From the chair...

As we approach the end of 2017 I would like to highlight some noteworthy events during the past year. Engaged clinical care providers remain the foundation of ELSO. I would like to take this opportunity to acknowledge and congratulate Bishoy Zakhary (Logistics and Education Committee Chair), Kasia Hryneiwicz (Conference Committee Chair), John Toomasian (Technology Committee Chair), and Joanne Starr (Member At-large), and Bradley Kuch (Respiratory Care Liaison) for being elected to the ELSO Steering Committee. I would also like to congratulate Dan Brodie, who was elected to the position of Treasurer and will serve as a member of the ELSO Executive Committee.

ELSO is partnering with ArborMetrix to develop a powerful analytics platform that will enable ELSO Centers to examine their clinical experience using proprietary, de-identified, risk-adjusted outcome measures. This exciting new tool will enable ECMO centers to identify program-specific strengths and opportunities for improvement. We anticipate that this tool will be available to ELSO centers just after the first of the year.

Each year ELSO awards a number of grants to fund clinical, basic science, educational, and outcomes-based research related to extracorporeal life support. ELSO members are encouraged to apply. The deadline for applications for the 2018 award has been extended to December 8th. Applications are available on the ELSO.org website.

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

The deadline for entering ELSO Registry Forms is January 14, 2018 to be included in the January Reports.

The new ELSO website is under construction and will be available soon.

Volunteers Needed!!
We are currently Beta testing the new ELSO registry if you would like to try out the new system click on the following link.
http://betaregistry2.elso.org/index.html

If you have used the live registry and then try BETA2, you can run into difficulties logging on. Try clearing your cache or using Private or Incognito mode on browser (if available).

2018 ELSO Research Grant Application process is now open!
Click here to apply!
https://www.elso.org/Resources/ELSOResearchGrantApplication.aspx

Deadline December 8th!!!
ELSO Memberships

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—January 2017 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.elso.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.
A 50 year old man is on VV ECMO for severe viral pneumonia. He has been on for 7 days and his lungs are totally consolidated with no tidal volume. We have heard about managing these patients awake, including ambulation. However, every time we try to wake the patient up he becomes very agitated, appears to be dyspneic, and thrashes around such that we have to return to heavy sedation. He is currently getting high doses of Versed and morphine. How can we wake him up?

What is happening and what should we do?

Everyone agrees that it is best to manage critically ill patients with minimal sedation including responsiveness to conversation and spontaneous breathing. This applies to any patient, but particularly to ECMO patients who will probably require prolonged ICU care. However, this is often very difficult to accomplish and this patient is a good example. First of all, the patient has been on narcotics and benzodiazepines for a week so that weaning off can be very difficult. The best approach is to avoid these drugs after the first day or so on ECMO support, favoring minimal sedation. After the initial cannulation, the patient is not in pain so that narcotics are not necessary for analgesia. Too commonly, narcotics are used for sedation when other drugs have less problems. However, benzodiazepines also create dependency and extreme agitation on discontinuation so they should also be avoided. Sedatives and anesthetic/sedatives such as propofol, barbiturates, or dexmedetomidine can be rapidly reversed and have less long term problems. Ketamine is a good alternative, but can cause unpleasant hallucinations in a patient with a prior psychiatric or drug history. In this patient, dependency on narcotics and benzos has already occurred after a week, so the extreme agitation on waking up is the first problem. It would be best to switch to other agents such as propofol at this time, although it may take days or weeks to clear benzos from the system.

Realizing that, when awakening a patient from prolonged narcotic and benzo treatment, or just waking up intubated in the ICU, direct communication while waking up is crucial. This means an experienced nurse or team of nurses who can constantly attend the patient and assure him that he is okay and he can breathe calmly. This can take many hours, even days. The problem of being awake and intubated is solved by tracheostomy. As the patient begins to awake and breathe spontaneously, his metabolic rate will go up which means that oxygen requirement and CO2 production will double or triple with the increased activity. Accordingly, the ECMO circuit should be managed by turning up the sweep gas flow to maintain PCO2 at 40 or below and improving systemic oxygen delivery to assure that delivery is 3 or more times consumption. This usually requires doubling the sweep flow and transfusion to a hematocrit greater than 40.

