SOCIETY OF CRITICAL CARE ANESTHESIOLOGISTS SOCCA

INTERCHANGE

Society of Critical Care Anesthesiologists Newsletter Volume 32 | Issue 3 | September 2021

PRESIDENT'S MESSAGE

Miguel Cobas, MD, FCCM
President, SOCCA
University of Miami
Miami, FL

Welcome to the Fall edition of Interchange! First and foremost, on behalf of the Society, I would like to congratulate all those young colleagues that have selected Anesthesia/Critical Care as their subspecialty. This issue is dedicated to you, our newest members.

Just last week, I took a few days off to drop my youngest son in college, and as a parent I was feeling that perfect storm of happiness, pride, uncertainty, and sadness that comes when your child is no longer with you, yet ready to start a life of his own. His emotions most likely reflected mine but with the added eagerness and enthusiasm of the younger years, when the world is yours to conquer.

And that is likely the same emotion many of our future colleagues are feeling right now: after grueling years of medical school and residency, about 200 Anesthesia residents nationwide have decided to join and grow the ranks of our specialty, and I'm sure that they are all sharing the anticipation of future possibilities upon learning in which program they will complete their career aspirations.

Looking back at my experience, I knew that I wanted to work in the ICU but wasn't sure which pathway would get me there. It wasn't until I did some rotations in anesthesiology when I realized that the blend of brain, brawn and procedures from anesthesia and intensive care offered the perfect combination to become the doctor I wanted to be. This is a story I've heard many, many times in my career and I'm glad it continues to resonate with our residents.

Engaging the younger generation has been a paramount mission of our society, and to that end we have taken several initiatives. In the financial front, we have waived the membership fee for residents, fellows and first year graduates, understanding the economic pressures present nowadays, particularly at the very beginning.

The times of waiting for the next edition of your favorite textbook are long gone. We live in an era of instant communication and information overload, and it is important that SOCCA keeps up with the current pace of dissemination of material pertinent to our field. If you haven't done so yet, please check the news section of our website to stay on top of all the events.

One of the activities I strongly urge you to consider is the Board Review Course, designed specifically for the first-time taker of the Critical Care subspecialty

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Click here to view or print the SOCCA INTERCHANGE newsletter.

SAVE THE DATE MARCH 18

SOCIETY OF CRITICAL CARE ANESTHESIOLOGISTS
ANNUAL MEETING
2022

SOCIETY OF CRITICAL CARE ANESTHESIOLOGISTS SOCCA

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PRESIDENT'S MESSAGE *continued from the cover*

exam. The course is based on keywords that proved difficult in the In-Training exam and is presented in a concise and highly effective style. By the time you get this in your inbox some of the installments may have been offered but have no fear: SOCCA members have on-demand access to this and all other educational sessions, including past and future webinars, as well as our landmark event, the Annual Meeting.

The strength of our Society is measured not only by the number of members but by the involvement and enthusiasm of its constituents, and in that regard SOCCA has shown an unparalleled success. To better serve our membership, we have increased the number and scope of our committees and task forces, making sure that there's room and space for each one of us. Just to name a few: we are expanding our clinical practice arm by creating task forces that reflect our most common workplaces: CTICU, Neuro, as well as our increasing involvement with ECMO. We are also creating spaces for colleagues in private practice and those within 10 years of graduation, as well as for our female colleagues who face unique challenges. We understand that Anesthesia Critical Care reaches far and wide and we want to make sure that our tent is big enough, your voice is heard, and your needs met.

Finally, for all our members, a huge word of thank you and recognition in these very trying times. A teacher once told me, as we were discussing our limited appeal to Anesthesiology residents in general, that if you ever go to war, the person that you want in the trenches, right next to you, is someone who volunteered to be there and not someone who was drafted. That's us. We are all fighting a once in a lifetime event, and if we look around, all of us are right here, where we need and want to be. Welcome home.

SOCCA MENTORING IS COMING SOON!

SOCCA MENTORING

Become a SOCCA Mentor

SOCCA members at all levels of experience will soon be able to connect with individuals who have elected to volunteer their time and expertise to help others learn and grow in their knowledge about clinical practice, administration, leadership, research, organizational volunteerism, and other domains.

MENTORS Members interested in serving as mentors should visit SOCCA's Mentor Recruitment Portal and self-identify those domains in which they would feel comfortable serving as a resource for other members. Your experience and efforts will directly enrich the personal and professional lives of our members.

MENTEES Members interested in connecting with mentors will soon be able to access an online directory of interested individuals at SOCCA.org.

COMMITTEE ON COMMUNICATIONS UPDATE

Brent Kidd, MD
Chair, SOCCA Communications Committee
University of Kansas Medical Center
Kansas City, KS

I would like to start by saying it is an honor to take over the Communications Committee at SOCCA and subsequently as editor of Interchange. I have to give immense credit to my immediate predecessor Craig Jabaley for continuing to maintain—and even expand—the committee's roles throughout the initial waves of the COVID pandemic. I hope to continue that process and build upon the foundations provided to better serve our organization. To that end we have created two subcommittees to better focus on the varying roles of the Communications Committee. These two subcommittees will focus on Twitter and SOCCA *Interchange* / Drip respectively. I would encourage any of our members who don't yet follow us on Twitter (@SOCCA_CritCare) to do so as well as frequent our blog (SOCCA Drip) to stay up to date on all things SOCCA including webinars, meetings, and organizational opportunities.

While it is an exciting time for our organization in terms of interest and growth, we as critical care physicians likely find our free time limited with yet another COVID surge and our ICU beds filling quickly. In light of that, I want to extend a special thanks to all of the contributors to this edition of Interchange who were willing to create quality content for our newsletter despite these busy times. In light of the recent match, this edition is dedicated to our new colleagues who will soon begin their critical care fellowship training across the country. Inside you will find thoughts on how COVID has impacted our interview process from recent applicants, content on choosing future leaders within our departments, and a recent literature review on targeted temperature management, amongst others.

With no end in sight regarding the pandemic as we move into the fall and winter months, I hope that our society can continue to bring timely information and updates to its members through the various arms of the communications committee. I always welcome feedback and suggestions from you, our members, about how we could better achieve that. At its core, this is a close-knit society for all of us who chose anesthesia critical care as a specialty and if we have learned nothing else from the last ~20 months battling COVID, it is how to adapt quickly when necessary. I hope you enjoy this edition and please take care of yourselves and each other.

SOCCA drip

SOCCA Drip is a new online platform that offers member-generated content, spotlights member achievements, and delivers relevant news and updates from the broader critical care community—more frequently than ever before.

