I have a series of rules that I like to apply in the ED. I share them with my residents, who are very good at ignoring them. The rules are at once insightful, funny, condescending and truthful. Rule number four is “Never ask ‘why;’ you will never get a satisfactory answer.” Think about it next time you are tempted to ask a patient why they came to your busy ED with some ridiculous, trivial problem. In this President’s Message, I am going to violate rule four.

In my years of service to AAEM, I have had the opportunity to meet many emergency docs. I ask them about their working conditions and their employers; I hear horror stories about how they are fired, manipulated, underpaid and abused. A typical story sounds like this “Our boss is such a jerk. He barely works one shift a week, never works a night shift, doesn’t do anything about the terrible conditions in the ER, takes full credit for keeping the ER running and – based on his house – he must make twice as much as we are…”

So, here’s my question: Why do we emergency docs put up with this crap?

Many of us don’t. By virtue of the fact that you are reading this, you are probably an AAEM member. As such, you have set yourself apart from most of our peers as being particularly aware and concerned about issues such as professional integrity, working conditions, job security and pay. You are much more likely to understand that most contract holders, big and small, do not care about the doctors working for them. Their sole concerns are making money and protecting those contracts. And so, as an AAEM member, I bet you are less likely to work for such a contract holder.

But why do so many of our peers essentially go to contract holders and say “Come on, Mr. Corporate Boss, give me a job where you underpay me, interfere with my patient care, and give me fewer employment rights than the janitor who empties the trash in my ER?”

I have heard many emergency docs complain that reimbursement for their services is unfair. They are right. We treat far more uninsured and underinsured patients than any other specialty. We work in the only health care setting where doctors are mandated to provide free care. Insurers hatch countless schemes designed to justify reduced payments or to deny payment entirely. And it will only get worse. So why do so many of our colleagues compound that unfairness by allowing business people to siphon off tens of thousands of dollars of their professional fees?

The explanation I’ve heard is that some emergency docs “choose” to avoid the headaches of maintaining a business. They allow someone else to handle all the business issues for them and are willing to pay additional money for that service.

This argument is pure manure. AAEM has well documented estimates that contract management companies siphon $50-75K of profit from each emergency doc working for them. That is after all operating expenses. A group of emergency docs could easily hire a professional management service to handle their business operations and keep the bulk of the money that is currently going into the deep pockets of their bosses. It is a secret the suits don’t want you to know, which is why they work so hard to keep doctors from seeing how much money is collected for their professional services.

So again I ask, why would a group of presumably intelligent emergency docs fail to organize into a cohesive, independent unit and take control of their own operations, increasing their income by tens of thousands of dollars?

As rule number four predicts, I have never gotten a satisfactory answer to these questions. I get lots of blank stares. I have plenty of young docs tell me “Well, this hospital is in an ideal location for me and my growing family…” I get plenty of mumbling about not wanting to be a troublemaker. Many of our peers feel they have no choice. Nothing satisfactory. I do not expect a satisfactory answer to emerge until the leadership of our specialty convinces a critical mass of our colleagues to take control of their own professional futures. Perhaps someday…
EDITOR’S LETTER

Dinner with a Legend

David D. Vega, MD FAAEM

Recently, I had the distinct pleasure of meeting Dr. Peter Rosen. At a relaxed dinner engagement, he spoke to a small group of us about some of the early history of our specialty and shared his views on the future of emergency medicine. Using thoughtfully chosen words, tempered with many years of experience and decorated with a fiery lexicon, he relayed many of the various struggles and achievements that led him to where he is today. There is hardly an aspect of emergency medicine in which Dr. Rosen has not been involved. It is no surprise at all that AAEM offers the Peter Rosen Award, recognizing individuals who have made an outstanding contribution to the organization in the area of academic leadership.

Dr. Rosen and the other early leaders in emergency medicine have set the bar high for us today. The contributions of these pioneers compel us to take pause and consider our own involvement in supporting our specialty. The challenge is ours to continue the fight to make our specialty continuously better.

Health care is hungry for visionary physician leaders that will stand up for physicians and patients despite pressures to the contrary. While few physicians will ever achieve the level of academic success of Dr. Rosen, we each must seek to leave our mark in our own realms. This starts with having the highest personal standards of care for our patients and extends to supporting, financially and with our time and efforts, organizations that protect our ability to care for patients.

I encourage you to consider your support of AAEM in its mission to continue improving the specialty of emergency medicine. Talk to your colleagues, and help them realize the importance of joining AAEM. Take a look at AAEM’s list of committees, taskforces and interest groups (http://www.aaem.org/committees/) and see where you can help.

continued on page 7
House Holds Hearing on Drug Shortages
Kathleen Ream, Director of Government Affairs

According to testimony given at a late September hearing held by the House Energy and Commerce Committee’s Health Subcommittee, early warnings from drug companies about looming shortages of pharmaceuticals along with better manufacturing practices would help address the growing problem of drug shortages. The problem is quickly becoming a national health care crisis, as shortages of cancer, anti-infection and anesthesia drugs occur without warning when patients are in desperate need of the medications.

Subcommittee Chair Joe Pitts (R-PA) opened the hearing noting that the number of drug shortages reported to the Food and Drug Administration (FDA) increased from 61 in 2005 to 178 in 2010. In addition to cancer and anesthesia drugs, the products include “drugs needed for emergency medicine, and electrolytes needed for patients on IV feeding.” A staff memo Pitts released at the hearing said that more than 240 drugs in 2010 were either in short supply or completely unavailable.

