RESPIRATORY COMPROMISE INSTITUTE

The Respiratory Compromise Institute Quarterly Newsletter: May Edition
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Message from the Executive Director

Phillip Porte

Dear member societies of the Respiratory Compromise Institute,

I am delighted to introduce the inaugural edition of our quarterly newsletter. As you may know, the Respiratory Compromise Institute (RCI), founded in 2015, is a broad-based coalition of organizations, companies and individuals dedicated to reducing—and eventually eliminating—preventable adverse events and deaths due to respiratory compromise. Respiratory compromise is a condition where there is a high likelihood for a patient to decompensate into respiratory insufficiency, respiratory failure or death, but for which specific interventions (enhanced monitoring and/or therapies) might prevent or mitigate decompensation.

In this and future editions of the RCI quarterly newsletter, we intend to provide you a comprehensive look into what we are doing to achieve our goals of reducing the incidence of respiratory compromise, educating the broad clinical community about respiratory compromise and lessening its impact on the healthcare system and patients. The quarterly newsletter will include: recent research related to respiratory compromise; highlights from member society meetings or Q&As with the RCI's Clinical Advisory Committee (CAC) members; RCI and member society news and respiratory compromise-related news, both broken out by month; and a list of upcoming events and observances to keep you updated about what's happening, when and where.

At the most recent meeting of the CAC in March, the group formally approved a research project with Duke University that will focus on unplanned intubations. The CAC believes that this four-year retrospective study will be replicated at several other institutions to ensure a broad cross section of data review. Additionally, the CAC strongly recommended that the RCI focus its educational efforts on the broad clinical communities that address respiratory compromise on an ongoing basis, providing educational forums in various settings. The RCI, for example, will have four presenters at the 2018 national conference of the American Association for Respiratory Care, expanding on a well-received presentation at CHEST/American College of Chest Physicians' annual conference last fall.

As part of our efforts to elevate the profile of the RCI and educate the medical community about respiratory compromise, in December 2017 an article was published in NEWS-Line for Respiratory Care Professionals. The article described the RCI's mission, defined respiratory compromise, highlighted relevant statistics and facts underscoring the dangers and growing incidence of the condition, and provided an overview of the RCI membership and accomplishments.

These accomplishments included publishing a monograph in April last year, entitled "Respiratory Compromise as a New Paradigm for the Care of Vulnerable Hospitalized Patients," which helped provide a foundation to identify patients at risk for respiratory compromise. The RCI also presented two abstracts in May at ATS 2017 evaluating the incidence of respiratory compromise among hospitalized Medicare patients. Up until that retrospective review of Medicare claims, few studies had assessed whether patients' outcomes, following respiratory failure that develops during hospitalization, differ from those of patients who are admitted with respiratory failure. We also had the opportunity in October to engage with clinicians in a dialogue about respiratory compromise at the CHEST 2017 Meeting during a plenary workshop session, entitled "The Respiratory Compromise Institute and Its Current and Future Research Endeavors." The session allowed us to share with attendees: why the RCI was formed; the research we've done so far; and a roadmap for future research about respiratory compromise, which will help us better understand how to prevent it.

Through innovative research into the causes of respiratory compromise, by encouraging the adoption of best practices for patient monitoring, by increasing awareness about respiratory compromise as a serious patient safety issue, and by building our CAC's roster, we are advancing our mission to better understand and keep the potentially deadly condition from occurring. The most recent addition to that roster includes Brent Dunworth, DNP, MBA, APRN, CRNA, who was appointed to the committee in January 2018. Dr. Dunworth is a member of the American Association of Nurse Anesthetists, the professional association for more than 52,000 Certified Registered Nurse Anesthetists. He serves as Director of Advanced Practice and Division Chief of Nurse Anesthesia in the Department of Anesthesiology at Vanderbilt University Medical Center in Nashville, Tennessee. He joins a group of fifteen distinguished clinicians who make up our CAC dedicated to addressing respiratory compromise.

This quarterly newsletter speaks to our continued success in expanding our efforts, as represented by Dr. Dunworth's appointment, and we hope it will be a welcome addition to the news you share with your membership and contacts.

