

**NEWS FROM THE MECHANICAL CIRCULATORY SUPPORT SUB-COMMITTEE**

Formerly known as the  
EXTRACORPORAL MEMBRANE OXYGENATION (ECMO) WORKING GROUP

**Summary of Group Project or Activities – Posted June 2024**

Name of Project or Activity	Description	Project Status (New, Ongoing, Complete, Near Completion, Long Term, Abandoned)
ECMO Survey of ELSO Centers	Survey of SCA member sites to determine anesthesiology involvement in ECMO eligibility, cannulation and management	Ongoing – Survey has been distributed and completed. Plan to review and collate responses in preparation for a manuscript.
Mechanical Support Educational Content for SCA University	Creation of an abbreviated 4-6 course curriculum to review technical aspects of mechanical support devices including initiation, intraoperative and post-operative management and troubleshooting complications.	New – Collaboration with the Educational Committee to create content accessible and appropriate to the majority of SCA members. This expands on the Echo for MCS devices content that was created in the past two years.
Heparin vs. Bivalirudin for VV and VA ECMO	Randomized, pragmatic pilot study of heparin vs. bivalirudin for VV or VA ECMO patients that allows for institutional discretion of monitoring for level of anticoagulation	New – Draft of IRB submission completed and will discuss at following meeting which members may be willing to participate in pilot portion of the trial.
Working Group on LV Unloading during Peripheral VA ECMO	Work group to focus on recommendations for monitoring of LV distension and considerations for LV unloading	New – Grown out of a discussion on variability of LV unloading strategies during a committee meeting

**Summary of Group Meetings – Posted June 2024**

Date	Action Items from Meeting
Sunday, October 15 <sup>th</sup> , 2023	In person meeting at ASA. Discussion of possible educational content for the year including inclusion in the ARC course for fellows vs. creation of a more focused curriculum in SCA university
Wednesday, December 13 <sup>th</sup> , 2023	Discussion of possible research projects for the year including Anticoagulation for VA ECMO which was decided on, management of ECMO during Lung transplantation and recommendations for cannulation/shock team leaders. Also had a presentation on the Standfrod eCPR protocol.
Monday, February 12, 2024	Education Project on MCS Management; Initial Review of Anticoagulation for VA/VV ECMo Pilot protocol; Volunteers for SCA Annual Meeting Submissions

**POSTED NOVEMBER 2023**

**Summary of Group Meeting 1 - Date: Saturday, May 6<sup>th</sup>, 2023**

Initial meeting with committee members in attendance at SCA.

- Updated members on education and research projects from the prior year.
- Ongoing ECMO survey of ELSO centers to determine anesthesiology involvement in ECMO management.
- Brainstormed potential education and research projects for this upcoming term

## Summary of Group Meeting 2 - Date: Thursday, August 17<sup>th</sup>, 2023

First meeting of the term with sub-committee members

- Introduction of new and old sub-committee members
- Review of prior education and research projects from past two years.
- Summary of potential projects discussed during SCA annual meeting
- Discussion of project of most interest to the group – including anticoagulation practices among patient on ECMO and inclusion and expansion of ARC courses on MCS devices

### DESCRIPTION & GOALS

1. Foster research collaboration – Main research goal is to work on multi-center investigation of anticoagulation for patients on ECMO including method of assessment of adequacy of anticoagulation, choice of anticoagulant and degree of anticoagulation required depending on type of support.
2. Educational content for SCA members – Working to enrich the ARC and SCA database to discuss management principles for patients on MCS in the operating room and ICU. Prior videos were focused on TEE for patients with MCS devices.

### COLLABORATION

No planned formal collaborations as of yet. But potential for collaboration with ELSO/ISHLT/HFSA to draft guidelines for the cannulation, placement and management of MCS devices.