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

Dr. Bartlett with? Send your question to newsletter@elso.org
This year was the most successful ELSO annual conference to date, with 845 attendees. We had representatives from many areas of ECMO care including nursing, respiratory therapy, perfusion, surgery, cardiology, intensive care, neonatology, emergency medicine and more!!

Over 325 attended the preconference, the most ever when trying to do simultaneous simulation and didactic rotations. The preconference combined didactic and simulation efforts focusing on both common patient issues (obesity, long-duration ECMO, septic shock and others) as well as how to use ultrasound in ECMO, how to do percutaneous cannulation, conversion from VV-VA and an actual ECMO transport around the convention center floor!! Thanks to ALL who provided setup and faculty help, especially our local folks at Johns Hopkins and University of Maryland.

We had interesting family stories, one with an over 600 day combined ECMO and RVAD run with good survival, and learned more about what new devices may be coming soon for respiratory failure. We had multiple breakout sessions focused both on age-related ECMO groups, research, outcomes and other topics. All were well attended, with the usual cry that there were competing sessions that made folks want to clone themselves to be in 2 places at once.

We are indebted to our sponsors, who both supply equipment and materials for use in the preconference, help with unrestricted educational grants, and provide information about their products. We had our first platinum level sponsor (Getinge) and a total of 16 vendors.

Our center of excellence ceremony featured over 50 awardees and 10 new Fellows of ELSO were inducted. Thanks to Shri Deshpande and the Sibley Heart Center for sponsoring the RHB “best abstract” award and the iPad’s that went with it. Winners this year were Dr. Katherine Boyle, Dr. Javier Kattan and I-wen Wang.

Kasia Hryniecicz will be taking over conference chair duties for the next couple of years. Feel free to offer suggestions to the ELSO office or volunteer to help out. Next year we will be in sunny Scottsdale (Sept 13-16), where we hope to have a 5 K run and a mini golf tourney in addition to all the education and networking!
Induction into Fellowship of the Extracorporeal Life Support Organization is an honor bestowed on select physicians, nurses, perfusionists, therapists and researchers who have provided distinctive contributions to the global art and science of extracorporeal support delivery. Election to FELSO identifies global recognition of those who have advanced the field in diverse and lasting ways. This year’s FELSO awardees are:

**Phoebe Hankins** was the original executive director of ELSO; the original Peter. She organized the original ECMO courses at Michigan, coordinated the communication, and helped establish ELSO in 1989. She ran everything from the annual meeting to the committees to the newsletter. With John Toomasian and Sandy Snedecor she established the Registry. When the 2001 meeting was cancelled because of 9/11, Phoebe guided ELSO through financial problems to profitability. She has continued to be a major resource to Peter and ELSO, although she is now assistant to the director of UM Medical Center. ELSO would not exist without Phoebe Hankins.

**Andrej (Andrew) Sosnowski** is a cardiac surgeon who, with Richard Firmin, established the legendary ECMO program at Glenfield Hospital, Leicester, England. Andrej personally managed those difficult early cases, and established ECMO in the UK when there were many skeptics. He conducted the classic neonatal trial with Richard and the CESAR trial with Richard and Giles Peek. He is currently retired in his native Poland, where he remains the major consultant and voice of ECMO in central Europe.

**Palle Palmer** established the ECMO program at Karolinska Hospital in Stockholm, Sweden. Dr. Bartlett describes the Karolinska as the best ECMO center in the world by any measure. With surgeon Bjorn Frenckner, Dr. Palmer built the Karolinska center to prominence over decades. He was instrumental in initiating awake ECMO and recovery in prolonged ECMO long before others followed. He has been a leader in ELSO and EuroELSO.

**Bjorn Frencker** is a pediatric surgeon who, with colleague Palle Palmer, established the world-class ECMO program at Karolinska Hospital, Stockholm, Sweden. Bjorn has been a leader in ECMO and in pediatric surgery for three decades. He has trained scores of surgeons and fellows. Bjorn has been active in ELSO and EuroELSO and hosted the second meeting of EuroELSO in 2013.

**Rodrigo Diaz** is an intensivist in Santiago, Chile who established the first ECMO center in Latin America. The Santiago center has been an example to other countries in Latin America and to the world for many years. Dr. Diaz has not only excellent results, but trained most of the Latin American centers, and helped establish ECMO programs in his continent. In addition to his personal leadership, he has been a major contributor to ELSO and to LAELSO.

