

PENNSYLVANIA
society of
ANESTHESIOLOGISTS

WINTER 2019 NEWSLETTER

SENTINEL

Richard Month, M.D., F.A.S.A.
PSA PRESIDENT

"We're the Pennsylvania Society of Anesthesiologists. We're here to help."

President's Message

When I was a resident, I had an attending who, when arriving to a code or an emergency airway, would always present himself the same way:

"Hello. We're from Anesthesia. We're here to help."

As I begin my Presidency of the Pennsylvania Society of Anesthesiologists, I somehow find myself drawn to these words. In the end, that's what we are here to do: help our members be the best possible anesthesiologists they can be. To that end, my goals for the next two years are simple: to provide maximum value to our members, and to ensure that the activities we're doing are what our members want or need.

Let's start with what we are doing now. First and foremost, the PSA has always had a strong presence in advocacy at the state level. Currently, we're working tirelessly as the Department of Health updates the Hospital Regulations to ensure that important patient protections, including access to high-quality, physician-led Anesthesia care, are included. In addition to working with the Department of Health, we're working in parallel with the legislature to ensure that all our patients have access to the highest quality care. Beyond physician-led care, we are also active members of the *Provider Coalition for Patient Access*. The House of Medicine is providing a united front to find a solution to surprise balance bills that is beneficial for patients and physicians alike. In addition to our major advocacy issues, we continuously monitor both the legislative and executive branches to ensure that you have a seat at the table when important decisions are made. Expect to hear from us on these issues and more in the very near future.

We are also working to expand PSA's educational offerings. We are currently planning the first PSA Ultrasound Regional Anesthesia and POCUS course to occur in Philadelphia on Saturday, March 2. This is the PSA's first foray into direct event planning in over a decade; the four-hour workshop will be small-group based and hands-on. We plan on using the lessons learned from this event in creating and planning a statewide PSA Annual Meeting to be held in 2020. This CME meeting will combine workshops, lectures, and poster presentations to provide our membership with the best possible experience close to home. You will be involved in its creation; we will be sending out a survey later this year.

We continue to work on important patient care issues as well, most notably the Opioid Crisis. The PSA was a title sponsor of the Pittsburgh Unity Event, which brought more than 200 clinicians together to raise money to support opioid addiction treatment for the homeless population of Pittsburgh. We also continue to work behind the scenes to advance opioid-sparing and opioid-free anesthetic techniques and to help our members navigate the crisis.

Improving communication and involvement are also high on our list of priorities.

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EDITORIAL

2019 Really Got Off to a Rocky Start

Richard O'Flynn, M.D., F.A.S.A.
EDITOR

The stock market started the year down 8% from the prior year, a polar vortex hit most of the country and the longest government shutdown in history had begun. But, as we have seen in the past, all things come to an end. The stock market is again on an upward swing, the government shutdown finally ended, and spring and summer predictably follow winter.

This cyclical nature of events is also seen in the Pennsylvania legislative cycle. 2019 saw the start of a new two-year legislative session. The November election saw 43 new members to the 203-member House of Representatives and seven new members to the Pennsylvania Senate. With such a large class of freshmen legislators the PSA, Z-PAC and our anesthesiologist colleagues have a lot of work to do in order to educate our representatives.

This issue of the *Sentinel* welcomes our new President, Richard Month, M.D. Dr. Month lays out his agenda for his two-year term in his inaugural article.

Andy Goodman, our new legislative counsel gives an update on things to watch for in Harrisburg and our legal advisor, Charles Artz, discusses risks to our practices from Phishing cyber-attacks and failure to obtain Business Associate Agreements. Forewarned is forearmed.

In our continuing "Know Your Equipment" section, Dr. Cherian provides an in depth look at body temperature measuring and strategies to minimize periop hypothermia utilizing various warming devices. A second article by Dr. Jonathan Roth reports on his research on induction techniques to minimize hypothermia.

Also, in this issue are two interesting articles on practice management from Mark Weiss. Mr. Weiss shares his thoughts on Hospitals and Physician Leaders and Business Education. Continuing the Practice Management theme, Dr. Gary Okum reports on the 2019 ASA Practice Management Conference.

Finally, a timely piece from Dr. Joseph Answine about cannabis and cannabinoids and anesthesia care. With our neighboring state (NJ) considering legalization of recreational marijuana and our own state in the preliminary exploratory phase, this is going to become more of a concern in the near future.

As always, we encourage your comments on anything presented in this issue. We also welcome and encourage article submissions from our members. Letters, articles or comments can be sent to PSASentinelEditor@gmail.com. ■

President's Message *...continued from page 1*

We created a formal application process for committee assignments and made sure to open it up to all members to expand involvement to all who wish to be involved. In addition, we plan on more regularly reaching out to our members through a variety of different channels – the *Sentinel*, routine e-mails, and the website to name a few, while also expanding our social media channels.

As an organization, we exist to serve our members. To that end, we need to know what we can do to better serve you. What can we do to improve the value of your membership? Have a suggestion? Let us know! Contact us through our website www.psanes.org.

At the end of the day, we continually strive to be a resource for our members, so that we all can provide the best possible care to all our patients. We work hard every day to ensure that we can say: ***"We're the Pennsylvania Society of Anesthesiologists. We're here to help."*** ■

Kickbacks and Drug Shortages: Is the Solution on the Horizon?

Robert Campbell, M.D., Chairman, Physicians Against Drug Shortages[1]
Marion Mass, M.D. Co-founder & EVP, Practicing Physicians of America

President Trump's new rule regarding Pharmacy Benefit Manager (PBM) kickbacks was released on February 1 by the Department of Health and Human Services. This rule is the biggest component of President Trump's "Blueprint" to lower prescription costs announced in a May Rose Garden speech. The authors were present at the speech. The rule to rescind PBM access to the 1987 GPO (Group Purchasing Organization) Kickback Safe Harbor law was the first of two recommendations to the White House introduced by the Physicians Against Drug Shortages advocacy team. The Big Three Pharmacy Benefit Managers (CVS Caremark, Express Scripts, Optum Rx) write the contracts controlling over 85% of all outpatient prescription medications. In 2003 HHS introduced rules permitting PBMs to acquire immunity from prosecution for kickbacks under the GPO Kickback Safe Harbor law. President Trump thus has authority to unilaterally rescind PBM immunity without Congressional action.

The long awaited rule rescinds the kickbacks (euphemistically called "rebates") that Pharmacy Benefit Managers can legally take from drug manufacturers to access PBM formulary preferred tier lists. The proposal, which if finalized, would go into effect January 1, 2020. This rule applies to Medicare plans but does not apply to commercial plans. The White House is publicly stating that commercial plans will likely follow suit and get rid of rebates. This may or may not be the case. Based upon their own financial interests and lobbying strategy, one would think that they have no such plans. Lobbyists for the PBM industry (Pharmaceutical Care Management Association) and the insurance industry (America's Health Insurance Plans) are energetically protesting the rule. Their position is that healthcare "pay to play" kickbacks reduce prescription medication costs to consumers.

The rebates which total $150B per year are paid by manufacturers to exclude competitors' products from the PBM formulary. A manufacturer who can offer a larger kickback can thus exclude a competitor from the market even if that product is less expensive and more effective. Kickbacks covered by the GPO/PBM Kickback Safe Harbor are a percentage of revenue. This introduces an inflationary incentive. The higher the price of the drug, the greater the absolute kickback value that is tendered to the PBM or GPO,Even more bold than the rule is the Administration's recommendation to Congress to implement the second recommendation of the PADS advocacy team. Namely to repeal the GPO Kickback Safe Harbor. This would make all forms of middlemen PBM and GPO kickbacks illegal again. Introduced as add-on legislation to the 1987 Medicare and Medicaid Patient and Program Protection Act, the GPO Kickback Safe Harbor law grants GPOs (with PBMs added inn 2003) immunity from federal racketeering laws. This allows GPOs and PBMs to allocate market share to manufacturers in exchange for secretive kickback payments. PADS has also endorsed studies from the U.S. Government Accountability Office and the American Antitrust Institute that this inflationary safe harbor is also the root cause of drug shortages.

