

UPDATE

Association of University Anesthesiologists UPDATE | WINTER 2018

PRESIDENT'S MESSAGE

The AUA 2018 Annual Meeting – co-hosted by Northwestern University Feinberg School of Medicine and The University of Chicago Medicine – in Chicago, Illinois, will soon commence. Education Advisory Board (EAB), Scientific Advisory Board (SAB), and the Host Institution Chairs, Drs. Robert R. Gaiser, Y.S. Prakash, Jeffrey L. Apfelbaum, and Charles W. Hogue, have organized a thought-provoking program addressing the latest breakthroughs and trends in academic anesthesia and the practice as a whole. For an in-depth look at the meeting, please review [the preliminary program](#).



Jeanine P. Wiener-Kronish, MD
President, AUA
 Harvard University,
 Cambridge, MA

efforts of many people, particularly Drs. Debra Schwinn, Lee Fleisher, Alex Evers, and Tony Jones. The AUA formally aligned with the IARS (International Anesthesia Research Society), and annual meetings are now co-located. There are now several joint activities between the AUA and IARS, including presentations of new science. This alignment has promoted improved networking and collaboration among international academic leaders in anesthesiology. The

Society of Critical Care Anesthesiologists (SOCCA) has also aligned its annual meeting with the IARS meeting, which has facilitated interactions between AUA members and leaders in critical care anesthesiology. Of note, the three organizations (AUA, IARS and SOCCA) now cooperate in organizing an aligned meeting day on the Saturday of their annual meetings, incorporating academic content that is of interest to members of each organization. This partial integration of the meetings has led to a substantial increase in attendees at all meetings, and increased satisfaction with the programs offered.

I recently provided an AUA update to the *ASA Monitor*. On the eve of our 2018 Annual Meeting it seems particularly fitting to share the contents of the article.

The Association of University of Anesthesiologists was started in 1953 and its first meeting was held on January 9, 1954 at the Massachusetts General Hospital. The goal was to help Anesthesiologists to network and highlight achievements in academic anesthesiology.

Over the last five years, the ability of this organization to achieve its goals has been enhanced due to the concerted

The AUA is now hosting an increasing number of faculty involved in education research, which is one of the highlights of the AUA program. The AUA gives an annual

continued on page 2

REGISTER NOW

AUA 2018 Annual Meeting April 26-27

*Hosted by Northwestern University
 Feinberg School of Medicine and
 The University of Chicago Medicine*

Hyatt Regency Chicago Hotel
 Chicago, Illinois

Early Registration Deadline: February 22

CONTENTS


President's Message	1
AUA Call for Member Nominations.....	2
Unity in Medical Practice Serves as an Inspiration	3
The New Year's Resolutions of a Committed Academic Anesthesiologist.....	6
Annual Meeting	7
April 28 is Aligned Meeting Day	10
Clinical Research Consortium: Collaborative Research Initiative for Perioperative Clinical and Translational Science Meeting	13
EAB Report: Enhancing Resilience to Decrease Burnout: One Piece of the Wellness Equation	14
SAB Report: Mesenchymal Stem Cell Transplantation: A New Way to Prevent Opioid Tolerance?	17
Statement by NAS, NAE, and NAM Presidents.....	18
AUA: Then and Now	19
In Memoriam	20
AUA Officers, Councilors-at-Large, Advisory Boards, Committees & Representatives.....	23
AUA Communications and Website Committee	24

PRESIDENT'S MESSAGE *continued from cover*

donation to FAER, as the AUA collaborates with all groups that foster the careers of academic anesthesiologists. Most recently attention has been paid to younger academic faculty and trainees, and anesthesiology scholars with diverse backgrounds and interests formed the early-Stage Anesthesiology Scholars (eSAS) group. Drs. Mashour and Avidan obtained an NIH R13 grant to promote the success of anesthesiology scholars through meetings and mentorship. A Scholars' Program now occurs annually during the AUA/IARS/SOCCA meeting and is open to scholars associated with all three organizations. The AUA has also opened its doors to a new category of membership, called associate members. These are early stage faculty on training grants, or grant holders from FAER, IARS or other organizations. This associate membership group reflects the investment of the AUA in the future of academic anesthesiology. There are now 83 associate members in the AUA, and they have certainly injected new energy into the organization. National consortiums have been created to help these young faculty network and succeed in their academic careers. The number of NIH training grants in Anesthesiology has doubled over the last 10 years. This is a sign

of the increased interest in and commitment to research in our field. Anesthesiologists today are as successful as Medicine and Surgery applicants in obtaining NIH funding.

Finally, the AUA is attempting to increase clinical research in our field by offering three \$15,000 prizes for project proposals. A panel of judges has been assembled that reflects experts in clinical research in anesthesiology, and the hope is to create a national consortium of programs that can undertake world-class clinical research. Dr. Avidan has been instrumental in creating this program, which will begin on May 1, 2018 at the IARS meeting.

The AUA/IARS/SOCCA meetings are devoted to highlighting the science of translational and clinical research, and education advances in our field. The 2018 meetings feature scientific projects on sepsis, mitochondria, machine learning, and evidence-based education. The goal is to make the meetings an essential destination for all those committed to the future of the specialty. 

AUA CALL FOR MEMBER NOMINATIONS: NEW ONLINE NOMINATIONS FORM SUBMIT CANDIDATES TO AUA BY APRIL 15!

QUALIFICATION FOR MEMBERSHIP:

ACTIVE MEMBERSHIP:

- An individual who occupies and has occupied a faculty position in anesthesiology in a medical school or its affiliated teaching hospital for at least twenty-four months, following completion of residency training in anesthesiology; or
- An individual whose work as an anesthesiologist, teacher, or investigator has demonstrated success in academic anesthesia or an individual who has shown a continued productive interest in and contribution to academic anesthesia.

AFFILIATE MEMBERSHIP:

- An individual who has made distinguished contributions to academic anesthesiology, but does not have a primary faculty appointment.

ASSOCIATE MEMBERSHIP:

- An individual who holds a faculty position in anesthesiology in a medical school or its affiliate teaching hospital and who has been approved for funding for a K or R-Type Grant from NIH, FAER, AHA, APSF, IARS, or non-U.S. equivalents.
- Must be nominated by a department chair.

NOMINATIONS FOR AUA MEMBERSHIP ACCEPTED ONLINE!

Steps to nominate a member using the online form:

1. Review the [AUA Nominations Guidelines](#) prior to submitting a nomination.
2. Write nomination letter and obtain nominee CV.
3. If nominating an Associate Member, obtain Current Research Funding information.
4. Complete the [AUA Nominations Form](#) and upload nomination letter and nominee CV.

NOTE: We are no longer accepting nominations via email to ensure we capture accurate information.

International nominees are welcome for all three membership types. To learn more about the nomination requirements, please see the [AUA Member Nominations Guidelines](#).

For questions or concerns, email Vivian Abalama, CAE at vabalama@iars.org

FEATURE

Unity in Medical Practice Serves as an Inspiration

PREFACE

In this issue of AUA Update, Professor Idit Matot, who is a leader of the academic anesthesiology community from Israel, has written an article focusing on unity in medical practice in the region. Although it is not the main thrust of the piece, the article does touch on the controversial decision by the current U.S. president to move the U.S. embassy to Jerusalem. We hope that this controversy will not detract from the spirit of the article. The author's intention was to write a motivational piece, showcasing some of the inspiring medical work conducted in Israel. The theme underpinning the article is that the health-care system "in Israel recognizes no ethnic or religious boundaries." A major incentive is also to foster collaboration between Israeli institutions and other academic institutions around the world.

The AUA is a non-political organization, and the leadership of the AUA recognizes that our members have diverse political perspectives. There might be AUA members who agree with the president's decision regarding the embassy, and there are also probably AUA members who are strongly opposed. As an organization, the AUA takes no position on this controversy. Regardless, we believe that this article on the healthcare system in Israel, highlighting cooperation among those with different backgrounds, will be of interest to our members. We welcome articles from **any** academic anesthesia program **in any country** in the world. Please send us articles about your academic medical practice.

Unity, to be real, must stand the severest strain without breaking — Mahatma Gandhi

President Donald Trump officially declared U.S. recognition of Jerusalem as the capital of Israel and plans to relocate the U.S. embassy from Tel Aviv to Jerusalem. While this declaration, not unexpectedly provoked polarized reactions, some of which debate the mere existence of Jerusalem as the undivided capital of the Jewish state, the facts with respect to medical practice, service and education indeed reflect a unified city of Jerusalem.

