



THE FLOW

November 2016



“...to boldly flow where no man has flowed before...”

-Charlie Stolar, MD

From the chair...

The result of the recent United States presidential election has raised important questions about the future direction of the country’s healthcare system. Healthcare costs have continued to rise despite national efforts to curb spending and increase access to care. Utilization of expensive, resource-intensive medical therapies, such as ECLS, will likely come under greater scrutiny, irrespective of which political party controls funding in a resource-limited environment. Data related to clinical outcomes, populations served, and cost-effectiveness will almost certainly be used to formulate healthcare policy and allocation of healthcare dollars in the United States and other countries. The ELSO International Registry, with over thirty years of comprehensive and unbiased clinical data, is an invaluable resource for in-depth analyses of ECLS and its impact on patients with life-threatening illness. ELSO sincerely appreciates the tremendous effort and commitment of its member centers in providing important clinical data that will undoubtedly shape the future of ECLS.

D. Michael McMullan, MD, FACS
President, Extracorporeal Life Support Organization



In 1863, in the midst of the American Civil War, President Abraham Lincoln proclaimed a national Thanksgiving Day to be held each November. Every November in the United States we celebrate the Thanksgiving holiday. As the thanksgiving holiday approaches, we asked members of our ELSO leadership team what they were thankful for:

“I’m thankful for all the patients and families who trusted us to do our best in critical circumstances.”

- Dr. Robert Bartlett

“I am thankful for the remarkable international growth of ELSO and the many wonderful opportunities this has provided the global ECLS community.”

Dr. D. Michael McMullan

“I am thankful for my health, family, faith, the kindness of people I have never met before and meeting for the first time, and the privilege of working for one of the best organizations in the world.”

- Kennethia Banks-Borden - ELSO

“I am thankful for the open, welcoming atmosphere that has always been a hallmark of the ECMO community”

- Dr. Tom Brogan

“I am very thankful for my family, being healthy and having great co-workers to tackle this hard thing we do called ECMO.”

- Micheal Heard - Children’s Healthcare of Atlanta



In an effort to be responsive to your feedback ELSO would like you to complete a 2 question survey regarding ICD-10 procedure codes. Many people have requested to go back to using CPT codes and we want your feedback as well.

<https://www.surveymonkey.com/r/ProcedureCodingProblems>

Your response is needed by November 25th.



ELSO Adult ECMO Training Course - Atlanta

In early November, ELSO welcomed 48 students to the Emory Conference Center in Atlanta, GA for our Adult ECMO Training Course. This intense four day course is designed for physicians and specialists (RN, RT, and Perfusion) caring for adult patients on extracorporeal support with severe respiratory and cardiac failure. Over the span of the 4 days, the students were guided through over 15 hours of simulated cases and an additional 15 hours of didactic course material.

ELSO has been working hard to increase efforts to meet the growing demand for formal ECMO training programs. If you have interest in joining our expanding training team or would like information regarding future courses, please contact us at ecmotraining@elso.org.



The Atlanta Course Faculty Included:

Robert Bartlett

James Blum

Tracy Morrison

Scott Wagoner

Tammy Friedrich

Don Granoski

Gary Oldenburg

Kendra Froehlich**

Steve Conrad

Dominik Höchter

Marc Priest*^{*}

Kent Kelly

Katie Butler

Melody Kilcommons

Bishoy Zakhary

Micheal Kotwas**

Michael Hines

Micheal Heard

Elizabeth Moore*^{*}

Klay Buckley

Christa Huberdeau

Guillermo Herrera

Chirine Mossadegh**

Hugo Guillou**

*Indicate Course and Simulation Directors

**Indicate simulation faculty trainees





ELSO & Collaborative Meetings

2nd Annual Latin American ELSO Conference
Cancun, Mexico | 11/30/2016 - 12/02/2016
<http://elsocancun2016.com/>

ELSO / SCCM ECMO Management Workshop
Honolulu, Hawaii | 01/20/2017 - 01/21/2017
<http://www.sccm.org/Congress>