Administration witnesses Howard Koh, assistant secretary for health at the Department of Health and Human Services (HHS), and Sandra Kweder of the FDA, said that the number of drug shortages has been rising steadily over the past five years. Both Koh and Kweder suggested some remedies for the problem, but neither voiced confidence that it would be solved anytime soon because of the complex reasons for the shortages. One reason cited is that consolidation of the pharmaceutical industry has left fewer suppliers of the drugs subject to shortages, which in turn results in fewer plants being forced to make more of the drugs. With plants so busy filling orders for so many different types of drugs, they are not taking time to do needed maintenance; this leads to breakdowns in manufacturing, which ultimately cause supply problems. Other reasons included changes in inventory and distribution practices (e.g., “just in time” methods whereby hospitals save on inventory costs by ordering only small quantities of drugs, leaving providers less able to deal with shortages when they occur), shortages of underlying raw materials, and unanticipated demand.

One major reason for the shortages cited in the hearing is that manufacturers are losing interest in producing drugs that are off-patent and sold as generics at prices that leave little room for profits. This brought up a question of whether government policy is in some way interfering with the forces of supply and demand. “In our push to make products more affordable, are we tripping over ourselves?” asked Representative Tim Murphy (R-PA).

The administration officials also mentioned a disturbing aspect of the issue — development of a “gray market” in which some suppliers have been able to come up with quantities of drugs in shortage and sell them to hospitals at exorbitant prices. Some of those drugs are counterfeit, and in other cases, their quality is suspect.

As for solutions, they both said earlier warnings that manufacturers expect shortages would help. A bipartisan bill — H.R. 2445 — introduced by Representative Diana DeGette (D-CO) addresses that issue. The measure requires companies to alert the FDA when they expect shortfalls. Kweder pointed out that, when FDA does hear about a potential shortage, it is able to work with the company to solve the problem or with other manufacturers to increase their supplies of the drug. Koh added that, through this FDA drug shortages program, the agency prevented 99 drug shortages in 2011.

Witnesses representing industry included Jonathan Kafer of Teva Pharmaceuticals and Mike Alkire of Premier Healthcare Alliance. Kafer said that drug shortages are a complex and multi-stakeholder issue and that all involved must work together to resolve the issue. He called for greater communication among all the stakeholders (active ingredient suppliers, generic and brand manufacturers, wholesalers and distributors, health care providers, and government agencies), along with expedited FDA review of new manufacturing facilities and active ingredient suppliers when a drug shortage occurs. In addition, Kafer said the FDA should collaborate with the Drug Enforcement Administration (DEA) to establish a process that would streamline the DEAs quotas of active drug ingredients in response to drug shortages of controlled substances. Currently, the DEA limits the amount of active ingredients manufacturers may purchase for controlled substances.

Alkire’s suggestions for dealing with drug shortages included:

• shorten the approval process for medically necessary generic drugs that appear to be in shortage;
• encourage the FDA’s drug shortage program to engage members of the health care community in discussions to prioritize which drugs are critically necessary for treatment that may be at risk for shortage due to insufficient manufacturing capacity;
• create a fast-tract approval of new active pharmaceutical ingredient suppliers for medically necessary drugs in shortage;
• require manufacturers to notify the FDA of planned discontinuation or interruption in the manufacture of drugs as soon as practicable; and
• create a stakeholder committee to advise the FDA on market conditions.

Summary Judgment Granted to Hospital with No Capacity to Provide Mental Health Screening
On July 13, 2011, the U.S. District Court for the District of Nevada granted summary judgment to a hospital on a claim, brought by a patient’s estate and family, alleging that the hospital violated EMERGENCY MEDICAL TREATMENT AND Active Drug Ingredients in response to drug shortages of controlled substances. Currently, the DEA limits the amount of active ingredients manufacturers may purchase for controlled substances.

On July 25, 2008, an ambulance was dispatched to a casino responding to a report that Oscar Aniceto Mejia-Estrada was “displaying suicidal and homicidal ideation.” Mejia-Estrada was transported for evaluation to the Emergency Department at the Sunrise Hospital and Medical Center in Las Vegas, Nevada. The physician examining and evaluating the patient concluded that Mejia-Estrada did not have an “acute/emergent medical condition” and was not a suicide or homicide risk. Mejia-Estrada was discharged from the Sunrise ED approximately an hour after his arrival.

Accompanied by family members, Mejia-Estrada returned to the Sunrise ED on July 27, 2008, at 12:40a.m. In 2008, Sunrise did not have licensed psychiatric beds and, since it did not provide...
psychiatric services, the hospital did not have a psychiatrist listed in the physician ED on-call roster. However, all of the Sunrise ED physicians were qualified and competent to perform a medical screening examination (MSE) to determine if an emergency medical condition related to a psychiatric condition was present.

Examined and evaluated by a triage nurse and by an ED physician, Mejia-Estrada “appeared to have altered thought processes, and reported restlessness and anxiety that was moderate in severity. He denied suicidal ideation or plan. He also appeared agitated, had hyperactive body language and respiratory distress was present.” Concluding that Mejia-Estrada did not have any physical illness or injury, but based on “his chief complaints of depression and anxiety, [Mejia-Estrada] was assessed as a suicide risk.” The ED physician executed a form at 2:30a.m. giving medical clearance for Mejia-Estrada to have a psychiatric evaluation and also admitting him to the hospital for appropriate medical care. Issued a hospital gown and socks, Mejia-Estrada was held in the ED discharge observation unit awaiting the requisite psychiatric evaluation from Southern Nevada Adult Mental Health to determine whether he would be admitted to their psychiatric facility. An ED nurse initiated “suicide precautions” at about 5:25a.m.

