



# ELSO NEWSLETTER

## Message from the President

**Matthew Paden, MD**

ELSO is grateful for how our community has come together during the 32nd Annual Conference, and in many other ways. I want to extend my appreciation for the many participants that came together to share what we have learned,



have candid conversation about what is needed and how ELSO can help. We were fortunate to release a major publication once again during the conference: "Evolving Outcomes of ECMO Support in COVID-19 Patients: Findings from the International ELSO Registry" in The Lancet. We were observing worsening outcomes during 2020 in COVID-19 patients; this publication is an important update to what we are learning by sharing our data through the ELSO Registry.

New and emerging findings, practice, and challenges are why we gather – to help solve for these things together. Thank you for those of you that presented for the first time at our conference.

We also thank those of you that have contributed to, and participated in, our affiliate chapter conferences and gatherings. APELSO recently held a successful annual conference. In addition, the COVID-19 Critical Care Consortium held a symposium featuring the knowledge gained by being able to come together as part of a broader focus for COVID-19 patients globally

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LATAM ELSO held their annual conference over the past weekend. SWAAC ELSO is planning their conference for early 2022 and EuroELSO will meet in person in May 2022 as well. While we have achieved much through virtual means, we look forward to being together again as a global community in Boston this upcoming September 2022.

As we head into the close of 2021, there is much to be proud of; much yet to be done; and the hope that we can do better together that we have demonstrated throughout these past two challenging years. I am confident we will continue to be able to come together and address the biggest challenges that face us – on behalf of our patients, ultimately.

Matt Paden, MD  
President, ELSO

Editor, Omar Alibrahim, MD  
Co-Editor, Kennethia Banks

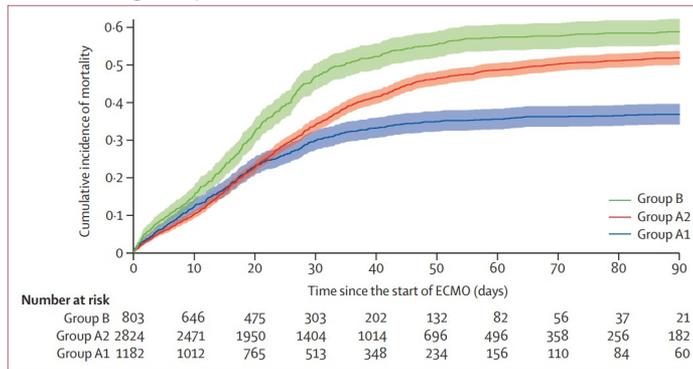


## ELSO 32nd Annual Conference

In what has become a central theme during the COVID-19 pandemic, ELSO's 32nd Annual Conference took to the virtual stage for the second consecutive year. With time and experience on our side, ELSO reinforced many of the successes of last year's conference, while taking the opportunity to refresh and reignite the Conference for a virtual format.

In total, over 2,000 participants registered for this year's conference representing 30 countries and each of the ELSO Global Chapters. This year also saw a broad spectrum of professions, including both clinical & non-clinical roles. On the social media front, Twitter took the main stage as over 2 million impressions were made at an average of 30 tweets per hour.

Highlights of the scientific program include: system preparedness and innovations during COVID-19; research findings in ECPR, ECCO2R, and related cutting-edge technologies; new clinical care & management guidelines; and a late-breaking publication from the ELSO Registry in The Lancet.



The September 2021 paper from the ELSO Registry was published in The Lancet as an update to an earlier publication examining the treatment of COVID-19 patients with ECMO support. In this follow-up analysis using data from May 2 to December 31, patients on ECMO experienced worsening 90-day in-hospital mortality.

**Figure 1: Cumulative incidence of mortality after ECMO initiation**  
 ECMO=extracorporeal membrane oxygenation. Group A1 patients started ECMO on or before May 1, 2020, at early-adopting centres. Group A2 patients started ECMO between May 2 and Dec 31, 2020, at early-adopting centres., Group B patients received ECMO at late-adopting centres, which only provided ECMO for COVID-19 after May 1, 2020.

