We had a fantastic SOCCA and IARS meeting in Denver. It was great seeing so many friends and colleagues and watching our packed conference room during the meeting. Even more impressive was the membership involvement with our new committees, task forces, and workgroups. The goal of SOCCA is to continue to offer numerous areas and opportunities for our members to engage and grow our society.

The IARS has been a great partner with SOCCA, and the IARS has been instrumental in helping us grow. However, several changes are needed due to the growing needs of SOCCA and the complexity of the annual meeting. In particular, the structure of the combined AUA, SOCCA, and IARS meeting, in its current form—with three independent registrations and fees, independent abstract submission processes, and overlapping educational content—has been a source of concern and confusion for members of the organizations. Because of these developments, SOCCA and the IARS will undertake the following changes while remaining fully aligned in our staunch commitment to advancing academic anesthesiology and critical care.

SOCCA will continue to collaborate with the IARS, Early-Stage Anesthesiology Scholars (eSAS), and others on the Annual Meeting Oversight Committee to plan the 2024 annual meeting. SOCCA Members will be asked to serve on the Annual Meeting Oversight Committee to plan the 2024 annual meeting. We will continue to have extensive meeting content devoted to critical care. This will likely be in the form of a critical-care track (similar to the critical-care tracks at the ASA meeting) that will occur every day of the meeting next year. We will have even more critical-care content next year than we have ever had at our Annual Meeting.

A restructuring of administrative support for SOCCA to handle our substantial growth in membership and programs is currently under consideration. We are requesting proposals from several other association management companies, including the American Society of Anesthesiologists. Overall, we view these changes positively, and we collectively maintain an unwavering commitment to promoting academic anesthesiology and critical care.

The SOCCA Board is extensively involved with all of this, and we will keep all our members informed as things progress. Please let us know if you have any comments or suggestions as we move forward. In the meantime, plan on attending the next Annual Meeting in Seattle on May 17-19, 2024.

I hope everyone has a great summer, and I look forward to seeing you soon.

Michael H. Wall, MD, FCCM
President, SOCCA
University of Minnesota
Minneapolis, MN

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Communications Committee Update

I would like to start off by saying that it is a great privilege to be taking over as Chair of the Communications Committee from Dr. Brent Kidd (Immediate Past Chair and Editor); thank you to Dr. Kidd for his leadership and efforts on behalf of the Communications Committee. He oversaw the development of the two sub-committees focused on social media and Interchange Newsletter/SOCCA Drip Blog, respectively and guided us with engagement with our members through the COVID-19 pandemic and beyond. It is a great honor to be the first woman editor of the SOCCA Interchange and I am excited to continue to build on the work done by the previous Chair. I have been involved with the SOCCA Communications Committee since 2021 and was Chair of the social media sub-committee in the past. As Chair I hope to continue to expand member engagement with our SOCCA Twitter account, promote the work of our members through the Interchange newsletter, and bring timely industry news to our members. I appreciate the mentorship and guidance of my colleagues in helping me develop the skills to take on this new role and look forward to any feedback on how we can serve the organization.

It was also wonderful to see everyone at the SOCCA Annual Meeting in Denver and be able to connect in person after the past few years on virtual platforms. The conference did not disappoint and allowed us to learn, network, and connect in person again. Many participants joined us virtually to participate in the meeting, highlighting the value and convenience of SOCCA’s virtual offerings.

Engagement with SOCCA’s Twitter account continues to grow; we saw an increase in our social media followers of 5% since the start of the year. Our stellar social media team under the leadership of Dr. Liang Shen continues to be engaged in bringing cutting-edge critical care content to our members. We thank our past social media sub-committee chair, Dr. Kyle Bruns, for leading the team and look forward to his efforts as Vice Chair of the Communications Committee. We had a productive meeting with our new members at the Annual Meeting, with junior members interested in promoting our specialty through social media and exploring avenues to increase our reach to medical students, residents, and fellows.

With how busy work and life are, I appreciate the efforts of our contributors who take the time to share their work with SOCCA members via the SOCCA Interchange. In this issue, we have updates from the Program Directors’ Advisory Council regarding the Critical Care Match, an interview with Dr. Jessica Cassavaugh on a pragmatic look at how to pursue research opportunities in your career, and much more. I would encourage all members to follow us on our Twitter account (@SOCCA_CritCare) and frequent our blog (SOCCA Drip) to stay up to date on SOCCA offerings and organization opportunities.

Madiha Syed, MD
Chair, SOCCA Communications Committee
Cleveland Clinic
Cleveland, OH

DON’T FORGET TO FOLLOW SOCCA ON TWITTER!

@SOCCA_CritCare
As Chair of the Research Committee, I am thrilled and privileged to share with you the notable progress we’ve made in recent months. With the support and guidance of the Board we have grown our membership, been focused on deliverable products for our membership, and continued to increase the visibility and contribution of the committee to SOCCA and the wider community.

It’s a privilege to work alongside our dedicated Vice Chair, Emily Vail, our greatly valued subcommittee Chairs and Vice Chairs, Board of Directors members, and committee members whose continuous efforts inspire robust, thriving research committee endeavors serving the needs of the membership. I would also like to highlight the contributions and impact of our Immediate Past Chair, Matt Warner, who really galvanized the committee’s efforts.