- Our newsletter, SOCCA *Interchange*, will continue to highlight features from our members and news from within the organization.
- To reflect these changes, SOCCA's Main Menu has changed to include "Drip" under "News" on the main menu.
- All back issues of SOCCA Interchange are available here.
- To explore contribution opportunities or share relevant professional or programmatic accomplishments, please email SOCCA Society Director Vivian Abalama, IOM, CAE at vabalama@iars.org

COMMITTEE ON NOMINATIONS UPDATE

The strength of SOCCA is the wealth of talent and energy of its members. One of the ways to serve the Society is through volunteer activities. The SOCCA Nominations Committee annually evaluates nominees and develops an election ballot for available Officer and Director positions. This election cycle we will be electing a Secretary (2-year term) and 3 Board of Directors (3-year term). The Secretary position serves as the entry position for eventual advancement to Society President. Further details about the governance structure of SOCCA are described in our Society Bylaws.

Information about additional opportunities to serve the organization, such as committee involvement, will be shared in future communications. Those interested in elected positions will be asked to submit a letter of interest, photograph, and curriculum vitae in November. Criteria by which volunteer leaders are evaluated are available here: VOLUNTEER LEADERSHIP SELECTION CRITERIA.

If you have questions about any of the opportunities available within SOCCA, please contact SOCCA Society Director Vivian Abalama, IOM, CAE who will ensure you are in touch with the appropriate SOCCA resource.

Daniel R. Brown, MD, PhD, FCCM
Immediate Past President
Mayo Clinic
Rochester, MN

COMMITTEE ON MEMBERSHIP UPDATE

The Early Career Working Group has been working hard to put together some exciting content for this fall. First off will be our Job Seminar for Fellows on October 21 at 6pm EST. This webinar has been specially arranged for our members who have just started their fellowships and are starting to look for jobs and plan their careers. Please join us for what promises to be a lively discussion with your co-fellows from around the country. Our panelists will include department chairs, program directors, members in private practice, and recent fellowship graduates. We look forward to discussing important topics related to job searching, and giving everyone a chance to ask questions they might have. Register here.

We are also making significant progress in creating a mentorship program for SOCCA. We are currently working with the communications committee, the board, and our web designers to create an online platform that will recruit mentors. Interested mentees will be able to see a directory of seasoned anesthesiologist/intensivists who are interested in sharing their experiences and connecting with more junior members. They will then be able to self-select mentors, based on location and interests. In the near future, we will be reaching out to all SOCCA members to fulfill both mentor and mentee roles, and we hope to help create lasting relationships!

Suzanne Bennett, MD, FCCM
Chair, Membership Committee
University of Cincinnati
Cincinnati, OH

Alisha Bhatia, MD
Vice-Chair, Membership Committee
Rush University
Chicago, IL

STARTING YOUR JOB SEARCH: A WEBINAR FOR FELLOWS

JOIN US FOR A WEBINAR
October 21, 2021 at 6:00 PM ET

Brought to you by the Early Career Anesthesia Intensivist Working Group

Join SOCCA for "Starting Your Job Search: A Webinar for Fellows," a specially arranged Webinar for members who have just begun their fellowships and are starting to seek jobs and plan their careers. We'll discuss key topics related to job searching, hold a Q&A, and encourage a lively discussion with co-fellows from around the country. Panelists will include department chairs, program directors, members in private practice, and recent fellowship graduates. **Register now**.

COMMITTEE ON EDUCATION UPDATE

Ashish Khanna, MD, FCCP, FCCM, FASA
Chair, SOCCA Committee on Education
Annual Program Chair SOCCA 2021
Wake Forest University
Winston-Salem, NC

Allison Dalton, MD
Annual Program Co-Chair SOCCA 2022
University of Chicago
Chicago, IL

Kunal Karamchandani, MD, FCCM
Annual Program Co-Chair SOCCA 2022
UT Southwestern Medical Center
Dallas, TX

On behalf of the SOCCA Education Committee, we would like to extend our thanks to our new members. It is heartwarming to see such an overwhelming enthusiasm to advance the educational mission of SOCCA. As SOCCA membership grows, the Education Committee has realigned its structure to create working groups, dedicated to meeting the education needs of our SOCCA members and the anesthesiology critical care community at large. The last few months have been a testing time for any practicing intensivist in the United States. We have been working overtime fighting the delta COVID sweeping through the country. Despite this, the SOCCA Education Committee aptly supported by the rest of the SOCCA membership has continued to produce remarkable new critical care education content. We are deeply appreciative and truly admire each of you as you deal with this once in a lifetime 'ICU pandemic.' Our update highlights our working groups that have been extremely busy in developing diverse educational content and adapting to the ever-changing landscape imposed by the COVID-19 pandemic.

1. **Journal Articles Selection and Enduring Content/Videos**: This group is entrusted with creating CME activities from multiple sources. They identify articles of particular importance to intensivists from a myriad of anesthesiology and high impact critical care journals and provide content-based CME activity to SOCCA members. In addition, this subcommittee curates CME activities from the 2021 SOCCA annual meeting's virtual content.
2. **Monthly Webinar Content and CME**: In response to increasing opportunities for virtual education, this subcommittee developed nearly a dozen webinars over the past year averaging over 100 registrants per month. These webinars were able to reach current SOCCA members as well as provide outreach to the 25% of attendees who were not current members at the time of registration. Webinars featured highly impactful topics such as non-respiratory manifestations of COVID-19, value care for patients, gender and race disparities in critical care medicine, management of critically ill parturients, and evolving cardiac critical care. Given the success of this webinar series, quarterly webinars will continue, and content planning has already begun thanks to the submissions of numerous, high-quality proposals from SOCCA members.
3. **Board review course**: The first annual SOCCA board review course was held virtually last year and was an overwhelming success with over 180 registered participants. The SOCCA board review course consists of concise presentations of high yield topics by those with recent experience with the critical care written boards. This year, the 2021 SOCCA board review course provided virtual meetings over the course of 4 weeks in September with over 320 intensivists and critical care fellows registered to attend and many hours of board review content presented in short lecture format.
4. **Annual meeting planning**: The program planning group for the SOCCA annual meeting has been working diligently to create an educational program for our 2022 meeting. SOCCA members have proposed a record number of outstanding sessions. While we are unsure whether we will be able to all gather in-person in Hawaii in March, we plan to curate a meeting that is inclusive, diverse and provides an enriching experience to all attendees whether in person or joining virtually.