The health-care system in Israel recognizes no ethnic or religious boundaries, with admirable cooperation between Israeli Arabs and Israeli Jews. Medical care provided in Jerusalem is guided only by the principle of maintaining health and saving lives. Jerusalem is one-undivided city treating Jews, Christian and Muslims alike. Multi-level efforts are carried out to supply the entire population of Jerusalem with the most advanced medical therapy (in the community, in the hospitals and by the emergency systems) and educational programs.



Idit Matot, MD
Professor and Chair
Division of Anesthesia,
Intensive Care,
Pain Management
Tel Aviv Medical Center
Tel Aviv, Israel



From left, ultra-Orthodox, secular Jewish and Arab volunteers from United Hatzalah working together.

Photo courtesy of United Hatzalah



Magen David Adom senior paramedic Ziad Dawiyat.

Photo courtesy of MDA

The best, but not only example, is Israel's first-responders that form a kaleidoscope of cultures. Israeli civilian emergency units, Magen David Adom (MDA, Israel's primary emergency medical services), United Hatzalah ("united rescue", a free, volunteer-based emergency medical service organization based in Jerusalem) and ZAKA (voluntary community emergency response teams assisting primarily to identify victims of disasters, accidents, terrorism) employ Jewish (orthodox and secular), Muslim, Christian, and a few Druse volunteers to aid victims of accidents, terrorism and illness.

A security camera at the Jerusalem headquarters of United Hatzalah, on November 2017 spotted two command volunteers Eliyahu Cholak and Muhammad Salah – side by side, each of them in black trousers and white shirts, one a Jew and the other a Muslim praying. As noted by United Hatzalah president and founder Eli Beer and reported by Judy Siegel-Itzkovich from the Jerusalem Post: "Here, cooperation and friendships are formed by people of different faiths working together to achieve a common goal. They've learned how to put their differences aside and work together."



Jewish and Muslim volunteers of United Hatzalah pray next each other

Photo courtesy of United Hatzalah

Also, during a wave of terror attacks, an MDA crew consisting of the ultra-Orthodox men Yisrael Arbus and Haggai Bar-Tov and

continued on page 4

FEATURE

Unity in Medical Practice Serves as an Inspiration *continued from page 3*

Fadi Dikdik from Shuafat, an Arab neighborhood of Jerusalem, told a Yedioth Ahronoth (newspaper) reporter, “We are like brothers.” Dikdik is responsible for the whole East Jerusalem area for MDA and speaks Arabic, Hebrew, English, Yiddish and Russian. He has worked with MDA for many years and recruits teens from Shuafat to take MDA’s first-aid course. Two initiatives by MDA give further evidence of the unity between Israelis and Arabs characteristic of the medical services in Jerusalem. The MDA Jerusalem station is home to a unique, moving course. Weekly, the station hosts participants of the MDA EMT and Ambulance Drivers’ course. Soon, these first-responders will become an inseparable part of MDA volunteers operating in the capital. The uniqueness of the course stems from the fact that all of its participants belong to the Arab sector, residents of Eastern Jerusalem. As of February 2017 MDA initiated Arabic-language courses to volunteers in Jerusalem in order to better serve the city’s Arabic-speaking population. This initiative, which was proposed by MDA medic Ziad Jaadla, is an additional step forward to bridge cultures and promote collaboration.

At a recent Knesset (2016) ceremony saluting Israel’s emergency medical first-responders and search-and-rescue personnel, Parliamentarian Yehudah Glick, who survived an Arab shooting attack several years ago, spontaneously climbed onto the podium to embrace Kabahah Muawhiya, an Arab-Israeli volunteer EMT with national volunteer emergency medical services organization United Hatzalah of Israel. “United

Hatzalah is not just about emergency first response and medical rescuing, but it is literally uniting people from different walks of life and different religions,” Muawhiya told the Knesset members. Recently, ZAKA held a three-day disaster preparedness training course for Israeli and Palestinian volunteers under the auspices of the

Ministry for Regional Cooperation, in partnership with the Palestinian volunteer organization Green Land Society for Health Development.

These instances are by no means unique examples of Israeli — Arab collaboration in medical treatment in Jerusalem. Referral to Israeli hospitals for medical and surgical care not available locally continues on a wide scale. Both Hadassah and Shaarei Tzedek medical centers,

the two major hospitals in Jerusalem, have long track records of treating Arabic patients. Hundreds of thousands of patients — local Arabs from Jerusalem and its vicinity, Palestinians, women in labor and children are treated in both hospitals. Seventy percent of the children undergoing dialysis in Shaarei Tzedek are Arabs, and about a quarter to one third of hospitalizations



Photo courtesy of Shaarei Tzedek



Photo Courtesy of United Hatzalah

in both hospitals come from the Arab population in the city. Even when it comes to transplants, people from different nationalities and religions donate their organs willingly – and this demonstrates best what human brotherhood is all about. For example, after four years on dialysis waiting for a kidney transplant, a 41-year-old man from Bethlehem received a new kidney from an Israeli family whose son, 38 years old, had been declared brain dead following stroke. The successful procedure was conducted at Hadassah-Ein Kerem. Other examples: 152 injured patients were transferred from the Palestinians authorities to Hadassah Ein Kerem for treatment during the years 2015-17, with additional 52 injured suspects of terrorism that suffered injury (data from Prof Rivkind).

The workforce in both Hadassah and Shaarei Tzedek – physicians, nurses, administrators etc – also reflect the population of the city – all work in harmony and united in their work for the sake of the patients. Additionally, professional medical training (in part through The Peres Center for Peace), for Palestinian doctors, nurses, and paramedics is taking place through residency/ fellowship programs, training sessions, different medical courses and medical conferences.

Physicians are professionally and legally obligated to help those in medical need regardless of the patient’s political status.

continued on page 5

Photo by Aharon Crown/United Hatzalah



Photo courtesy of Balinko



FEATURE

Unity in Medical Practice Serves as an Inspiration *continued from page 4*

The care rendered by all the professionals involved is free of prejudice because the medical professional code mandates that we rise above our personal biases. This has long been the practice in Jerusalem.

About 3,000 years ago, King David conquered Jerusalem from the Jebusites and established the capital of his kingdom there. The city continued as the capital of the kingdom for 400 years, until its first destruction at the hands of the Babylonians in 586/7 BCE. This period is known as the First Temple period, and is documented in the Biblical books of Samuel, Kings, Chronicles and the various prophets. A clay seal from the First Temple Period, inscribed in ancient Hebrew script, was unearthed in the




2,700-Year-Old "Jerusalem Governor" Seal Found Near Western Wall

Israel Antiquities Authority excavations at the Western Wall Plaza in Jerusalem this month. According to the excavator, Dr. Shlomit Weksler-Bdolah, "the Bible mentions two governors of Jerusalem, and this finding reveals that such a position was actually held by someone in the city some 2700 years ago." In the Bible, the role of "governor of Jerusalem" appears several times. In

Kings I, Joshua is listed as the governor of the city in the days of Hezekiah, and in Chronicles II, Maaseiah is noted as governor

of the city in the days of Josiah. In 2015, a rare 3,000-year-old clay seal, from the time of King David in the 10th century BCE was discovered by a 10-year-old Russian volunteer at Jerusalem's Temple Mount Sifting Project in 2015. Jerusalem is also a sacred site in Islamic and Christian tradition. Born in 570 AD, Prophet Muhammad founded the Islam, and the Dome of the Rock, an Islamic sacred shrine in Jerusalem, built on the Temple Mount, is the third holiest site in Islam, after the mosques of al-Haram in Mecca and al-Nabawi in Medina. It is believed this is where Muhammad ascended into heaven and was given the second pillar of Islam, to pray five times a day, from Allah, which is still used today. Jerusalem is the sacred heart of the Christian story. This was where Christ preached, ate the Last Supper with his disciples before his death, where he was arrested, put on trial, condemned to death, crucified, and died. It is where his tomb was found empty and he rose from the dead. Jerusalem, then, is a place of deep sorrow, utter desolation but also of hope and redemption. The city of Jerusalem is one of the oldest cities in the world, full of fascinating historical sites that are constantly being re-discovered because of the continuous archeological efforts in many of them. I invite you to explore Jerusalem and unfold the many layers, and on a personal level – I encourage you to use my email for personal advice for your tour. If you wish to combine your visit with a professional one – you are more than invited to pay a visit to my department.

The unity seen in medical practice can be a model and inspiration for unity and collaboration between cultures and sub-populations of the Middle East in all areas of life. 