Firstly, I’d like to take the opportunity to welcome several new members to the committee. The growth of our committee serves as a testament to our progress and broadens the input driving our work. It is with great delight that I introduce our newest members Vijay Krishnamoorthy from Duke University, Michael Kiyatkin from Montefiore Medical Center, and Junaid Nizamuddin from the University of Chicago. Their combined expertise and fresh perspectives have already undoubtedly enhanced our research endeavors.

The trajectory of the SOCCA Research Committee’s journey over the past year has been steep. Our teams have brought to fruition several published manuscripts. The focus on intensivist burnout and clinical practice of critical care anesthesiologists is not only timely but also attuned to the current challenges in the field. By tackling these critical topics head-on, we are creating a conduit for dialogue, reflection, and problem-solving, enabling the forging of pathways to ensure the wellbeing of practitioners while optimizing patient care. The establishment of a Speaker Exchange Program is another significant milestone. This initiative has been designed to extend the reach of our members both within and outside SOCCA, showcasing their expertise and fostering opportunities for interdisciplinary engagement.

By cultivating relationships and promoting the exchange of knowledge, we are not only fortifying SOCCA’s standing in the academic community but also nurturing our members’ professional growth and visibility. Furthermore, we are proud to have been the driving force behind an entire issue of *Anesthesiology Clinics*. This initiative has allowed us to share in-depth, comprehensive insights into key topics in critical care practices and research.

Looking forward, we have road mapped ambitious goals for the coming months! Under the capable leadership of Josh Douin and more recently Michael Kiyatkin serving as Vice Chair, our Data Subcommittee has been industriously working on an array of research projects. These efforts are geared towards streamlining SOCCA ‘homegrown’ surveys, with the aim of fostering more comprehensive and efficient data dissemination and aiding our other committees to gain information for ongoing projects. This streamlining extends beyond SOCCA, encouraging collaborative surveys with sister organizations. Current work includes exciting projects on end-of-life surveys and Quality and Safety in Critical Care. We are also delving into survey work that investigates Point of Care Ultrasound (POCUS) practices and pertinent aspects of fellowship training in anesthesia critical care.

Chaired by Kate Rosenblatt, the Scientific Writing Subcommittee is diligently beginning to craft a white paper and consensus guidelines. This will incorporate a keen focus on research priorities, prospective directions, and the crucial need for ICU datasets. This is a key deliverable for the committee and will be pivotal in driving SOCCA’s research agenda moving forward.

Marc Lopez, our exceptional chair, is steering the Research Infrastructure and Networking Subcommittee toward thoughtful advancements. Our committee is currently conducting a comprehensive needs assessment of our membership. The primary objective is to discern the desires of our members regarding access to mentorship, research collaboration opportunities, methodology training, and the availability of specialized data. This is also a key piece of the
work of the committee over the coming months and we look forward to reporting this to the membership in due course.

We are also laying the groundwork for a multi-center clinical data collection initiative. This effort involves exploring Data Use Agreements and designating site champions to facilitate the building of this project. This structure may operate independently or in collaboration with other organizations.

Moreover, we are enthusiastic about furthering our collaboration with the SOCCA Women in Critical Care (WICC) under the stewardship of Shahla Siddiqui.

We find ourselves in a highly exciting time for the Research Committee. The energy and engagement of our members, combined with the continuous support from the Board and SOCCA leadership, creates a potent recipe for significant progress. We eagerly look forward to the advancements that lie ahead.

In closing, I am deeply grateful for the opportunity to serve in my current capacity. It is the shared commitment, relentless hard work, and innovative spirit of everyone involved that moves us forward.

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SOCCA EARLY CAREER INTENSIVISTS

The SOCCA Early Career Intensivists working group provides new members and members who are early in their careers with the resources needed to ease the transition from trainee to practicing intensivist.

2023 MEETINGS

**July 19, 2023**
6:00 pm – 7:00 pm ET
[Register here](#)

**September 20, 2023**
6:00 pm – 7:00 pm ET
[Register here](#)

**October 4, 2023**
6:00 pm ET
SOCCA 2023 Job Fair
[Register in advance for this meeting](#)

**November 15, 2023**
6:00 pm – 7:00 pm ET
Please join us for a discussion regarding contract negotiations featuring: Gerald A. Maccioli, MD, MBA, FCCM, FASA, Vice President, Medical Affairs, The Accreditation Commission for Health Care; Chief Medical Officer & Board Advisor, Quick'rCare; Chief Medical Officer, Care Angel; and Chief Medical Officer, Moterum
[Register here](#)
SOCCA is growing! Thanks to the visionary leadership of our president, Dr. Michael Wall, SOCCA has now created what is known as the Clinical Practice Committee (CPC). This committee reports directly to SOCCA’s Board of Directors and has a singular function: enable our growing membership to participate as much as possible in creating the resources and programs of the future.