Sincerely,

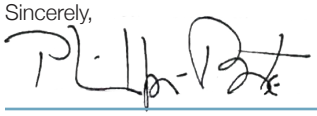

Table of Contents

Page 2: *2018 NAEMSP Annual Meeting*

Page 3: *Summaries of Recent Literature on Respiratory Compromise*

Page 5: *Respiratory Compromise Institute and Member Society News | Respiratory Compromise-Related News*

Page 5: *Upcoming Member Society Events and Observances*

RCI member societies include: American Association for Respiratory Care, American Association of Nurse Anesthetists, American College of Emergency Physicians, American Society of Anesthesiologists, American Thoracic Society, Canadian Society of Respiratory Therapists, CHEST/American College of Chest Physicians, National Association of Clinical Nurse Specialists, National Association of EMS Physicians, National Association for Medical Direction of Respiratory Care, National Board for Respiratory Care, Physician-Patient Alliance for Health & Safety, Society of Anesthesia & Sleep Medicine, Society of Critical Care Medicine, Society of Hospital Medicine.

2018 NAEMSP Annual Meeting Features More Than 50 Education, Research and General Sessions, Highlighting the Importance of EMS

Meeting Underscores the Value of Technology and Innovation in EMS Care, Including the Use of Capnography

By Michael Levy, MD, FACEP, FACP, FAEMS
(Secretary/Treasurer, National Association of EMS Physicians)

Since its founding in 1984, the National Association of EMS Physicians' (NAEMSP) mission has been to create and support a peer organization to serve as a resource and an advocate for EMS physicians and non-physician providers, and, in doing so, foster excellence in out-of-hospital emergency medical services. As an association of more than 1,100 physicians, paramedics, nurses, administrators, educators, researchers, and EMS personnel, NAEMSP convenes every January, bringing together members from across the country and the globe — including attendees from Europe, Asia, Latin America, the Middle East and Canada — to network and learn. At each meeting, members and NAEMSP leadership share new research, host skills and development workshops, and provide updates on best practices.

The 2018 NAEMSP annual meeting continued to demonstrate the organization's leadership in advancing the care of patients, featuring more than 50 education, research, and general sessions representing the depth and breadth of EMS practice. In addition, days of research posters and oral presentations of abstracts on new science were hosted throughout the meeting.

Key highlights from 2018 NAEMSP, included:

- a three-day National EMS Medical Directors Course & Practicum, which provided participants with the skills they need to become EMS medical directors;
- sessions on a new approach to EMS, called Mobile Integrated Healthcare (MIH), which aims to improve patient care and reduce costs;
- an Out-of-Hospital Critical Procedure Cadaver Lab, which provided a review of anatomy associated with critical care; and
- a session, entitled "Cutting the Edge: Innovations in Prehospital Critical Care," which examined concepts and technologies for prehospital care transports.

Capnography — a patient monitoring tool which measures exhaled carbon dioxide — is one such technology and can prevent respiratory compromise, a state in which there is a high likelihood of patient deterioration into respiratory insufficiency, respiratory failure or death.

National EMS Medical Directors Course & Practicum

The three-day National EMS Medical Directors Course & Practicum provided participants with a foundation upon which to function effectively as EMS medical directors. Among other skills, participants learned how to: outline organizational and design options for EMS systems, including system staffing and response configurations; identify the major communications and dispatch issues for EMS systems; describe the process for incident review and strategies for problem-solving in EMS systems; define the fundamentals and priorities for implementing quality improvement programs in EMS systems; and compare and contrast rural, urban, international, and suburban EMS delivery systems. The practicum was sold out, as it was last year, reflecting the growing interest in understanding how to lead an EMS team, and how EMS functions within the broader emergency care system at all levels.

Mobile Integrated Healthcare

Several sessions focused on a new platform for EMS known as Mobile Integrated Healthcare (MIH), featuring healthcare providers with established MIH programs offering guidance to practitioners looking to create their own MIH programs and those with established programs connecting with colleagues to discuss solutions to challenges. MIH envisions EMS playing a key role in healthcare by provisioning — in the out-of-hospital environment — patient-centered, mobile care, which can include: the use of community paramedicine (CP), helping patients with chronic disease management, employing preventive care strategies, conducting post-discharge follow-up visits with patients, or referring them to care settings outside the emergency department. Conceptually, MIH is grounded within the Institute for Healthcare Improvement's IHI Triple Aim philosophy of improving the patient care experience, improving population health, and reducing the per capita cost of healthcare. Hallmarks of an effective MIH program include, among others:

- integrating the program into existing healthcare systems;
- collaborating with local community stakeholders to better understand and define community health needs;
- using data to develop evidence-based performance measures;
- having a multidisciplinary approach to medicine, engaging physicians and other clinicians to oversee the MIH program, alongside the patient's primary care network, and using telemedicine as needed;
- and providing specialized training to CP personnel.