CALL FOR ARTICLES FOR THE SPRING ISSUE OF AUA UPDATE



If you have an idea for an article, an announcement, or an opinion on a recently published article, please submit your proposal/article to Dr. Lisa Wise-Faberowski, MD, lwf1212@stanford.edu before Friday, April 13, 2018. If your article is selected for the Spring Issue of Update 2018, we will contact you for editing and formatting!

We cannot do
what we do
without you.

Please
donate today.

SmartTots

The New Year's Resolutions of a Committed Academic Anesthesiologist

Right around January 1, as I'm making the impossibly long list of New Year's resolutions, I'll take the opportunity to reflect, as I always do at this time of the year, upon how satisfying and varying this career has been.


Many of us, as leaders in academic anesthesia, have traveled similar paths. Our altruistic approach of what the journey is and what it takes to get there is driven in part by external forces; however, it is our innate desire to continue pursue excellence in all that we do.

Like you, my definition of excellence and what I intend to do next has had similar undertones throughout the various phases of my career:

- I should eat better, lose some weight and get some exercise. I definitely want to be around to savor the results of all this hard work.
- I should definitely be a more attentive parent. Time flies – it seems the kids were little just a few papers ago.
- I should stay off my phone when the family is around. Besides, it's getting harder to read the display.
- I should definitely take this year to be a more connected and loving spouse.
- I should definitely take a good vacation this year. Meetings are fun, but vacation would be so nice!
- This year, I should resurrect a hobby!
- I'll start meditating.
- I should reconnect with what made me want to be an anesthesiologist in the first place.
- This year, I will definitely do more clinical work. It's great to reconnect with one patient at a time. It's a true honor to be invited into the lives of individuals at such a critical time. The ability to make a difference, one patient at a time is so immensely rewarding, and so important to the patient and their family.
- I should work more on continuing professional development.
- This year, I will re-commit myself to education. The opportunity to educate future generations is so important! Being able to positively impact our trainees, and, through them, thousands of future patients is an amazing opportunity and educating future anesthesiologists is a core mission.
- I'll refresh my resident lectures.
- This year, I will definitely complete my resident evaluations on time. Timely, candid, actionable feedback is important for helping the residents I educate really learn the concepts of clinical anesthesia.
- I should definitely be better about returning every email promptly.
- This year, I will rekindle my science program. Creating new knowledge that improves the specialty is a true calling. By improving our science, academic anesthesiologists can positively impact thousands of current and future patients. This is what they mean by leverage!
- I should work on being a more responsive and supportive mentor.
- I should learn more about implicit bias and implement processes in my own conduct to minimize its impact on others around me as a result of the decisions I make.
- I will be kinder to the other people I work with, and more attentive to the impact my moods, words and actions have on them.
- I will work harder to project a positive attitude at work and to view events and people's actions in a positive light.
- I will deliberately practice professionalism.
- I will be thoughtful and generous with philanthropy. In particular, I will support the organizations that support early career academic anesthesiologists.
- It's definitely time to take advocacy seriously, everywhere from local to nationally. Too many policy initiatives are swirling around to not be engaged. Engagement through advocacy and leadership participation are fundamental elements of professionalism.
- I'll attend my state society meeting.
- I will take hand hygiene seriously – not just for myself, but for the others around me. I will serve as an exemplar, and not be afraid to challenge others when they miss hand hygiene opportunities.
- This year, I will work hard to make a personal connection with each and every patient. I'll sit at their level, learn their name, and leave them a way to contact me when we're done conversing.
- This year, I will definitely be careful about the cost of the care I provide.
- I will thoughtfully follow my department's ERAS protocols, make exceptions when important in tailoring care to unique patient needs, and suggest scientifically grounded ways to improve those protocols.
- I'll make time to read all of the literature in my field as it appears.



Warren S. Sandberg, MD, PhD
Professor & Chair
Department of
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Nashville, Tennessee

No two years have been the same, and while failure to keep even a few of these resolutions is inevitable, reflection on each prior year's events shows many things a little better, a little sharper, a little more consistent, or just plain new and different than the year before. This constant change and development is the true gift of being an academic anesthesiologist. 

**A THOUGHT-PROVOKING PROGRAM ADDRESSING
THE LATEST BREAKTHROUGHS AND TRENDS IN
ACADEMIC ANESTHESIA AND THE PRACTICE AS A WHOLE**

REGISTER NOW

**AUA 2018 Annual Meeting
April 26-27, 2018**

Hyatt Regency Chicago, Chicago, Illinois

*Hosted by Northwestern University Feinberg School of Medicine
and The University of Chicago School of Medicine*





WELCOME

Welcome to the AUA 2018 Annual Meeting, co-hosted by Northwestern University Feinberg School of Medicine and The University of Chicago Medicine, in Chicago, Illinois. The Education Advisory Board (EAB), Scientific Advisory Board (SAB), and the Host Institution Chairs, Drs. Robert R. Gaiser, Y.S. Prakash, Jeffrey L. Apfelbaum, and Charles W. Hogue, have organized a thought-provoking program addressing the latest breakthroughs and trends in academic anesthesia and the practice as a whole.

Here are some of the highlights of this year's Annual Meeting:

THURSDAY, APRIL 26

The **EAB Program Session I: *Motivation, Metacognition, and Self-Regulation*** will discuss the scientific applications of motivation, metacognition, and self-regulation in academic anesthesia. **Scientific Advisory Board (SAB) Oral Sessions I and II** will cover original research findings in the clinic and laboratory. Be present for the first of two **Moderated Poster Discussion Sessions** to discuss and exchange ideas with the leading experts in anesthesia education and research. The **President's Panel** will address sepsis with ***Sepsis Revisited — Important Updates***. Remember to sign-up to attend the **Social Event Reception**, hosted by Northwestern University Feinberg School of Medicine and The University of Chicago Medicine, at The Art Institute of Chicago.

FRIDAY, APRIL 27

Host Program Panels I and II will highlight pioneering programs offered at Northwestern University Feinberg School of Medicine and The University of Chicago Medicine. Topics for the **EAB Program Panel II: *The Science of Longitudinal Assessment*** will include ***Knowledge Over the Continuum, Information as a Pedagogical Tool, and The Effect of Time on Technical Skills***. Join your colleagues for the second **Moderated Poster Discussion Session** and learn about the latest research shaping the future of anesthesiology at the **SAB Oral Sessions III and IV**.

I encourage you to stay an additional day to attend the education sessions at the 2018 Aligned Meeting Day, available complimentary with your AUA registration fee.

SATURDAY, APRIL 28 **Aligned Meeting Day at the IARS Annual Meeting**

Aligned Meeting Day Sessions include:

- 7:30am–9:00am **T.H. Seldon Memorial Lecture:**
Personalizing Health Care in the Era of Big Data with Dr. Jeffrey R. Balser
- 9:30am–12:00pm **Alignment Symposium:**
Mitochondria and Bioenergetics in Health and Disease: It's Not Just A Power Failure
- 9:30am–6:10pm **IARS Scholars' Program** – *Requires an additional \$50 fee*
- 12:00pm–1:00pm **Problem-Based Learning Discussion:**
AUA: Why Study Time Doesn't Always Lead to Learning: How Do We Help the Struggling Trainee?
- 4:00pm–5:00pm **Problem-Based Learning Discussion: AUA: Getting to the Heart of the Matter: Perioperative-Focused Cardiac and Pulmonary Ultrasound, and The Hemodynamically Unstable Patient**
- 6:00pm–7:30pm **IARS, AUA, and SOCCA Alignment Reception**

This stimulating program offers opportunities to connect with your colleagues in anesthesiology. I am confident that you will find this meeting to be a rewarding experience. Make sure to explore and enjoy your time in the beautiful city of Chicago!

Sincerely,



Jeanine P. Wiener-Kronish, MD

President, Association of University Anesthesiologists (AUA)

FROM OUR HOSTS

Welcome from Northwestern University Feinberg School of Medicine and The University of Chicago Medicine



Jeffrey L. Apfelbaum, MD

Dear Colleagues:

The Northwestern University Feinberg School of Medicine and The University of Chicago Medicine are delighted to host the AUA 2018 Annual Meeting. The Host Committee and AUA Leadership have assembled a dynamic program, and certainly hope you will find the meeting impactful and rewarding, and make the most out of your visit to Chicago, Illinois.

Chicago, the third-most populous city in the U.S., is an incubator for innovation, education, and cultural diversity. Home of some of the world's largest skyscrapers, art institutions, colorful neighborhoods, and cuisine, there are endless attractions to see. Take a tour of the historic 110-story Willis Tower and visit the Field Museum, Museum of Contemporary Art, or the Adler Planetarium. Entice your taste buds and treat yourself by dining at the best restaurants in Chicago. Feel welcome to explore and learn from the wonderful city of Chicago.