At the Texas Medical Center, we have an institution known as TMC Innovation, a healthcare accelerator designed to make it easier for the healthcare industry to interact with the hospitals of the Texas Medical Center to facilitate product development of the next generation of healthcare devices and systems. You may have a similar system in your institution as this approach of “translating” ideas from concept to reality is taking form more and more in the medical-industrial complex. The CPC is a way for SOCCA to facilitate a similar function for the practice of Anesthesiology Critical Care Medicine.

The CPC is comprised of SOCCA members who wish to become more engaged in our society and have the energy to facilitate that engagement. The process for joining the CPC is short-circuited, so any SOCCA member can send an email and be connected to the CPC within days. Afterward, the member will be asked which area of focus they would like to concentrate on…and they are not limited to only one area of focus. We call the focused groups “workgroups” (for all the by-laws experts out there, we are deliberately not referring to CPC as a “sub-committee”). The areas of focus so far include:

1) Transplant critical care
2) Mechanical circulatory support/ECMO/CT critical care
3) Physiologically difficult airway
4) Quality and safety
5) Neuro-critical care
6) Service chiefs
7) Obstetric critical care

All the workgroups within the CPC have their own chairs and vice chairs, thus maximizing the opportunity for SOCCA members to gain leadership experience. Each workgroup holds its own monthly meetings to work through projects and ideas effectively. Dr. Demiralp and I have asked for each workgroup to identify two projects or ideas that they would like to focus on to both achieve a measurable work product and keep our goals within reach. Additionally, every quarter, the entire CPC (including all workgroups and members) participates in a larger meeting to discuss the progress that each workgroup has achieved and opportunities for synergy or assistance. This approach allows us to capture the collective expertise of the entire CPC and make sure that one workgroup is not overlapping with another CPC workgroup (or another SOCCA committee).

During the SOCCA board meetings, CPC leadership shares the working results of the CPC workgroups with the board in order to obtain input and support from the board. This support may take any form needed, from patterning with an existing part of SOCCA leadership to funds allocation to collaborating with outside organizations. In any case, the CPC is clearly designed to facilitate prompt elevation of ideas from concept to execution…SOCCA’s own accelerator!

Examples of some of the early ideas produced within the CPCs include creating enhanced educational offerings at SOCCA’s Annual Meeting which would allow hands-on experience for attendees. Additionally, early discussions are including the possibility of creating practice-relevant certifications for SOCCA members that add value and avoid unhelpful burdens to completion. All the discussions thus far have included creative and innovative ideas to make SOCCA membership even more valuable and further illustrate the leadership role that Anesthesiology Critical Care Medicine physicians play in the overall field of Critical Care Medicine.

The CPC was officially formed in April 2023 during our Annual Meeting, so our work is just getting started. We will regularly provide updates to you via SOCCA Interchange and SOCCA’s site to keep you informed of our collective progress. Our team will diligently work with the board to make sure that the work of the CPC is helpful to the rest of the committees and teams within SOCCA. As with any new effort, we can anticipate the need to adjust along the way; SOCCA should know that we embrace the need to incorporate feedback and course correct wherever needed. Our focus is to be helpful to the mission, membership, and, by extension, patients of SOCCA.

The structure and operation of organized medicine is evolving, and SOCCA is positioned to lead this change into the future…and we need your help! If you are interested in participating in one of our exciting CPC workgroups, please email SOCCA Society Director, Ms. Vivian Abalama, IOM, CAE at vabalama@iars.org. We look forward to sharing the exciting work that we are starting with SOCCA and await your potential contributions to our team as well!
WICC: One-Year Anniversary

One Year (and Counting!) of Action and Engagement

With the Women in Critical Care (WICC) section's one-year anniversary, we presented several initiatives accomplished in the past year at the SOCCA 2023 annual business meeting. We have shared several Interchange articles, Fireside chats, and two webinars that have been well received—one on Wellness and a recent webinar on strategies to enhance women applicants in CCM.

In the past year, we have surveyed our 63 members, shared the results on the SOCCA website, and formulated a white paper on recommendations for organizations and societies regarding the working environment for women in critical care. We are planning four further Fireside Chats with the next one featuring Dr. Margaret Wood in June!

We are also undertaking a mixed methods study on the global underrepresentation of Women in CCM in leadership with Dr. Siddiqui as PI, under the mentorship of Dr. Rebecca Aslakson and several of our members as part of the team. At the SOCCA 2023 meeting, the WICC group held a reception in the hotel lobby in conjunction with the Early Career Intensivists group which was attended by several SOCCA members and the Board.

PODCAST

We are also proud to launch a new initiative by our Vice Chair Dr. Kirsten Steffner and Steering Committee member Dr. Amanda Kore Schilling. This is a new podcast miniseries in collaboration with Stanford Medcast on non-clinical but highly relevant to the practice of CCM topics. The first episode is “The Underestimation of Influence,” featuring Dr. Vanessa Bohns of Cornell University.

Dr. Kirsten Steffner is a Cardiothoracic Anesthesiologist and Intensivist trained at Columbia University and current faculty at the Department of Anesthesiology, Perioperative and Pain Medicine, Stanford University School of Medicine. Her enthusiasm for this initiative and drive to bring this to fruition is exemplary. Listening to these podcasts can help provide clarity and a much-needed reprieve for the busy woman intensivist who has many competing demands from work and home.