As part of a MIH program, CP personnel would help bridge the many gaps we find in healthcare systems and avoid unneeded hospital readmissions by providing at-home, focused interventions. CP practitioners would reduce the burden of these readmissions by working with a MIH program team to assess patient needs and respond accordingly, saving patients trips to the emergency room.

Out-of-Hospital Critical Procedure Cadaver Lab

The Out-of-Hospital Critical Procedure Cadaver Lab provided participants with an opportunity to review anatomy associated with critical care, such as the airway and chest cavity, and lifesaving emergency procedures, such as vascular access. Vascular access is especially important when performing extracorporeal cardiopulmonary resuscitation (ECPR). ECPR provides external circulatory support to patients, helping keep them alive while they are being transported to a hospital.

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Capnography & "Cutting the Edge: Innovations in Prehospital Critical Care"

A session, entitled "Cutting the Edge: Innovations in Prehospital Critical Care," provided an overview of concepts and technologies being implemented for prehospital critical care transports. One such technology is capnography, which is used to monitor respiratory status in patients undergoing transport. It is an especially important monitoring tool for patients who require airway intervention or support; for patients who have been intubated; or for those overdosing on opioids who need naloxone, an opioid reversal drug.

Opioids — the abuse of which is a national epidemic — was even a focus of one of the general sessions, where its impact on public safety and first responders was discussed. Opioids can contribute to respiratory compromise, leading to death. Management of patients overdosing on opioids involves typical prehospital interventions, such as endotracheal intubation, supplemental oxygen administration, upper airway management and patient assessment, among others. Continuous evaluation of ventilation via capnography should also be used to monitor overdosing patients experiencing respiratory compromise. Finally, as naloxone is administered, capnography can also be used to avoid or lessen the chance naloxone triggers violent withdrawal symptoms, by helping with the timing and dosage of naloxone administration. And, even when naloxone is administered, airway management should remain an important consideration for the care of patients overdosing on opioids, as the drugs are often mixed and include other toxins.

NAEMSP & the Respiratory Compromise Institute

NAEMSP's support of capnography as a life-saving monitoring tool for patients experiencing respiratory compromise in the prehospital or intra-transport hospital setting cannot be overstated. Moreover, as a member society of the Respiratory Compromise Institute (RCI), NAEMSP recognizes the importance of: continued research about the potentially deadly condition; more adoption of best care practices to reduce respiratory compromise's incidence; and increased awareness and education about the condition as a serious patient safety issue.

RCI and its member societies have and will continue to do great work in bringing attention to respiratory compromise. Together, we can prevent the morbidity and mortality associated with respiratory compromise, regardless of whether patients receive care in the field, during transport or in the hospital.

To learn more about the 2018 NAEMSP annual meeting, see the schedule here.

Visit the NAEMSP website for more information on the organization by clicking here.

For more information about the 2019 NAEMSP meeting, being held in January in Austin, Texas, click here.

Resources

View the RCI's brochure on Respiratory Compromise
Download the RCI's presentation at CHEST 2017
Read the latest press release about RCI's newest member society, the American Association of Nurse Anesthetists, represented by Vanderbilt University Medical Center's Chief Nurse Anesthetist
See an animation about Respiratory Compromise

About Michael Levy

Michael Levy, MD, FACEP, FACP, FAEMS, serves as the Secretary/Treasurer of NAEMSP. He is currently an Emergency Department Physician at Alaska Regional Hospital in Anchorage, Alaska; the Medical Director for the Anchorage Fire Department; and an Affiliate Associate Professor, UAA College of Health, WWAMI School of Medical Education, University of Alaska Anchorage. Dr. Levy is also an EMS Medical Director for the State of Alaska, as well as the Medical Director for Areawide EMS Anchorage Alaska and the Kenai Peninsula Borough EMS. His EMS experience spans rural, remote, urban, military and medevac-to-urban settings and care scenarios. Dr. Levy is a reviewer for Prehospital Emergency Care, Annals of Emergency Medicine, and Asian EMS Journal. He completed his undergraduate studies in Molecular, Cellular, and Developmental Biology at the University of Colorado Boulder and received his MD from Northwestern University Feinberg School of Medicine. Dr. Levy is board certified in Internal Medicine, Emergency Medicine, and EMS Medicine. Among other many other awards, he received the Michael Keys Copass Award in 2017, a national award given annually to an EMS Director who has demonstrated longstanding service and leadership, and has served as a role model for other EMS Directors.