At 12:45p.m. a nurse assistant found Mejia-Estrada lying face down, unresponsive, and with a faint pulse. Security, an ED nurse and a respiratory technician were contacted. The respiratory technician examining Mejia-Estrada found two socks stuck in his mouth and throat. Efforts to revive Mejia-Estrada were unsuccessful, and Mejia-Estrada was pronounced dead at or about 1:00p.m. Decedent’s heirs, including Erendira Esperanza Guzman-Ibarguen, sued Sunrise and others for an alleged EMTALA violation – failing to provide appropriate medical screening examination – and for an alleged state medical malpractice claim. The hospital moved for summary judgment on the EMTALA claim.

The Ruling

Drawing on the United States Court of Appeals for the 9th Circuit’s decision in Baker v. Adventist Health, Inc., 260 F.3d 987 (9th Cir. 2001), the federal district court wrote that “EMTALA explicitly limits the screening examination that a hospital is required to provide to one that is within the capability of the hospital’s emergency department.” Grounded on that appellate decision, the district court held that “[t]he record clearly establishes here that while Defendant Sunrise Hospital performed a medical screening of Mr. Mejia on July 27, 2008, it did not at that time have the capability to perform mental health screening.” For that reason, the district court determined there was no genuine issue “of material fact that Sunrise Hospital violated EMTALA . . . . Sunrise Hospital cannot be charged with discriminating against Mr. Mejia by failing to provide him with mental health screening where the hospital lacked the capacity to do so.” Thus, the court granted summary judgment to the hospital on the EMTALA claim.

The district court also added that as made clear in the Ninth Circuit’s decision in Baker, EMTALA “. . . is not intended to create a national standard of care for hospitals or to provide a federal cause of action akin to a state law claim for medical malpractice. Indeed, EMTALA expressly contains a non-preemption provision for state remedies.” Accordingly, the court added that the question as to whether Sunrise and the other named Defendants adequately discharged their duty of care to protect against Mejia-Estrada’s suicide would continue as the Plaintiffs’ claim of medical malpractice against Defendants since this issue is not determinative of Plaintiffs’ EMTALA claim.

For the full text of the court’s decision, go to http://law.justia.com/cases/federal/district-courts/nevada/nvdc/2:2010cv01228/74881/80.

EMTALA case synopsis prepared by Terri L. Nally, Principal, KAR Associates, Inc.

AAEM Opposes Proposed Changes to the Common Program Requirements

The American Academy of Emergency Medicine (AAEM) opposes the proposed changes to the Common Program Requirements that would require residents or fellows entering ACGME accredited training programs to complete prerequisite training in only ACGME or RCPSC accredited programs, and restricts graduates of AOA residency programs from serving as faculty at ACGME residency programs.

This proposed change will affect those candidates that have completed an AOA accredited internship or more extended AOA training that desire to enter ACGME accredited residency training or candidates that have completed AOA residency training who desire to enter ACGME accredited fellowship training. Considering that AOA program requirements and inspection processes are nearly parallel to ACGME standards, one would expect equivalency of graduates of ACGME/RCPSC training programs and AOA training programs. Regardless, such candidates undergo a detailed review process before selection into an ACGME program or placement on a Match List. We believe the issue of transfer between programs to be more complex in terms of equivalency of experience and we do not take a position regarding awarding credit for such circumstances.

Many emergency medicine ACGME accredited residency programs have matriculated AOA internship graduates and have found them to be of high quality and competence. Likewise, many emergency medicine ACGME accredited residency programs utilize AOA graduates as faculty and have found them to be of high quality and competence. In my own personal experience, as a faculty member at one of the few dually accredited ACGME and AOA emergency medicine training programs, I have had the opportunity to work with dozens of residents who have completed AOA accredited internships, fellows who have completed AOA accredited residencies, and attending faculty who are AOA graduates. I cannot distinguish between the AOA prepared residents, fellows, and attending faculty in terms of their skills and abilities, compared to their ACGME prepared colleagues that work with them side-by-side.

Please reconsider these proposed revisions to the Common Programs Requirements and revise them to include AOA accredited prerequisite training programs, along with ACGME and RCPSC.
Levels of recognition to those who donate to the AAEM Foundation have been established. The information below includes a list of the different levels of contributions. The Foundation would like to thank the individuals below that contributed from 1/1/11 to 11/20/11.

AAEM established its Foundation for the purposes of (1) studying and providing education relating to the access and availability of emergency medical care and (2) defending the rights of patients to receive such care, and emergency physicians to provide such care. The latter purpose may include providing financial support for litigation to further these objectives. The Foundation will limit financial support to cases involving physician practice rights and cases involving a broad public interest. Contributions to the Foundation are tax deductible.

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Registration is now open for the 18th Annual Scientific Assembly, February 8-10, 2012, at the Hotel del Coronado in San Diego, CA. In addition to the general assembly, AAEM is offering an abundance of new cutting edge preconference courses, February 6-7, 2012, including:

Advanced Obstetrics Simulation Course - Designed for emergency physicians of all levels to teach skills not received during EM training or to refresh delivery skills and procedures that are rarely used but “high-risk” when encountered in the ED setting. This course, co-sponsored by the Uniformed Services Chapter of the American Academy of Emergency Medicine, will include didactic and intensive simulation training in 3 high-risk delivery scenarios.