Dr. Amanda Kore Schilling is an intensivist and a new mom of little Mia Schilling. She works as an intensivist at the Tucson Medical Center after completing a CCM fellowship at Dartmouth Hitchcock Medical Center in Lebanon, New Hampshire. Amanda says that being a mother is the greatest accomplishment of her life.

We sincerely believe these initiatives add value to the SOCCA membership and would welcome further support for our efforts. Visit SOCCA’S Women in Critical Care.
PLEASE JOIN US FOR FIRESIDE CHATS

June 22 | 4:30 pm – 5:30 pm ET
Featuring Guest Speaker: Dr. Margaret Wood, MBChB, FRCA

August 17, 2023 | 4:30 pm – 5:30 pm ET
Featuring Guest Speaker: Dr. Laureen Hill

November 2, 2023 | 4:30 pm – 5:30 pm ET
“Tackling Challenges in a Career in CCM” featuring panel with Drs. Emily Vail, Brigid Flynn, and Sheela Pai Col

SOCCA has collaborated with Stanford Continuing Medical Education for a Stanford Medcast Women in Critical Care podcast mini-series. The goal of the mini-series is to provide professional development content that puts a new lens on how Women in Critical Care define success and “having it all.” Listeners will hear from leaders in a wide range of fields, including organizational psychologists and experts in physician wellbeing. In these dynamic conversations, we hope to support and nourish the multiple roles that we play in our day-to-day lives.

PODCASTS

EPISODE #59
“Underestimation of Influence”—STREAM NOW

EPISODE #63
“The Wicked Problem of Physician Well-Being”—STREAM NOW

EPISODE #65
”Stereotype Threats”—STREAM NOW
SOCIETY OF CRITICAL CARE ANESTHESIOLOGISTS

POSTER SESSIONS

2023 ANNUAL MEETING | DENVER, CO | APRIL 14–15
FEATURED ARTICLE

An Introspective Reflection on the State of Anesthesia Critical Care Fellowship Programs from the Program Director’s Advisory Council (PDAC)

For the second year in a row, we have witnessed a decline in the number of applicants interested in anesthesiology critical care fellowships. The gap between the number of positions available and the number of rank lists submitted continues to increase, with only 0.65 applicants per position offered in the 2023 match cycle. This year an alarming 39% of positions were left unfilled post-match. These distressing statistics demand a serious reflection on the challenges we face and the necessary steps to ensure the future of our subspecialty. As we move forward after inspiring stories of anesthesiology intensivists as healthcare heroes and leaders of the COVID-19 pandemic, we must reflect on the past, current state, and future of our subspecialty. While it may be tempting to attribute the current lack of interest to a robust job market and attractive pay, perhaps an introspective approach and reflection are needed to understand other factors that contribute to our specialty's diminishing appeal to today's trainees?

Today's Millennial and Generation Z residents seek job satisfaction, emotional well-being, and a work-life balance. These three core values are often lacking or diminishing in today's practice of critical care medicine. Intensive care physicians often experience high burnout levels, which doesn't scream job satisfaction.

It's only been 600 days since that statement was published, and we have a way to go until we reach 2030, but the security of our specialty is already at risk. We must address these issues head-on and mitigate burnout and moral distress, and only after that will we be able to focus and market ourselves effectively in these three core values to attract potential trainees. Failing to address these issues risks our ability to convey the true joy and fulfillment that can come from this field, and potentially discouraging trainees from pursuing a critical care fellowship.

Regarding work-life balance, the current resident scheduling paradigms make it impossible for trainees to appreciate the actual workload of a faculty member. We subject our trainees to month-long rotations in the intensive care unit, oftentimes pushing the 80-hour work week with schedules that disobey fatigue-mitigation strategies and can be physically exhausting and mentally taxing. Meanwhile, more recent faculty staffing models consist of one week of service followed by operating room time or time off. Innovative flexible faculty work schedules are often highlighted as a reason for faculty retention. Despite this, we have stuck to our historical mantra that a month-long rotation provides continuity of care. However, with the advent of shift work, such notions may be misguided and archaic, and the current resident rotation schedule needs further re-evaluation. Longitudinal rotational experiences similar to how intensivists practice after training could be one innovative way that residency programs incorporate critical care medicine rotations in a more modernized approach to current training paradigms. Addressing the work-life balance during the highest exposure to our specialty may allow us to engage and recruit residents into our field.

Furthermore, a year-long fellowship sometimes requires trainees to uproot themselves and start fresh in a different city during their 30s for a year followed by potentially another move post-graduation, which is certainly not a small feat. Many...

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trainees move for fellowship and 53.7% of trainees over the past decade practice in a different state after fellowship. It's a significant investment of time, effort, and emotional sacrifice. We must emphasize the value and advantages of training in critical care medicine to make this leap more enticing.

The ASA Statement on the Principles of Critical Care Medicine states “The practice of critical care medicine dramatically elevates the professional profile and clinical reputation of physician anesthesiologists within any institution, and physician anesthesiologist-physician intensivist practitioners are frequently the only physician anesthesiologists with whom non-operating room professional personnel have routine contact.” Incorporating key leadership skills into critical care training and providing mentors in both group and hospital administration can add value to an extra year of training.