Summaries of Recent Literature on Respiratory Compromise

The Evaluation of a Noninvasive Respiratory Volume Monitor in Pediatric Patients Undergoing General Anesthesia
[Anesthesia & Analgesia, December 2017 Issue]

According to a study published in *Anesthesia & Analgesia*, pediatric patients following surgery are at risk for respiratory compromise, such as hypoventilation and hypoxemia, depending on their age, comorbidities and type of surgery. Currently, no objective measure of respiratory parameters in noninvasively monitored patients can be utilized to predict early respiratory compromise. However, advances in technology and digital signal processing have led to the development of an impedance-based respiratory volume monitor (RVM), which has been shown to provide accurate real-time, continuous, noninvasive measurements of tidal volume (TV), minute ventilation (MV), and respiratory rate (RR) in adult patients.

In this prospective observational study, 72 pediatric patients undergoing general anesthesia with endotracheal intubation were enrolled. Continuous data of MV, TV and RR were recorded from the RVM and an in-line monitoring spirometer (IMS). RVM and IMS measurements of MV, TV and RR were compared during a 10-minute period prior to surgery and a 10-minute period after the end of surgery. Researchers concluded that their data indicate agreement between RVM and IMS measurements in pediatric mechanically-ventilated patients, but that future studies assessing the capability of the RVM to detect respiratory compromise in other clinical settings are needed.[1]

Perioperative Implementation of Noninvasive Positive Airway Pressure Therapies *[Respiratory Care, Epub January 2018]*

Respiratory Care published a review article, which provided a how-to guide for implementing noninvasively applied positive airway pressure therapy (PAP) in perioperative settings. The authors noted that PAP therapies are increasingly used perioperatively to prevent or treat upper airway obstruction, hypoventilation and periodic breathing, and have been found to improve postoperative outcomes for patients with obstructive sleep apnea.

However, the lack of hospital clinical staff familiarity with its application limits PAP's use. To fill this experience gap, the authors described: the modes of PAP therapy available, which are continuous positive airway pressure, bi-level positive airway pressure and adaptive servo-ventilation; their indications; how therapy is initiated; how efficacy is assessed; common problems encountered with PAP's use; and how these problems can be addressed.[2]

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Anesthesia Assistance in Outpatient Colonoscopy and Risk of Aspiration Pneumonia, Bowel Perforation, and Splenic Injury *[Gastroenterology, January 2018]*

Findings from a population-based cohort study published in *Gastroenterology* indicated anesthesia assistance (AA) to achieve deep sedation with propofol during outpatient colonoscopy is associated with a significantly increased risk of aspiration pneumonia, which is potentially deadly.

The study analyzed data from 3,059,045 outpatient colonoscopies performed in Ontario, Canada, matching 793,073 people who had colonoscopy with AA with 793,073 patients who did not. The primary outcome was bowel perforation and secondary outcomes were splenic injury and aspiration pneumonia. Use of AA did not significantly increase risk of perforation or splenic injury; however, use of AA was associated with an increased risk of aspiration pneumonia—patients had 63 percent higher odds of suffering aspiration pneumonia.

Researchers concluded that endoscopists should warn patients with respiratory compromise of the risk of aspiration pneumonia.[3]

Failure of Invasive Airway Placement on the First Attempt Is Associated With Progression to Cardiac Arrest in Pediatric Acute Respiratory Compromise *[Pediatric Critical Care Medicine, January 2018]*

According to a multicenter study published in *Pediatric Critical Care Medicine*, failure of invasive airway placement on the first attempt is independently associated with progression of acute respiratory compromise to cardiac arrest. Failure was defined as multiple attempts at tracheal intubation, and/or laryngeal mask airway placement, and/or the creation of a new tracheostomy (a surgically created hole through the front of the neck into the trachea) or cricothyrotomy (an incision made through the skin and cricothyroid membrane to establish a patent airway).