Charles W. Hogue, MD

As a world-class research institution and a neighborhood health care provider, The University of Chicago serves as a leader in addressing the world's most pressing medical, ethical, political, and economic challenges. This year, Drs. Laurie Zoloth and Wendy L. Freedman will speak during the Host Program Panel, and will provide valuable insight into their experiences at The University of Chicago. Dr. Zoloth is an internationally recognized leader in religious studies, spanning research specialties in bioethics and Jewish studies. Dr. Freedman is a world-renowned astronomer and cosmologist who has served as co-leader of the Hubble Space Telescope Key Project and initiated the Giant Magellan Telescope Project.

The Northwestern University Feinberg School of Medicine is a leader in research initiatives and global outlook, committed to improving human health through education and discovery. At this year's meeting, the Host Program Panel speakers, Drs. A. Vania Apkarian and John Rogers, will share their knowledge from the Northwestern University Feinberg School of Medicine, presenting on Brain Mechanisms of Chronic Pain and Novel Therapeutic Opportunities and Wireless Skin-Like Sensors of Physiological Status. Dr. Apkarian has studied pain over twenty years becoming one of the most highly funded researchers in this field. His work addresses important neuroscience concerns including cortical dynamics of pain as well as brain plasticity. Dr. Rogers' research seeks to discover the fundamental characteristics of "soft" materials and aims to control and induce novel electronic and photonic responses in these materials.

Thank you for your attendance at this important meeting. We look forward to seeing you in Chicago, Illinois!

Sincerely,

Handwritten signature of Jeffrey L. Apfelbaum, MD.

Jeffrey L. Apfelbaum, MD
Professor of Anesthesia & Critical Care;
Chair, Department of Anesthesia & Critical Care
The University of Chicago Medicine
Co-Chair, Host Institution, AUA 2018 Annual Meeting

Handwritten signature of Charles W. Hogue, MD.

Charles W. Hogue, MD
Chair, Department of Anesthesiology;
James E. Eckenhoff, Professor of Anesthesiology,
Northwestern University Feinberg School of Medicine
Co-Chair, Host Institution, AUA 2018 Annual Meeting

IARS, AUA & SOCCA ANNUAL MEETINGS TOGETHER IN ONE LOCATION – HYATT REGENCY CHICAGO!

AUA 2018 ANNUAL MEETING • THURSDAY, APRIL 26 – FRIDAY, APRIL 27

Engage with the leaders in academic anesthesiology and take away valuable tools designed to enhance your practice at the AUA 2018 Annual Meeting, April 26-27, in Chicago, Illinois, then stay through Saturday, April 28, for the Aligned Meeting Day, available complimentary to AUA registrants. Review the intricacies of *Motivation, Metacognition, and Self-Regulation in Education*, investigate *The Science of Longitudinal Assessment*, and discuss the latest in *Sepsis Revisited – Important Updates* at the President's Panel. Learn what makes the Host Program Institutions, Northwestern University Feinberg School of Medicine and The University of Chicago Medicine, unique. Plus, discover original research during two days of Scientific Advisory Board (SAB) Oral Sessions and Moderated Poster Discussion Sessions.

SOCCA 2018 ANNUAL MEETING AND CRITICAL CARE UPDATE • FRIDAY, APRIL 27

Join the leaders in critical care anesthesiology at the SOCCA 2018 Annual Meeting and Critical Care Update, Friday, April 27, in Chicago, Illinois, to explore current practices in critical care anesthesia and focus on new discoveries in critical care research and education. Program topics include *Metabolic Support for the Postoperative Patient in the ICU*, *Enhancing Recovery from Critical Illness and Life Thereafter*, *Wellness for the Anesthesiologist-Intensivist*, and *Innovative Uses of Ultrasound in the ICU*. Plus, stay an extra day for the IARS Aligned Meeting Day and SOCCA Focus on Critical Care Day on Saturday, April 28,

IARS ALIGNED MEETING DAY AND SOCCA FOCUS ON CRITICAL CARE DAY • SATURDAY, APRIL 28

The attendees of the IARS, AUA and SOCCA Annual Meetings will have the opportunity to take advantage of a special Aligned Meeting and SOCCA Focus on Critical Care Day on Saturday, April 28. The thought leaders in academic anesthesiology will present a wide selection of robust education sessions highlighting pioneering topics in anesthesia and celebrating advances in education, science, research and the art of anesthesiology.

IARS Aligned Meeting Day Sessions

7:30 am – 9:00 am: **Opening General Session and T.H. Seldon Memorial Lecture:**
Personalizing Health Care in the Era of Big Data
with Dr. Jeffrey R. Balsler

Over the past two decades, Dr. Balsler has guided expansion of Vanderbilt University School of Medicine research programs in personalized medicine, human subjects research, and population health, moving Vanderbilt University School of Medicine's ranking to eighth in the nation among U.S. medical schools in total grant support provided through the National Institutes of Health (NIH).

9:30 am – 12:00 pm: **Symposium: AUA: *Mitochondria and Bioenergetics in Health and Disease: It's Not Just a Power Failure!***
with Drs. Paul S. Brookes, Elizabeth A. Jonas, Y.S. Prakash, Douglas L. Rothman, and Douglas C. Wallace

This invigorating symposium will highlight important questions relating to mitochondria and bioenergetics that impact the perioperative environment. Examine the roles of altered mitochondrial structure and function as well as bioenergetics and unintended consequences of drugs or other interventions on mitochondria and bioenergetics and how this may help improve and individualize patient care.

12:00 pm – 1:00 pm: **Problem-Based Learning Discussion: AUA: *Why Study Time Doesn't Always Lead to Learning: How Do We Help the Struggling Trainee?***
with Drs. Ersne Eromo and Daniel Saddawi-Konefka

This hands-on session will provide various self-study methods available to trainees, including relative effectiveness of each technique, offering an approach to unpack a trainee's study habits and to prepare a study plan for a hypothetical trainee that combines effective learning modalities.

continued on page 11

IARS ALIGNED MEETING DAY AND SOCCA FOCUS ON CRITICAL CARE DAY • SATURDAY, APRIL 28

4:00 pm – 5:00 pm: **Problem-Based Learning Discussion: AUA: Getting to the Heart of the Matter: Perioperative Focused Cardiac and Pulmonary Ultrasound, and The Hemodynamically Unstable Patient**
with Drs. Alexander S. Kuo and Abraham Sonny

Evaluate the role of anesthesiologist-performed focused cardiac and pulmonary ultrasound in the perioperative period and the role of focused ultrasound in hemodynamic assessment for guiding diagnosis and management of undifferentiated shock.

SOCCA Focus on Critical Care Day Sessions

9:30 am – 10:30 am: **Problem-Based Learning Discussion: SOCCA: To Intubate or Not: Management of Post-Operative Acute Respiratory Failure**
with Dr. Kunal Karamchandani

Management of postoperative acute respiratory failure can be challenging. Early recognition and prompt treatment is critical to prevent significant morbidity and mortality. In this case-based session, discuss the principles and utility of non-invasive ventilation (NIV) and high flow nasal cannula (HFNC) in the management of acute hypoxic respiratory failure.

11:15 am – 12:00 pm: **Review Course Lecture: SOCCA: The Tele-Vision: Taking Care to the Patient and Expanding the Scope of the Intensivist**
with Dr. Liza M. Weavind

The reality of virtual care is upon us, and it is our responsibility as intensivists to maximize the potential of telemedicine to leverage ourselves and provide care to an ever widening circle of patients, not limited to the critically ill in our ICU's. Our patients may be acutely deteriorating on a non-monitored floor or being evaluated in an ED. Our input as intensivists, in real time, in remote geographic locations, within or outside of the hospital may be lifesaving. Utilizing telemedicine to take critical care to the patient, rather than bringing the patient to the ICU, should be our goal.

2:00 pm – 3:00 pm: **Problem-Based Learning Discussion: SOCCA: The Sweet Escape: A Complicated Case of DKA**
with Dr. George W. Williams, II

Join this exciting discussion and examine an intriguing case of diabetic ketoacidosis (DKA). Evaluate a case of a middle-aged man who presents with a preliminarily negative cardiac workup and yet has chest pain. Endocrine, renal and infectious diseases come into play in this real case.

4:00 pm – 5:00 pm: **Problem-Based Learning Discussion: SOCCA: Perioperative Renal Replacement Therapy for the Anesthesiologist: Does It Make A Difference?**
with Dr. Dragos Galusca

Anesthetic management of high-risk patients undergoing major hepatic surgery can involve the use of perioperative renal replacement therapy (RRT). Examine the risk factors and etiology of renal injury for patients undergoing major (hepatic) surgery during this discussion session.