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EDUCATION COMMITTEE *continued from page 6*

Along with their involvement with the various working groups within the Education Committee, the members from the committee have also been involved with various collaborations with other SOCCA committees. The SOCCA task force on the 'physiologically difficult airway' is being co-chaired by Dr. Karamchandani from the education committee and Dr. Jabaley from the Communications Committee. The task force includes members from across the world and is tasked with performing a systematic review, making clinical recommendations based on the findings, as well as determining gaps in knowledge for future scholarship. Various members of this task force are also involved with writing review articles for a special edition of the Current Opinion in Anesthesiology on emergency airway management in the non-operating room setting.

Similarly, several members of the education committee have been asked to contribute to a special edition of the International Anesthesiology Clinics in collaboration with other SOCCA committee members. Education Committee members will be contributing to topics including diagnosis and management of shock states, management of intraoperative cardiac arrest, and perioperative fluid management.

Thanks to the abundant and exceptional contributions from all the members of the Educational Committee, we can assure another excellent year of critical care education for SOCCA and its members.

FEATURED ARTICLE

Searching for Next Generation Leaders

Shahla Siddiqui, MD
Beth Israel Deaconess Medical Center
Boston, MA

James M. Haering, MD
Beth Israel Deaconess Medical Center
Boston, MA

Searches are often conducted within academic departments to find suitable candidates for leadership succession. This is usually done either when a vacancy emerges, following a retirement or when a new role is created. Internal searches are carried out to offer inclusion to emerging talent and add diversity to the pool of academics already holding administrative roles. Finding a good fit for a leadership role is an inexact science. Leaders know that one of their most important jobs is leadership succession, and they understand the process of identifying potential future successors is neither simple nor straightforward. They realize that leadership is a complex, multifaceted ability, with countless refinements and that the characteristics that can help a person succeed in one situation may lead to failure in another. In medicine we are often so bogged down by learning technical skills that developing cognitive processes takes a back seat. Searching for candidates for a leadership role is a challenging exercise fraught with bias and often laced with misrepresentation. Search committees have preconceived ideas about roles and may be predisposed to choose someone who conforms to an already existing mold, rather than a best fit for the role. Search team members may have unconscious biases and may lack the motivation or training to address these biases. Leaders can have a lopsided view of candidates and their abilities.

"To make matters worse, many organizations do not have the right procedures in place to produce a complete and accurate picture of their top prospects. All too often, assessments are based on hearsay, gossip, casual observation, and insufficient information."

Candidates who are in positions of authority have extensive experience, buy in from management, extensive research backgrounds and/or considerable seniority. A full range of humanistic soft skills and characteristics, such as emotional intelligence, compassion and personal integrity are best judged in a holistic manner but are often very difficult to determine. Change makers or people who think out of the box are often overlooked in favor those who conform to existing institutional culture and tradition, in other words people who will continue 'business as usual' and not those who may produce practical and successful change at the cost of some hardship. Furthermore, such decisions should be made based on a cohesive view of the candidate drawn from all perspectives held by people who have interacted with the individual in their various roles and interactions. This evaluation process, however, is often inaccurate and incomplete, leaving search committees vulnerable to pitfalls when assessing candidates. Also, stereotypic thinking often produces preconceived notions, for example, judging women of childbearing age or with small children incapable of juggling challenging roles, or deeming softer spoken women as unfit for an assertive position. Many times, women as well as men may harbor these biases about leadership roles, as they may have fixed mental images of what attributes a certain leader must personify. Search team members rarely have any training or discussion about what they must look for, how they can accomplish this and what their own introspection reveals about their biases. They may project this preference to the final evaluation they produce or even discount evidence to the contrary. At other times pressures of selection may lead to the selection of candidates based on their superficial qualities (such as demographics) and not their innate ones (such as interpersonal relationships).

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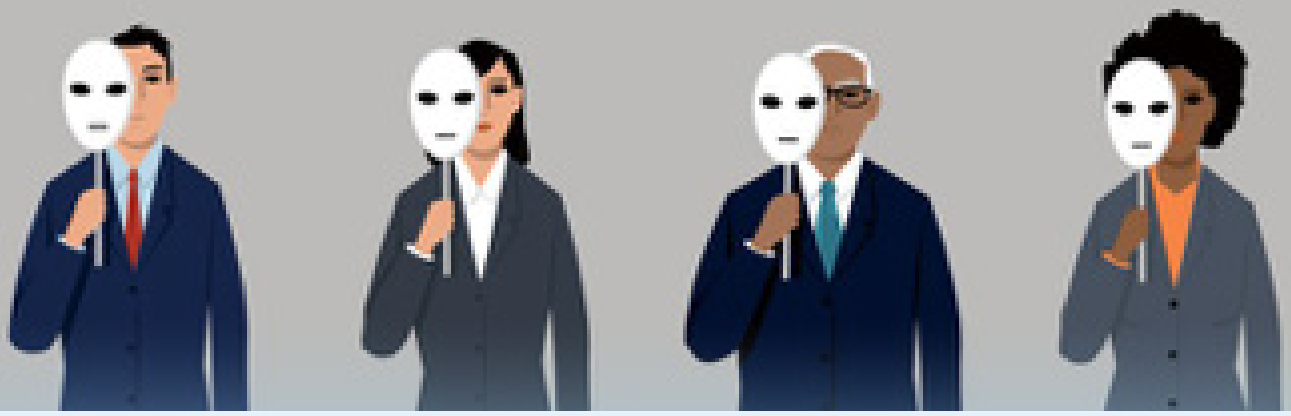

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- Having trained professionals leading or guiding such teams is essential in finding equity in leadership searches, and reduce prejudice;
- Undertaking reflective exercises prior to starting the process to recognize and 'park' personal, preconceived and/or unconscious biases about best fit candidates, either by gender or stereotype;
- Understanding the role by visualizing the day-to-day requirements rather than the grandiosity of the position;
- Performing a 360-degree evaluation by speaking to the most vulnerable of persons who have interacted with the candidates in the past, (people are often their real selves when dealing under stress with people who are not considered to have much influence on them);
- Having transparency in the process so that every member has an equal and fair voice;
- Removing the search committee lead from the actual decision making to remove personal bias and have them steer the group appropriately;
- Diversity and inclusion are essential, but it is important to remember that diversity without the capacity for inclusion is a waste of time. Building a culture and infrastructure for inclusion is important and can be done by breaking stereotypes and encouraging change;
- Exceptional leaders are willing to take risks by picking people who are unlike them—and who may even have different leadership styles. They are also willing to take a chance on untested people if they size them up and conclude they have what it takes;
- Balance the search committee team equitably so that underrepresented groups have champions who are fair and mature in decision making;
- Understanding deeply the strengths of the candidates while allowing for their weaknesses requires a growth mindset;
- Adding real life scenarios and vignettes in the interview process in addition to the 360 processes can often garner as close a reaction to actual circumstances as possible. Also, it can negate the effects of the often-scripted responses given by candidates to easily predicted queries;
- Search strategies must explore candidates or potential candidates in previously unexplored sections of the organization to allow equity and representation;
- Most importantly, leadership mentoring and sponsorship must be in the 1,3- and 5-year plans of academic departments with assistance from trained and experienced mentors. This is essential to identify, actualize and provide feedback to potential talent who may bring fresh and new perspectives, rather than simply carry on the comfort of old norms which produce the same results.