PADS has long maintained that the $30B per year and rising cost of insulin is disproportionately affected by the Kickbacks. Indeed, recent revelations affirm PADS position that over 70% of the cost of insulin is allocated to fund middlemen kickbacks. Politicians have taken notice as in many situations patients can no longer afford insulin. The Senate Finance Committee and the House Oversight Committee held hearings on January 27 on prescription medication inflation. Both committees heard testimony from mothers of children with diabetes. They heard tragic stories of what can happen when children cannot afford insulin.

Physicians Against Drug Shortage is leading a coalition of over 20,000 informed physician advocates to assure that the PBM Rule is fully implemented. In addition, the coalition is advocating for its bill to repeal the GPO/PBM Kickback Safe Harbor. The annual cost of kickbacks funded by patients and permitted by this Unsafe GPO/PBM Safe Harbor is estimated to be $200B-$250B per year. It just may be the case that Americans can afford prescription medications. They may also afford high quality, patient centered, physician led healthcare. They can just no longer afford to fund GPO and PBM kickbacks. ■

1. Physicians Against Drug Shortages is leading a grass roots coalition of 20,000 physicians advocating for elimination of kickbacks in the healthcare supply chain. *www.PhysiciansAgainstDrugShortages.com*

WELCOME
NEW PSA MEMBERS!

- Roberto Huertas, M.D.
- Ankur Gosalis, M.D.
- Yuri Shevchenko, M.D.
- Christopher Wahal, M.D.
- Marla Maistrow, M.D.
- Noreen Tiangco, M.D.
- Edward Rish, C.P.A.,M.A.
- Jack Schnur
- Zachary Buccino
- Tiarrah Salvi
- Arianna Ahiagbe
- Angela Hirsh
- Maria Nanez
- Allen Rojhani

PhysiciansAgainstDrugShortages

- ✓ There have been drug shortages since 2006
- ✓ There is skyrocketing inflation for all medications
- ✓ Americans are paying more money for less healthcare
- ✓ Something is happening here!
- ✓ What it is isn't exactly clear, unless....

NO DUES, JUST CLARITY AND AWARENESS

YOU ARE A MEMBER OF

Physicians Against Drug Shortages

JOIN NOW. www.PhysiciansAgainstDrugShortages.com

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To register or for more information, please visit our website: http://www.pennstatehershey.org/web/simulation/courses/moca or contact Chris Mulvey, cmulvey@PennStateHealth.psu.edu or call 717-531-7988

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Fired Up about the Cannabinoids

Joseph A. Answine, M.D., F.A.S.A.

Marijuana, cannabis, CBD; our patients are coming to the OR utilizing these substances in one form or another at a very high rate. Some may be smoking marijuana recreationally however many are utilizing the cannabinoids, which are found in marijuana, for medical reasons.

What are cannabinoids? They are a large group of lipid-based substances, many commonly found in the cannabis or marijuana plant, that bind to cannabinoid receptors. Also included in this group are the endocannabinoids (endogenously produced), anandamide and 2-arachidonoylglycerol (2-AG).

Within our bodies, we have the endocannabinoid system with receptors located throughout the central nervous system, the peripheral nervous system and many organs. What does the endocannabinoid system do? It is involved with a wide variety of processes maintaining homeostasis throughout the body. It is involved in regulating physiologic and cognitive processes including immunocompetence, inflammation, appetite, fertility, pain sensation, mood, and memory; creating synaptic plasticity responsible for learning. Endocannabinoid stimulation may also be responsible for exercise induced euphoria. There are two commonly described receptor types, CB1, found mainly in the central and peripheral nervous systems especially in the brain, which is responsible for functions such as mood stabilization and pain modulation; and CB2, found mainly in peripheral tissues, which is responsible for immune function and control of inflammation. They are part of a large receptor family called G protein coupled receptors not unlike the opioid receptors.

So much more must and will be learned about cannabinoids and anesthesia. These are interesting times.

To shed some light on one reason the endocannabinoid system exists; imagine a warrior that has just come from battle tired and injured. The endocannabinoid system kicks in increasing appetite for high calorie foods to increase energy stores, stabilizes mood and reduces pain allowing that warrior to recover; maintaining homeostasis.

The endocannabinoid system is too diverse to talk about in one short article therefore, we will concentrate on how it relates to controlling pain only. Remember, a nociceptive signal moves through a primary afferent axon to the spinal cord. The signal reaches a synaptic cleft where a secondary afferent awaits and an influx of calcium at the presynaptic terminal causes the mobilization and release of glutamate which travels across the synaptic cleft and binds to AMPA-type and NMDA receptors this causes the intracellular release of calcium which stimulates the opening of sodium channels and the continued propagation of the signal up the spinal cord to the brain. Some signals find their way to the periaqueductal grey in the midbrain as well as the locus coeruleus in the pons and locus raphe magnus in the medulla. This stimulates the descending pain modulation pathway which sends signals down the spinal cord and decreases the signaling from the primary to the secondary afferent nerves. The descending pathway is suppressed by GABAnergic inhibition until the incoming signal arrives.

During nociceptive transmission within the spinal cord and GABAnergic inhibition within the descending pathway, calcium influx into the post-synaptic neuron stimulates the formation and release of endocannabinoids. They travel across the synaptic cleft in a retrograde fashion and bind to the presynaptic G protein coupled cannabinoid receptors. Binding of these presynaptic receptors leads to a reduction of calcium influx, therefore, a reduction in neurotransmitter release. Nociceptive signals are reduced within the spinal cord and GABAnergic inhibition of the descending pathway is reduced. The result is a reduction in pain. Why does this process exist? Pain is an important warning system that injury may or is occurring, however, too much pain is a hinderance.

A brief mention of the cardiovascular effects of the cannabinoids should be made. Although the effects on the heart and peripheral vasculature appear to be quite complex and not fully understood, hypotension and bradycardia are the most important features noted by the systemic administration of cannabinoids. Both a decrease in systemic vascular resistance and myocardial contractility have been seen.

So, what do we do when a patient that is exposed to cannabinoids comes to the OR? Very few human studies are available. Due to the potential negative effects on the tracheobronchial tree such as acute bronchospasm, patients with recent exposure to inhaled cannabis should not undergo elective surgery. Also, the effects of cannabinoid exposure on the cardiovascular system such as significant hypotension, and an exaggerated response to antihypertensive agents must be understood. However, withdrawal may be a possibility after chronic exposure leading to agitation and poor pain control. Therefore, continuation of non-inhaled cannabinoids may be reasonable.

So much more must and will be learned about cannabinoids and anesthesia. These are interesting times. ■

LEGISTLATIVE UPDATE

Andy Goodman
MILLIRON & GOODMAN | GOVERNMENT RELATIONS, LLC

The 2019-20 legislative session began on New Year's Day with the swearing-in ceremonies of the new legislators and two weeks later, the ceremonies for Governor Tom Wolf's second inauguration.