Preparing our trainees for their future and the future of our specialty is vital. This brings us to the question of what the future of anesthesiology and critical care medicine will look like in the face of technological advances and the rapid rise of artificial intelligence. Is it time for us to modernize our curriculum to incorporate teaching in artificial intelligence and other emerging technologies to enhance the appeal of fellowship training further?

Finally, an investment of a year’s worth of your life and losing potential income must come with financial dividends such as the form of a higher pay structure for those with extra training. In reality, it will be a tall task to increase the appeal of fellowship training in any field in anesthesiology to today’s graduates if we persist with a model which does not result in a financial “reward” for those with extra training.

It's time to embrace change and adapt to the needs and expectations of the new generation. We must collectively re-evaluate our practices, foster an environment that supports well-being, and showcase the rewarding aspects of critical care medicine. Only then can we reignite the passion and interest in this field and secure a bright future for our subspecialty.

CALL TO ACTION FOR SOCCA MEMBERS

Consider these top five ways to help expand our applicant pool and recruit trainees into our amazing, rewarding, and innovative subspecialty.

1. **Address burnout at all levels:** With a high burnout rate in our specialty training, it is paramount our divisions work to address this at the faculty level so we can be leaders in this area for future trainees.

2. **Try out innovative scheduling paradigms:** Consider unique schedules that foster collaboration and mitigate fatigue. Endorse the importance of work-life balance for all critical care members of the team.

3. **Intensivists as leaders:** Highlight your faculty that have attained out-of-the OR, C-suite, or hospital-level leadership roles. Create an environment for mentoring, coaching, and sponsorship for your trainees in these areas.

4. **Community connection:** The majority of ICUs in this country are not staffed with physician intensivists. Connect with regional hospitals and groups to create a relationship between your fellowship program and their community needs. Return-to-training models can fill fellowship positions and provide the support our patients need.

5. **Advocate for our specialty:** Get involved in SOCCA. Consider becoming a SOCCA mentor, bring a trainee to our annual conference, or schedule a learning activity around a SOCCA webinar. Become part of the conversation to ensure critical care services are paid for adequately. Speak up regarding burnout and moral distress. Be involved in our future.
FEATURED ARTICLE
Is Hydroxocobalamin the New Vitamin C?
A Budding Strategy to Manage Vasodilatory Shock

In recent years, the critical care community has debated the benefits of vitamin C in septic shock. Vitamin C is thought to have antioxidant effects that attenuate tissue injury mediated by inflammation\(^1\). A controversial retrospective analysis to evaluate the efficacy of vitamin C demonstrated a major reduction in mortality, AKI, and vasopressor duration\(^2\). This fascinating result led to several prospective trials and meta-analyses\(^3,4\). Most recently, a large trial showed that patients in intensive care who received vitamin C therapy had a higher risk of death or persistent organ dysfunction\(^5\). With this result, the community has explored alternative therapies to manage septic shock. Vitamin B12, hydroxocobalamin, may be the next in line for evaluation, scrutiny, and debate.

High-dose hydroxocobalamin (vitamin B12) is gaining traction as a potential new approach to reduce the need for conventional vasopressors including catecholamines, vasopressin, and angiotensin II. The drug was originally marketed with an FDA approval for cyanide toxicity\(^6\). In its original approval, the side effect profile included hypertension. With some understanding of the chemical structure of hydroxocobalamin, the mechanism of hypertension is well understood.

The prefix ‘hydroxo’ in hydroxocobalamin refers to a hydroxyl group (-OH) that is bounded to a central cobalt. In treating cyanide poisoning, this hydroxyl group is easily displaced by toxic cyanide (CN-) yielding cyanocobalamin, a benign compound that is renally excreted\(^7\). It turns out that this same hydroxyl group can also be displaced by nitric oxide (NO-) in the bloodstream to yield nitrosylcobalamin. Interestingly, nitrosylcobalamin holds tightly onto nitric oxide, inhibiting nitric oxide’s vasodilatory effects and increasing systemic blood pressure\(^7\). In addition, the nitrosylcobalamin metabolite itself has anti-inflammatory properties including inhibition of NF-kB and hydrogen sulfide\(^8\).

In a significant vasodilatory state such as sepsis, inducible nitric oxide synthase (iNOS) expression, the precursor catalyst of nitric oxide, is increased up to one-thousand fold\(^8\). Thus, hydroxocobalamin acts as a nitric oxide scavenger to limit the significant dysregulated release of nitric oxide seen in severe sepsis. With a promising mechanistic approach, hydroxocobalamin may be a budding strategy to manage refractory vasoreactivity and uncontrolled inflammation that accompanies septic shock; the clinical literature on this is still growing.

Small retrospective studies in sepsis, cardiac surgery, and liver transplant have demonstrated that hydroxocobalamin improves hemodynamics and attenuates vasopressors\(^9\). A recent phase II randomized controlled trial showed an improvement in the hemodynamics of patients with septic shock randomized to hydroxocobalamin compared to placebo\(^10\). Specifically, this feasibility trial revealed a 36% reduction in vasopressor need from time of randomization to post-infusion. Arguably more importantly, this study indicated no difference in adverse outcomes with the study drug.