4th Annual ELSO-SWAC Conference
Doha Qatar | 02/15/2017 - 02/18/2017
Registration: <http://elso-swac2017.org/registration/>
Venue: Sheraton Grand Hotel

33rd Annual Children's National Symposium: ECMO and the Advanced Therapies for Respiratory Failure
Keystone, Colorado | 02/26/2017 - 03/02/2017
<http://www.event.com/d/1fqxtc>
Lisa Williams 202-476-5919 LIWILLIA@childrensnational.org

EURO-ELSO Conference
Maastricht, The Netherlands | 05/04/2017 - 5/7/2017

27th Annual Specialist Education in Extracorporeal Membrane Oxygenation (SEECMO) Conference
Children's Hospital Colorado - Aurora, CO | 06/02/2017 - 06/04/2017
Alexandria Wilkinson 720-777-6948 alexandria.wilkinson@childrenscolorado.org

28th Annual ELSO Conference
Baltimore, MD | 09/24/2017 - 09/27/2017
Peter Rycus, MPH 734-998-6601 prycus@elso.org
Pre-Conference Symposium September 24-25, 28th Annual ELSO Conference September 25-27, 2017
Venue: Hilton Baltimore

Asia-Pacific ELSO Conference 2017
Gold Coast, Queensland | 10/12/2017 - 10/14/2017

Non-ELSO Meetings/Courses

Pediatric Neonatal and Adult ECMO course
Children's Medical Center Dallas, Texas | 03/27/2017 - 03/29/2017
<https://www.childrens.com/for-healthcare-professionals/continuing-medical-education-credits/cme-conferences>
Deadline: March 15th, 2017
Donna Taylor 214 456-8445 donna.taylor@childrens.com

Mayo Clinic Extracorporeal Membrane Oxygenation (ECMO) Workshop 2017
Mayo Clinic, Center for Procedural Innovation, Scottsdale, Arizona | 04/04/2017 - 04/05/2017
ce.mayo.edu/ECMO2017
Deadline: Register early - limited availability!
CME Staff 480-301-4580 mca.cme@mayo.edu



Bedside with Dr. Bartlett

Dr. Bartlett is considered by many to be the “father” of ECMO. He has a vast amount of experience and has faced many critical situations and decisions. In this newsletter series, he will join us on ECMO rounds at the bedside.

Case Study #2

A 25 year old, 50 kg mother of two has been on VV-ECMO for two weeks for ARDS. At rest she is well supported on 4 L/min. SaO₂ is 90%, SVO₂ is 70% and PaCO₂ is 40. Her hematocrit is 30, Hb 10gm/dL and the sweep gas flow is 4 L/min. She is alert and awake but she has no lung function. Every time we try to get her sitting or out of bed she gets very dyspneic, agitated, and panics. During these episodes her venous saturation goes to 40%, her arterial saturation to 85% and PaCO₂ to 50.

What is happening and what should we do?

Her O₂ requirement (and CO₂ production) at rest is 150 cc/minute (assuming her metabolic rate is 3cc O₂/kg/min) The circuit is delivering 163cc O₂/min. and clearing 163ccCO₂. (3gm unsaturated Hb inlet, times 1.36 ccO₂/gm equals 4cc/dL times 40 dL per minute) With minimal exercise (sitting and standing) her metabolic rate doubles to 300cc/min. PaCO₂ immediately increases and dypnea and agitation follow. Increasing the sweep flow to 10L/min solves the CO₂ problem because CO₂ clearance is a function of sweep flow. When she moves around her venous saturation falls because oxygen consumption exceeds oxygen available. At SVO₂ 40% the membrane lung delivers 326cc of oxygen at 4 L/min flow, so oxygen supplied by the circuit is adequate (326cc/min exceeds 300)..