## POSTED JUNE 2023

### Summary of Group Meeting 1 - Date: 1/25/23

1. Updates on group membership/transition of leadership in 2023.
2. ECMO survey project (Update from Cheruku/Jelly/Mazzeffi)
3. ECMO workshop SCA Annual Meeting 2023
4. Bridge to lung transplant ECMO (prehab)
5. DTIs vs. Heparin for AC

### COLLABORATION

- Scientific Program Committee- Working to organize the ECMO workshop for 2023
- Research Committee- Worked with this committee to develop survey of ECMO practices, which will hopefully be sent out soon (approved by committee)

### FUTURE PROJECTS

The main project that we are hoping to complete before transitioning leadership of this committee at the SCA 2023 meeting is the ECMO survey. The survey is completed and is ready to send out. We also have IRB approval. We are just finalizing a couple final details before sending it to SCA members.

## POSTED NOVEMBER 2022

### Summary of Group Meeting 1: 8/2/2022

- Group discussed current state of VV ECMO and COVID-19
- Group discussed updated survey, needed changes, IRB approval status
- Group discussed oxy-RVAD experiences, pulmonary hemorrhage risk, how to determine optimal RVAD flow

### Summary of Group Meeting 2: 5/15/2022

- Group survey project discussed (anesthesiologists' involvement in ECMO during COVID19)
- Discussed potential workshop ideas for 2023 annual meeting
- Discussed possibility of proposing a separate cardiovascular critical care meeting through SCA
- Discussed lessons learned from COVID-19 pandemic related to ECMO

-Discussed possibility of submitting a project through ELSO looking at racial disparities and VV ECMO outcome

### **COLLABORATION**

-We have collaborated with the program committee in developing the 2023 ECMO workshop, which is shaping up nicely.

-We have collaborated with the research committee on our survey project (anesthesiologists' involvement in ECMO).

### **FUTURE PROJECTS**

Two potential projects that we would ask for the SCA leadership to consider are below:

- 1) SCA member Bhoumesh Patel (Yale) has proposed that we create standardized competencies and learning objectives related to ECMO and mechanical circulatory support for CT anesthesiology fellowship programs. This is an interesting idea and will be discussed further at our upcoming group meeting. We will be reaching out to leaders of the ACTA program directors council to discuss this idea as well.
- 2) Our group discussed the possibility of the SCA having a fall meeting dedicated to CV critical care. This idea was mentioned previously to Dr. Shaw, who was generally supportive. Dr. Shaw conveyed that perhaps this was best accomplished through our current collaboration with the STS at their fall meeting. The STS critical care fall meeting currently has minimal attendance by anesthesiologists. Perhaps our representation/attendance could be increased there, or perhaps we could consider having a separate CV critical care meeting.

### **POSTED JUNE 2022**

#### **Summary of Group Meeting 1:**

- Date: 1/10/22
- Summary of Discussion:  
Agenda For Meeting is Below

1. ECMO Echocardiography Updates
2. Survey Updates
3. Lung tx for COVID 19 and COVID 19 in Lung tx Patients
4. SCA 2022 Annual Meeting: ECMO Related Talks
5. Discussion: PLT Transfusion Cutoffs
6. Discussion: Tracheostomy Practices

#### **Summary of Group Meeting 2:**

- Date: 3/9/22
- Summary of Discussion:

1. Annual Meeting
2. Updated COVID-19 stats from ELSO
3. Update on SCA imaging videos
4. Update on survey
5. Discussion on weaning strategies for VA ECMO
6. Discussion on ELSO ECMO certification/qualifications for providers
7. Discussion on post cardiotomy shock peripheral VA ECMO vs. BiV support with other MCS devices
8. Article (Siegel et al.)
9. VV Research opportunity

### **DESCRIPTION & GOALS**

This past academic year (July 1<sup>st</sup> 2021-present) we created a series of 4 video recorded lectures on echocardiography for ECMO and mechanical circulatory support devices. These will be added to the SCA webpage and will be available to SCA members, as CME activities.