This finding is in the context of one large multi-center randomized controlled trial that showed increased mortality in patients with sepsis treated with a nitric oxide synthase inhibitor\(^11\). This occurred in the setting of persistently increasing systemic vascular resistance and a measured reduction in cardiac output. Hence, simply improving systemic vascular resistance and blood pressure may be clinically deleterious.

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Aside from this mechanistic risk, hydroxocobalamin is associated with other adverse effects such as calcium oxalate crystal formation in the urine and red discoloration of the skin, urine, and body fluids which can affect hemodialysis machine alarms.

Studies have yet to show differences in oxygen delivery or improved outcomes from perfusion-related complications such as stroke, myocardial infarction, acute kidney injury, or death. Future larger randomized controlled trials should seek to answer these questions. In addition, optimal dosing, length of infusion to match the time course of vasodilatory dysregulation, and identification of biomarkers to establish the best responders to therapy are areas of unique exploration. Lastly, there are clear mechanistic immunomodulating effects of vitamin B12 which could be clinically meaningful.

Much like the historical excitement the early vitamin C data showed, we have entered a new exciting era for evaluation of vitamin B12. We should move forward with lessons learned from the vitamin C story: to proceed with caution, investigate this therapy with rigorous scrutiny, and understand that its promising mechanisms to treat sepsis may or may not come to fruition.

REFERENCES:
Journal Article Critique


SUMMARY
An interesting review article that is relevant to our field. Implementing Pathways touches on what we constantly encounter: a gap between equality and equity for anesthesiologists from underrepresented minorities in Medicine (URiM). While there are “advertised” equal opportunities for anesthesiologists hired at different stages of their careers, there remains a gap between what is advertised as equality and what is actually exercised of equity.

The article describes some sad statistics in terms of ongoing underrepresentation in residency and in higher executive leadership positions of women, Hispanics, Blacks, and Native Americans.

The authors highlight root causes of this existing gap such as structured and implicit biases, microaggression, and residuals of historical discriminatory policies of segregation such as the Flexner Report that led to the closure of Black medical schools and residual restraints on their access to medical education.

The authors then discuss programmatic interventions to mitigate this gap in the form of equitable focused recruitment with dedicated outreach to URiM to curative recruitment where applicants are invited for rotations to gain experience and understanding of the residency program. Another intervention is a neutral selection process of residents by standardizing questions asked to all candidates to avoid any discriminatory questions related to background. The article also discusses the importance of anti-bias training of leaders and faculty involved in the recruitment process with a specific emphasis on the training being interactive rather than the less engaging single-clicks, self-learning modules. The authors then focus on the importance of retention of URiM employees; with an emphasis on actual career development of URiM rather than simply keeping people within the same rank without development. Mentorship is strongly emphasized as well as sponsorship in terms of access to grants and funding opportunities. Importantly, the authors emphasize the importance of debt-reducing programs for URiM faculty to improve their living conditions and wellness giving an example of the pioneering efforts of the University of Michigan in this aspect. The article also highlights the very important need to create a data responsiveness environment where there is transparent and robust data on important parameters pertaining to diversity and inclusion.

One of the points that caught my attention is the quest for compensation of the time of members who are on DEI Committees or leadership roles so that they do not miss important career opportunities by serving on these committees. I can tell that this recommendation has no existence in my department.

A major resource-intensive option to promote URiM is called a “Pathway Program”. In these programs, students from underrepresented backgrounds are supported from their early school years until their pursuit of unique careers. As expected, these programs require an enormous amount of funding, yet remain to be an interesting idea to pursue in resource-enabled programs.

What the article did not address and points for discussion

- Rationale and basis of URiM definition.
- Identification of other minorities that are disadvantaged based on criteria other than gender or race such as religion.
- Comparative analysis of anesthesiology to other specialties in terms of URiM representation.
- How URiM are evaluated compared to non-URiM individuals and what channels they can utilize to appeal to injustice incurred?
- How conflicts among URiM should be handled?
- Any statistical data about the societal representation of URiM and a comparable analysis to other specialties.
CASE REPORTS
Late Presentation of Life-threatening Tracheostomy Hemorrhage

INTRODUCTION
Hemorrhage from or around a tracheostomy is a relatively common and possibly life-threatening complication. Complications from a tracheostomy can be early or late and can be related to the placement of the tube, prolonged time duration of tracheostomy tube requirement, or abnormal healing at the surgical site. Tracheo-arterial fistulas represent a rare but often lethal complication from tracheostomies. This case report describes a patient who developed a fistula between a mature tracheostomy site and the innominate artery. The report discusses important practical considerations for preoperative and intraoperative management of this condition and describes the most common risk factors, diagnostic approach, and surgical technique.

CASE SUMMARY
A 73-year-old man with a past medical history of diabetes mellitus type 2 and coronary artery disease presented complaining of blood-tinged tracheal secretions from a tracheostomy site. Open surgical tracheostomy had been performed four months prior, after he was unable to be weaned from mechanical ventilatory support following a coronary artery bypass graft surgery. No complications were reported at the time of the original procedure, and there was no evidence of herald bleeding.