5:00 pm – 5:45 pm: **Review Course Lecture: SOCCA: Heart Failure with Preserved Ejection Fraction (HFpEF) as a Perioperative Risk**
with Dr. Aalok Kacha

Heart failure with preserved ejection fraction (HFpEF) accounts for approximately 50% of cases of heart failure. HFpEF confers an increased risk of perioperative morbidity and mortality. Assess how the phenotypes, evaluation, and management of HFpEF is important for the perioperative physician given the increasing prevalence of ICUs.

Plus, A Bonus Focus on Critical Care Session on Sunday, April 29, Complimentary for SOCCA Attendees:

4:00 pm – 5:30 pm: **Panel: SOCCA: 50 Years of ARDS: An Update**
with Drs. Kunal Karamchandani, Brian Kavanagh, Daniel S. Talmor, Avery Tung, and Michael H. Wall

Despite heightened awareness and extensive research related to ARDS over the last 50 years, ARDS represents an important public health problem globally and is associated with a mortality rate of approximately 40%. ARDS continues to be under-recognized and under-treated in terms of the use of optimal, proven, or recommended approaches to mechanical ventilation. Attend this panel and discover strategies to prevent and treat ARDS.

continued on page 12

SCHOLARS' PROGRAM • FRIDAY, APRIL 27 – SATURDAY, APRIL 28

The Scholars' Program requires a separate \$50 non-refundable fee and pre-registration. This fee includes education sessions, reception, breakfast and lunch. Seating is limited.

The Scholars' Program will have a broad appeal, particularly to early-stage scholars in anesthesiology who are looking for best practices in adapting to the rapidly changing world of academic anesthesia and medicine. Through innovative teaching approaches, scholars will receive the much-needed skills they desire while interacting with peers and mentors.



Friday, April 27 • 6:00 pm – 7:00 pm

IARS, AUA, SOCCA & eSAS Scholars' Program Mentor-Trainee Reception

Based on rigorous evaluation of both mentors' expertise and trainees' needs, goal-focused interactions will be catalyzed. Trainees will be matched with a mentor and have an opportunity to interact during this reception.

Saturday, April 28 • 6:15 am – 7:15 am

Breakfast with IARS, AUA & SOCCA Leadership and Mentors

Share the most important meal of the day and network with the IARS, AUA & SOCCA Leadership and Mentors in anesthesiology education and research.

Saturday, April 28 • 9:30 am – 9:40 am

Introduction to the Scholars' Program and eSAS

with Drs. Vivianne Tawfik and Elizabeth L. Whitlock

The Scholars' Program is an amazing opportunity for early-stage faculty, fellows, residents and other trainees to gain exposure to exciting advances in the field, learn more about career development in academic anesthesiology and meet other early-stage scholars.

Saturday, April 28 • 9:40 am – 10:30 am

Moving from Insight to Scientific Premise to Research Program and What This is All About

with Drs. Max B. Kelz and Katie J. Schenning

Delve deeply into scientific premises and gain insight into the most thought-provoking research programs in anesthesiology.

Saturday, April 28 • 10:45 am – 12:15 pm

Shine Like A Rockstar: Different Paths to Success

with Drs. Boris D. Heifets, Laureen Hill, Manoj M. Lahu, Peter Nagele, and Paloma Toledo

Learn how to succeed on the clinician-investigator track and observe highlighted pathways, illustrating lessons learned towards success in academic anesthesiology.

Saturday, April 28 • 12:30 pm – 2:00 pm

Lunch Session: Resilience Personified: Transitioning from Trainee to Junior Faculty and Beyond

with Drs. Julie K. Freed, Ken Solt, and Elizabeth L. Whitlock

As young physician scientists continue to face unique challenges, it is important to address the transition from trainee to early-stage faculty including all the pitfalls along the way. Hear about the paths taken by two early-stage scholars during this session.

Saturday, April 28 • 2:15 pm – 3:45 pm

Moving Fluidly Across the Translational Spectrum: Current Opioid Crisis

with Drs. Catherine Chen, Afton Hassett, Michael R. Mathis, Giancarlo Vanini, and Jennifer F. Waljee

Explore the promising avenue of innovative and scalable self-management strategies and discuss how effectively empowering patients with anxiety and pain-coping skills would hopefully decrease the use of analgesics and increase patient satisfaction.

Saturday, April 28 • 4:00 pm – 5:00 pm

Priorities for Developing Researchers: Perspectives from the NIH and IARS

with Drs. Emery N. Brown, Alison Cole, and Julie K. Freed

Discover and evaluate the most important priorities for developing researchers from several perspectives including the NIH and IARS.

Saturday, April 28 • 5:10 pm – 6:10 pm

From the Editor's Desk: A No-Nonsense Guide to Successful Publication

with Drs. Hilary P. Grocott, Kate Leslie, and Jamie R. Privratsky

Great research deserves wide dissemination; therefore, providing early-career researchers a no-nonsense and hassle-free approach to designing, implementing, reporting and submitting studies is necessary to maximize impact.

CLINICAL RESEARCH CONSORTIUM

Update on Clinical Research Consortium: Collaborative Research Initiative for Perioperative Clinical and Translational Science Meeting




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Towards the end of last year, a consortium of academic anesthesiology organizations launched an initiative to help establish a clinical trials network in the U.S., which would focus on perioperative medicine, critical care, pain management, and peri- and post-partum care. The consortium included the Association of University Anesthesiologists, Early-Stage Anesthesiology Scholar, the Foundation for Anesthesia Education and Research, the International Anesthesia Research Society, and the Society of Critical Care. In conceptualizing this initiative, it was thought that the new clinical trials network could naturally collaborate with other existing international networks.

There was a call for submissions of clinical research proposals. Despite a tight deadline, seasoned anesthesiology investigators around the United States submitted 17 letters of intent and brief proposals for pragmatic trials. The proposals are all high caliber, and all focus on outcomes that are clinically relevant and important to society. At very short notice, a study section was assembled to rank these, and to solicit expanded proposals from six of the 17 applications. From the six finalists, the study section will select three proposals. Two world experts in clinical and translational research are leading the study section. The other members of the study section are academic leaders representing the organizations that are spearheading this initiative.

The clinical research consortium will be formally launched at an exciting symposium on May 1, 2018, from 1:00 pm to 4:00 pm, following the IARS, AUA and SOCCA Annual Meetings in Chicago. This meeting will be open to all those interested in anesthesiology-related clinical and translational science. The agenda for the symposium will include:

- (i) A session on innovative and efficient approaches to multicenter clinical trials;
- (ii) Presentation and review of three selected clinical trial protocols. The review will include constructive feedback regarding clarity of hypotheses, merit of research methods, and feasibility. The format of this session will be somewhat similar to an NIH study section. The goal of this review session will be to address issues common to many proposals to ensure an educational experience for all investigators who attend the symposium, in addition to those whose proposals are selected.
- (iii) Presentations by the Duke Clinical Research Institute and the Multicenter Perioperative Outcomes Group. These exemplify organizations that can serve as data coordinating centers and provide other “core” support to clinical trials.
- (iv) A focus on PACT, the Canadian Anesthesiology clinical trials initiative. Potential for collaboration between pact and this new clinical trials initiative will be highlighted.

There is tremendous excitement regarding this clinical trials initiative in Anesthesiology, and if it is successful, it will be an important catalyst for advancing academic anesthesiology and for providing a platform for addressing some of the most relevant research questions confronting our field. 

EDUCATION ADVISORY BOARD REPORT

Enhancing Resilience to Decrease Burnout: One Piece of the Wellness Equation

THE BURNOUT EPIDEMIC

The topic of physician burnout has received increasing national attention over the last decade. A 2008 study of medical students at 7 U.S. medical schools revealed that approximately 50% of medical students experience burnout and 10% experience suicidal ideation during medical school.¹ The first large-scale, multi-specialty study of burnout in U.S. physicians was conducted in 2011. Using the Maslach Burnout Inventory as the assessment tool, the authors found that 46% of physicians had at least one symptom of burnout. The four specialties with the highest rates of burnout were emergency medicine, general internal medicine, neurology, and family medicine (anesthesiology was seventh on the list).² A follow-up study in 2014 demonstrated an increased rate of burnout among U.S. physicians, with over half (54%) reporting at least one symptom of burnout. By contrast, a sample of the general U.S. working population had an unchanged incidence of burnout between 2011 and 2014 (approximately 28%).³

Burnout is defined as a work-related psychological syndrome with three components: emotional exhaustion, depersonalization (including cynicism), and a decreased sense of personal accomplishment and value of one's own work.⁴ Several conceptual models of the development of burnout have been described. In one model, job stress results from an imbalance between work demands and individual resources. Subsequently, the individual experiences



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strain, an emotional response characterized by exhaustion and anxiety. This leads to defensive coping, including a change in attitude and behavior, such as increased cynicism.