Searching for leaders for the next generation is part of successful leadership planning and a wise strategy. Leaders are not born but are developed and keeping in mind these potential candidates (even when leadership positions are not vacant), can lead to having several people in the leadership pipeline. "A leadership role is a position of designated responsibility within an organization that involves people management." Investing in interpersonal professional relationship training from an early stage helps bring forth smooth transitions as well as a wider pool of suitable candidates.

REFERENCES:

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4 Valantine H, Sandborg CI. Changing the culture of academic medicine to eliminate the gender leadership gap: 50/50 by 2020. Acad Med. 2013 Oct;88(10):1411-3. doi: 10.1097/ACM.0b013e3182a34952. PMID: 23969359; PMCID: PMC3785938.

5 Mayo and Wolley. AMA J Ethics. 2016;18(9):933-940. doi: 10.1001/journalofethics.2016.18.9.stas2-1609.

Undertaking robust research may offer professional gratification and a betterment of our specialty that cannot be gleaned from clinical excellence alone. It has to be said my journey through research has been an evolved one, catalyzed by clinical questions, collaborations, mentorship and a pursuit of an ever-sharpening question around the role of oxygen and other gasotransmitters in perioperative inflammation and critical illness. To my mind, I have been very fortunate to be in an environment at Beth Israel Deaconess Medical Center which affords academic time, mentorship and understands the committed investment it takes to develop a home-grown clinically active researcher.

Shahzad Shaefi, MD, MPH
Vice-Chair, Research Committee
Beth Israel Deaconess Medical Center
Boston, MA

In a nutshell, my laboratory focuses on the balance of pro- and anti-inflammatory properties of gasotransmitters in the perioperative and critical care setting. Gasotransmitters refer to gaseous messenger molecules involved in cell signaling, regulating many cellular functions including cytoprotection, apoptosis, inflammation and gene transcription. The established gasotransmitters identified are oxygen and nitric oxide (NO), while more recently carbon monoxide (CO) and hydrogen sulfide (H2S) have garnered greater attention.

Overall, my lab has incrementally developed important expertise in clinical, translational and basic research (Figure 1) in the field of gasotransmitters, with a particular interest in oxygen, oxygen sensing and potentially beneficial effects of carbon monoxide.

Clinical Research

I was fortunate and exceptional grateful to receive a Foundation for Anesthesia Education and Research Mentored Training Research Grant (FAER MRTG) to study the effect of differing intraoperative oxygen concentrations on postoperative neurocognition and delirium in cardiac surgical patients. This randomized controlled trial formed the basis of development of further translational work and challenged me to explore, in greater depth, the relationship of oxygen and oxygen-sensing with a more mechanistic lens.

Building from this work, we are in the midst of other projects, funded through the NIH (NIDDK R01) to examine the potential ameliorating effect of deferoxamine in attenuating acute kidney injury in cardiac surgery and have developed a track record of cardiac surgical trial involvement aiming to decrease organ injury.

Translational Research

Stemming from questions developed from initially clinically orientated research, I was fortunate to be awarded a GEMSSTAR Award from the NIH (NIA) to take a closer look at proteomic signatures of cardiac surgical patients. The aim is to develop predictive and prognostic biomarkers of delirium in cardiac surgery. Another Omics area that we have developed interest and expertise, and aided through Department of Defense funding, is examination of the

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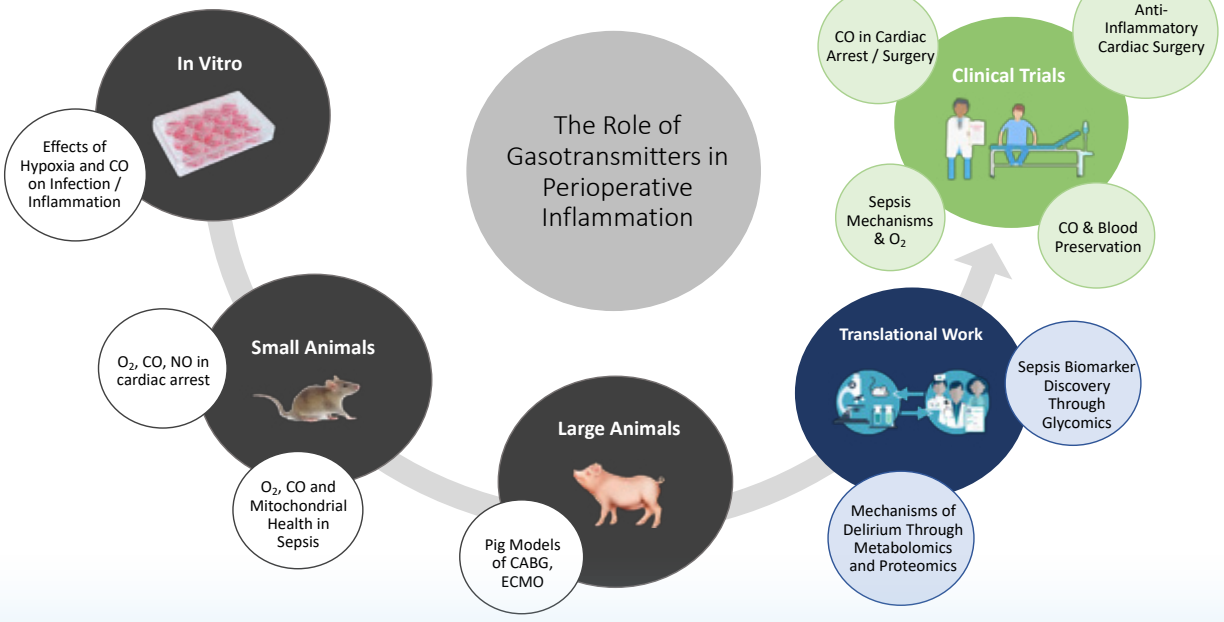
(Figure 1)



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potentially immunosuppressive phenotype seen in severe trauma. This ongoing work, through the use of a prospective observational study of blood and bronchoalveolar lavage samples in trauma vs control patients, aims to examine through advanced analytics and computational biology utilizing RNA sequencing, CyTOF and purine signaling measurement, the cellular underpinnings to immunosuppression and susceptibility to infection post traumatic injury.