With the beginning of a new session, we expect to see a number of changes within the Governor's administration and agencies as well as the legislature. While the House and Senate committee chairmen have been announced, we are still awaiting the release of the full committee assignments. Below are some changes among the Chairmen of the Health and Professional Licensure Committees:

- *Senate Health and Human Services Committee:* Michele Brooks (R-Mercer) will now be the Majority Chairwoman of the Senate Health Committee. Art Haywood will be the new Minority Chairman.
- *House Health Committee:* Kathy Rapp (R-Warren) will continue to be the Majority Chairwoman of the House Health Committee. The Minority Chairman will now be Dan Frankel (D-Allegheny).
- *Senate Consumer Protection and Professional Licensure Committee:* The Majority Chairman of the Senate Licensure Committee will continue to be Tommy Tomlinson (R-Bucks) and the Minority Chairwoman will continue to be Lisa Boscola (D-Northampton).
- *House Professional Licensure Committee:* Dave Hickernell (R-Lancaster) will be the new Majority Chairman of the House Licensure Committee. The Minority Chairman will continue to be Harry Readshaw (D-Allegheny).

Now we await the Governor's annual budget address on Tuesday, February 5th, which officially kicks off a new budget season. In the weeks following the address, the Senate and House Appropriations Committees will hold budget hearings with all state agencies to discuss their budgetary priorities in the upcoming fiscal year. Of interest to you, the Department of Health will appear before the House Appropriations Committee on Monday, February 25th and the Senate Appropriations Committee on Wednesday, February 27th. We will monitor the discussions and keep you updated.

Proactive Legislation – Physician / Anesthesiologist Anesthesia Delivery

The PSA continues to work with the Pennsylvania Senate and House on legislation that would codify existing Department of Health Regulation into legislative law. Certainly now, more than ever, it is important that this legislation be examined, advocated for and voted on. Patients' lives are at risk otherwise. In the near future, we will be asking each and every member of PSA to make a phone call and hold a meeting with each House and Senate member. Talking points and communication tools will be a part of this action plan and given to you.

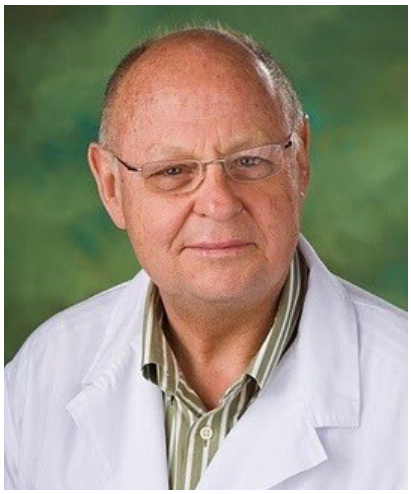
The PSA had two resolutions introduced January 29th recognizing January 27th-February 2nd, 2019 as "Physician Anesthesiologist Week." Representative Carolyn Comitta (D-Chester) introduced the House version and Chairwoman Michele Brooks introduced the Senate version. Both resolutions will help educate the legislators about the successful work of anesthesiologists and help with overall advocacy.

While the lobbyists at Milliron Goodman advocate for the anesthesiologists in the Capitol every week, it is important for all doctors to begin to build relationships with their local legislators. Emails, phone calls, and district office visits all help. It is always easier to ask for support on an issue if you already have an established relationship. Please check https://www.legis.state.pa.us/cfdocs/legis/home/findyourlegislator/ for your local legislator contact information.

Department of Health Regulatory Changes:

The PSA is working with the Department of Health in regard to the Department's rewrite of Hospital Regulations. The draft is complete, impacts the delivery of anesthesia, and certainly the PSA has concerns for its members' patients. The leadership continues to have dialogue and discussion on this very important topic. More detail on this topic is coming soon.

Generations



Craig Muetterties, M.D.
Z-PAC TREASURER

I have a close friend who was born to the founder of a highly successful business. The patriarch of the family had a vision for that business and imparted it to his children who, after his retirement, have run the business for over 50 years. He and his siblings witnessed all the successes and failures that were experienced as the company went through its "growing pains." They had seen their father react to difficult situations and understood the amount of physical and mental effort required to keep the business healthy.

The sons are now facing a new problem. Their children, the third generation of people in this family, have benefited from the efforts of their fathers and forefather. They have only seen the benefits provided from the security of the business and were not witness to the early years. The business is facing a desperate situation. My friend and his brothers need to find a way to ignite a passion for their business in their children that will keep it successful in the future. Without that passion the business will fade in its success or ultimately be sold to a buyer.

As I watch member participation in our political action campaign, I am fascinated by the similarities of the previous story to the situation we face in the society. When I began practicing, I was surrounded by some of the early founders of our state society. I was honored to have known them and understood their passion. They were the forefathers of our current society and they have imparted their knowledge on the generation that moved into the latter part of the 20th century. We are now in the third generation of those early founders of the Pennsylvania Society. It is essential that we understand the goals of our society and the essential nature of being a part of the process. If we fail to do this, our society, its goals of preserving patient safety and furthering the practice of medicine for anesthesiologists will not continue to be met. The very thing that you trained for and have dedicated your life to do will be endangered!

"...a fellow anesthesiologist who had not practiced for the past 34 years and who was still taking the time and effort to protect his profession!"

As I write this, I am out of the country for three weeks. When I return, I will be busy recording the contributions to the political action fund that have accumulated in my absence. A few months ago, I received a contribution from a retired member. When I opened the envelope which contained a check, the member included his demographics but under "employer" he wrote "Retired 34 years." I was inspired by this small envelope and those words. Here was a fellow anesthesiologist who had not practiced for the past 34 years and who was still taking the time and effort to protect his profession!

I am not a letter writer but have purchased a number of "Thank You" cards in an effort to become better at the art of sending them. I grabbed one of my cards and wrote a personal message to this physician. A few weeks later I received a response. He was willing to allow me to describe our interaction (anonymously) here. He also told me of the blessing his profession had been to him and his desire to continue to be a contributing part of that process. He is one of the many retired anesthesiologists who are remaining committed to and contributing to their profession.

I am inspired by this member to continue to be a part of the process in our society and I hope you will also be encouraged. Are you willing to be a part of the process of the survival of our society? We need your participation on many levels but one of the first and easiest is to contribute to the political action campaign.

You can send a personal check or go to your online banking and start a monthly bank draft drawn out to:

Z-PAC | PO Box 325 | Media, PA 19063

Credit card donations can also be made at the Society web site: psanes.org

4.5 Things Magic Mountain Taught Me About Your Business

I still remember the smile on Steve Cunningham's face. High School summer vacation. Thoughts of sand, sun, and surf.

Yet back to reality. We were applying for jobs at Magic Mountain, an amusement park. Employees got free passes to the park.

Out from the interview he came. "Ride operator!"

Now it was my turn! What job would I get? Roller coaster? Spinning bucket?

Fifteen minutes later, due to my "valuable experience" at McDonald's the previous summer, it was "cook."

Apparently, anyone (or so I told myself) could put someone in a roller coaster car, but few could cook hamburgers and fries, and, thanks to my mom's training, could also make tacos, burritos and pizza.

Yet that summer was a petri dish of customer service and other business education. Here are 4.5 of the lessons that I learned:

1. If you hire right, people don't need to be "managed." They are not horses. They need to understand what it is they are supposed to do. They need initial training. Then they need to know that their supervisor has their back, assuming they're doing the job within acceptable parameters. If they stray, guide and repeat.
2. Customers can be rude and make messes (like stomping on ketchup packets). Yet without customers there is no business. So smile and be kind. But if they're drunk and throwing things, call for security.
3. Employees will screw with one another. One guy had the habit of throwing ice cubes into the fryer. Get rid of the troublemakers before someone is burned by flying grease. You have failed at #1 above, but at least you can succeed at #3. It is very easy.
4. Ice machines make cool water not ice cubes when the temperature inside a restaurant approaches that of the sun. Things break and go wrong. You need to learn to expect it and must have plans to deal with it.