The study researchers reviewed first acute respiratory compromise events in 2,210 patients younger than 18 years based on data from the American Heart Association's Get with the Guidelines-Resuscitation registry. There were 762 acute respiratory compromise events that did not require an invasive airway, 1,185 acute respiratory compromise events with successful invasive airway placement on the first attempt, and 263 acute respiratory compromise events with failure of invasive airway placement on the first attempt.

More than 1 in 10 hospitalized pediatric patients who experienced an acute respiratory compromise event progressed to cardiopulmonary arrest when invasive airway placement failed.[4]

Evaluation of a Low-Cost Bubble CPAP System Designed for Resource-Limited Settings *[Respiratory Care, Epub January 2018]*

In a study published in *Respiratory Care*, researchers indicated that respiratory compromise is a leading cause of global neonatal death. Yet, the number of these deaths could be reduced with greater availability of low-cost continuous positive airway pressure (CPAP) devices, so long as these devices are effective. To test the effectiveness of a low-cost CPAP option, the researchers compared the reliability and functionality of a low-cost bubble continuous positive CPAP device to a commercially available bubble CPAP system and found the two comparable.

The devices were connected to a lung simulator that simulated neonates of four different weights with compromised respiratory mechanics. Researchers observed the devices' ability to establish and maintain pressure and flow under normal and leak conditions. They also tested the endurance of both devices by running the systems continuously for eight hours, measuring the pressure and flow. The low-cost bubble CPAP device, designed for low-resource settings, was marginally better at maintaining pressure, while the bubble CPAP system, used in developed settings, was better at maintaining flow. However, overall comparisons of pressure or flow were neither statistically significant nor clinically important.

Based on the researchers' findings, they concluded that the devices performed equivalently. Still, they noted that extensive clinical trials are needed to confirm if the devices are equally effective.[5]

Drug-Induced Sleep Endoscopy: From Obscure Technique to Diagnostic Tool for Assessment of Obstructive Sleep Apnea for Surgical Interventions *[Current Opinion in Anesthesiology, February 2018]*

A review article in *Current Opinion in Anesthesiology* provided an update for anesthesia providers on the latest practices in drug-induced sleep endoscopy (DISE) for surgical evaluation and treatment of obstructive sleep apnea (OSA). The authors described new treatment techniques for OSA, including TransOral Robotic Surgery (TORS) and hypoglossal nerve stimulation (NGNS). TORS has been recently used to treat patients with refractory OSA with hemiglossectomies (partial tongue removal) and uvulopalatopharyngoplasties (removal or remodeling of the uvula, soft palate and/or tonsils). NGNS is a relatively new OSA treatment that works by stimulating the hypoglossal nerve to stiffen key tongue muscles that, when relaxed, can block the airway, leading to OSA.

The authors also noted that recent DISE literature indicates a shift from midazolam to propofol and dexmedetomidine as anesthesia drugs of choice, yet indicated that questions remain regarding the efficacy of dexmedetomidine in yielding adequate conditions for a complete DISE exam. In addition, they highlighted that pharmacokinetic models for propofol dosing (mathematical analyses to determine substance absorption, distribution, metabolism and excretion rates) carry a lower risk of respiratory compromise compared with empiric dosing, which is based solely on experience and clinical observation.

They concluded that an optimal anesthetic approach for OSA patients needing DISE remains elusive, but could be informed by multicenter studies. These studies could employ a standardized approach to treating OSA using electroencephalographic assessments, pharmacokinetic–pharmacodynamic modelling and objectively defined clinical endpoints.[6]

1 Gomez-Morad AD, Cravero JP, Harvey BC, et al. The evaluation of a noninvasive respiratory volume monitor in pediatric patients undergoing general anesthesia. *Anesth Analg*. 2017;125(6):1913-1919. doi:10.1213/ane.0000000000002029.
2 Hillman DR, Jungquist CR, Auckley D. Perioperative implementation of noninvasive positive airway pressure therapies. *Respir Care* 2018;63(4):479-487. doi:10.4187/respcare.05730.
3 Bielawska B, Hookey LC, Sutradhar R, et al. Anesthesia assistance in outpatient colonoscopy and risk of aspiration pneumonia, bowel perforation, and splenic injury. *Gastroenterology* 2018; 154(1):77-85.e3. doi:10.1053/j.gastro.2017.08.043
4 Stinson HR, Srinivasan V, Topjian AA, et al. Failure of invasive airway placement on the first attempt is associated with progression to cardiac arrest in pediatric acute respiratory compromise. *Pediatr Crit Care Med*. 2018;19(1):9-16. doi:10.1097/pcc.0000000000001370
5 Bennett DJ, Carroll RW, Kacmarek RM. Evaluation of a low-cost bubble CPAP system designed for resource-limited settings. *Respir Care*. 2018;63(4):395-403. doi:10.4187/respcare.05762
6 Atkins JH, Mandel JE. Drug-induced sleep endoscopy: from obscure technique to diagnostic tool for assessment of obstructive sleep apnea for surgical interventions. *Curr Opin Anesthesiol*. 2018;31(1):120-126. doi:10.1097/aco.0000000000000543