Basic Research

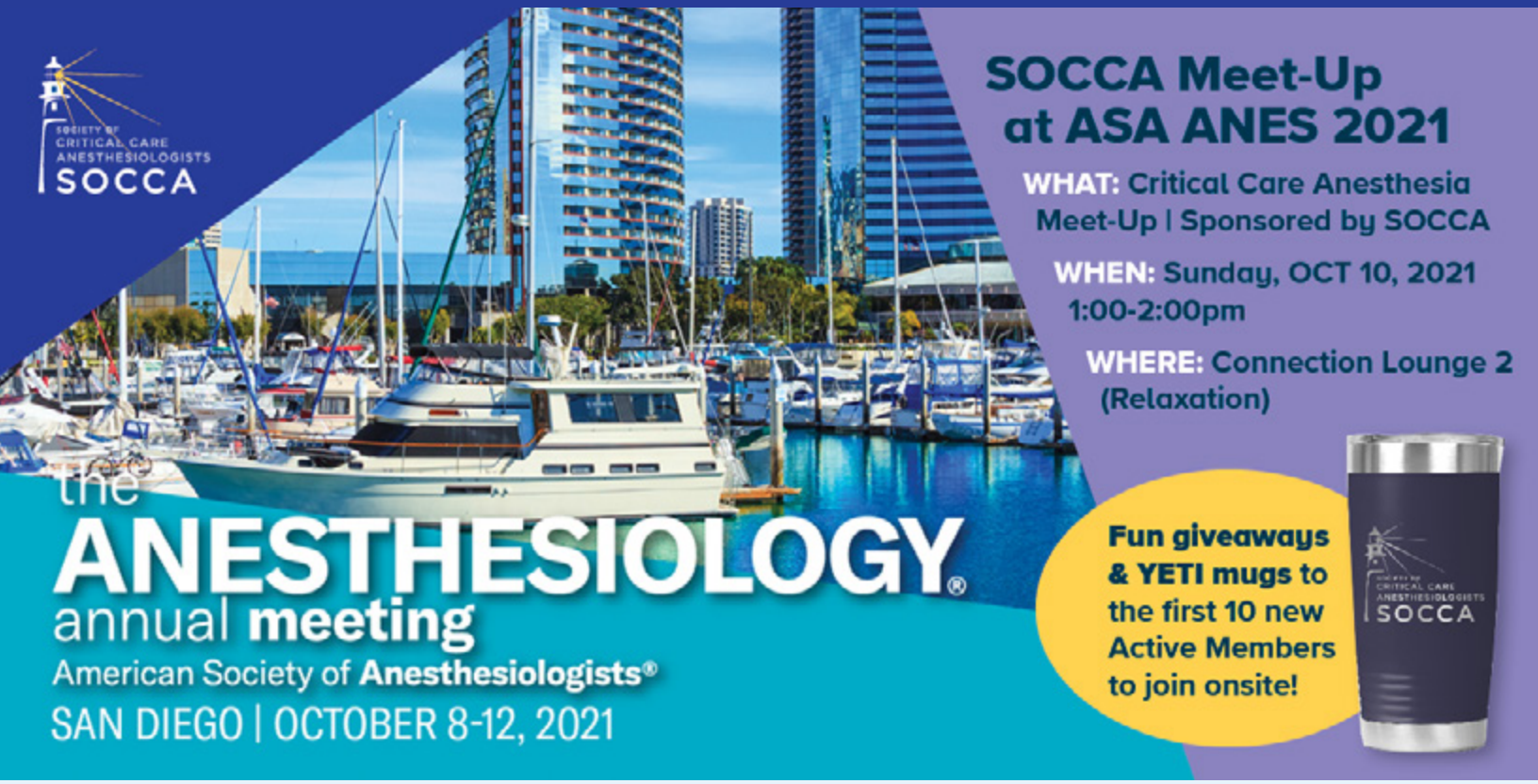
There are potential protective effects in perioperative inflammation of hypoxia, and specifically harnessing the protective cellular effects of hypoxia through cytoprotective means. One compound of particular interest is carbon monoxide, produced endogenously. Low dose CO administration exogenously in various preclinical models demonstrates often striking salutatory effects. Our basic work, funded through a K08 Career Development Grant from the NIH (NIGMS) focuses on animal models of sepsis, cardiac arrest as well as in vitro work examining cellular effects of exogenous CO administration.

Future

In time, we hope to bring further phased human studies of CO administration in various disease states, in a cautious and stepwise fashion. I look forward to continuing to develop in all these areas above to dovetail with my clinical practice of cardiac anesthesia and critical care.

I am forever indebted to my mentors, my collaborators and my lab members as we continue to explore this work through various avenues as detailed above and I invite and welcome dialogue, exchange and potential collaboration around this work from the SOCCA membership.

The Anesthesiology Annual Meeting is being held from October 8 through October 12 in San Diego! Don't miss "Critical Care Year in Review" with SOCCA's Bushra W. Taha, MD, Jonathan Charnin, MD, and Michael A. Fierro, MD—and don't forget to meet-up with SOCCA on October 10. Catch up, make plans & meet new people…and there will be SOCCA giveaways! Learn more and register today!



FEATURED ARTICLE

End of the Ice Age: Changes in Temperature Management Post Cardiac Arrest

Margo Short, MD
University of Kansas Health System
Kansas City, KS

Out of hospital cardiac arrest is a highly morbid and clinically challenging public health issue. The concept of hypothermia as a means for neuroprotection in out of hospital cardiac arrest was first introduced in rat models but wasn't investigated in human randomized controlled trials until the HACA and Bernard trials in 2002.[1-3] Although limited by small sample sizes, these trials found therapeutic hypothermia for 12 or 24 hours to be associated with improved neurologic outcome after cardiac arrest. Despite their limitations, these trials significantly affected practice management in cardiac arrest, to the extent that induced hypothermia was advocated by the American Heart Association Guidelines in 2010.[4]

In 2013 the much larger, multicenter, randomized and single blinded Targeted Temperature Management (TTM) trial compared outcomes between targeting 33 degrees Celsius and 36 degrees in 950 unconscious patients who suffered out of hospital cardiac arrest.[5] Each group underwent 28 hours of targeted temperature management followed by gradual rewarming and avoidance of fever for 72 hours. No difference in all-cause mortality was found in patients from either group at a mean follow up of 256 days. Furthermore, no difference was found in the secondary outcome of neurologic status. This was groundbreaking, because the complications of more profound hypothermia could be avoided while still reaping the neurological benefits of targeted cooling. It's worth noting that, although the TTM trial focused on out of hospital cardiac arrest, the rates of bystander CPR were extremely high, and median time to basic life support was only one minute. These encouraging results led to even more expert support, with the 2021 European Resuscitation Council guidelines recommending a target temperature of 32 to 36 degrees for 24 hours post arrest.