In a secondary finding, experienced ECMO centers had better outcomes than less experienced centers. These data, reporting on 4,812 patients in 349 centers from 41 countries, found a 15% increase in in-hospital mortality at 90 days post-ECMO. These outcomes are likely explained by three broad categories: patient selection, patient treatment, and final disposition of patients. Long-term implications for this paper include a continued distribution of knowledge & resources amongst care networks; development of local & regional policy to allocate scarce resources; and further analysis of ECMO care management practices for better outcomes.

To read the full paper, please click [here](#).

For more about ELSO's Registry analysis in COVID-19, click [here](#).



## Committee Roundup

### Registry Committee

It has been more than a year since the COVID-19 Addendum and the live reporting dashboard launched. These tools offered meaningful data as the pandemic was unfolding because we, the ELSO community, pivoted to entering our cases of patients with COVID-19 as they were being cared for. We heard from our member centers that it is beneficial to be able to see live data, and is useful to filter the data to patients or regions of interest. We have replicated some of these features for the entire Registry. You will find a live tally of all cases that has been submitted to the ELSO Registry as well as a running tally of how many cases have been started so far this year. A few filters have been added so that you can explore the data a bit more. We are asking you to enter all patients as soon as you are able to in order to keep live statistics updated.

You will notice that additional error checking has been added for certain equipment complications and equipment change outs.

As always, please let us know how we can make this better and thank you!

#### Registry Dashboard

Filters affect the data shown in the tables below:

**Period**  
 Total    Last 5 Complete Years    Year to Date

**Initial Mode**  
 All Modes    VA    VV    VVA    VP    Other

**Chapter**  
 All Locations    North America    Europe    Asia Pacific    Latin America    SWAAC

**Filter**

	Total	Survived to DC or Transfer
<b>Total</b>	166,913	54%
<b>Neonatal</b>	46,317	64%
Pulmonary	33,934	72%
Cardiac	10,025	43%
ECPR	2,358	42%
<b>Pediatric</b>	32,492	53%
Pulmonary	11,638	60%
Cardiac	14,865	53%
ECPR	5,989	41%
<b>Adult</b>	88,104	48%
Pulmonary	39,574	57%
Cardiac	37,087	44%
ECPR	11,443	29%



## Publications Committee

New Guidelines Coming Soon!

ELSO has approved new and updated guidelines for **anticoagulation** and **mobile ECMO transport**. In addition, ELSO is making available two consensus documents that we believe achieve the minimum data elements for the purposes for which these were developed:

- Mobile ECMO Transport Checklist and
- Clinical Intake Form (for Mobile ECMO Transport).

Both guidelines will be published soon in ASAIO Journal. They will be available for all ELSO members for free on our website, once published. We want to thank the authors for developing these improvements on our guidelines. We hope that many of you find them useful at a time of increased demand for mobile transport and an important update in anticoagulation practices.

To view all ELSO guidelines, please visit: <https://www.else.org/Resources/Guidelines.aspx>

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## Quality Committee

For centers interested in applying for the Award of Excellence, the next applications admissions period opened on October 15, 2021. In addition, please find our guidance document on how to have the best chance of success here (noted as Award Evaluation & Improvement Tool): <https://www.else.org/AwardofExcellence/Resources.aspx>

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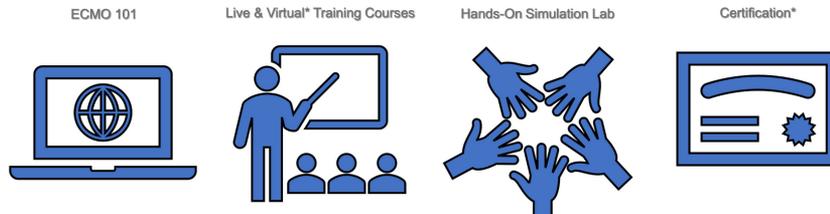
## Technology & Innovation Committee

We are interested in keeping apprised of our community's needs, especially as regulations change. In May, the European region updated regulatory requirements for device approval. We are interested in working with our industry partners to meet their needs so that innovations in technology can make its way to our patients. Our best way to help each other is to ensure we have good data in the ELSO Registry. If there are changes in your region, please let us know at [support@else.org](mailto:support@else.org).