Given the complex medical history and risk factors, it was decided to perform a revision of the tracheostomy in the operating room. Upon induction of general anesthesia and orotracheal intubation, the tracheostomy cannula was removed, producing immediate brisk, pulsatile bleeding evidenced at the stoma site. Multiple conservative hemostatic maneuvers were attempted without success. Ultimately, surgical exploration of the neck and superior chest was performed, and a fistula between the trachea and the brachiocephalic trunk was identified. Surgical repair was achieved using a bovine pericardial patch with a sternohyoid muscle flap. The patient was subsequently transferred to the ICU for further hemodynamic management and airway protection. Preoperative head and neck CT scan demonstrate images consistent with the findings described (Fig 1 a & b).

Fig1: Computed tomography (with intravenous contrast on arterial phase) demonstrating tracheo-innominate fistula.
CASE DISCUSSION

Tracheo-arterial fistulas are uncommon, potentially fatal complications of tracheostomies. Rates of 0.1–1% after surgical tracheostomy have been reported, with a peak incidence at 7–14 days post-procedure. Although, they often occur 2-3 weeks after tracheostomy, late presentation, as seen in this case, is also possible. Hemorrhage occurring 3 days to 6 weeks should be considered as trachea-innominate fistula until proven otherwise. A sentinel bleed is reported in 50% of cases that go on to develop delayed massive hemorrhage.

The most commonly involved vessel is the innominate artery. Commonly identified causes include a high-riding tracheo-innominate vessel, low-lying tracheostomy (lower than the 3rd tracheal ring), mucosal necrosis from sustained high cuff pressures or direct mucosal trauma from a tube that is excessively long or wide. The presence of infection, hypotension, malnutrition, or corticosteroid use was also reported as potential risk factors.

This entity should be prioritized in the assessment of airway bleeding in tracheotomized patients as it is associated with exceedingly high mortality rates. Thus, it is of utmost importance for the perioperative care team, to thoroughly review available imaging, including CT scans, to better understand the specific anatomic variations associated with individual prosthetic airways.

Adequate oxygenation is the central component of immediate management with simultaneous identification and termination of bleeding. Prompt recognition and surgical control of bleeding are crucial for patient survival. Initial temporizing measures include overinflation of the tracheostomy cuff, external pressure over the sternum and application of direct pressure (anteriorly) with a finger via the stoma once the airway is secured. Although management classically involves ligation of the innominate artery, in some cases, surgical repair may be preferable.

REFERENCES:


A BRIEF CONVERSATION WITH... DR. JESSICA CASSAVAUGH:
How to Integrate a Career in Basic Science Research and Critical Care

Dr. Jessica Cassavaugh is a T32 Research fellow and Clinical Instructor in the Department of Anesthesia, Critical Care, and Pain Medicine at Beth Israel Deaconess Medical Center. She completed her anesthesiology residency and critical care fellowship at the University of Pittsburgh Medical Center. Her current research focuses on estrogen-dependent regulation of inflammatory and hypoxic signaling, especially as it relates to cardiovascular and metabolic diseases.

WHAT IS THE IDEAL TIME ALLOCATION FOR BASIC SCIENCE RESEARCH AND CLINICAL DUTIES?

Basic science typically requires multiple, consecutive days as opposed to clinical or database research which are generally more flexible. I think the classic model of 70-80% protected time (usually 3-4 days a week) is needed to be productive. Of course, this can be modeled differently depending on a researcher's specific projects. Working one clinical day in the operating room a week is a simple model to achieve this, however, working a multiple day stretch in an ICU requires more planning and foresight. Having a productive, dependable staff on the research side is also important to keep projects moving while away on clinical duties.

HOW DO YOU MAINTAIN YOUR CLINICAL SKILLS WITH REDUCED CLINICAL TIME?

I recognized early on during my MD/PhD training that I was going to be faced with this challenge, and therefore have made a concerted effort as a trainee and early faculty to develop a wide variety of skills and become proficient at them. I continue to make an ongoing effort to challenge myself by staying involved in major cases (i.e., transplants) and maintaining skills in OR management. I also try to occasionally have solo cases to maintain my proficiency.

SHOULD SOMEONE REQUEST A STARTING PACKAGE WITH HIS/HER FIRST CONTRACT AND WHAT THAT SHOULD ENTAIL?

I think the request for a start-up package is contingent on bringing independent funding and/or a solid background to the table. Without having a proven track record of research successes—publications, grants, etc.—it is a big ask for departments to invest in a start-up package. Of course, it’s also very difficult for an early investigator to generate enough data to apply for funding. I’ve been very fortunate as I’ve been supported by a T32 anesthesia training grant and very generously by my department. Any start-up package would be specific to the investigator’s needs but generally would include space allocations, equipment, and personnel support as well as protected time.
How about subsequent funding? Any maintenance funds or should these come exclusively from grants?

Subsequent funding from departmental support would always be appreciated but is not all too common. The majority of ongoing funding should come from grants and/or perhaps endowed positions.

“I have learned, quite simply, that I cannot compare my path to that of others.”