The Targeted Temperature Management 2 Trial (TTM2) sought to further clarify how the degree of hypothermia affects neurologic outcomes after cardiac arrest. This international, multicenter, randomized control trial studied unconscious patients with out of hospital cardiac arrest for presumed cardiac or unknown cause who subsequently had sustained ROSC. The primary outcome is all-cause mortality at 6 months. Patients were excluded if they were an unwitnessed cardiac arrest with asystole, hypothermic on admission, on ECMO before ROSC, pregnant, had an intracranial bleed, or had severe COPD on home oxygen. The study mandated that patients must be enrolled no later than 180 minutes after return of spontaneous circulation. Of the more than four thousand patients screened, 55% did meet inclusion criteria, and in the end 930 patients were in the hypothermia arm and 931 in the normothermia arm. There was no significant difference between age, sex, shockable rhythm, bystander CPR, shock on admission, time to ROSC, temperature on admission, lactate level and STEMI.

The hypothermia group studied a target temperature of 33 degrees Celsius with cooling achieved using either surface (70%) or intravascular devices (30%). A bladder temperature probe was used for continuous temperature monitoring in all patients. The rewarming phase began after 28 hours and was intentionally gradual with a 0.3 degree max increase each hour until hour 40.

The normothermia group only cooled patients who developed a temperature of 37.8 degrees Celsius or greater and targeted 37.5 degrees Celsius. Pharmacologic antipyretics were utilized prior to physical cooling. Again, a bladder temperature probe was used for continuous monitoring. Of the 46% of patients who needed to be physically cooled in this group, 69% used surface and 31% used an intravascular device.

Both groups had mandated sedation until the end of the 40-hour intervention period, with sedation medications detailed in the supplementary materials. After 96 hours, a blinded physician performed a neurological assessment, after which withdrawal of life sustaining treatments was allowed in the setting of poor neurologic prognosis.

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The primary outcome was not significantly different between the groups, with 50% of the hypothermia and 48% of the normothermia having died at 6 months. Secondary outcomes of functional status and quality of life were also not significantly different between the groups. There was a significantly higher number of arrhythmias causing hemodynamic instability in the hypothermia group, but no difference in pneumonia, sepsis, bleeding, and skin complications related to cooling devices.

This randomized controlled trial's strength lies in its size and in being as blinded as is feasible in the context of clinical intervention. The reality of ICU care is that we as clinicians have a lot of control over how aggressively to treat patients, goals of care conversations and withdrawal of care. Part of the innovative design of TTM was the timed neuro-prognostication performed by a blinded provider, in that study at 72 hours. This protocol was repeated in the TTM2 trial but on an extended timeline and likely removes bias regarding patients who may have ultimately lived but had care withdrawn early by family.

The elephant in the room is the lack of a "no treatment" group in either of the TTM trials. Overall survival of post cardiac arrest has improved over time to the current documented survival of the TTM trials' 50%, but it's unclear if this is from advances in critical care, delayed withdraw of care, or other factors. As hypothermia of either degree studied demonstrates no improvement, it certainly cannot be said that therapeutic hypothermia is playing a role in improved outcomes based on these RCT trials. Smaller studies have shown the detrimental effect of fever on post arrest outcomes, but no direct comparisons have been made between targeted normothermia and no temperature management on all-cause mortality.[6,7]

The second question that these trials leave us asking is, can the management of out of hospital cardiac arrest be extrapolated to in hospital arrest? Though in hospital arrests were not studied, both TTM and TTM2 trials had exceptionally high rates of bystander CPR, 73% and 78-82% depending on randomization respectively. The TTM2 trial does not specify median time until the start of bystander CPR, but as mentioned, the response time was incredibly fast in TTM. This gives me confidence as a provider of post arrest care that an in hospital cardiac arrest would have similar response times to the out of hospital arrests studied. Therefore, with no in hospital data on which to base my practice, I will manage in and out of hospital arrests with the same normothermic goal in mind pending new data.

The review published by Morrison that accompanied the study notes a "key takeaway" is targeted temperature management is a "crucial treatment strategy to improve outcomes."[8]

The importance of understanding that targeted temperature management does not equal therapeutic hypothermia cannot be understated. Both large RCT trials have demonstrated no improvement in survival or functional outcome with therapeutic hypothermia. In fact, both studies point out the risk of unstable arrhythmias with hypothermia, leading one to question if hypothermia should be considered therapeutic at all. With these uncertainties, it is important to study no treatment versus targeted temperature management in the future. With this new data in mind, it is also worthwhile to reconsider the strong recommendations for hypothermia currently present in our published international guidelines and standards of care.

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SOCIETY OF CRITICAL CARE ANESTHESIOLOGISTS
SOCCA

SEPTEMBER IS Women in Medicine Month!

SOCCA (the Society of Critical Care Anesthesiologists) would like to acknowledge the invaluable contributions of our female intensivists during this month and year-round.

Women face numerous challenges and perhaps even more in Critical Care.

SOCCA will continue to advocate for our female colleagues and support their salient roles in committees, educational panels and leadership positions throughout the society.

We look forward to increased female recruitment and participation in the field of Critical Care Anesthesiology.

Thanks for everything you do!

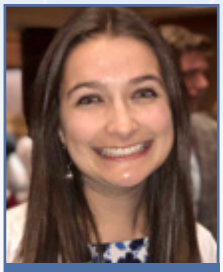
Warmly, SOCCA Board of Directors

SOCCA is dedicated to the support and development of anesthesiologists who care for critically ill patients of all types. SOCCA fosters the knowledge and practice of critical care medicine by anesthesiologists through education, research, advocacy, and community. To learn more about SOCCA, please visit: **socca.org** **@SOCCA_CritCare**

AMA celebrates women physicians, residents and students throughout the month of September—and all year. Click here to learn more.

FEATURED ARTICLE

COVID-19, the Delta Variant, and the Imposter Syndrome



Hannah Viroslav, MD
UT Southwestern Medical Center
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Imposter syndrome is the internal struggle to trust our knowledge and capability, and it follows many of us through each facet of training and career. I first experienced it in medical school. Time and experience is a good antidote, but the real remedy is mimicry; "fake it until you make it." This skill, mastered in kindergarten, resurfaced for me while watching resident and faculty mentors traverse medicine, and my classmates and I decided to emulate them. Work like them, think like them, teach like them. Truthfully, my collected mentors from medical school were some of the main reasons I chose Anesthesiology as a specialty. Over the course of residency, we transition from mimicry to autonomy. Throughout training, solo experiences in the operating room and management decisions in the ICU begin to unify our confidence with our intelligence. And as we earn responsibilities, our imposter shrinks, overtaken by the privilege of practicing medicine. We choose to study, work hard, review, and read all in order to keep our imposter at bay. But at the edge of this privilege lies burnout, where the duty begins to overtake the individual.