Many factors in our current healthcare environment play a role in physician burnout. Electronic medical records, demanding caseloads, increased regulatory pressure, decreased insurance reimbursements, increased administrative tasks, growing health systems and a constant influx of new medical knowledge, technologies and practices cause individual, departmental and institutional pressure.^{5,6} Furthermore, physicians have historically been reluctant to admit any emotional or psychological weaknesses. The perceived stigma about our own mental health often poses a barrier to treatment. In some cases, concern about documentation of mental health issues poses an obstacle as well. For example, in some states physicians must disclose to the licensing board whether they have been treated for a mental illness.⁶ Physicians who do not seek help place themselves at even greater risk of burnout.

Anesthesiologists may be at higher risk of burnout due to the stressful nature of their work and the fast-paced environments in which they practice. Several studies have shown higher rates of emotional exhaustion and depersonalization among anesthesiologists compared with other providers.⁷⁻⁹

RESILIENCE AND PREVENTION OF BURNOUT

Wellness, which can be defined as a state of physical, mental, and social well-being, is a dynamic process that involves growth and change. Many efforts to promote wellness and decrease physician burnout have focused on building resilience.⁵ Resilience itself is often defined as the ability of an individual to maintain emotional and social stability despite adversity. Resilience was once viewed as a trait that was immutable – either you had it or you didn't. However, increasing evidence suggests that resilience is a process, with a skill set that can be learned.⁵ Resilience includes two activities: prevention and correction. Preventive activities help to deter adverse situations; corrective actions are used to cope effectively under difficult circumstances.

Several factors contribute to a person's own resiliency. These may include a combination of spiritual, emotional, social,

continued on page 15

EDUCATION ADVISORY BOARD REPORT

Enhancing Resilience to Decrease Burnout: One Piece of the Wellness Equation *continued from page 14*

TABLE 1

Domain	Activities to promote resilience
Spiritual	Self-compassion, recognizing a common humanity, finding meaning in work, spiritual/religious practices
Emotional	Processing grief, setting boundaries, positive experiences of pro-social emotions (i.e. gratitude, empathy, appreciation)
Social	Support, sharing, building community
Physical	Exercise, proper nutrition, rest/sleep
Cognitive	Reflection, mindfulness practice

physical, and cognitive conditions that make up our overall state of being. Table 1 outlines some practices that lead to enhanced resilience within these different domains. Most studies of resilience in physicians have focused on a small sample size and a few specialties. In one of the larger studies, 74 internal medicine physicians were randomly assigned to receive a one-hour facilitated small group discussion every 2 weeks for nine months on subjects that included meaning in work, personal and

professional balance, community, and medical mistakes. The control group was given the same amount of time to be used in an unstructured manner. The study group had an improvement in measures of meaning and engagement in work and reduced depersonalization, with these improvements sustained 12 months after study completion.¹⁰

A 2013 study analyzed the resilience strategies of 200 experienced physicians of a variety of ages, specialties, and hierarchical status. The participants, who did not display burnout on the Maslach Burnout Inventory, underwent a semi-structured interview that focused on the main research question: “Which strategies do you apply to deal with the stressors of your professional life?” Content analysis of the interviews revealed three themes: general sources of gratification, behavioral routines and practices, and attitudes and mental strategies. Table 2 lists the 7 resilience strategies used by the majority of study participants.¹¹


There were 23 other resilience strategies used by a significant number of other physicians in the study.¹¹ Clearly, there is no “one size fits all” approach to building resilience. In an effort to improve physician burnout rates, resilience strategies should be taught and practiced at all levels of training and throughout our careers.^{5,10-12}

TABLE 2

Theme	Resilience strategy	Comment
General sources of gratification	Gratification from doctor-patient relationship	Efficacy in the immediate doctor-patient relationship viewed as crucial part of professional activity
	Gratification from medical efficacy	Efficacy could be related to symptoms before and after care, complex diagnostic issue that was solved, and treatment success, whether large or small in magnitude.
Behavioral routines and practices	Leisure-time activity	Examples include physical activity to reduce stress and facilitate change in mental focus, and cultural activity (e.g., music, art) to broaden horizons and provide perspective
	Quest for and cultivation of contact with colleagues	Useful as a means to reduce professional insecurity, as a source for increased professional knowledge, and to provide mutual support
	Cultivation of relations with family and friends	Provide source of stability, understanding, and perspective
Attitudes and mental strategies	Acceptance and realism	Most important resilience-promoting attitude was ability to refrain from wishful thinking and accept external realities.
	Self-awareness and reflection	Awareness of one’s professional proficiency and ability to prompt self-reflection were significant factors promoting resilience

continued on page 16

BEYOND RESILIENCE

Physicians have a responsibility to enhance our own resilience by building on sound practices that promote our internal sense of well-being. However, there are enormous demands from the external systems in which we work that must be recognized.⁶ Departments, institutions, and health care systems must acknowledge that physician burnout is a significant threat to sustainability due to its potential impact on cost, quality and safety.^{13,14} Leaders at all levels must work in collaboration with physicians to find ways to improve work-flow, elevate job satisfaction, and promote wellness. A 2015 study showed that the leadership qualities of physician supervisors directly impact the personal well-being and satisfaction of the physicians they lead.¹⁵ Employing highly effective leaders who are well versed in the concepts of physician burnout and well-being is essential. Recognizing the importance of this, Stanford Medicine recently hired a chief wellness officer to run their innovative wellness center. National institutions have also shown dedication to the cause. The National Academy of Medicine recently launched the Action Collaborative on Clinician Well-being and Resilience. Over the next few years the Action Collaborative will work to identify evidence-based strategies to improve clinician well-being at both individual and systems levels. Finally, in 2017 the Institute for HealthCare Improvement (IHI) published a paper outlining the four steps leaders can take to help restore joy to the healthcare workforce. The IHI stresses that joy in work is more than the absence of burnout or an issue of individual wellness but rather the responsibility of the system as a whole.¹⁶ The burnout and wellness crisis cannot be fixed simply by enhancing physician resilience. Over the next several years, departments, organizations, and institutions must work together to find ongoing solutions to this healthcare epidemic. 

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SCIENTIFIC ADVISORY BOARD REPORT

Mesenchymal Stem Cell Transplantation: A New Way to Prevent Opioid Tolerance?

Opioid tolerance (OT) and opioid-induced hyperalgesia (OIH) are commonly associated with opioid therapy to treat acute, chronic, and cancer pain. Opioid overdose and deaths are directly related to the development of OT, which is a physiological response to repeated exposure to opioids and requires escalating dose to achieve the desired analgesic effects. In contrast to analgesic tolerance, tolerance to the side effects of opioid therapy such as respiratory depression and constipation does not readily develop. It is this differential tolerance that put patients at great risk of opioid overdose and deaths. To further compound OT is OIH, which is a phenomenon that patients on chronic opioid therapy paradoxically develop heightened pain sensitivity. Because of patients' complaint of worsening pain, they often were given higher doses of opioids: a vicious cycle leading to ever-increasing pain experience and a higher risk of opioid overdose. The more than 42,000 opioid-related deaths in 2016 in the US¹ underscores the need to find new solutions to fight OT and OIH, as part of a national effort to combat chronic pain as a public health issue and opioid epidemic as a national crisis.

It is highly desirable to prevent or reverse OT and OIH so that opioid therapy can be safer and more efficacious. However, this represents a major challenge as there is a lack of effective approaches in clinical practice to prevent or reverse OT and OIH. Recently, transplantation of mesenchymal stem cells (MSCs) in animals has shown enormous promise to prevent and even reverse OT and OIH.^{2,3} This newly identified therapeutic strategy utilizes the powerful anti-inflammatory and immunomodulatory properties of MSCs.^{3,4} Neuroinflammation is closely associated with neuropathic pain, OT and OIH. Discrete molecular mechanisms of neuroinflammation have been proposed for the development of OT and OIH. It is reported that morphine could directly activate Toll-like receptor 4 (TLR-4) on microglia and cause OT.⁴ In contrast, OIH is mediated by μ receptor-dependent expression of P2X4 receptors and release of brain-derived neurotrophic factor (BDNF) from microglia.⁵ OIH develops as a result of sensitization of lamina I neurons mediated by microglia-neuron interactions through the P2X4-BDNF-TrkB pathway.⁵ Thus, modulating neuroinflammation is a plausible approach to treating OT and OIH.