Oh, and number 4.5: Free isn't always free. A free pass to someplace that you spend 40 hours a week at isn't free. It's a reminder of broken ice machines, scorching heat and rubberized blobs of ketchup. Think how you are motivating your employees.

After that summer, I went to Magic Mountain two or three times. It wasn't too much fun. ■

Why the Hospital's Idea of Physician Leader Means Follower

It was the time that I almost died. The car was out of control and I was headed for a cliff.

Then I awoke from the dream in a sweat. The smell of pancakes wafted in from the kitchen.

I recently read an article about hospitals training physicians for "leadership" roles.

What those hospitals are really doing is training more physicians to become hospital-employed or hospital-controlled managers in order to monitor, cajole and threaten the members of the medical staff to follow mandated cost cutting measures. Oh, excuse me, they called them "quality goals."

Don't get me wrong, I am all in favor of better quality. I am in favor of doing things the right way. But who should decide what the right way is for Ms. Betty Bobson, age 47, or Mr. Bob Beatty, age 74, the hospital or that patient's physician?

I have dealt with instances in which a surgeon's orders were changed, without consultation, by a hospitalist engaged by the hospital. When the surgeon complained, she found herself subject to a medical staff investigation. Oops! Just a coincidence!

So, if you are the hospital CEO, why not put that situation on steroids?

Instead of the sole hospitalist changing orders, the hospital can now instruct all of its employed or controlled physician "leaders" to enforce what the hospital deems to be evidence-based best practices or protocols or whatever the name of the week is for cookie cutter behavior or for using only those products or pharmaceuticals on which the hospital gets the best deal. But the bottom line is the same: Who is making the decision, Ms. Betty Bobson's physician or the system?

Don't get me wrong, I am all in favor of physician leaders. In fact, I wonder if an all physician board and all physician top leadership should be requirements for a hospital's Medicare participation? Think about that for a while.

But in the politically correct patois of Orwellian hospital double-speak, "leader" now means follower.

Is following orders best for patient care? Is it really best for your career?

Your career is in a car and it is heading over a cliff. Ms. Betty Bobson or Mr. Bob Beatty is in the passenger seat. No, it is not a dream. No one is in the kitchen making pancakes. Grab the wheel and do something before it is too late. ■

Mark F. Weiss is an attorney who specializes in the business and legal issues affecting physicians and physician groups on a national basis. He served as a clinical assistant professor of anesthesiology at USC Keck School of Medicine and practices with The Mark F. Weiss Law Firm, a firm with offices in Dallas, Texas and Los Angeles and Santa Barbara, California, representing clients across the country. He can be reached by email at markweiss@advisorylawgroup.com. Complimentary resources are available at advisorylawgroup.com.

HIPAA Privacy and Security Violations
Spear Phishing Cyberattack
Failure to Execute Business Associate Agreement

Charles I. Artz, Esq.
PSA GENERAL COUNSEL

The U.S. Department of Health and Human Services Office for Civil Rights ("OCR") regulates and enforces violations of federal HIPAA Privacy and Security regulations. Two recent OCR cases imposing significant fines and penalties are important to consider.

One case involved a provider's failure to execute a Business Associate Agreement, resulting in a $500,000 fine. The second case involved a malicious software attack against a health plan resulting in a $16 Million fine.

This article summarizes the facts of each case, corrective action plan requirements imposed by OCR, and compliance recommendations.

In In re Anthem, Inc., cyber-attackers gained access to Anthem's Information Technology system through an undetected, continuous and targeted cyberattack for the apparent purpose of extracting data. This is known as an "advanced persistent threat attack." The cyber-attackers infiltrated Anthem's system through "spear phishing" emails after at least one employee responded to the malicious email and opened the door to further attacks. The cyber-attackers stole the electronic protected health information ("ePHI") of almost 79 million people, including names, social security numbers, medical identification numbers, addresses, dates of birth, email addresses and employment information.

OCR imposed a $16 Million fine, and found the following potential violations of the HIPAA Security regulations occurred:

1. The requirement to conduct an accurate and thorough risk analysis of the potential risks and vulnerabilities to the confidentiality, integrity and availability of all PHI.
2. The requirement to implement sufficient procedures to regularly review records of information system activity.
3. The requirement to identify and respond to detections of the security incident leading to the breach.
4. The requirement to implement sufficient technical policies and procedures for electronic information systems that maintain ePHI to allow access to only those persons or software programs that have been granted access rights under the regulations.
5. The requirement to prevent unauthorized access to ePHI.

The $16 Million fine was *three times higher* than the highest previous fine imposed by OCR. In practical terms, OCR found that Anthem **failed to implement appropriate measures for detecting hackers who gained access to their system to harvest passwords and steal people's private information**. They should have, but failed to, implement strong password policies and to monitor and respond to security incidents in a timely fashion.

The compliance take-home points for PSA members' Information Technology systems, HIPAA Security compliance and avoidance of fines and potential civil litigation include the following:

1. Routinely conduct "enterprise-wide" risk analysis.
2. Make sure sufficient procedures are in place to regularly review information system activity.
3. Promptly identify and respond to suspected or known security incidents.
4. Implement minimum access to controls to prevent cyber-attackers from accessing sensitive ePHI.

5. Train all staff about "spear phishing emails." Our research independent of the decision indicates that, although an email may appear legitimate, some key indicators to identify an email as spear phishing can include:
    - A sender's email address and name that does not contain the exact syntax of the name usually received by that sender.
    - Spelling errors in the subject line of an email.
    - Generic addressee title such as "Dear Email User" or "Valued Member/Customer."
    - An official looking link embedded in the email that goes to a malicious page. By placing your cursor over the link, a pop-up box will show the link's actual address. If this address looks suspicious, do not click on the link.
    - Downloading an attachment that contains malware. All email attachments should be scanned using antivirus scanning software to ensure the safety of opening attachments.

The second case is In re Advanced Care Hospitalists. The medical group practice ("ACH") hired a company to perform billing data processing services on behalf of the medical group. ACH did not enter into a Business Associate Agreement with the billing company before disclosing PHI. It was later discovered that patient information was readily viewable on the billing company's website, including names, birth dates and social security numbers of over 9,000 patients. The medical group filed a Breach Notification report and OCR conducted an investigation. At the conclusion of the investigation, the medical group agreed to pay $500,000 and entered into a comprehensive Corrective Action Plan with OCR.

OCR made the following legal findings:

1. The medical group impermissibly disclosed the PHI of over 9,000 of its patients to a third party for billing data processing services without the protections of a BAA in place in violation of the HIPAA Privacy regulations.
2. The billing company contract to provide data processing and billing services did not satisfy the HIPAA Privacy regulations.
3. The medical group failed to conduct a valid risk analysis.

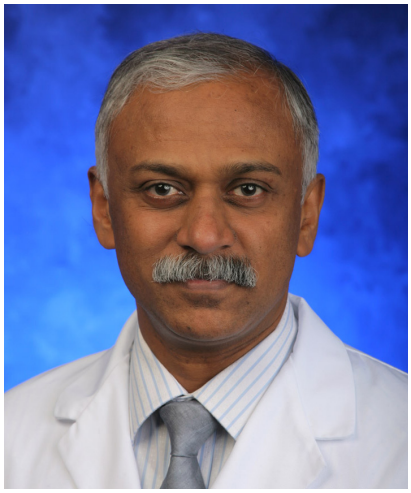
This case emphasizes the need to continuously monitor potential relationships in which PHI is disclosed to third parties and execute a HIPAA-compliant BAA before any PHI is disclosed to the third party. Even though **there was no evidence that any PHI was improperly accessed, used or disclosed, and no evidence of any harm to any patient existed, the health care provider had to pay a $500,000 fine.** For compliance and training purposes, here is a reminder of the BAA regulatory requirements:

1. A Business Associate is a person or entity that performs functions or activities that necessarily involve the use or disclosure of PHI on your behalf or provides services.
2. The types of functions or activities that may make a person or entity a Business Associate include payment or health care operations, activities, and several other functions, including:
    - Claims processing or administration;
    - Data analysis, processing or administration;
    - Utilization review;
    - Quality assurance;
    - Billing;
    - Benefit management;
    - Practice management;
    - Repricing;
    - Legal, actuarial, accounting and consulting services;
    - Data aggregation; and
    - Management, administrative, accreditation and financial services.
3. Examples of Business Associates include language interpreters, outside compliance or other consultants and IT consultants.
4. As a reminder, Business Associates are not:
    - Cleaning services;
    - Contractors; and
    - Any other person or organization that has no right to access PHI.
5. Each person's access to and use of PHI must be based on a reasonable requirement to actually use or access the PHI.