In the last year and a half, the shadow of COVID-19 managed to eclipse every facet of medicine in a swift manner. It introduced an eruptive, disruptive ethical responsibility of self-sacrifice for the greater good. Our mentors redeployed into COVID-19 intensive care units, operating rooms and obstetric suites. Our leaders were challenged with overwhelmed hospitals, a lack of ventilators and exhausted physicians, providers, nurses and respiratory therapists. In some parts of the country, our resident colleagues were reassigned to short-staffed specialties or drafted into the COVID-19 units. In others, such as my home program, we were lucky to be shielded until the vaccine became available. Yet, as we were all pushed into battle, an insidious change began within residencies. It was not fully realized until the resurgence of COVID-19 with the Delta variant: the pandemic shifted from sacrifice of self to sacrifice of training. Hospital systems in north Texas are once again halting elective cases and there are whispers of the same on our subspecialty rotations. I ask myself if I will have the experience and confidence to care for my future patients, hating the imposter and fearing the answer. I see young unvaccinated patients dying daily, and the unnecessary loss breaks my heart. Mindfulness and resiliency are difficult to attain.

Residency is sacred, four years of learning in a protected space with dedicated faculty. We are encouraged to fail, to build grit, to accept fault and to celebrate victories. But the ecosystem is delicate—burnout existed at every level long before our current challenges—and the introduction of a virus nearly toppled our temple. Residents may be in the operating rooms again, but the worry for emergency shut downs, or ICU capacity, or the health of our department penetrates every interaction. The mental burden every faculty carries into their day cannot be lifted as long as the pandemic continues to infect our patients, affect our families, and unpredictably alter our plans. And—perhaps illogically—the change feels permanent. The imposter is winning. With COVID-19 ripping through our training, our mentors, and the very patients we serve (many our own age), residents lose their confidence and their grit. Our mentors protected us from the virus, the vaccine protects us from the illness, but who protects us from ourselves? We desperately want to find the light at the end of this tunnel, and we want to leave the imposter behind us in the dark.

OPINIONS FROM APPLICANTS IN THE MATCH

Virtual Fellowship Interviews: An Applicant's Advice

The COVID-19 social distancing guidelines have required the fellowship programs and the applicants to adapt to the world of virtual interviewing. The virtual interviewing process has undoubtedly been an uncharted path for the vast majority of applicants and the fellowship programs. Here, I provide advice to prospective interviewees and fellowship programs on navigating the world of virtual interviewing as the virtual interviewing format is here to stay for the foreseeable future.

Jeremy C. Grate, DO
CA-3, University of Wisconsin

Advice to Future Applicants

Virtual interviews were a new experience for me as they were for many applicants. When preparing for virtual interviews, many of the same recommendations apply as for in-person interviews. You should dress in professional attire as you would for an in-person interview. Prepare yourself mentally and be ready to answer basic interview questions. Performing mock interviews with either a friend or colleague can be very beneficial. Since virtual interviews do not require travel, they are easier to schedule; however, be sure you are still taking time off and avoid scheduling interviews on workdays to avoid undue stress. Formulating questions and taking notes is always a good idea, but it is even more crucial for virtual interviews. These interviews are your opportunity to learn about the program, the city, the people and get a better sense of the program that is right for you. While taking notes is essential, be mindful of letting the interviewer know that you will be taking notes during the interview. Looking away from the screen may be perceived as a lack of interest by the interviewer.

A few things are unique to virtual interviews, such as testing your computer software, ensuring your audio and microphone are functioning, and checking/securing your internet connection. These are important to check early with plenty of time to troubleshoot if necessary. Additionally, various programs may utilize different platforms for the interviews. These may include programs such as ZOOM, Thalamus, San Francisco Match, Microsoft Teams, to name a few. So, it is essential to familiarize yourself with the platform controls and, most importantly, download the platform software well in advance of the interview day. Lastly, when the interview day has arrived, choose a quiet location without distractions with optimal lighting and background and, most importantly, have fun.

Advice to Programs

Effectively showcasing what your program offers while appealing to applicants may require some creativity with the virtual interview format. When offering interview days, make sure to keep in mind the time zones for all the United States regions. On the day of an interview, incorporating a virtual tour of the program and hospital while highlighting your program's strengths is an excellent way to open. Utilizing a PowerPoint that can be sent to applicants' post-interview, including basic information about the program, contact information, and information about the city can help applicants distinguish your program from others, which is difficult with virtual interviews. The individual interviews with faculty and current fellows should be appropriately spaced with time allotted for breaks for both the interviewer and interviewee. Having an itinerary and a facilitator to help keep the interview day organized can make for a more enjoyable experience. As for the virtual platform, it is essential that it is user-friendly and does not require the applicant to access multiple links, which can be confusing and stressful. To wrap up the interview day, it is a good idea to gather all applicants for closing remarks and to answer any last-minute questions. Considering these few recommendations along with some creativity should make for a positive and memorable experience for everyone.

Virtual Fellowship Interviews: Advantages & Disadvantages

Anne Oesterling, MD
Fellow, University of Utah

The COVID-19 pandemic has had a significant impact on critical care education and fellowship recruitment. Adherence to the social distancing guidelines required the Critical Care Fellowship applicants and the fellowship programs to adapt to the world of virtual interviewing for the 2020-2021 recruitment season. Initially, virtual interviewing was envisioned as a temporary solution to the ongoing pandemic with the hope of returning to in-person interviews for the next recruitment season. Unfortunately, virtual interviewing is likely the new norm for critical care fellowship interviewing, given the unrelenting pandemic. Given this new reality, fellowship programs must understand the advantages and disadvantages from an applicant's perspective for this new era in the fellowship recruiting process.