Respiratory Compromise Institute and Member Society News

January

The Respiratory Compromise Institute issued a press release announcing the appointment of Brent Dunworth, DNP, MBA, APRN, CRNA, to the Clinical Advisory Committee. Dr. Dunworth is a member of the American Association of Nurse Anesthetists, and serves as Director of Advanced Practice and Division Chief of Nurse Anesthesia in the Department of Anesthesiology at Vanderbilt University Medical Center in Nashville, Tennessee. He joins fourteen distinguished clinicians who make up the advisory committee dedicated to addressing respiratory compromise across the care continuum via public education, research and advocacy. Dr. Dunworth is quoted in the release, stating: "I am excited to join the Respiratory Compromise Institute's clinical advisory committee, where I hope my expertise in nurse anesthesia will add to the committee's already impressive clinical thought leadership. Practitioners at every level should be well versed in how to recognize and respond to respiratory compromise, which, if identified early, may lower healthcare costs and improve patient outcomes."
(January 31, 2018)

February

The Physician-Patient Alliance for Health & Safety (PPAHS) issued a press release announcing the availability of the Columbia University Medical Center webinar on respiratory compromise prevention, recognition and intervention on the PPAHS' YouTube Channel. Michael Wong, JD, Executive Director, PPAHS, is quoted in the release, saying: "This webinar highlights how respiratory compromise is a serious, potentially deadly patient safety issue that may be avoidable when proper prevention and identification strategies are used, and when healthcare providers are equipped with comprehensive patient monitoring technology. Education about the condition and how it can be prevented is vital to reducing its incidence. We encourage all clinicians to view the webinar to learn how they can provide the safest possible care for their patients, particularly those with risk factors that may increase their chances of developing respiratory compromise."
(February 14, 2018)

The American College of Emergency Physicians (ACEP) issued a press release regarding a statement ACEP's president, Paul Kivela, MD, MBA, FACEP, made in response to Anthem's policy to deny emergency room coverage to Missouri patients who go to the hospital for conditions the insurer deem non-emergent. Despite the insurer increasing the number of "always pay" exceptions, Dr. Kivela stated that "changes to Anthem's policy […] do not address the underlying problem of putting patients in a potentially dangerous position of having to decide whether [to] […] seek emergency care. [….] The decision to 'ride it out' instead of seeking emergency care could lead to life-long disability or even death." The health insurance company began warning patients in mid-2017 in Missouri, Georgia, Kentucky, Ohio, New Hampshire, and Indiana that, if an emergency department visit ends with a diagnosis for something that isn't an emergency, the visit would not be covered. Anthem has since added "always pay" exceptions, such as for patients who receive surgeries, IV fluids or medications, MRI or CT scans, or hospital admissions.
(February 14, 2018)

Respiratory Compromise-Related News

December

Doctors Lounge covered The Joint Commission presenting on the impact the commission's standards had on pain management at the clinical meeting and exhibition of the American Society of Health-System Pharmacists, which was held in December. During the session, David W. Baker, MD, MPH, of The Joint Commission, provided insight into trends in opioid prescriptions over the last three decades and discussed the history of pain management standards, as well as current quality and safety problems in acute pain management, especially opioid prescribing. The session outlined current issues associated with management of pain, including limited screening for opioid use or addiction history, lack of assessment for respiratory depression, opioid off-label use, lack of prescribing pattern monitoring, and lack of patient education on addiction potential and side effects. The new and revised standards from The Joint Commission were published in July 2017 to address some of the issues associated with over-prescribing and lack of monitoring.
(December 5, 2017)

The Fix published an article about the Department of Defense (DoD) awarding a team of researchers from University of Utah Health a four-year $10 million grant to explore the pain-relieving potential of venom from marine animals as an alternative to opioid pain treatment. The DoD is seeking new forms of pain treatment for injured soldiers that do not involve medication with possible dependency issues. Venom from mollusks, such as sea slugs, has potential analgesic and anesthetic properties, which have remained largely undefined by researchers.
(December 6, 2017)