**Education Committee**

# ELSO Academy



## Upcoming ELSO Training Courses

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

**Event: Mobile ECMO Training Workshop**

Date: December 09 - 10, 2021

Location: Virtual

[Registration is now open!](#)

**Event: ECMO Cannulation Courses**

Dates: January 19 - 21, 2022 (one of two 1 day courses)

Location: Ann Arbor, Michigan; ELSO Headquarters

**Event: ECMO Simulation Course**

Date: February 04, 2022 - February 05, 2022

Location: Caribe Hilton, Puerto Rico

[Register Here](#)

**Event: Extracorporeal Life Support Adult ECMO Simulation Training Course**

Dates: April 12 - 13, 2022 and April 14 - 15, 2022

Location: Grand Hyatt Tampa Bay, Tampa, Florida

We are excited to share that ELSO will be launching **ELSO Foundations - Adult ECMO Training Course** and the **ELSO - Adult ECMO Certified Individual Certification Exam** for all practitioners in December 2021.

**ELSO - Endorsed Courses**

ELSO is rolling out a new process for achieving an ELSO-Endorsed status. This designation is for healthcare systems that have a training program that you would like to have endorsed by ELSO. *More information will be released in January on how to apply.*

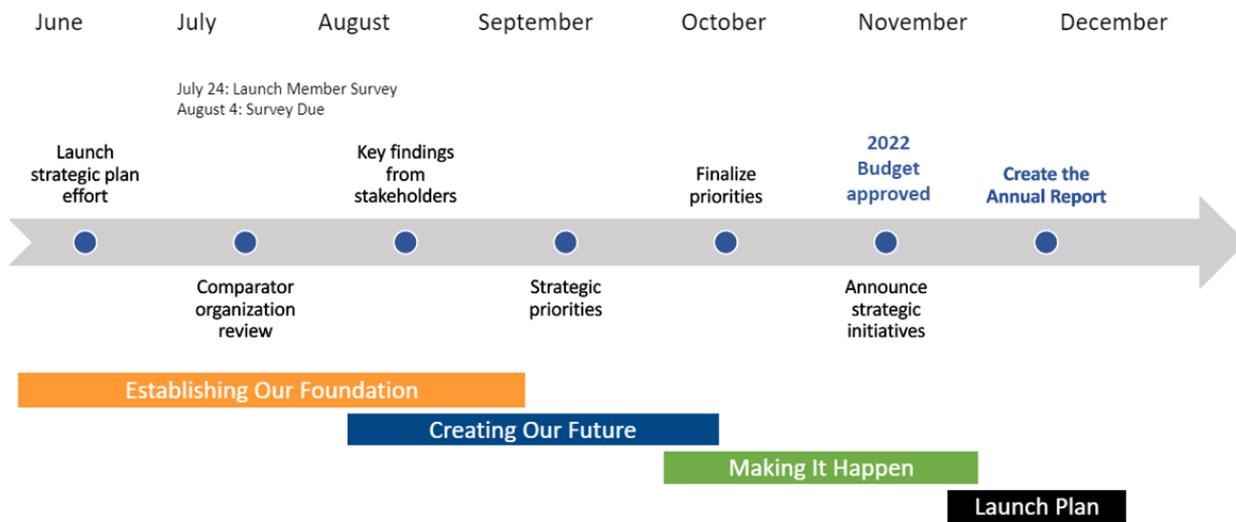


# Strategic Planning

## Purposefully Planning Ahead

ELSO leadership is in the final stages of creating our strategic themes for the coming months and years. Once we have approved these, we look forward to sharing the themes with you through our website, annual report, and upcoming meetings and discussions.

## Timeline



## Update on Strategic Planning Process

We are looking forward to announcing new themes in the coming days. The themes will help guide our priorities as an organization, but always based on your needs and feedback. These themes are designed to reflect our mission, while also being responsive to the times we find ourselves in.