Advantages

The virtual interview process has many undeniable benefits for applicants, the most obvious of these being simple convenience. Most applicants are residents with neither the free time nor the schedule flexibility to accommodate interview travel. The virtual interview process helps to mitigate both of these obstacles. Instead of requiring three days away from training to fly cross country, attend the pre-interview meet & greet, interview in person the following day, and then fly back home, applicants interviewing virtually need only secure a single day off for an interview. This shorter absence also makes it substantially easier to find coverage for last-minute interview invitations. The virtual interview process also dramatically reduces interview season costs for applicants. Gone are the pricey last-minute plane tickets and multi-night hotel bills. Instead, applicants are able to interview from anywhere with an internet connection, at virtually no cost at all. Finally, one of the most controversial benefits of the virtual interview process may be that it allows applicants the chance to interview with a greater number of programs. This might initially seem counterintuitive to programs looking to screen for "serious applicants" only. However, one can only learn so much about a program from scrutinizing its website. The real connection comes from the opportunity to meet its people, and this opportunity is lost when applicants are forced to pare down an interview list from fifteen programs to five because of travel timing or expenses.

Disadvantages

Numerous benefits notwithstanding, the virtual interview process has its share of hang ups as well. Missing Zoom links, shoddy connections, unmuted microphones—these are just a small sample of the technical difficulties that beleaguer virtual applicants and programs alike. And to make matters worse, it seems that every program uses a different interview platform. So, while one applicant might know how to troubleshoot their video feed on Thalamus, they are hopelessly lost with Microsoft Teams. In addition to tech troubles, virtual interviews offer no way for applicants to get to know a program's campus or community. While it is largely true that one hospital looks much like another, the same cannot be said for the cities that surround them. The idea of making a commitment to a program without knowing anything about the place one will be living is understandably unsettling to many. Finally, and perhaps most importantly, the interpersonal aspect of interviewing is something that many find to be diminished by the virtual format. Small yet undeniably meaningful things like a welcome handshake are missing, and there is none of the relaxed camaraderie that comes from sitting down with faculty and fellows to share a meal or grab a coffee. In a way, the interview process feels somewhat dehumanized without these types of genuine face-to-face interactions, and this is something that bears meaningful consideration should programs choose to continue with the virtual interview format.

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The SOCCA 2021 Critical Care Medicine Board Review Course was offered by SOCCA over four dates in September 2021:

09/1/2021	Session 1: Neurological, Cardiac Pulmonary and Renal
09/8/2021	Session 2: Digestive and Nutrition
09/15/2021	Session 3: Heme, Infectious Disease; and Endocrine, Pregnancy
09/22/2021	Session 4: Quality/Safety, Imaging, ICU Management/ Administration, Dermatologic, Rheumatologic

This course was a live event with interactive question and answer sessions and now SOCCA Members can view recordings, onDemand. Visit the full agenda for the live program, including faculty and their session sub-topics.

The objective of the SOCCA Critical Care Medicine Board Review Course is to further prepare fellows planning to take their critical care board examination through the American Board of Anesthesiology in the fall of 2021. The course covers frequently missed topics from prior exams and other high yield, frequently tested content.

Exclusively taught by faculty that have recently taken the test themselves and can provide further insight on test preparation, trainees at any stage in their training are welcome, as well as junior faculty who want a refresher.

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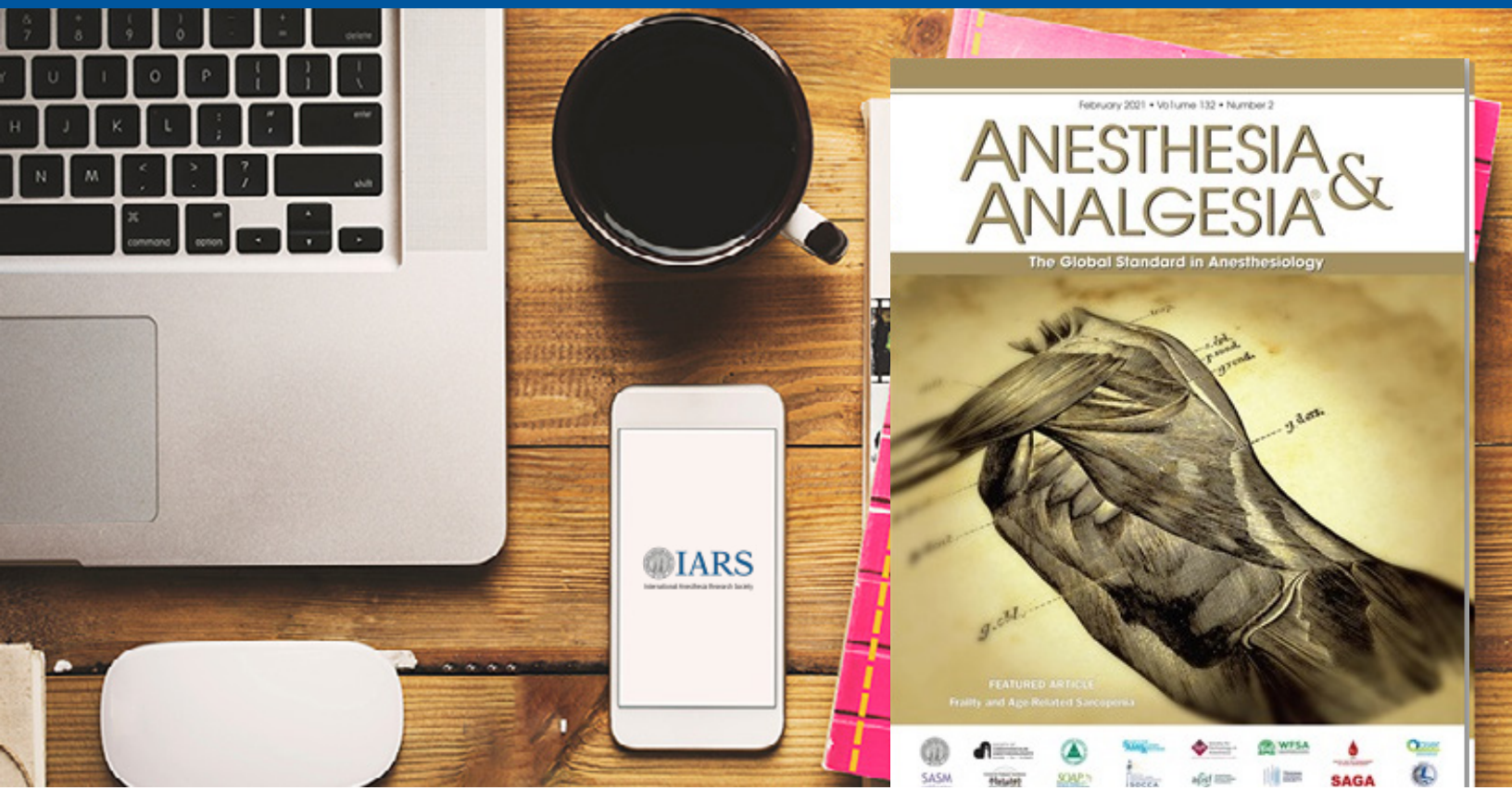

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