Pediatric Emergency Department Simulation (PEDS) - Procedure Lab - Designed for emergency physicians seeking a practical, hands on course in the management of critical pediatric scenarios including the performance of invasive procedures. Task trainers and simulators will be used in a skills lab designed for emergency physicians of all levels. Participants will rotate through three pediatric critical case scenarios (airway, trauma and sepsis) in which they will simulate the critical decision making skills required for the successful resuscitation of critically ill pediatric patients.

Practice Management Bootcamp - The course will present a clinically-based approach to documentation and coding of physician services provided in the emergency department that will identify how to properly report and capture appropriate RVUs and reimbursement for professional services. Topics include documentation of clinically appropriate HPI, ROS, Family, Medical and Social histories, exam elements and management options, tests and studies considered, ordered and evaluated, differential diagnoses, treatment decisions and disposition considerations.

Update on Humanitarian and Disaster Relief Missions: Bringing Military Experience to You - Recent military experiences in Iraq, Afghanistan, Haiti and other countries with humanitarian and disaster relief will be discussed. Tentative plans include conducting the class on the USNS Mercy, one of the US Navy’s two hospital ships, with a guided tour.

Wellness for the Emergency Physician - Participants in this session on emergency physician wellness will have the opportunity to learn key tips and techniques from recognized experts to improve career longevity, minimize fatigue through improved scheduling, diet, exercise, and sleep hygiene, discuss key financial planning strategies and learn keys to deal with malpractice stress.

Recognition Given to Foundation Donors - continued from page 5

Additional results oriented and clinically relevant preconference courses offered include:

Pediatric Emergencies: Children are Not Little Adults - This course will serve as a venue in which the emergency physician may fine tune and polish their skills in the assessment and management of pediatric emergencies.

Resuscitation for the Emergency Physician - The first integrated resuscitation course developed by an emergency medicine professional society that is tailored to the needs of emergency physicians. During this advanced course a broad spectrum of topics will be presented including medical and trauma care as well as neonatal, pediatric and adult resuscitation.

This Won’t Hurt a Bit! Regional Anesthesia for the ED - This course will review the indications for and the techniques of regional pain blocks in the emergency department including: Hand/Wrist; Ankle/Foot; Head and Neck - Facial and Dental Blocks and Intraarticular (shoulder) blocks for joint reduction. Use of ultrasound for femoral nerve and shoulder blocks as well as contraindications, complications and adjuncts will be reviewed as well.

Ultrasound Courses - Whether you’re a beginner or a seasoned sonographer, the ultrasound courses will be worth your time. We will be offering a one-day course for beginners that will include didactic sessions on physics, trauma exam (FAST), abdominal aorta and ultrasound assisted procedures (including central line placement). Physicians who have already taken an introductory course will have an opportunity to build their own ultrasound course in our advanced modules. Modules will be offered in Pulmonary, OB/GYN scanning (including endovaginal), Vascular access (Central and Peripheral lines), Peripheral Nerve Blocks, Head & Neck US, Musculoskeletal and eleven more additional modules.

2011 LLSA Review Course - Designed to provide the experienced emergency physician with an evidence-based review course for all of the required readings for the 2011 LLSA Review Course. Both direct instruction and small group instruction will be utilized.

For more information about the dates, times and registration fees for these courses, please view the preliminary program at www.aaem.org.
Upcoming AAEM–Sponsored and Recommended Conferences for 2012

AAEM is featuring the following upcoming sponsored and recommended conferences and activities for your consideration. For a complete listing of upcoming endorsed conferences and other meetings, please log onto http://www.aaem.org/education/conferences.php

AAEM–Sponsored Conferences

February 6, 2012
Pediatric Emergencies: Children are Not Little Adults
Hotel Del Coronado • San Diego, CA
http://www.aaem.org/education/scientificassembly/

February 6, 2012
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February 6, 2012
Update on Humanitarian and Disaster Relief Missions: Bringing Military Experience to You
Hotel Del Coronado • San Diego, CA
http://www.aaem.org/education/scientificassembly/

February 6, 2012 – February 7, 2012
Resuscitation for Emergency Physicians: The AAEM Course
Hotel Del Coronado • San Diego, CA
http://www.aaem.org/education/scientificassembly/

February 7, 2012
Advanced Ultrasound Course
Hotel Del Coronado • San Diego, CA
http://www.aaem.org/education/scientificassembly/

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Introductory Ultrasound Course
Hotel Del Coronado • San Diego, CA
http://www.aaem.org/education/scientificassembly/

February 7, 2012
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February 7, 2012
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http://www.aaem.org/education/scientificassembly/

February 7, 2012
Wellness for the Emergency Physician
Hotel Del Coronado • San Diego, CA
http://www.aaem.org/education/scientificassembly/

February 8-10, 2012
18th Annual Scientific Assembly
Hotel Del Coronado • San Diego, CA
http://www.aaem.org/education/scientificassembly/

May 16-18, 2012
Inter-American Emergency Medicine Conference
Panamericano Buenos Aires Hotel
Buenos Aires, Argentina
http://www.aaem.org/education/iaemc/

May 18-20, 2012
Pan-Pacific Emergency Medicine Congress (PEMC)
Coex Convention and Exhibition Center
Seoul, South Korea
http://www.pemc2012.org

May 23-25, 2012
High Risk Emergency Medicine- San Francisco
San Francisco, CA
www.highriskem.com

June 8-10, 2012
The Difficult Airway Course-Emergency™
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www.theairwaysite.com

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www.highriskhawaii.com

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www.theairwaysite.com

May 23-25, 2012
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Editor’s Letter - continued from page 2

Commit to giving financial support to the AAEM Foundation. More than ever before, physicians need to be engaged and involved. Now is the time to step up to the challenge set by the founders of our specialty.