**Micheal Heard, Tracy Morrison and Barb Haney** were instrumental in the establishment of the ELSO Center of Excellence Award which is the internationally recognized certification of outstanding performance and status of hospitals with ECMO programs. Originally established in 2006, the COE award rapidly became the recognition of outstanding ECMO centers throughout the world. Hospitals display their ELSO COE plaques in ICUs where all the participants take pride in accomplishment. Hospital administrators (not to mention insurance carriers and certifying agencies like JACHO) recognize the COE award as a unique indication of the quality of an ECMO program. Tracy, Barb, and Michael continue to manage the program, reviewing scores of applicants each year, and coaching centers to achieve excellence status.

**Steve Conrad** has been a pioneer in the development and growth of the ELSO registry. He upgraded the registry from an old flat file system to a modern database structure which also included the implementation of ICD coding system and removal of open text. His work led to the move of the registry to a web-based format from its old paper days. As ELSO Steering Committee chair, Steve helped guide the development of the regional chapters of ELSO, including EuroELSO, APELSO, LAELSO and SWACELSO. Dr. Conrad's contributions helped bring us to the robust international ELSO structure we enjoy today.

**Heidi Dalton** is recognized as a world leader in the field of extracorporeal support. Heidi has served as a director of three different ECMO programs, caring for both pediatric and adult patients. Dr. Dalton previously served as ELSO Steering Committee chair, advancing its development. She is well known for her longstanding work as ELSO Conference chair, where she has led the development and tremendous growth of the annual ELSO conference to its current record attendance and state-of-the-art presentations. She continues to lead informative research trials and is highly sought after to speak worldwide for her expertise.
ELSO LATAM VA ECMO AND TEMPORARY VAD COURSE
Hospital Internacional de Colombia, Bucaramanga, Santander
11/16/2017 – 11/19/2017
http://www.fcv.org/site/curso-elsolatam/estrategias-de-aprendizaje/estrategias-de-aprendizaje
Leonardo Salazar +573174368073 demotucordis@gmail.com

5th Annual SWAC-ELSO Conference
India Habitat Center, New Delhi
01/18/2018 – 01/21/2018
http://www.cvent.com/events/5th-swac-elso-conference/event-summary-c727c2b6724f90acb13c25d0ea0aaa.aspx?fqp=true
swacelso2018@indiattitude.com

ECMO Management Workshop
San Antonio Marriott Rivercenter, San Antonio, TX
02/23/2018 – 02/24/2018
http://www.cvent.com/d/s5q9j
Kennethia Banks-Borden 734-996-6600 kbanksborden@elso.org
Registration open

ELSO Adult ECMO Training Course
Emory Conference Center, Atlanta GA
04/11/2018 – 04/14/2018
https://www.elso.org/Members/Courses/April2018Atlanta.aspx
Kennethia Banks-Borden 734-998-6600 kbanksborden@elso.org
Registration open

LAELSO VV ECMO Adult Course
Radisson Blu Santiago Chile
04/18/2018 – 04/21/2018
http://www.anestesiologialascondes.cl/ecmolatam/index.php
andreaclc@gmail.com

Euro–ELSO 2018
Prague, Czech Republic
05/23/2018 – 05/26/2018
http://www.prague-euroelso2018.com/
Deadline: 420 284 001 493
Simona Zelenkova +420 284 001 493 somolovak@guarant.cz

29th Annual ELSO Conference
Scottsdale, Arizona
09/13/2018 – 09/16/2018
Kennethia Banks-Borden or Peter Rycus 7347-998-6600 kbanksborden@elso.org

ELSO Adult ECMO Training Course
Emory Conference Center, Atlanta GA
11/07/2018 – 11/10/2018
November course not open for registration at this time
Website Corner

Be an MVP!
Why should athletes get all the attention?! Show the ELSO community that you’re an MVP (most valuable poster)! New topics are hitting the Discussion Board every day; so hit back with some knowledge of your own!

Discussion Board Topics of the Month
These are the hottest topics. Stop by and provide your input!

- **Pre and Post Membrane Blood Gases**: When do you do them, how do you interpret them and why do we do them? Share your insights!
- **Blood for Priming**: Another “challenge to what we’ve always done” post. Share your experience and protocols for blood priming circuits!
- **ECLS Specialist Primer/initiation/trouble shooting**: A great programmatic discussion on how you define staff roles and responsibilities.