The health care provider (i.e. the covered entity) was responsible to pay the full fine in this case. That emphasizes the need to include an indemnification clause in every BAA because, in this case, the Business Associate improperly, and perhaps even inadvertently, failed to implement sufficient security measures on its own website. In other words, the health care provider was still liable for the Business Associate's security breach. ■

know your equipment...

BODY TEMPERATURE: MEASURING AND MAINTAINING



Verghese Cherian, M.D.

Perioperative hypothermia

Humans are homeothermic and control their core body temperature within a narrow range (36.8 ± 0.4 °C), which is crucial for cellular enzyme function. However, during the perioperative period, irrespective of the type of anesthesia, there is a loss of core body temperature. This occurs is three phases.

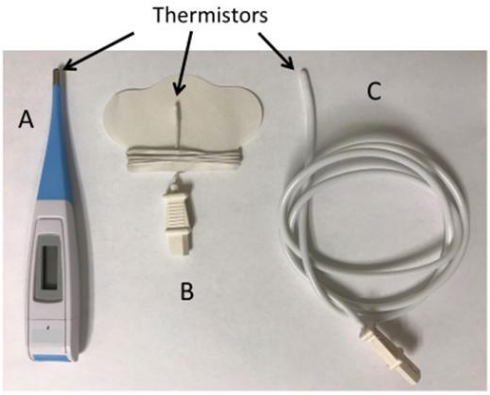
- **Phase 1:** A rapid reduction in core temperature of up to 1-1.5°C can occur within the first 30-45 minutes due to vasodilatation. General anesthesia also reduces the threshold for activation of the vasoconstriction to prevent loss of heat from the core to the periphery. This hypothermia is less pronounced under spinal or epidural anesthesia as the vasodilatation is limited to the lower half of the body.
- **Phase 2:** A more gradual reduction in core temperature by about 1°C can occur over next 2-3h of anesthesia. This is due to radiation, convection and evaporation. The amount of heat loss by radiation and convection depends on the difference between the body and the ambient temperatures. Evaporative loss is increased with larger surgical exposure and also ventilation with high flows of dry and cold inspired gases.
- **Phase 3:** Once the anesthetized patient becomes hypothermic enough to reach the altered threshold for vasoconstriction, the heat loss tends to match the heat production and a 'plateau' phase is reached.

Measurement of temperature

The two common scales used to measure body temperature are Celsius and Fahrenheit and the conversion between the two is given by the formula: (°Cx1.8) + 32 = °F. Temperature can be measured using different physical principles.

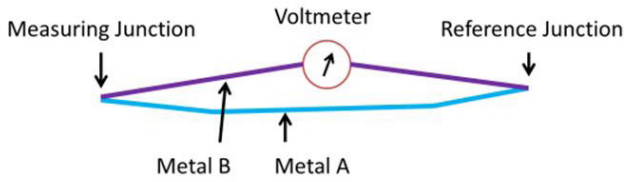
1. **Thermistor** – The electrical resistance of oxides of certain metals (manganese, nickel, iron) decreases exponentially as the temperature increases and this change in resistance can be measured and displayed as temperature. A thermistor consists of a small bead of metal oxide that is fused into a wire with a source of current and a means to measure this current. The advantages of a thermistor are that they are sensitive and have a rapid response and they are relatively inexpensive to manufacture. Thermistors are the most commonly used thermometers in the perioperative period. (Figure 1)

Figure 1: Thermistors are used in digital thermometers (A), skin (B) and nasopharyngeal probes (C).



2. **Thermocouple** – Electrons of different metals have different energy levels and when two dissimilar metals are brought together, there is a potential difference between the two which alters with the temperature of the junction. This is known as Seebeck effect. In a thermocouple, the two dissimilar metals are in contact at two junctions. One of these junctions is kept at constant temperature (reference junction) and the other is the 'measuring junction'. (Figure 2) The temperature at the measuring junction can be calculated by measuring the potential difference between the two junctions using a voltmeter. Typically, the two metals used are iron and constantan (alloy of copper and nickel). Thermocouples are used to measure autoclave temperatures.
3. **Platinum wire** – The resistance to passage of current through a metal wire increases with temperature and

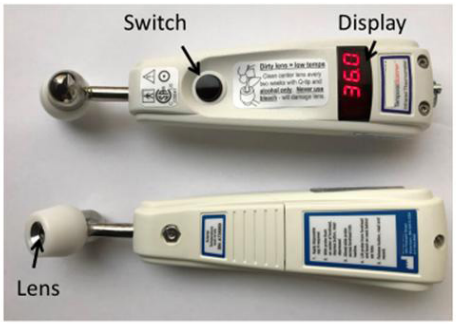
Figure 2: Thermocouple circuitry consists of two dissimilar metals in contact at two junctions



for platinum it is almost linear. A change in resistance can be measured using a Wheatstone bridge. Although these thermometers are accurate over a wide range of temperatures, they have slow response times and can be bulky. They are commonly used in research.

4. **Liquid crystal** – Certain crystals become optically active with change in temperature. These thermo-chromic crystals can be incorporated into a plastic strip and when applied to the patient's forehead, would display the color according to the temperature. These are commonly used in pediatric population as they appear less formidable to the child.
5. **Infrared** – All objects emit infrared radiation (IR) and the wavelength and amplitude of these radiations depends on the temperature of the object. Pyroelectric crystals when exposed to IR get polarized and generate a current in proportion to the amount of IR. Therefore, small handheld devices, with ceramic crystals having pyroelectric properties, can measure IR from the skin or tympanic membrane and can be used to measure body temperature. These are the thermometers commonly used in the post anesthesia care units. (Figure 3)

Figure 3: Infrared (IR) radiation from the body is passed through a lens to focus on to a ceramic crystal with pyroelectric properties



6. **Mercury** – The classic mercury thermometer uses the principle that the volume of a liquid is proportional to its temperature. Mercury thermometer are rarely use in clinical anesthesia for safety issues such as injury by broken glass and infection.

Strategies to minimize Perioperative Hypothermia

Perioperative hypothermia is associated with increased postoperative morbidity and the various strategies that are used to minimize loss of body heat could be divided into three broad categories.