New Associate Editor of Common Sense

I am pleased to announce that Dr. Mark Doran, FAEM, will be joining us as associate editor of Common Sense. Mark is an active clinician and a member of the emergency medicine residency faculty at York Hospital in York, Pennsylvania. He is also a member of AAEM’s Legal Committee. We look forward to his contributions in making Common Sense an even more valuable publication for the members of AAEM.

AAEM ED Group Membership NEW AND IMPROVED!

AAEM instituted group memberships to allow hospitals/groups to pay for the memberships of all their EM board certified & board eligible physicians. Each hospital/group that participates in the group program will now have the option of two ED Group Memberships.

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For these group memberships, we will invoice the group directly. If you are interested in learning more about the benefits of belonging to an AAEM ED group, please visit us at www.aaem.org or contact our membership manager at info@aaem.org or (800) 884-2236.
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This issue’s article is meant to be a refresher for those new grads who haven’t secured a new position yet and for those who may be thinking of a change and aren’t sure what type of job they may be looking for. YPS has received several requests to review the types of jobs that exist in EM, so the intent of this article is to familiarize those upcoming grads and those looking for a new job with the basics of emergency medicine groups.

The first decision one has to make is academic vs. non-academic emergency medicine. Most grads will practice in non-academic environments, but there are some who prefer academics and will want to pursue that career course.

The academic practice is ideal for those physicians who want to teach and influence the development of future emergency physicians. Academic physicians value the teaching environment, research opportunities and lifelong personal learning. As an attending physician, most direct patient care is through the residents. The attending oversees several patients, has to ensure proper care is being given by the residents, and is responsible for training and educating residents during busy shifts. Academic physicians typically work a set amount of hours and are salary-based, since RVU-based income may influence the amount of teaching that is delivered. The physician will typically work less clinical shifts since a portion of their responsibilities will include education and research. This may lead to longer job satisfaction and less physician burnout. The hospital is typically responsible for all billing and collections, and malpractice is generally covered by the employer. Since academic programs take place in academic centers, there is little concern about contract maintenance, and the physician is considered an employee of the hospital. Other than patient care, the main responsibility of the physician is a continued commitment to education. These positions typically require fellowship training to attain, so the extra years of training are an important consideration to factor into your decision.

Now on to non-academic emergency medicine, where several options exist.

**Hospital Employee**

With this option, the emergency physician may be hired directly by the hospital to staff the emergency department. The physician generally negotiates his or her own individual contract with the hospital administrator and is considered a hospital employee. This option allows the physician to sign on as an individual and negotiate the best contract possible. Individual contracts may be salary, hourly or RVU fee for service based. As a hospital employee, the physician is given the additional benefits that all hospital employees have. These may include medical and dental insurance, retirement funding and CME funding. These benefits are typically calculated into the physician’s total compensation package, so actual salaries may be lower than those in contract management groups or democratic groups. In return, the physician is considered a hospital employee and is responsible primarily for patient care in the emergency department. This type of practice ensures that physicians are not vested in their own practice and therefore have less of a “practice group” mentality but rather a hospital-supporting role. The physician will answer to the department director, who, in turn, reports to administration. The hospital is responsible for billing and collecting, other administrative duties and malpractice insurance. There are no contracts to maintain, limiting the physicians responsibility to his/her personal performance only.

**Contract Management Groups**

Corporate groups are those that are managed by corporations as opposed to being run by the physicians in the group. A contract management group (CMG) holds contracts with individual hospitals with the promise to provide physician services, and it, in turn, employs physicians to fulfill those contracts. From a hospital perspective, because of the large network of contracts, billing services and physician employees, CMGs may be able to offer lower contract costs to smaller hospitals, which are also looking at the bottom line. The contract management group deals with all the financial management and human resources aspects and subsequently pays the physicians for their work within the contracted ED. The physician may either be employed directly by the group or work as an independent contractor on behalf of the group. Traditionally, the physician provides clinical care and has little input as to the finances of the group and how they are to be managed. Physician employees of CMGs typically work for a salary, with bonuses tied to patient satisfaction and resource utilization. Often, CMGs may take a disproportionately large part of the emergency physician’s billed and collected professional fees as remuneration for administrative services provided by the group.

As with smaller democratic groups, the need to maintain the contract still exists, and physicians still must maintain strong relationships with hospital administration. As an employee of the CMG, the physician must also maintain good relationships with the CMG administration, thus adding an additional layer of responsibility on the emergency physician. The physician thus functions as an employee of two entities and may have difficulty in keeping both employers satisfied. The fact that CMGs are corporately run places an emphasis on the bottom line and profits. This emphasis may alter patient management practices on the part of the physician. This is part of the reason that many states have laws against the corporate practice of medicine. The advantage of belonging to a CMG is the ability to work at multiple locations while still being employed by the same employer. This may be attractive to young physicians unsure about what size or type of ER they want to work in or what location a physician wishes to live in.