Discussion Board Contributor of the Month
Congratulations Rhonda Bakken, RRT from University of Minnesota Medical Health for being our Discussion Board Contributor of the Month! Keep sharing your experience!

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! Conversely, you can sign up for an individual membership to take advantage of discounts on Red Books and ELSO Conference Registration.
Ethical dilemmas surrounding the decision to withdraw ECMO in pediatric patients represent a major challenge for critical care physicians. There are limited data regarding when to stop ECMO. Principles such as autonomy and proper decision-making authority, the determination of harm versus good provided by the treatment, medical futility, waste of medical resources, and moral distress of those providing perceived futile care are difficult to define. Moreover, indications for stopping ECMO may be variable in different countries and possibly influenced by local cultural and social norms.

By means of this survey, we sought to assess the current opinions and attitudes of ECMO program directors regarding the decision of whether to withdraw ECMO. We believe that a deeper understanding of the ethical issues raised in consideration of ECMO withdrawal might lead to an improvement of care and a possible mitigation of moral distress of those involved in this complex clinical decision.

https://fr.surveymonkey.com/r/ECMO_withdrawal

Thank you for your help

Kind regards

Angelo Polito

Geneva Children’s Hospital, Switzerland

The Communication Committee hopes soon to have a Spanish translation of the 4th Edition of the ELSO Red Book available as an eBook.

The editors are currently busy reviewing the submitted chapters for the upcoming 4th Edition of the ELSO Specialist’s Manual.
The ELSO Excellence in Life Support Award recognizes ECLS programs worldwide that distinguish themselves by having processes, procedures and systems in place that promote excellence and exceptional care in extracorporeal membrane oxygenation.

ELSO’s goal is to recognize and honor ECLS programs that reach the highest level of performance, innovation, satisfaction and quality.

A designated Center of Excellence has demonstrated extraordinary achievement in the following three categories:

1. Excellence in promoting the mission, activities, and vision of ELSO;
2. Excellence in patient care by using the highest quality measures, processes, and structures based upon evidence; and
3. Excellence in training, education, collaboration, and communication supporting ELSO guidelines that contributes to a healing environment for families, patients and staff.

The ELSO Award signifies to patients and families a commitment to exceptional patient care. The Platinum level demonstrates to the health care community that your program has high quality standards and processes in place, specialized equipment and supplies, defined patient protocols, and provides advanced education for all staff members.

ELSO is very pleased to announce the 2017 Award Winners! Announced at EURO ELSO in Maastricht, The Netherlands; the Annual ELSO Meeting in Baltimore, Maryland; and, the Asia-Pacific ELSO Conference in Gold Coast, Queensland, Australia.