1. **Insulation** – A layer of air trapped next to the patient's body by the surgical drapes or a cotton blanket can act as an insulator and limit heat loss.
2. **Active Warming Devices** –Although, active warming devices are very efficient in maintaining the body temperature, it may cause skin burn and have a potential to transmit infection.
   a. Forced Air warmers – A thermostatically controlled heater blows warm air into a double-layered blanket that is draped over the exposed surface of the patient. These devices are commonly used and can increase the body temperature by approximately 0.75°C/ h.
   b. Electrically heated blankets made of conductive fabric can be used to wrap the exposed surface and the manufacturers claim less infection risk compared to forced air warmers.
   c. Heating Mattress – An electrically heated mattress or one with circulating warm water can cover a large body surface area irrespective of the site or size of the operative field. Underbody forced air warmers are effective in neonatal and pediatric patients.
3. **Radiant Heaters** – Overhead infrared radiant heaters are effective in maintaining body temperature in situations where whole body exposure is needed, such as in the trauma bay and during resuscitation of a neonate. In order to prevent burn, it is crucial to place the temperature probe controlling the thermostat over the patient and to maintain the heat source at the recommended distance from the patient.
4. **Internal warming Devices** – Warming of the administered intravenous fluids and blood products and using warm and humidified inspired gases are effective ways to decrease perioperative hypothermia.
   a. Fluid warmer - Infusion of 1L of crystalloid at 20°C can decrease the body temperature by 0.25°C. Circulating warm water through the outer channel of coaxial infusion tubing can be used to warm the intravenous fluid flowing through the inner channel.

b. Humidification of the inspired gas mixture – During anesthesia, the fresh gas flow is cold and dry and body heat is lost to warm and humidify it. The amount of heat energy required to humidify the inspired gas is five times greater than that needed to warm it to body temperature.

Heat loss from warming 1L of inspired gas (20°C to 37°C)

Volume x Specific heat x Temperature

1 x 1.2 J/L/°C x 17°C = 20.4 J

Heat loss from humidifying 1L of inspired gas at 37°C

Volume x Water required x Specific heat

1 x 44 mg/L x 2.4 MJ/kg = 105.6 J

Humidification of inspired gases can be achieved passively, by placing a Heat and Moisture Exchange (HME) filter between the patient and the breathing circuit. The filter is made of hygroscopic material which traps the water vapor from the exhaled gas and transfers it to the gas during the subsequent inhalation.

Alternatively, active humidification can be achieved by adding water vapor into the inhaled gas mixture. This is achieved in one of three techniques.

1. **Bubble humidifiers:** The inspired gas mixture is bubbled through a water reservoir and water vapor gets added to the gas mixture.
2. **Nebulizers:** A mist of water droplets of 2-5 μm can effectively humidify inspired gases. Using the venturi principle, a jet of gas at high pressure can create a space of low pressure and draw liquid from a reservoir and generate a spray. Alternatively, an ultrasonic transducer vibrating at a high frequency can create a mist of water.
3. **Heated humidifier:** Inspired gas is passed over a thermostatically controlled water bath to collect water vapor.

Perioperative hypothermia is associated with adverse intraoperative and postoperative outcomes such as increased blood loss, surgical wound infection and increased length of hospital stay. Continuous monitoring of the body temperature and efforts to maintain it near normal should be an integral part of good anesthetic care. ■

Further Reading

1. Cherian VT, Budde A. Physics of Instrumentation. In Basic Sciences in Anesthesia, E. Farag, et al., Editors. 2018, Springer: Cham, Switzerland. p. 597-612.

2. Kuht J, Farmery AD. Body temperature and its regulation. Anaesthesia and Intensive care Medicine. 2014; 15:273-278

3. Howells EB. Measuring temperature. Anaesthesia and Intensive care Medicine. 2015; 16:358-362

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12:15 pm to 1:15 pm Lunch and Q&A with Guest Lecturers
1:15 pm to 1:30 pm Poster Prizes

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11:00 am Registration
12:00 pm to 1:15 pm Lunch and Q&A with Guest Lecturers
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Course Instructors
Aysha Hasan, MD
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This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Pennsylvania Medical Society and the Pennsylvania Society of Anesthesiologists. The Pennsylvania Medical Society is accredited by the ACCME to provide continuing medical education for physicians.

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Physician Anesthesiologists Week 2019

Erin A. Sullivan, MD, FASA
ASA District IX Director

January 27-February 2, 2019 marked the fifth annual Physician Anesthesiologists Week, a yearly public outreach event initiated by the American Society of Anesthesiologists to showcase awareness about the critical role that Physician Anesthesiologists play in patient safety and in saving lives. In addition to educating policymakers and the public about how when seconds count, Physician Anesthesiologists save lives, special emphasis was placed on education about opioid abuse and what parents need to know about pain management and opioids for their children who are scheduled for surgery and invasive procedures.

On January 30, 2019 The Pennsylvania Society of Anesthesiologists (PSA) thanked the Pennsylvania General Assembly for their resolutions designating the week of January 27, 2019 to February 2, 2019 as Physician Anesthesiologists Week in Pennsylvania.

PSA President Richard Month, MD, said, "We're honored that the House and Senate have unanimously recognized the outstanding work that Physician Anesthesiologists do to ensure the safety and quality of care for all patients in Pennsylvania. In proclaiming Physician Anesthesiologist Week, the General Assembly joins a national observance spotlighting the importance of Physician Anesthesiologists, and we thank them for doing so."

Pennsylvania House Resolution 58 describes physician anesthesiologists as playing "a critical part of a patient's surgical team, as they evaluate a patient's health prior to the procedure, administer the anesthesia, monitor the patient during surgery and assess the patient's status after the procedureiscomplete."

Pennsylvania Senate Resolution 15 says, "Anesthesia is safer than ever before, yet there remains potential for complications and side effects during procedures, and physician anesthesiologists have the training and expertise to help minimize these risks, monitor for any problems and take quick action if necessary." The resolution also says, "During surgeries or procedures, physician anesthesiologists are specifically trained to respond to emergencies and ensure the best patient outcomes."

The second annual Unity Event, uniting all medical providers to raise awareness about opioid addiction was held at the Pittsburgh Zoo and PPG Aquarium. The charity event led by anesthesiology residents at the University of Pittsburgh, sponsored by the Pennsylvania Society of Anesthesiologists, Pennsylvania Association of Nurse Anesthetists and UPMC Health Plan, raised and donated more than $9,000 to the Light of Life Mission, a local non-profit organization committed to improving access to opioid addiction treatment for the homeless population in Pittsburgh. The event was well attended by more than 200 medical providers including physician anesthesiologists, residents from multiple specialties, nurse anesthetists, student nurse anesthetists, registered nurses, internists, surgeons and many others. ■

Quick, Simple, and Inexpensive Ways to Reduce Redistribution Hypothermia

Jonathan V. Roth, M.D.

Hypothermia has multiple adverse consequences and should be avoided.[1,2] In studies assessing whether patients were hypothermic, typically the end of case temperature has been used for this determination and its association with complications. However, there is increasing recognition that intraoperative temperature matters. The American College of Surgeons consider intraoperative hypothermia to be a modifiable risk factor for surgical site infections; they recommend the maintenance of intraoperative normothermia and the use of prewarming.[3] The 2017 CDC guidelines recommend maintenance of perioperative normothermia.[4]

Relatively little attention has been directed to preventing redistribution hypothermia. Some hypothermia complications occur intra-operatively (e.g., coagulopathy, increased transfusion requirements), some post-operatively (e.g., shivering, delayed emergence) and some likely both (e.g., infection risk).[5-7] The contribution of intraoperative hypothermia to postoperative complications may often be unrecognized. End of case hypothermia indicates intraoperative hypothermia. End of case normothermia does not imply intraoperative normothermia. A patient may have been hypothermic intraoperatively, having suffered the consequences of intraoperative hypothermia, achieving normothermia only at the end of the case. It is plausible that if redistribution hypothermia can be reduced, one may be able to reduce the intraoperative and postoperative complications associated with hypothermia.

