

NEWS FROM THE MECHANICAL CIRCULATORY SUPPORT SUB-COMMITTEE

SUMMARY OF GROUP PROJECT OR ACTIVITIES – JUNE 2025

Name of Project or Activity	Description	Project Status
ECMO Survey of ELSO Centers	Survey of SCA member sites to determine anesthesiology involvement in ECMO eligibility, cannulation and management	May abandon as now two years have passed since initial survey data collection.
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	Ongoing- request from Education Sub-committee. Videos assigned and awaiting upload.
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	Unable to move past planning stages due to limited interest and engagement.
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	Ongoing – Smaller working group identified to help with draft of expert consensus for publication in JCVA
SCA Annual ECMO Workshop	ECMO workshop for annual meeting in Montreal	Recurrent
Working Group on Cannulation Credentialing	Work group to focus on recommendation for cannulation competency for anesthesiologists	Ongoing – Smaller working group identified

SUMMARY OF GROUP MEETINGS

Date	Action Items from Meeting
October 31, 2024	<ol style="list-style-type: none"> Drafting of MCS Topics for MCS Management update for SCA University Drafted ideas for ongoing research project and proceeding with clinical practice improvement advisory paper on perioperative devices and extracorporeal support. Drafted proposals for MCS Topics for 2026 SCA Meeting
February 24, 2025	<ol style="list-style-type: none"> Assigned speakers and roles for MCS Management update for SCA University Discussed draft for clinical practice improvement advisory paper on MCS devices Siavosh Saatee presented on Lung transplant ECLS update leading to discussion and sharing of clinical practice variation on best practices for ECMO during these cases.

COMMITTEE BENCHMARKS

2024 Committee Benchmarks Status Report

- Mechanical Support curriculum development for SCA University in collaboration with members of the Education committee - Topics have been finalized and speakers have been assigned. Received upload instructions and guidelines from SCA. Awaiting speaker completion.
- Hosting ECMO Workshop for the annual SCA meeting - Upcoming meeting in Montreal 2025.
- Guideline development for peripheral VA ECMO and LV unloading – In the drafting phases and discussing important content and outline.
- Survey completion for cannulation and training for anesthesiologists providing ECMO care - Working group created and still in initial stages of drafting.
- Multi-center research collaboration on anticoagulation practices in VV and VA ECMO – IRB drafted for submission and met with leaders from multiple hospitals but abandoned due to lack of interest and engagement.

SUMMARY OF GROUP PROJECT OR ACTIVITIES – POSTED DECEMBER 2024

Name of Project or Activity	Description	Project Status
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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. Awaiting Data Review and Collection.
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.	Ongoing – New request from Education Sub-committee for “ ECMO Clinical Update” section for SCA university including History of ECMO, indications, configurations, understanding machines, hemodynamic goals and venting strategies.
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	At risk of abandonment – Draft of IRB submission completed but limited engagement and interest from members and difficulty getting stakeholders from different institutions to spearhead the study.
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	Ongoing – Smaller working group identified to help with draft of expert consensus for publication in JCVA

SUMMARY OF GROUP MEETINGS

Date	Action Items from Meeting
April 28 th , 2024	Discussed IRB submission for heparin vs. bivalirudin protocol. Discussed participation in SCA ECMO Workshop for 2025 meeting Generated ideas for MCS related talks for the 2025 meeting Presentation from SCA Education sub-committee on educational content creation
October 7 th , 2024	
October 20 th , 2024	

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 th , 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 th , 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 Standford 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 6th, 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 17th, 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 Bhounesh 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 cardiectomy 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 1st 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 ELSON 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.