January

Becker's ASC Review covered the American Society of Anesthesiologists (ASA) issuing a statement, in recognition of Physician Anesthesiologists Week, urging healthcare providers to limit prescribing opioids or to not prescribe them at all. ASA President James Grant, MD, stated: "Nobody needs a prescription for 30 or 50 opioids, and even those who are in major pain and may benefit should only take them for a day or two. There are effective alternatives and many people don't need opioids at all or at least should drastically reduce the amount they take." The ASA advises patients coping with pain and comfort to: ask providers about opioid alternatives, manage pain expectations, be active participants in their own care, limit opioid use and be aware of opioid side effects.
(January 23, 2018)

The Deseret News published an article reporting on parents — whose 21-year-old son died at home from respiratory failure from opioids following a routine tonsillectomy — lobbying the Utah State Senate to support a measure that would call for research into the potentially fatal respiratory effects of opioids on patients. The parents, Yvonne Gardner and Greg Gardner, testified before the Senate Health and Human Services Committee, along with the ENT specialist, Dr. Michael Catten, who performed the tonsillectomy. The committee voted unanimously to recommend the nonbinding measure, which would officially recognize that opioids can impact patients' breathing regulation, causing respiratory depression and death. The measure states that low-cost, in-home monitoring technology could prevent opioid-related deaths.
(January 23, 2018)

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Respiratory Compromise-Related News (contd.)

February

ScienceDaily published an article about a study in the Online First edition of *Anesthesiology* about buprenorphine, a drug used to help people quit opioids; findings from the study, which was conducted on mice, indicate the drug could cause breathing problems in some obese patients being treated for opioid addiction. The study's researchers found that the drug impairs the ability of obese mice to vary their breathing, a previously unknown side effect of buprenorphine. These findings may encourage similar studies in humans, as the ability to vary breathing helps people achieve tasks, such as climbing stairs, and respond to diseases and surgical stress. According to the study's lead author, Ralph Lydic, PhD, the discovery of the drug's unknown side effect could help clinicians improve patient care. Dr. Lydic is Robert H. Cole Endowed Professor of Neuroscience in the UT Department of Psychology and the Department of Anesthesiology at UT Medical Center in Knoxville, Tennessee.
(February 1, 2018)

The Washington Post published an article about the U.S. Food and Drug Administration (FDA) intensifying its warnings about kratom, an unregulated biological substance being used as an alternative to opioids to treat chronic pain and other conditions. The FDA concluded that kratom is, in its effects and properties, an opioid, basing its conclusion on recent computational modeling, scientific literature and reports of adverse effects on people, such as potential for abuse, addiction and serious health consequences, including death. FDA scientists analyzed the 25 most common compounds in kratom, finding that the compounds were structurally most similar to opioid painkillers, such as morphine derivatives. The model also showed that 22 of the compounds bind strongly to opioid receptors in the brain and to receptors that may impact stress responses influencing neurological and cardiovascular function.
(February 6, 2018)

Physician's Weekly published an article by Jenifer Lightdale, MD, MPH, regarding a *BMJ Open* study she co-authored that found that capnography reduces respiratory compromise during procedural sedation and analgesia (PSA). Dr. Lightdale is Division Chief of Pediatric Gastroenterology at University of Massachusetts Memorial Children's Medical Center. The study, entitled "Patient Safety During Procedural Sedation Using Capnography Monitoring: A Systematic Review and Meta-analysis," examined the findings of 13 randomized controlled trials that included a total of 5,475 patients who had undergone a variety of ambulatory surgical procedures. According to Dr. Lightdale, the results of the meta-analysis provided clear and consistent evidence of decreased respiratory compromise when capnography monitoring is added to visual assessment of ventilation and pulse oximetry during PSA.
(February 21, 2018)

Upcoming Member Society Events and Observances

May

ATS 2018
May 18th–23rd

The CSRT Annual Education Conference
May 24th–26th

National EMS Week 2018
May 20th–26th
Presented by the American College of Emergency Physicians in partnership with the National Association of Emergency Medical Technicians

June

International Forum on Perioperative Safety and Quality: June 1st
Sponsored by the American Society of Anaesthesiologists/European Society of Anaesthesiology