Anesthesia induction with propofol is known to cause a rapid and clinically important temperature decrease due to redistribution hypothermia, typically by about 1.5°C.[8] Sun *et al* documented that hypothermia is routine during the first hour of anesthesia.[5] "Despite Active Warming Hypothermia is Routine in the First Hour of Anesthesia" was printed on the cover of the February 2015 issue of *Anesthesiology*. Hopf has called for studies to evaluate 1) the effectiveness of interventions to reduce the degree and duration of intraoperative hypothermia, and 2) the effect of these interventions on the broad range of patient outcomes known to be temperature sensitive.[9]

In a study of 300 patients, Roth *et al* investigated 6 different groups of 50 patients, four groups aged 18 to 55 years and two groups aged > 55 years (Table 1).[10] In patients aged 18 to 55 years, Roth found an inhalation induction reduced redistribution by an average of 0.5°C and a 160 mcg bolus of phenylephrine immediately prior to propofol 2.2 mg/kg reduced redistribution by approximately 0.4°C (Figure 1). In patients who received one of these alternative induction techniques, only 16% ever had one core temperature below 36.0°C in the first hour compared to 60% in those who received a standard 2.2 mg/kg propofol induction. In patients aged > 55 years, only 28% ever had one core temperature below 36.0°C in the first hour.

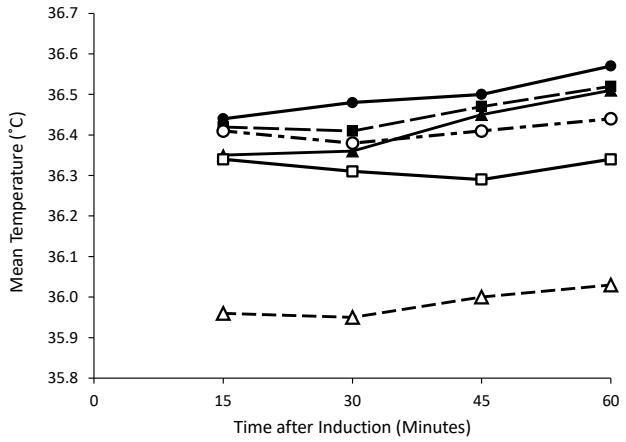
Although not a primary endpoint or conclusion of Roth's study, there was a suggestion that inhalation inductions are more hemodynamically stable than IV propofol inductions. Hypotension can occur rapidly with intravenous propofol inductions. Any changes in blood pressure with inhalation inductions would usually be more gradual and could be addressed earlier, or prophylactically, before there is clinically important hypotension. Retrospective studies have found that adverse outcomes are associated with even short periods of hypotension, but not hypertension.[11]

Techniques that can reduce redistribution hypothermia now include prewarming[12-14], ketamine[15], etomidate[16], phenylephrine infusions[17], amino acid infusions[18], fructose[19], inhalation inductions[10,] and bolus phenylephrine prior to propofol[10]. None of these techniques solve the hypothermia problem fully. Combinations of these techniques (e.g., prewarming followed by inhalation induction, reducing the propofol dose by substituting

FIGURE 1

Mean Temperature ± SD and Number (n) in Each Group at Each Time Point (°C)

	T15	T30	T45	T60
INH/100	36.42 ± 0.49 (50)	36.41 ± 0.49 (50)	36.47 ± 0.53 (37)	36.52 ± 0.56 (27)
INH/50	36.44 ± 0.44 (50)	36.48 ± 0.44 (50)	36.50 ± 0.48 (41)	36.57 ± 0.42 (28)
PROP	35.96 ± 0.40 (50)	35.95 ± 0.41 (50)	36.00 ± 0.45 (43)	36.03 ± 0.53 (32)
Phnl/PROP	36.35 ±0.38 (50)	36.36 ± 0.40 (50)	36.45 ± 0.40 (45)	36.51 ± 0.40 (40)
INH/100 > 55	36.34 ± 0.46 (50)	36.31 ± 0.48 (50)	36.29 ± 0.50 (46)	36.34 ± 0.51 (39)
INH/50 > 55	36.41 ± 0.52 (50)	36.38 ± 0.53 (50)	36.41 ± 0.57 (43)	36.44 ± 0.55 (34)



an analgesic dose of ketamine, prophylactic bolus phenylephrine during inhalation induction) have the potential to result in additional thermal benefit, but require study. The main limitation of Roth's study was that it was not an outcome study. Additional research is needed to definitively demonstrate that a change in induction technique will result in improved clinical outcomes.

In addition to medical benefits, financial benefits may accrue. In the United States, the new MACRA temperature target (35.5°C) may now be easier to achieve.[20] Avoidance of unpleasant side effects (e.g., shivering) may result in less patient dissatisfaction. Reducing hypothermia associated complications will reduce cost. Appendix 1 presents situations where a reduction in redistribution hypothermia may be particularly helpful.

It is rare to find a method that is so easy and inexpensive that has so much effectiveness. A well conducted inhalation induction adds only one or two minutes at the beginning of the case. Total time in the operating room may be less if the warmer patient awakens more rapidly at the end of the case. A bolus of phenylephrine adds 10 seconds. There are other real and potential benefits to inhalation inductions that are beyond the scope of this article. That these techniques do not fully solve the hypothermia problem should not be a reason not to use them. ■

TABLE 1 – STUDY GROUPS

GROUP	AGE (YEARS)	INDUCTION TECHNIQUE
INH/100	18 to 55	Inhalation: 8% sevoflurane in 100% oxygen
INH/50	18 to 55	Inhalation: 8% sevoflurane in 50% oxygen and 50% nitrous oxide
PROP	18 to 55	Intravenous: 2.2 mg Propofol
Phyl/PROP	18 to 55	Intravenous: 2.2 mg propofol preceded by 160 mcg phenylephrine
INH/100>55	>55	Inhalation: 8% sevoflurane in 100% oxygen
INH/50>55	>55	Inhalation: 8% sevoflurane in 50% oxygen and 50% nitrous oxide

APPENDIX 1 – Situations where patients are at increased risk of developing a greater degree of hypothermia or may have increased risk of hypothermia associated complications.

Risk posed by postoperative hyperdynamic/tachycardic response to hypothermia
- Coronary artery disease
- Stenotic valvular heart disease
- Dynamic obstructive cardiomyopathies

Increased risk or consequence of infection
- Immunocompromise
- Colon surgery
- Foreign body placement (e.g., artificial joints)

Potential for large blood loss increased by hypothermia induced coagulopathy
- Spine surgery
- Liver surgery
- Prostate resection
- Large exposure of tissues that have a propensity to bleed
- Hypercarbia exacerbating hypothermia induced coagulopathy

Increased risk of hypothermia due to patient characteristics
- Elderly
- Frail

Inability or delay in warming patient or environment
- Lateral or prone positioning
- Other prolonged positioning
- Robotic surgery
- Axillary-bifemoral artery bypass
- Large surface area burn
- Remote location with inability to adjust ambient temperature
- Warming devices not available

Risk from hypothermia induced vasoconstriction
- Vascular surgery
- Raynaud's disease or syndrome
- Free flap with arterial vascular anastomosis

References:

1. Sessler DI. Complications and treatment of mild hypothermia. Anesthesiology. 2001; 95:531-543.

2. Stewart PA, Liang SS, Li QS, Huang ML, Bilgin AB, Kim D, Phillips S. The impact of residual neuromuscular blockade, oversedation, and hypothermia on adverse respiratory events in a postanesthetic care unit: A prospective study of prevalence, predictors, and outcomes. Anesth Analg. 2016; 123(4):859-868.

3. Ban KA, Minei JP, Laronga C, Harbrecht BG, Jensen EH, Fry DE, Itani KMF, Dellinger EP, Ko CY, Duane TM. American College of Surgeons and Surgical Infection Society: Surgical Infection Guidelines, 2016 update. J Am Coll Surg. 2017; 224:59-74.