**Democratic Group**

This is the type of practice endorsed by AAEM. In this type of group, member physicians are equal partners in terms of having a vote
within the group’s operations. Members are also business partners that share a portion of the collected revenue, vote on important decisions, and are active in the group, and subsequently, with hospital politics and committees. In this arrangement, the physician is able to collect the largest portion of services billed and monies collected on behalf of the physician. The group is responsible for maintaining its own financial management, human resources, billing and coding, and most importantly, contract management. Such obligations typically entail having a senior member of the group direct most of these management operations.

While members of the group are equal, one may be required to start out as an employee of the group, rather than as a partner. After an agreed upon time has passed, which can range from 1 to 5 years, the employee may then “buy-in” to the group and become a partner. The buy-in often is an outlay of money required on the part of the physician, usually paid via reduced reimbursement of the physician until a certain amount of money is accumulated. Some groups may have other processes for the buy-in.

True democratic groups should have an “open-books” policy, where the physicians are kept up-to-date with the amount of collections, expenses and the salaries/reimbursements to the group, as well as the rest of the partners. As either an employee or partner, the physician may still operate as an independent contractor. As an individual business entity, the physician must manage his/her own administrative tasks including medical benefits, retirement accounts, and CME funding and tracking. These extra tasks often require hiring various professionals (i.e., lawyers or accountants) to help alleviate the physician’s burden, which may offset the extra income earned in a democratic partnership.

Keep in mind that hybrids of the above mentioned groups do exist, and one should research each respective employment opportunity carefully to decide which may serve his/her needs the best. Several community-based hospitals do train residents through university affiliations, and some academic programs may in fact contract their ED staffing to independent groups. These hybrids may be suited for those who enjoy teaching, but not full time.

Personally, I work in a community-based hospital and am part of an independent group. This hospital possesses family practice, internal medicine and OB/GYN residency programs. All three specialties send their residents through the ED for training and allow me to teach on a limited basis. This allows me to continue and refine my own practice of emergency medicine, while also giving me the chance to teach residents; the best of both worlds.

**Locum Tenens**

If, after reading this article, one still cannot decide how and/or where to work, locum tenens may be an option. As a locum tenens physician, young doctors have the most freedom to explore what type of emergency medicine practice is best for them. As the name implies, most positions of this type are temporary and based on the needs of hospitals. Locum tenens can be as short as a month (less sometimes) or as long as a contract can be extended. This gives the emergency medicine professional a say in where and how long a period he or she wishes to work. Locum tenens positions are available in all parts of this and other countries. Typically, the compensation is on the higher end due to the fact that most EDs requiring locum physicians are understaffed and in need of board certified physicians. The disadvantages include having to assimilate to new hospital practices with every move, and the potential lack of long-term physician relationships that are crucial to quality patient care.

So there you have it; a quick review of the types of practices in emergency medicine. Many physicians will transition between these various groups over the course of their careers, so if one doesn’t suit your needs, you may always try another avenue. As a board certified emergency physician, the job opportunities are numerous. There is no right or wrong type of practice group; it comes down to matter of personal choice. As mentioned previously, AAEM supports the personal and professional welfare in each EM physician and feels democratic groups offer more fair and equitable practices. Each type of group comes with its own set of pros and cons, as do all choices in life. Good Luck.
Call for Mentors

Interested in shaping the future of emergency medicine? YPS is looking for established AAEM members to serve as volunteers for our virtual mentor program.

For more information, visit http://www.ypsaaem.org/mentors/ or contact us at info@ypsaaem.org.

YPS membership not required.
RESIDENT PRESIDENT’S MESSAGE
Stepping Up, Moving Forward, Filling Bigger Shoes
Teresa M. Ross, MD
AAEM/RSA President

It’s easy in medical training to get caught up in the minute. As medical students, there are books to study, tests to pass, and rotations to ace. As residents, we work often. We attend lecture. We participate in research. We present in conference and talk at journal club. At home, we read texts, juggle email, and meticulously log patient follow-ups and procedures. Some days, there are very few hours left for more than eating and sleeping. On a busy day, we all may forget what it is we really signed up for.

Zoom out. This winter, seasons change again. A fresh group of fourth year medical students is on the interview trail to become the next class of emergency medicine (EM) interns. Senior residents across the country are completing applications for fellowships and “real” jobs. In the big picture, medical students will become physicians, and residents will become attendings.

Is it really that time again?! Have you made your days in past years count? Are you ready for the next step?

Perspective is key. This is what keeps us going when a test grade disappoints, a patient outcome is unfortunate, or a free day is lost to fatigue. By keeping the goal in mind, you will take the right steps towards the endpoint. Learn from mistakes, build skills, and emulate mentors. Let’s look at what’s moving along this season.

For all their hard work in medical school, this year’s EM applicants find themselves among over 1,500 students applying for intern positions. It is not enough for them to say they are motivated and learn quickly. They need to show it. Suddenly, all those late library nights and extracurricular hours are worth it. In 2007, the average Step 1 score for EM applicants was 220. Beyond that, interviewees are asked regularly to recount personal anecdotes of their club leadership, community volunteerism and departmental research.

More importantly, while representing themselves on the interview trail, students must continue to learn in their final clinical rotations, remembering that next year, they are the doctors. This is their chance to step up, because next year, what they do really matters. This time next year, they will decide whether to anticoagulate the chest pain patient with the minimally elevated troponin – is he having a non-ST elevation myocardial infarction (NSTEMI) or not? Nurses will follow their orders. Patients will fill their prescriptions. The big picture is independence and responsibility. The right lessons from today will lift your vision from the day-to-day and look towards the next step.