Thank you, again, for your input into this plan. We hope you will find meaning and purpose in the new themes and we look forward to our global community working together to achieve progress in these areas.

We will have a new area on our website and will be available for feedback through email, discussion boards, and our upcoming webinars and meetings.

## Bedside with Bartlett



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

### Case Description

A 50 yo woman is on VV ECMO for COVID-19. On day 5, while waking up, she becomes hypoxic and agitated. She weighs 80 kg, is on vent at rate 10, Peep 10, PPlat 20, I:E 1:1, FiO<sub>2</sub> .3, tidal volume 30 cc. Hb 7 ECMO flow 4.5 L/min which is max for the 23F drainage cannula. PaO<sub>2</sub> 45, SaO<sub>2</sub> 60, PaCO<sub>2</sub> 45, SvO<sub>2</sub> without recirculation 35. What is the problem? Best solution?

The problem is oxygen delivery from the circuit is less than oxygen consumption VO<sub>2</sub> has gone from resting 3 cc/kg/min to 6 cc/kg/min because of agitation. ( $80 \times 6 = 480$  cc/min). DO<sub>2</sub> from the circuit is O<sub>2</sub> content (Hb  $7 \times 1.34$  cc/gm Hb = 9.4 O<sub>2</sub> /dL/minute) x ECMO flow (45dL/min) = 423 cc/min.

Best solution is to increase the Hb to 12mg/dL. O<sub>2</sub> content is now  $12 \times 1.34 = 16$  CC/dl. DO<sub>2</sub> from the circuit is  $16 \times 45 = 720$  cc/min. PaO<sub>2</sub> and sat will return to normal levels. Hb 10 would be OK, but 12 allows a cushion.

### Things NOT to do:

- Increase the vent pressure and FiO<sub>2</sub> (the very thing we are trying to avoid)
- Sedate or paralyze (this will reduce VO<sub>2</sub>, but we want the patient awake)
- Add another drainage cannula (not necessary)
- Add another oxygenator (not advised)
- Decrease the cardiac output (not advised)

### Things to do:

Always do the arithmetic.

The PaCO<sub>2</sub> will keep going up unless you have increased the sweep flow to accommodate for the increased VCO<sub>2</sub> (because of the increased metabolic rate).



## Announcements

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

**SWAACELSO 2022 Meeting** | Riyadh, Saudi Arabia

02/26/2022 - 02/27/2022

Pre-Conference is 26 February 2022.

Conference dates: 27-28 February 2022.



[www.euroelso-congress.com](http://www.euroelso-congress.com)

Sign up for our newsletter  
and stay updated!



## 33<sup>RD</sup> ANNUAL ELSO CONFERENCE

**SAVE THE DATE**  
**ELSO 2022**



**BOSTON, MA**  
**September 14<sup>th</sup> – 17<sup>th</sup>**  
**Boston Marriott Copley Place**

**ECMO Capacity Map**

Thank you for keeping your ECMO capacity updated. The map provides a quick visualization of capacity that is helpful for many to see. Capacity issues continue for a variety of reasons; therefore, the map continues to be needed. We appreciate the time you take to keep your information up to date.



**32nd Annual Conference Access**

Access to review, register and claim your education credits for the 32nd Annual Conference is closing on December 30, 2021. Make sure that you login to check out some of your favorite sessions prior to the closing date. All presentations will become available to members on the website during the first quarter of 2022!

**Online Book Ordering System**

We have heard your request to develop online book ordering system. We are happy to announce that the new online book ordering system will be launching in early 2022! Be on the lookout for more details coming soon!

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# The Extracorporeal Life Support Organization

## Our Mission

To provide support to institutions delivering extracorporeal life support through continuing education, guidelines development, original research, publications and maintenance of a comprehensive registry of patient data.

## 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.

## Our Vision

ELSO will be the premier organization providing education, training, research, and data management for the advancement of extracorporeal life support throughout the world.



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

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