Is there a question or clinical situation that you would like to consult

Dr. Bartlett with? Send your question to newsletter@elso.org



Management Moments

Hello everyone,

Being a new member to the editing board, I would like to take a minute to share my vision with you for this corner of the ELSO Newsletter. As the ECMO community continues to evolve and support patients with cutting edge technology, the ECMO managers, coordinators, and lead specialists face a myriad of daily challenges. The vision for this column is to use it to share ideas, comments and moments that have made your team the success that it is and share those moments with the ELSO community via this newsletter. I hope to address some of the challenges that ECMO leadership may face and share any answers that I receive.



Our first topic is staffing. Close your eyes for a moment and think about those shifts when your team is supporting 2 or 3 ECMO patients and you are answering your 3rd potential ECMO consult of the day and all you can think about is staffing. Who do you have on the

schedule that can sit bedside? Who completed all their competencies? Do we have an experienced mentor nearby for the night shift team? Is anyone NOT on vacation? Do you have any incentives to offer staff to come in and work? How will you cover these patients if they go on ECMO?

The technical aspects of ECMO you know you can handle, but staffing is the elephant in the room. For those centers with dedicated teams staffing challenges can be different than centers that have to pull staff from other cost centers. There have been many surveys over the years and discussion board posts about the right staffing model, but with each model presented there are challenges.

What is the right staffing model? Is there really an answer to this question that will apply to all centers; probably not, but we can learn from each other and share what has worked and most importantly what was a failure. Please share with me how you would have handled the clinical situation-how do you staff your ECMO's and do you have any special incentives that work?

Please submit your answers to me directly teka.siebenaler@nortonhealthcare.org. I will share them in the next newsletter. I would love to hear from all of the ECMO leaders on topic suggestions for this column!

Thanks, Tekka



Response from ELSO community

Staffing can be a complicated area within any ECMO department. A dedicated team, a shared team or a combination of both all have unique challenges when census and acuity are high. It is important to be familiar with the guidelines that shared staff must adhere to within their home unit and how those might or might not change when those specialists are needed to cover extra ECMO shifts. It is also important to have established guidelines for dedicated team members. Having "rules" in place ahead of time can help guide staffing decisions during those stressful moments.

Although staffing guidelines are imperative to ensure safe patient care, it is important that managers and coordinators use them wisely and make them work to their advantage. Regardless of your team structure or what guidelines you have established, it is most important to have team members who are vested and dedicated to your program. Engage your specialists on a daily basis. Make sure their opinions and concerns are heard and taken seriously. Involve your team members in their continuing education, schedule making and policies and procedures. Team members that have ownership and pride in their work will be more likely to bond together when "times are tough".

It is very important to be flexible when scheduling staff. Everyone has a family, school and many other things that happen outside of work. Unfortunately things come up. Having flexibility and allowing schedules to be rearranged as much as possible gives the message that your team members are important and that you understand. Having the "team" approach in every aspect of your program will be beneficial when those shifts need to be covered!

Lastly, I think it is important to have a management team that portrays the same dedication that is expected from the specialists. It continues to send all the messages mentioned above. Having managers and coordinators close by to provide patient care, give breaks, trouble shoot, travel.....whatever may be needed reinforces to staff that they are important and not alone. Employees that are happy and satisfied with their roles are more likely to work extra and/or trade shifts to cover patient care when needed.



ELSO

MEMBERSHIPS

Membership Has Its Privileges

ELSO Membership

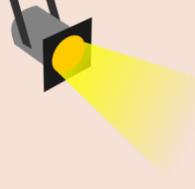
- ECMO clinicians, research scientists, and members of regulatory and public health institutions are now eligible for membership in ELSO
- Membership allows physicians, nurses, perfusionists, respiratory therapists, researchers and others healthcare professionals to become more directly involved in the world's largest ECMO community
- Affiliation with an ELSO Member Center is not necessary to apply
- Members receive benefits separate from Member Center privileges.