So this season, as the days get shorter and the weather gets colder, lift your vision from the day-to-day and look towards the next step. What are you doing today that will matter tomorrow? Envision that you are already there. Students, start collecting your favorite clinical references – antibiotic guides, algorithm calculators and ACLS flowsheets. Junior residents, anticipate the leadership roles you will soon have and the complex cases that you may need to handle. Absorb relevant information from off-service rotations. Seniors, observe mentors who emulate clinical leadership that you admire. Push yourself to ask and see what you don’t know while you have the chance. Next year, everyone is filling bigger shoes. Today is just one step of the way.

For questions or further resources, remember that RSA is with you all the way. Visit www.aaemrsa.org for more information.

Dr. Ross is happy to receive email correspondence. She can be reached at teresa.ross@medstar.net.

AAEM Antitrust Compliance Plan:

As part of AAEM’s antitrust compliance plan, we invite all readers of Common Sense to report any AAEM publication or activity which may restrain trade or limit competition. You may confidentially file a report at info@aaem.org or by calling 800-884-AAEM.
This is a new column in Common Sense where Dr. Leana S. Wen, AAEM/RSA secretary-treasurer, interviews leaders in emergency medicine about their experiences, perspectives and insights. The second installment is a conversation with Dr. Larry Weiss, immediate past president of AAEM and professor of emergency medicine at the University of Maryland.

LW: Tell me about yourself. Where are you from? Where did you get your training?

Dr. Weiss: I’m from the Pittsburgh area and attended Hahnemann Medical College. I went down south and did my EM residency at Charity Hospital. When I graduated, I went back to Pittsburgh for several years but returned to Charity in 1990. I stayed there as faculty and had no intention of moving, but then Hurricane Katrina happened. I worked in tents in New Orleans until eight months after Katrina, but Charity never reopened, so I came to the University of Maryland to serve on the academic clinical faculty.

LW: You have a somewhat unusual educational path in that you also received your JD. What prompted you to go to law school? How do you incorporate your law training into your daily work?

Dr. Weiss: I went to law school because of my interest in health policy and advocacy. For years, I taught at LSU School of Law in addition to teaching EM, and I also worked as in-house counsel for a group of 100 EPs and actively litigated malpractice cases in defense of the EP. My single greatest love professionally is advocacy. I love being able to advocate for my patients and fellow physicians. As I went through my training, I saw that there are very few people able to advocate for my patients and fellow physicians. AAEM was the perfect avenue for my advocacy and legal training. In my opinion, nobody else is advocating for EM physician practice rights. Let me give you an example. Two-thirds of the calls I investigated as AAEM president were because physicians lost their medical staff privileges and were not getting access to fair hearings. They need an advocate who has their best interests at heart. These are the people I fight for. That’s why AAEM is so indispensable.

LW: Is law school something you would recommend to other physicians-in-training who are interested in policy or advocacy?

Dr. Weiss: Absolutely. I would definitely recommend law school to those who are going into academics. Some people choose to subspecialize in ultrasound or toxicology; health law is another option. For me, getting my law degree gave me an automatic niche. Because law permeates every aspect of the hospital and the medical school, having legal training allowed me to get involved in legal issues in the academic center. Along with my colleague Jorge Martinez, we were often the only doctors who also had a JD, so we were consulted on a lot of hospital-wide policies. Even if you’re not interested in academics, you can apply it to almost any other setting. I would definitely encourage readers who are interested in health law or policy to think about going to law school. Feel free to contact me at lweiss@aaem.org if you want to talk about law school. It’s great value in academics or really wherever you work.

LW: Speaking of health policy, what do you think are the major problems facing health care today, and how would you go about addressing them?

Dr. Weiss: One major problem is cost. If we want to make health care available to all, we have to get rid of the extra cost. These include things like unnecessary imaging, unnecessary admissions, and all the complications that come from lack of primary and preventive care. We should spend more up front with preventive care. Primary care also - the Affordable Care Act did a good job of shifting the focus to primary care; however, it failed to recognize emergency medicine as a primary care specialty. Also, we have to make sure that there are enough medical students entering primary care. In addition, we have to take a good look at how we manage end-of-life care. We provide a lot of unnecessary care to older people who don’t want it.

LW: I’m sure you have thought a lot about the future of EM. Are you optimistic about the direction the field is taking?

Dr. Weiss: Let me start by saying that if I were finishing residency right now, I would be very excited about starting a career in EM. It’s a great field, and I don’t regret my decision to enter EM for one minute. At the same time, there are some things that trouble me. I am concerned about the steady erosion of our practice rights. In community hospitals, it has become standard practice to have restrictive covenants and no due process. The lay corporate practice of medicine is increasing. EPs have to get much more involved to advocate for our rights. We have to demand, at minimum, that every hospital extend the same due process rights to EPs that they do for every other member of the medical staff.

LW: Why do you think it is that more EPs are not getting involved in AAEM and advocacy?

Dr. Weiss: The problem isn’t just involvement in AAEM; fewer and fewer physicians are getting involved with organized medicine, period. Less than 20% of doctors belong to the AMA. Part of it is that today’s doctors guard their personal time more carefully. Being part of organized medicine means volunteering one’s own time, and maybe there’s less of a spirit of volunteerism. But we need to remember that in EM, our rights are imperiled. We will continue to lose rights if we are not proactive. We have to really wake up and do something before it’s too late, for our specialty and our patients.