A recent study hypothesized that MSC transplantation (MSC-TP) prevents and/or reverses OT and OIH through the remarkable anti-inflammatory/immunomodulatory properties of MSCs.³ MSCs from rat bone marrow were harvested, expanded, and characterized through functional differentiation



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and flow cytometry. The study found that MSC-TP prevented and reversed OT in rats and mice. OT was induced by daily subcutaneous morphine injections for 4 weeks. Paw withdrawal thresholds (PWTs) to mechanical or thermal stimulation were measured daily before morphine injection and 50 min after the injection. Tolerance was reflected by the difference between pre- and post- injection measures. A large difference indicates low tolerance and a small difference indicates high tolerance. OT developed gradually and significantly with 7 days of daily morphine injections and reached maximum at day 12. OT was further evaluated by the tail flick test using maximum possible effect (MPE) (%) of morphine, lower MPE indicating higher OT. Within 7 days of daily morphine injections, MPE gradually and significantly declined and reached about 10% of the baseline value by day 12.

MSC-TP through intrathecal or intravenous routes did not cause any behavioral changes in normal rats. In contrast, in rats treated with daily morphine injections, MSC-TP significantly and consistently abridged the development of OT regardless the route of administration. A one-time MSC-TP prevented the development of OT for up to 34 days. The preventive effects were almost indistinguishable between transplantations that were performed 1 day or 7 days before the initiation of daily morphine injections. The results were consistent whether mechanical PWT or thermal MPE was used.

In animals with established OT, MSC-TP significantly restored sensitivity to morphine. MSC-TP was performed at day 14 of daily morphine injections after OT has reached its peak at day 12. Both intrathecal and intravenous MSC-TPs significantly reversed OT. The results were consistent between evaluations by the mechanical and thermal tests. This therapeutic effect took place within 2 days after MSC-TP and showed no signs of waning.

MSC-TP also prevented and reversed OIH in rats and mice. OIH developed over a course of 5 to 7 days of daily morphine injections, as reflected by the progressive decline of PWTs from pre-morphine baseline values. A hyperalgesia status persisted even after cessation of daily morphine injections. Intrathecal or intravenous MSC-TP substantially diminished development of OIH. This preventive effect was long-lasting and did not show any signs of waning. MSC-TPs one day or seven days before the initiation of daily morphine injections resulted in consistent outcomes. When MSC-TP was performed after OIH had fully developed, OIH was effectively reversed by about 70-80%. This therapeutic effect took place in 2 days, reached its peak

continued on page 18


SCIENTIFIC ADVISORY BOARD REPORT

Mesenchymal Stem Cell Transplantation: A New Way to Prevent Opioid Tolerance? *continued from page 17*

in about 4 to 6 days, and was again persistent. These exciting results show the potential benefit of MSC-TP. Importantly, MSC-TP appear to be safe. This study found that the animals showed normal locomotion, food and fluid intake, and body weight gain. Biochemical parameters for hepatic and renal functions were all within normal range. No abnormality was observed in any major organs on histopathology examination at necropsy.

Ongoing studies further support the notion that MSCs exert their preventive and therapeutic effects on OT and OIH by modulating immune cells and glia cells. Daily morphine injections increase expressions of IBA-1 in microglia and GFAP in astrocytes and significantly alter the morphology of these cells in the spinal cord. After MSC-TP, the morphology of these cells is largely restored to resting state and IBA-1 and GFAP immunoreactivity decreases substantially.

These initial findings answer a few critical questions about the efficacy, safety, and practicality of the emerging therapeutic avenue of MSC-TP in opioid tolerance. MSC-TP provided powerful and long-lasting preventive and therapeutic effects on OT and OIH in both rats and mice. Both intrathecal and intravenous transplantations appear to be effective and safe and their effects were comparable. This approach is highly practical because there are abundant supplies/sources of MSCs, stem cell technology has matured substantially, and MSC administration is now a clinically accepted procedure. The safety of MSC-TP is being established in multiple clinical

trials for many other diseases. Thus, MSC-TP is exciting as an innovative, safe, efficacious, and practical therapy for OT and OIH. It has enormous potential to profoundly impact clinical practice, improve opioid efficacy and safety, and reduce the burden of opioid crisis. 

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NAS, NAE, and NAM statement

The following statement was published by the National Academies of Sciences, Engineering, and Medicine on December 18, 2017.

Statement by NAS, NAE, and NAM Presidents on Report of Banned Words at CDC

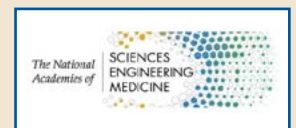
We are concerned deeply by a report that staff at the Centers for Disease Control and Prevention were instructed not to use certain words in budget documents. As leaders of the National Academies of Sciences, Engineering, and Medicine, we are especially stunned that “evidence-based” and “science-based” are reportedly among the barred terms. Evidence-based advice to inform policymakers and public discourse has been the foundation of National Academies’ counsel since the creation of the NAS more than 150 years ago by Abraham Lincoln. Evidence-based advice drove American prosperity, health, and national security throughout the 20th century, and continues to do so today.

If it is true that the terms “evidence-based” and “science-based” are being censored, it will have a chilling effect on U.S. researchers – who may question whether their advice is still welcome – as well as on the quality of the counsel actually rendered to government. Other supposedly banned words – “diversity,” “entitlement,” “fetus,” “transgender,” and “vulnerable” – are equally important to the CDC research portfolio, and banning them is turning our backs to today’s reality. Such a directive would be unprecedented and contrary to the spirit of scientific integrity that all federal departments embrace. Although the guidance to CDC staff to not use certain words reportedly pertained to budget documents, it also sends a dangerous message that CDC’s broader research and public health mission could be unduly politicized as well.

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Victor J. Dzau
President, National Academy of Medicine



AUA: THEN AND NOW

I first became aware of the AUA in the spring of 1962. I was invited to give a presentation on a research project that I had just completed on the effect of anesthetics on the apneic threshold. The meeting was co-sponsored by Stanford University and the University of California, San Francisco, and held one day at each institution. My sponsor was John Severinghaus, a member of AUA. I was apprehensive because there were several experts in respiratory physiology in the audience, including J. Weldon Bellville and S. H. Ngai. After the presentation, I was asked a number of questions, most of which were answered by Dr. Severinghaus. All of the speakers at that meeting were from one of the two institutions.

My next involvement with the AUA, which at that time stood for the Association of University Anesthetists, was the spring of 1966 when I was elected to membership. I learned that the bylaws of the organization limited membership to 100 persons, so someone could not be elected to membership until an opening became available either from retirement or death. The criteria for membership were full-time academic activity and evidence of significant, scholarly accomplishment. At that time, I was an Assistant Professor of Anesthesia at the University of California, San Francisco. I'm not sure what elements of my research to that point qualified as scholarly.

Over the years, I held every elected position in the organization; treasurer, secretary, vice president, president and representative to the Council of Academic Societies. During those years, there was increasing interest in changing the bylaws so that more well qualified faculty could be elected to membership. Research in anesthesia was blossoming and the need to bring this relevant, exciting, new research into the AUA realm of presentation, dialogue, and discussion became ever more apparent. At an annual meeting while I was president, a debate was held on the pros and cons of eliminating the 100-member restriction. Speaking to the pros, John Kampine gave an elegant presentation citing the many advantages to the




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association and to the specialty of having unlimited membership numbers. Asked to represent the cons, I had difficulty coming up with any valid reasons to retain the limit of 100, save one. I predicted that with enlargement there would be greater anonymity and less cohesiveness and collegiality of membership, a prediction that to a large extent has come true. With the limited membership, a member was conspicuous by his/her absence. If an absence was anticipated, a written request for an excused absence was required. This requirement was continued after membership enlargement, but was not enforced and later dropped. At the debate, Tom Hornbein and others spoke from the audience, and clearly the overwhelming sentiment was for enlargement of membership and making the AUA a focal point for academic anesthesiology. It clearly was the right thing to do and has allowed the AUA to become the centerpiece for presentation of creative anesthesia research, as well as a site for investigators

of similar interests to discuss and debate anesthesia research and teaching.

Enlargement of the organization has made it more challenging for an academic institution to host an annual meeting. Other improvements in the meeting include setting aside time for presentation by any member of new, innovative ideas; having presentations by both the research and teaching components of the organization; and inviting presentations by distinguished scientists at the host institution who are not anesthesiologists. The organization continues to struggle with the issue of which nominees for membership meet the criteria for membership, and why such nominees should or should not be elected to membership. Distinguished anesthesiologists from other countries can also become members, something that was not envisioned in its early days.

