scientific enthusiasm and reached higher goals for the students with five academic workshops and over 400 delegates attending the conference. These workshops were very well attended. The local, profound hospitality – a hallmark of Punjab (India) – brought many national and international leaders in ECMO together.



The SWAAC ELSO 2023 at Ludhiana (India): Glimpses and Remanences

ECMO CENTRAL Webinar Highlights

SWAAC ELSO Chapter hosted a ECMO CENTRAL Webinar on the 2nd of May. It was lead by Ryan Barbaro, Peta Alexander, and many other great speakers from the ECMO community. The webinar highlighted ECMO Adverse Events for Pediatric Clinical Trials, ECMO Core Elements Needed for Trials, and Regulatory purposes and quality of Life. There was a great interaction within the ECMO community attending the webinar.

SWAAC ELSO Newsletters can be found [here](#).

SWAAC ELSO 2024

We're excited to share the upcoming 10th SWAAC ELSO Conference 2024 with you! This conference will be held in Kuwait, February 15th - 17th, 2024.

ELSO Endorsed Courses in SWAAC ELSO

ELSO Endorsed courses are ongoing in the SWAAC ELSO region!

- Kuwait
- Mumbai, India
- Gurugram, Haryana, India

Workshops, meetings, and other ECMO-related talks and scientific gatherings are taking place across the region.

Chief Executive Officer Remarks

The work we do together continues to be an inspiration and a motivation to do more for our global community. As of this writing, ELSO is preparing for the 34th Annual Conference in Seattle, working on a methodology for ECMO center certification, assisting with device shortages due to a recall, and advancing education and training through a new neo/peds certification exam and updated course, among many other things. The WhatsApp communities are starting to take off and be useful to people anywhere. More communities will be launching soon, thanks to requests.

I hope you will join me in welcoming our new committee chairs to the Steering Committee. They have ambitious work ahead and could use your help! Roberto Lorusso will be getting to work immediately, taking over for Eddy Fan as Chair of Research. Natalie Rintoul will begin as Chair of Conference Committee in January. Pablo Sanchez will also start his term in January 2024 as Chair of Nominations and Membership. Tracy Morrison will serve a second term as Chair of Quality.

We are fortunate to be working with two interns this year from the University of Michigan, Lauren Gardner and Zeyanna Dhalla, both MHSA candidates in 2024. Dr. Bartlett was able to meet with them in their first week on the job to set a high bar of what work lies ahead.

We continue to be grateful to see each other in person again at scientific gatherings and training courses around the world. Some of our best ideas are hatched at these gatherings and your work during presentations motivate change, collaboration, and new work.

With gratitude,

Christine Stead, CEO



From Left: John Fraser – best MC for the competition at SEECMO; Giles Peek (a lovely smile!), referee, with Leen Vercaemst at SEECMO; Dr. Bob Bartlett and Wanda Bartlett at SEECMO; Dr. Bartlett with ELSO interns Zeyanna Dhalla and Lauren Gardner.



The Botanical Gardens in Gainesville, Florida – part of the visit at SEECMO, thanks to Peter Rycus and Velia Antonini.



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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The Extracorporeal Life Support Organization (ELSO)
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www.elseo.org

For editorial concerns related to this newsletter, please contact newsletter@elseo.org.

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