Our committee has created a survey with the purpose of exploring ECMO practice variation between centers and better understanding anesthesiologists' role in managing ECMO. We hope to soon distribute this to SCA members.

Our committee created and submitted several ECMO panels/talks for next year's SCA annual meeting.

#### **COLLABORATION**

1. We collaborated with the online education subcommittee to get our ECMO echocardiography videos on the SCA website.
2. We collaborated with the research committee on our ECMO survey.
3. We collaborated with QSL on annual meeting submissions.

#### **FUTURE PROJECTS**

1. We are working towards finishing our survey about ECMO practice variation and anesthesiologists' role in ECMO. We have submitted an IRB, are completing required SCA paperwork, and are working with the research committee to move this project forward.
2. We would like to continue to develop educational content related to ECMO. This might include some quick reference content for the app, short videos, online PBLDs, etc.
3. We are working on developing some research projects. For example, we have created a proposal for an ELSO registry project that one member of the group will submit through their institution.
4. We will continue to work on developing innovative/interesting educational sessions for the annual meeting.
5. We would like to discuss the possibility of creating a cardiogenic shock meeting with SCA leadership. This might be a great opportunity to add a small meeting focused on MCS, ECMO, and other aspects of cardiogenic shock management.

#### **POSTED OCTOBER 2021**

##### **Summary of Group Meeting 1: May 10, 2021**

We will "subdivide" the full group into 2 "working groups" research and education. Potential research initiatives: - Collaboration for 1-2 ELSO projects each year, supported by the SCA, will discuss with Dr. Shaw; - Survey of SCA group members (CT anesthesiologists' role in ECMO, evaluation of institutional practice variation, antibiotic prophylaxis for cannulation, VA ECMO weaning practices, LV venting practices to name a few); - multi-center clinical trial group for ECMO for SCA members (think about whether to do with STS or on our own)

Potential educational initiatives: - Knobology and cannulation; - Brief 15-minute modules on key topics for the SCA website (Ecpella and LV venting, Dual-lumen VV cannulas, Protek duo); - ECMO content for the app (perhaps risk score calculators, troubleshooting algorithms, other?)

Other potential initiatives for the group to consider: - Practice guideline on echocardiography for ECMO; - Credentialing process for critical care of ECMO patients? - Defining quality in ECMO, is it possible?

##### **Summary of Group Meeting 2: July 14, 2021**

Subgroup structure (education and research groups); Educational group projects (Four 15-minute mini lectures on imaging for mechanical support/ECMO, case based with?): General considerations for VA, VV; Dual lumen VV cannulas; Protek duo; Impellas for LV venting. Research subgroup projects: ELSO collaboration; SCA survey on anesthesiologists' involvement in VA ECMO, cardiogenic shock team; Infection control practices in ECMO. General

discussion on COVID ECMO (outcomes, current incidence across US). Pozzi et al. ECPR paper, journal club with brief discussion 10 mins.

### **DESCRIPTION & GOALS**

No major changes. Our principal goals remain as follows: Provide education about ECMO and its evolving management to SCA members (annual meeting, publications, online education modules); and Grow research collaboration related to ECMO within the SCA

### **COLLABORATION**

The guideline committee and QSL previously collaborated with our group, as we worked towards publication of an expert consensus statement (now accepted for dual publication in A and A and JCVA); The online education committee is actively collaborating with our group to help develop web content for ECMO education. We also hope to develop content for the SCA app.

### **FUTURE PROJECTS**

We are currently working on developing 4 online education modules (15 minutes each) related to echocardiographic imaging for ECMO. This work is being done in collaboration with the online education committee (Jennifer Hargrave); We have set up a meeting with Dr. Shaw to discuss some potential ideas for ECMO research (collaboration with ELSO to submit a registry project and also a survey related to variation in ECMO practices); We have submitted an ECMO related panel to be considered for the 2022 annual meeting.