In summary, the AUA, now the Association of Academic Anesthesiologists, has become what the title implies...the flagship for all scientifically committed anesthesiologists. 

IN MEMORIAM

Ronald Albrecht, MD / 1937-2017

Dr. Ronald F. Albrecht, Emeritus Professor and former Head of the Department of Anesthesiology at the University of Illinois at Chicago, passed away on August 31, 2017.

Dr. Albrecht received his undergraduate degree from the University of Illinois and subsequently earned his Doctor of Medicine from the University of Illinois College of Medicine in 1961. He completed his Residency in Anesthesiology at the University of Illinois Hospital in 1964, and then served at the National Institutes of Health as a Clinical Associate. In 1966, Dr. Albrecht joined the faculty of the Anesthesiology Department at the University, rising to the level of Associate Professor before becoming the Chair of Anesthesiology at Michael Reese Hospital in 1971, a position he held until 2005. In 1989, Dr. Albrecht was appointed Professor and Head of the Department of Anesthesiology at UIC, serving until his retirement in 2007.

Dr. Albrecht was passionately involved in the education of medical students and anesthesia residents, influencing their academic advancement and professional future. He was influential in defining the medical school curriculum and the Anesthesia residency educational program. He trained over 500 anesthesia resident physicians, producing well trained, conscientious, and sensitive physicians for patient care. His devotion to education has produced a legacy of anesthesiologists whose patient care model was established by Dr. Albrecht. He was also dedicated to the advancement of his academic staff. He was tireless in mentoring his academic anesthesiologists to achieve their




Ronald Albrecht, MD

highest goals, always encouraging and reinforcing the importance of education, research, and excellent patient care.

Dr. Albrecht is most proud of his three children: Ronald F. Albrecht II, MD (Chief of Anesthesiology at Jesse Brown VA Medical center and at UIC), Mark B. Albrecht JD (an attorney in Los Angeles); and Meredith A. Albrecht, MD/PHD (Chief of Obstetric Anesthesiology at the Medical College of Wisconsin). He is similarly proud of his seven grandsons: Christian, James, Zane, Caleb, Peter, Joshua and Danial. He

is survived by his brother Jim and his family (Flora, James, and Laura and their families), his wife Joyce and his soulmate Verna.

Dr. Albrecht was devoted to the practice of anesthesia and to the education and training of a very long line of future practitioners of our field. He was the chair of departments for over 35 years—one of the longest serving leaders in anesthesia. As friend, mentor and trusted advisor, he touched the lives of countless students, residents and faculty members in his departments. He will be dearly missed by all of them. 



David E. Schwartz,
MD, FCCP

Ronald F. Albrecht
Professor and Head
Department of
Anesthesiology
University of Illinois
College of Medicine
at Chicago
Chicago, IL

IN MEMORIAM

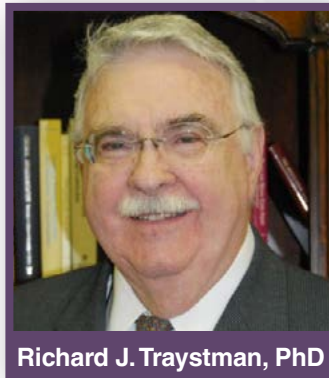
Richard J. Traystman, PhD / 1942-2017

On October 19, 2017, our specialty lost a research giant, Dr. Richard “Dick” J. Traystman. Dick was an important contributor to the foundation of knowledge for Anesthesiology and Critical Care Medicine and served as a mentor and friend to many in our specialty. In fact, during his career he served as a mentor to more than 100 individuals, many of whom have gone on to become leaders throughout medicine and science—in the U.S. and around the world. These mentees have ultimately developed into academic leaders, including department chairs and deans, as well as leaders in pharmaceutical companies. It is clear to all of us in Anesthesiology that Dick led a life of influence and his mentorship has helped enhance academic anesthesia and leaves a legacy that continues to grow through the many people he encouraged to do research.

At the time of his death, his CV included more than 475 publications. His work in the areas of collateral ventilation, control of cerebral circulation, cardiopulmonary resuscitation, and cerebral ischemia have all been of critical importance to informing anesthesiologists and intensivists in the care of our patients. During his career Dick received numerous honors and prizes, including the American Society of Anesthesiologists’ Excellence in Research Award, the inaugural Laerdal Memorial Lectureship from the Society of Critical Care Medicine, the American Heart Association’s Distinguished Scientist Award and the American Stroke Association’s Willis Lecturer. In 2017, Dick received the Lifetime Achievement Award from the International Society for Cerebral Blood Flow and Metabolism.

Dick was passionate about his science and his role as a mentor. He never cared if his mentee was a member of his own department or laboratory. He only cared (insisted) that each of his mentees approach their science and their life with an open mind and with complete commitment to seeking the truth. He pushed all around him to address questions that could be easily translated to improve human health. From the very beginning Dick insisted that we work as a team. In fact, nobody in his department had their own laboratory, as Dick believed that sharing of all resources would assure strong collaboration, excellent communication, and that we would enjoy the strengths of each member of the team. Dick’s approach to “Team Science” assured the success of the group through an incredible personal dedication to each member of that team. Dick’s team science vision pioneered the integration of PhD and MD researchers in anesthesiology departments, leading to productive research and opening the mind to all regarding the importance of cross-discipline discussion to address translational research questions.

My first encounter with Dick was more than 40 years ago; I was a student at Michigan and he was the Vice Chair of Research in the Department of Anesthesiology and Critical Care Medicine at



Richard J. Traystman, PhD

Hopkins. On the day that I met him I will never forget the passionate debate that he was having with my Michigan mentor (Dr. Louis D’Alecy) regarding autonomic control of the cerebral circulation during a FASEB meeting; they were screaming at one-another across the room! From that point on I knew that Dick was an incredibly gifted scientist and that he was someone who I wanted to work with in my future. That wish came true 35 years ago and since that time Dick served as my primary research mentor, friend, and colleague. The bond that Dick and I shared for so many years benefited me in my approach to mentorship with my own

mentees as well as my personal relationships.

Dick’s accomplishments in science were due to his incredible intelligence, work-ethic (he was reviewing and editing manuscripts and grants until the very end), his welcoming attitude to new ideas from junior members of his team and attention to detail. The first manuscript that I wrote with him went through 21 revisions before he let me submit it to the journal for consideration. His written feedback to me was often filled with aggressive (sometimes foul) language in order to get his point across and get us used to dealing with difficult reviewers. As my co-author Paco—and all who ever wrote a paper or grant with Dick—can confirm, Dick was consistently the most difficult reviewer.

Although Dick’s professional life was spent in Baltimore (Hopkins), Winston Salem (Bowman Gray), Portland (OHSU) and Denver (University of Colorado), he was always a New Yorker (where he was born) at heart. He loved watching the performing arts (particularly Opera and Symphony). Even after moving away from the East Coast, Dick and his wife Suzann continued to enjoy the New York style performing arts, streamed live from the Met. Although he played semi-professional football in his youth his preferred spectator sport was baseball (yes, he was a Yankee fan).

Dick leaves behind his loving wife Suzann Lupton of Denver, Colorado. In lieu of flowers, his wish was for donations to be made in his name to the American Stroke Association. 📖



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Interesting cases and research abstracts will be accepted for oral presentation.

For abstract form contact: menachem.weiner@mounsinai.org (Deadline October 30, 2018).

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For general information: margorie.fratlicelli@mounsinai.org



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Call for Participants in a Neuroscience Symposium

A Neuroscience Symposium entitled "Effects of Anesthetics on the Brain" and sponsored by the [Society for Neuroscience in Anesthesiology and Critical Care \(SNACC\)](#) will be held on Sunday, April 29, 2018 from 3:00 - 8:00 PM at the Sheraton Grand Chicago, 301 E. North Water Street in Chicago, Illinois. There will be no cost to participants either for registration or food/beverages. The intent is to have informal discussions about new/novel findings on the topic area in a format modeled after the former International Neuro Research Group.

At this time, we are requesting an NIH style biosketch and an abstract (300 words) of the presentation. [Click the Survey Monkey link here](#) to get started. The deadline for the biosketch and abstract submission is Friday, February 16, 2018. These items will be reviewed and the presenters/participants chosen by a committee and limited to 50.

Thank you for your interest in the Neuroscience Symposium.

William M. Armstead, PhD
Chair, SNACC Research Committee