4. Berríos-Torres SI, Umscheid CA, Bratzler DW, Leas B, Stone EC, Kelz RR, MD, Reinke CE, Morgan S, Solomkin JS, Mazuski JE, Dellinger EP, Itani KMF, Berbari EF, Segreti J, Parvizi J, Blanchard J, Allen G, Kluytmans J, Donlan R: Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017.JAMA Surg. 2017; 152(8):784-791.

5. Sun Z, Honar H, Sessler DI, Dalton JE, Yang D, Panjasawatwong K,Deroee AF, Salmasi V, Saager L, Kurz A. Intraoperative core temperature patterns, transfusion requirement, and hospital duration in patients warmed with forced air. Anesthesiology. 2015; 122:276-285.

6. Winkler M, Akca O, Birkenberg B, Hetz H, Scheck T, Arkilic CF, Kabon B, Marker E, Gru A, Czepan R, Greher M, Goll V, Gottsauner-Wolf F, Kurz A, sessler DI. Aggressive warming reduces blood loss during hip arthroplasty. Anesth Analg. 2000; 91:978-984.

7. Rajagopalan S, Mascha E, Na J, Sessler DI. The effects of mild perioperative hypothermia on blood loss and transfusion requirement. Anesthesiology. 2008; 108:71-77.

8. Ikeda T, Sessler DI, Kikura M, Kazama T, Ikeda K, Sato S. Less core hypothermia when anesthesia is induced with inhaled sevoflurane than with intravenous propofol. Anesth Analg. 1999; 88:921-924.

9. Hopf HW. Perioperative Temperature Management. Time for a New Standard of Care? Anesthesiology. 2015; 122(2):229-230.

10. Roth JV, Braitman LE: Induction techniques that can reduce redistribution hypothermia. Abstract presented at the American Society of Anesthesiologists Annual Meeting, October 23, 2016.

11. Monk TG, Bronsert MR, Henderson WG, Mangione MP, Sum-Ping ST, Bentt DR, Nguyen JD, Richman JS, Mequid RA, Hammermeister KE. Association between Intraoperative Hypotension and Hypertension and 30-day Postoperative Mortality in Noncardiac Surgery. Anesthesiology. 2015; 123:307-319.

12. Andrzejowski J, Hoyle J, eapen G, Turnbull D. Effect of prewarming on post-induction core temperature and the incidence of inadvertent perioperative hypothermia in patients undergoing general anaesthesia. Br. J. Anaesth. 2008; 101:627-631.

13. Bock M, Muller J, Bach A, Bohrer H, Martin E, Motsch J. Effects of preinduction and intraoperative warming during major laparotomy. Br. J. Anaesth. 1998; 80:159-163.

14. Camus Y, Delva E, Sessler DI, Lienhart A. Pre-induction skin-surface warming minimizes intraoperative core hypothermia. Journal of Clinical Anesthesia. 1995; 7:384-388.

15. Ikeda T, Kazama T, Sessler DI, Toriyama S, Niwa K, Shimada C, Sato S. Induction of anesthesia with ketamine reduces the magnitude of redistribution hypothermia. Anesth Analg. 2001; 93:934-938.

16. Park HP, Kang JM, Jeon YT, Choi IY, Oh YS, Hwang JW. Comparison of the effects of etomidate and propofol on redistribution hypothermia during general anesthesia. Korean J Anesthesiol. 2006; 50:S19-S24.

17. Ikeda T, Ozaki M, Sessler DI, Kazama T, Ikeda K, Sato S. Intraoperative phenylephrine infusion decreases the magnitude of redistribution hypothermia. Anesth Analg. 1999; 89(2):462-465.

18. Aoki Y, Aoshima Y, Atsumi K, Kaminaka R, Nakau R, Yanagida K, Kora M, Fujii S, Yokoyama J. Perioperative Amino Acid Infusion for Preventing Hypothermia and Improving Clinical Outcomes During Surgery Unger General Anesthesia: A Systematic Review and Meta-analysis. Anesth Analg. 2017; 125:793-802.

19. Mizobe T, Nakajima Y, Ueno H, Sessler DI: Fructose administration increases intraoperative core temperature by augmenting both metabolic rate and the vasoconstriction threshold. Anesthesiology 2006; 104:1124-30.

20. MIPS Standard #424, The Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), Centers for Medicare and Medicaid Services. Federal Register, November 4, 2016.

2019 ASA Practice Management Conference

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DREXEL UNIVERSITY COLLEGE OF MEDICINE

The ASA's Practice Management 2019 meeting was held January 18-20, 2019 in "fabulous" Las Vegas, Nevada. While 3-2 blackjack is becoming increasingly rare (6-5 is rapidly becoming the "new normal"), odds are even the most finicky attendees found outstanding comestibles. The theme of the conference was "Defining the Future". While most attendees entered the meeting with a Justice Potter Stewart "I'll know it when I see it" understanding of what lies ahead, I believe most left Las Vegas with a much clearer understanding of the future, even if their wallets were lighter.

As has been the case in past years, the meeting tried to appeal to members with varying backgrounds on the non-scientific issues involved in the practice of anesthesia. The first day is broken into three individualized pathways: Fundamentals of Practice Management intended for those with fewer than five years of experience in the area of practice management; AAE (Anesthesia Administrators and Executives) Conference: Undeniable Value-Beyond Showing Up; and Touchpoint Series for those physicians who already have an advanced background.

The Fundamentals track included lectures and Q&A sessions with topics on leadership and professionalism, OR management, contract negotiation and coding, and quality improvement. The AAE track included sessions on the delineation of value in an anesthesia group and the quantification and communication of that value. The "Touchpoints" session addressed more advanced physician management issues such as MACRA, Perioperative Surgical Home and negotiations of practice mergers and with third party providers.

All enrollees were reunited on day two of the conference. There, we were treated to the keynote address, "Thriving Physicians-The Key to Resilient Medical Organizations," presented in the unique Cajun style of Wayne Sotile, PhD. Dr. Stanley Stead parlayed his love of Game of Thrones into a unique presentation entitled "Winter is Coming-Lessons from Westeros in Dealing with Inevitable Changes in Healthcare." ASA Chief Advocacy Officer Manuel Bonilla reported on the goings-on (or lack thereof) in Washington, DC. A MACRA update was provided by Sharon Merrick, ASA's Director of Payment and Practice Management, and Matthew Popovich the organization's Director of Quality and Regulatory Affairs. The morning was capped off by an update from ASA President Linda Mason, M.D. After lunch, there were several more lectures dealing with the relationship between anesthesia groups and their hospitals and methods to improve value to one's hospital. The afternoon concluded with a series of round-table discussions on over 20 topics with acknowledged leaders in their field.

Day two of the conference also featured an entire session for residents devoted to all the issues they need to understand that cannot be seen by ultrasound. This would include modes of anesthesia practice, CV design, contract negotiation, ABC's of reimbursement, efficiency in the OR and what NOT to do with that first "fat" paycheck among other subjects. Obviously, the writer was not able to attend this concurrent session, but it sounds like some of this material would have been useful for more experienced practitioners as well.

The conference concluded on Sunday morning with more interesting talks related to the changing world of medicine including how to deal with generational changes in expectations, diversity in the workforce, being an employee of a large organization and with real-life human resources disasters and how best to avoid them. Then, it was time for a quick trip to the cheap tables and a flight home from what was, in the author's opinion, a very worthwhile conference. What happened in Vegas will definitely not stay in Vegas. For those who missed it, or who want to further pursue the matters discussed, mark your calendars as Practice Management 2020 is scheduled for January 17-19, 2020, again in Las Vegas. Buffets will be standing by! ■

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