Do you think there are challenges to starting or having a basic science career as an intensivist?

One of the more frequent challenges for me is the constant transition between responsibilities. And while this is not specific to being an intensivist, as an anesthesia intensivist, many of us wear three hats: OR, ICU, and our research. It can be difficult to change your way of thinking from one day to the next and even more so after several days/weeks in the lab or ICU. I find that I need time to reorient myself to whichever hat I’m wearing on a particular day. Another challenge that I don’t think is truly appreciated is the lack of familiarity between your colleagues and other professional staff. There is a culture of trust that develops between clinical teams who work together frequently. I’ve noticed especially, I believe, as a younger female attending, that building that trust takes extra time and energy and can at times even delay clinical care.

In basic science research, MDS compete with PhDs who don’t spend any time on clinical duties. How do you view this challenge?

I have learned, quite simply, that I cannot compare my path to that of others. A PhD, who is a full-time researcher, can consistently work on and advance their projects. They are more likely to have more dedicated, uninterrupted time to think, read, and write about their ideas and because of this are possibly more competitive for some funding. On the other hand, MDs bring a different point of view to basic science questions and can contribute greatly in that regard. I find that MDs doing basic science research also tend to be excellent at time management and organizational skills, as we frequently are balancing multiple responsibilities and cannot procrastinate deadlines. Fortunately, funding agencies, such as the NIH, also acknowledge that MDs have time limitations and do have specific funding for MDs pursuing basic science research—especially in their early career.

When balancing a basic science and clinical career, do you feel there is a minimum amount of time that should be spent providing clinical care in the ICU to keep your skills sharp?

Yes, but I think that amount of time is difficult to quantify and varies from year to year for me. I expect it’s similar to physicians who had administrative roles and are also not as often on clinical service as their full-time clinical colleagues. I find that case discussions with colleagues, keeping up with literature, and attending relevant talks helps, especially when I have longer stretches of time off clinical service.
Let Awareness Grow: Share Your DEI Stories

We are no longer in a world where—as current or future leaders of our respective medical communities—we can remain impartial to discrimination. Workplace mistreatment, discrimination, and microaggressions can limit access to resources and opportunities for growth. It can fuel persistent disparities experienced by caregivers and patients belonging to marginalized communities. As leaders we can’t not see, not hear or not act on inequalities.

I am personally aware of how difficult it can be to perform a corrective action when one is on the receiving end of micro- and macroaggressions. When I was a junior trainee, I was asked to explain what was wrong with the suicide bombers in the Middle East and how I could explain their behavior; because I was born and raised in a country that predominantly had the same religion. I was only able to respond, “I never met one, have you?” I also did not think of reporting or seeking guidance when I was instructed to use my CME allowance money to hire an accent coach, since a faculty member in a leadership position did not think I would ever be able to pass oral boards with an accent (although he didn’t think I had a communication problem). Twenty years ago, I did not know anything about microaggressions or unconscious biases. I felt a little shame that maybe I did something to provoke these questions and attitudes and that I fell short of “blending in”.

When I started being more proactive in the DEI world, starting from within my own department at the University of Wisconsin-Madison to becoming the Chair of the Diversity, Equity, and Inclusion subcommittee for the Anesthesiology Section of the Society of Critical Care Medicine (SCCM), I met fellow members within the Anesthesiology Society, who shared experiences like mine. These interactions motivated me to put a voice to our collective experience. Our committee created an anonymous questionnaire and asked members for examples of DEI struggles from their careers. As stories piled up with folks talking about racial, gender and religious discrimination, we also received accounts about how some institutions facilitated diversity and promoted inclusion going back more than 20 years. Sharing stories and experiences built strength and unity within our section. We grew stronger by embracing our diversity.

We should continue to share our DEI stories! The power of these stories allows us to engage authentically with our own humanity and provides an entry point into understanding diverse experiences. We should create safe harbors for our peers, trainees, care team partners, and patients to speak up about what they were exposed to, how they were treated, and what made them uncomfortable. We should stop tolerating mistreatment and conscious acts of discrimination and embrace the cultural changes around us. Smart people learn from their own experiences, but wiser people learn from other people’s experiences. Choose to be a wise leader!

Gozde Demiralp, MD
SOCCA Education Committee
Department of Anesthesiology, School of Medicine and Public Health, University of Wisconsin-Madison
Madison, WI

We at SOCCA would like to invite you to join Women in Critical Care—our initiative to form a women’s group within the ACCM community.
The Liver Transplantation Patient and the Challenges Associated

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Stanford University School of Medicine

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School of Medicine
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Kickstart a Research Career in Critical Care Anesthesiology
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Marcos Lopez, MD, MS
Vanderbilt University Med. Cntr.
How I Use My Role as an Intensivist & Anesthesiologist to Fuel Translational Research & Collaboration
Shahzad Shaefi, MD, MPH
Beth Israel Deaconess Med. Cntr.
How to Achieve Sustainable Success in Research & Academia

How Did We Get Here? How a Polio Epidemic Led to the Birth of Critical Care
SEPTEMBER 21, 2023 | 4:00PM – 5:00PM ET | REGISTER

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Membership information: SOCCA@iars.org

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