Benefits of membership include:

- Direct participation in the world's largest ECMO community
- ELSO Member Newsletters
- ELSO Registry Data Reports– July 2016 Reports available on website!
- Discounts on one copy of the ELSO Red Book (\$20 off list price) and one copy of the ECMO Specialist Manual (\$5 off)
- 10% discount on Annual ELSO Conference Registration fee
- Official Certificate of ELSO Membership
- Admission to the Members-Only Business Meeting at the Annual ELSO Conference
- Discounted registration rates for global ELSO Chapter Conferences (EuroELSO, Asia-Pacific ELSO, Latin-America ELSO, South & West Asia ELSO)
- Access to the ELSO Online Discussion Board
- Access to ELSO Online ECMO Knowledge Assessment Examination (Certificate of Completion included upon successful completion)
- Eligibility to participate in ELSO Committees and Working groups

Please visit us at <http://www.elseo.org/members/individualMembership.aspx>

Please note that for the 10% discount on the Annual North American ELSO conference it can take up to 2 weeks to import your discount code into the CVENT registration program.



ECMO Center Spotlight: Geisinger Medical Center

Geisinger Medical Center is located in Danville Pennsylvania. The hospital is licensed for 450 adult and 100 pediatric beds and provides services for neonatal through geriatric patient populations who live in the North Eastern and Central Pennsylvania areas. In 2015 Geisinger had a total of over 26,000 admissions and performed over 10,000 inpatient and 15,000 outpatient surgeries. Additionally, their cardiac program performed just over 600 adult cardiac surgeries. All specialties and subspecialties are located on site and they provide support for all ECMO patients. The program is comprised of a team of RN and RRT ECMO specialists who provide full-time ECMO support. They currently run all of their patients on the CentriMag pump system, but have the ability to use the Cardiohelp system, if needed. All of Geisinger's adult ECMO patients are cared for in their cardiac ICU while their pediatric and neonatal patients are in the PICU and NICU respectively.



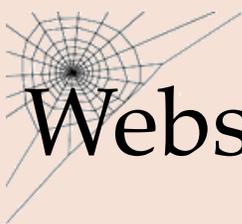
Pennsylvania



Geisinger's ECMO program coordinator is Evan Gajkowski BSN, CCRN. Evan lives in a little farm town in Pennsylvania called Catawissa with his wife, who is also a nurse, and his two children Anna (1 year old) and Nathan (3 years old). Evan is a graduate of Thomas Jefferson University with a bachelor's degree in nursing. He was a pediatric and adult critical care nurse for 10 years prior to taking on his current role as ECMO Coordinator at Geisinger Medical Center in Danville Pennsylvania. Geisinger has a unique program that combines both pediatric and adult services for their ECMO patients. Geisinger began their ECMO program in January 2015 and is currently on the ELSO Center pathway to excellence. In Evan's own words:

"I enjoy my job very much and love learning new therapies to care for patients. I wouldn't be able to do my job if I didn't have such great support with my family allowing me to be called anytime of the day or night. One thing I have noticed since I started as ECMO Coordinator is how close the ELSO community is and how everyone is willing to reach out and help each other with questions related to ECMO."





Website Corner



Subscribe to the latest in Topics!

Did you know you can subscribe and receive e-mail alerts when new questions and replies are posted to the Discussion Board? Once you log in, choose the discussion area (e.g., Clinical Topics) for which you would like to receive notifications. At the bottom of the Topic Area, check the box labeled “Email me when this forum has a new thread” (see figure below). You will receive emails each time a new thread and any replies are posted to that forum.



Discussion Board Topics of the Month

Here we will list the hottest topics on the web. Stop by and provide your input!

[SVO2 and PO2](#): What should my oxygenator pO₂ and SVO₂ be?

[Privileges](#): What are centers doing with respect to ensuring various departments have ECMO privileges?: How do centers monitor this?

Discussion Board Contributor of the Month

Congratulations to Melissa Vigil-Frohman, RN from the University of New Mexico!



Logging On

All ELSO Member institutions have an Administrative Account for your ELSO Registry data entry. This account can create separate accounts for your local physicians and ECMO Specialists. Contact your local ECMO Coordinator to get your accounts set up!