Center of Excellence ~ Platinum Level

Children's Hospital of Philadelphia
Philadelphia, PA

Children's Mercy Hospital
Kansas City, MO

OSF Saint Francis Medical Center Heart Hospital
Peoria, IL

Children's Hospital Colorado
Aurora, CO

University of Minnesota - M Health
Minneapolis, MN

Children's Hospital of Orange County
Orange, CA

Aberdeen Royal Infirmary
Aberdeen, Scotland, United Kingdom

University Hospital Regensburg, UKR
Regensburg, Germany

Center of Excellence ~ Gold Level

Our Lady's Children's Hospital
Dublin, Ireland

Leiden University Medical Center (LUMC)
Leiden, The Netherlands

University Medicine Greifswald
Greifswald, Germany

Aarhus University Hospital, OPI East
Aarhus, Denmark

Wake Forest Baptist Health
Winston-Salem, NC

Ann & Robert H. Lurie Children's Hospital of Chicago
Chicago, IL

Cook Children's Medical Center
Fort Worth, TX

University of North Carolina Hospitals
Chapel Hill, NC

Johns Hopkins All Children's Hospital
Saint Petersburg, FL

(Continued on page 10)
St. Louis Children's Hospital
St. Louis, MO

Johns Hopkins Hospital
Baltimore, MD

Arkansas Children's Hospital
Little Rock, AR

Rainbow Babies and Children's Hospital
Cleveland, OH

Children's Hospitals and Clinics of Minnesota
Minneapolis, MN

University of Maryland Medical Center
Baltimore, MD

Yale - New Haven Children's Hospital
New Haven, CT

Nicklaus Children's Hospital
Miami, FL

Children's Hospital of Georgia
Augusta, GA

Wolfson Children's Hospital
Jacksonville, FL

Monroe Carell Jr. Children's Hospital at Vanderbilt
Nashville, TN

St. Christopher's Hospital for Children
Philadelphia, PA

UCSF Benioff Children's Hospital
San Francisco, CA

Mayo Clinic Hospital - Arizona
Phoenix, AZ

University of Virginia Medical Center
Charlottesville, VA

Children's Memorial Hermann Hospital
Houston, TX

University of Colorado Hospital
Aurora, CO

Children's Medical Center of Dallas
Dallas, TX

Children's Hospital of Los Angeles
Los Angeles, CA

Le Bonheur Children's Hospital
Memphis, TN

Mayo Clinic Rochester
Rochester, MN

Cleveland Clinic Children's
Cleveland, OH

Medical University of South Carolina
Charleston, SC

MHHS-Center for Advanced Heart Failure
Houston, TX

UC Davis Medical Center
Sacramento, CA

Children's Hospital of San Antonio (CHRISTUS)
San Antonio, TX

University of Kentucky Chandler Medical Center
Lexington, KY

Hanuola - ECMO Program of Hawaii
Honolulu, HI

Maine Medical Center
Portland, ME

Arnold Palmer Medical Center
Orlando, FL

Omaha Children's Hospital and Medical Center
Omaha, NE

San Antonio Military Medical Center (SAMMC)
San Antonio, TX

Carolinas Medical Center and Levine Children’s Hospital
Charlotte, NC

University of Chicago Medical Center
Chicago, IL

National Taiwan University Hospital
Taipei, Taiwan

Queen Mary Hospital
Hong Kong, Hong Kong

Hospital Dr. Rafael Ángel Calderón Guardia, C.C.S.S.
San Jose, Central, El Carmen Costa Rica

NYU Langone Medical Center
New York, NY

Geisinger Health System
Danville, PA

Robert Wood Johnson University Hospital
New Brunswick, NJ

Penn State Hershey Medical Center
Hershey, PA

Hennepin County Medical Center
Minneapolis, MN

University Health System
San Antonio, TX

The Children's Hospital at OU Medical Center
Oklahoma City, OK

UF Health Shands
Gainesville, FL

Children's Hospital of Wisconsin
Milwaukee, WI

Pathway to Excellence ~ Silver Level

Continued from page 9
The ELSO Award of Excellence Application

ELSO Award for Excellence in Life Support
Open for 2018 Applications
December 1st

If you last applied for the Award for 2015 Designation
your Award will expire!

Deadline for Applications is March 15th, 2018!!

To Start an Application

The Award for Excellence is now an on-line application process. It is found on the ELSO website under ‘Excellence”. Each Center administrator must sign in to the ELSO Website and designate access to your team members for the Center of Excellence role.

1. Designate the assigned individuals to complete your application on the ELSO website.
2. Have your system administrator log in to ELSO.org with their username and password.
3. On the Manage Tab, select or add the center members responsible for completing the award.
4. Click Edit Tab on the far left column and scroll down to select the box with the Center of Excellence award application role.
5. Click to save changes.

It is highly recommended that every Center start by reading the Application Instructions under the Excellence Tab.

If you have any questions, please feel free to email award@elso.org
Facebook
If you use Facebook please visit our sites and “like” us! We intend to use Facebook as a way to present information to not only ELSO members but to anyone who is interested in our organization. www.facebook.com/ELSO.org

Euro-ELSO Facebook page:
www.facebook.com/EuroELSO

Twitter
Follow us on twitter!
www.twitter.com/ELSOOrg

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ELSO OFFICE
2800 Plymouth Road
Building 300 Suite 303
Ann Arbor, MI 48109
Phone 734-998-6600,
Fax 734-998-6602

The ELSO Newsletter editorial team’s goal is to bring you a newsletter that is entertaining, informational, and educational. If you would like to join us or have any suggestions for improving the newsletter or would like to contribute content, please contact Joel Davis at jdavis@elso.org.

Thank you from the ELSO Newsletter editorial team!