LW: You have held a number of leadership roles over the years. What would you say to someone who isn’t involved but may be looking to develop more leadership skills?

Dr. Weiss: You can’t be a leader if you’re not involved, so get involved!

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Updates on the Patient Protection and Affordable Care Act
Regina A. Bailey, MD JD LL.M

This past October I had the opportunity to participate in the American Bar Association, Health Law Section, Washington Healthcare Summit. I had the opportunity to learn the latest updates occurring in health care law and what to expect over the next several months from top legislators and policy makers. As we all know, the past year has been filled with multiple changes to health care through implementation of the Patient Protection and Affordable Care Act. This article will provide a brief overview of the key areas that have been implemented so far and what is still in the works.

What has already been accomplished?

Pre-Existing Condition Insurance Program
Children and adults that have a pre-existing medical condition and have been without health insurance for the past six months are eligible for insurance through the Pre-Existing Condition Insurance Plan. In order to be eligible, one must be a U.S. citizen or be residing in the U.S. legally. They also need to provide a letter from a physician stating that they currently have a medical condition, disability or illness, or that they had one within the past 12 months. This is a transitional program that will be available until 2014; at that point, people with pre-existing conditions will be eligible for health insurance through insurance exchanges. So far over 35,000 people have enrolled in the Pre-Existing Condition Insurance Plan.

After 2014 it will be illegal for insurance companies to deny people health insurance coverage or charge higher premiums because they have a pre-existing condition. The goals of the health insurance exchanges are to provide a transparent and competitive insurance marketplace where individuals and small businesses can buy affordable and health insurance plans.

Coverage of Young Adults Under Parent’s Plan
Now, young adults up to 26 years of age can continue to receive health insurance coverage under the parent’s health insurance plan. This has reduced the rates of the uninsured by approximately 1 million.

Restrictions on Physician Owned Hospitals
A part of the Patient Protection and Affordable Care Act prohibits physician-owned hospitals from obtaining a Medicare provider number (meaning they cannot bill and receive payment from Medicare or Medicaid, which is a large proportion of hospital income). All existing physician-owned hospitals that were operating as of March 23, 2010, were grandfathered in (meaning the law won’t apply to them). Physician-owned hospitals that were under development at the time of the law passing were allowed to proceed with development as long as they obtained their Medicare provider numbers before the end of the year. After December 31, 2010, physician ownership and investment in hospitals was completely banned. The grandfathered hospitals will also be banned from increasing bed numbers and operating rooms or increasing the percentage of physician ownership.

Although it has been shown that physician-owned hospitals are safer and have higher patient satisfaction ratings, the rationale of the implementation of this law is the belief that Medicare spending rises when doctors refer patients to hospitals that they own (they feel that self referrals to their hospitals increased utilization, thereby increasing health care costs).

What’s Ahead?

Expanded Medicaid Coverage
In 2014, the Affordable Care Act will expand Medicaid to all individuals under age 65 with incomes up to 133 percent of the federal poverty level and will also provide 100 percent federal funding to states for costs of newly eligible individuals for 2014-2016.

Individual Mandate
The individual mandate of the Affordable Care Act requires most individuals to have minimum acceptable coverage or pay a tax penalty beginning in 2014. There are exemptions allowed for those who cannot afford to purchase coverage or if the individual has income below the tax filing threshold. It also provides premium credits for individuals and families with modified gross incomes up to 400 percent of the federal poverty level.

What is still in the works?

Medical Liability Reform
Although some think it will happen, the possibility of National Medical Liability Reform is still active. The HEALTH Act (Help Efficient, Accessible, Low-Cost, Timely Healthcare Act of 2011) is, in essence, National Tort Reform or Medical Liability Reform that is based on liability reforms adopted by Texas and California. It places caps of $250,000 on non-economic damages (pain and suffering) and caps punitive damages at $250,000 or twice the amount of economic damages. The provision also considers each party’s liability in direct proportion to responsibility, limits attorney contingency fees, and sets the statute of limitations at three years after the date of injury manifestation or one year after the injury is discovered. The bill was sponsored by Rep. Phil Gingrey, MD, (R, Ga.). Two House committees have approved the bill; up next is a vote by the full House. However, President Obama has said he will not approve capping damage awards.

Accountable Care Organizations (ACO)
The goal of ACOs is to create a hospital and provider network that would provide care with quality and cost saving initiatives, and CMS and the providers would share the cost savings. The goal is to provide high quality care with reduced cost using a more integrated delivery approach and more aggressive quality monitoring.

The American Heart Association (AHA) published a statement regarding the evaluation of low-risk chest pain in the ED ranging from assessing clinical symptoms to outpatient testing. There are over 8 million visits to the ED for chest pain every year in the United States with only a small percentage actually having a life-threatening condition. At the same time, about 2% of patients with acute coronary syndrome (ACS) are inadvertently discharged from the ED. The ED clinician must be able to determine when urgent therapy, admission and further testing, or direct discharge from the ED is warranted.

**Initial Assessment**

Initial risk stratification is made by the ED clinician based on the history and physical, ECG, and cardiac injury markers. When symptoms are suggestive of ACS, patients may be deemed low-risk if they are hemodynamically stable, have no arrhythmias noted on telemetry, the ECG is normal, and the initial cardiac injury markers are negative.

Due to the wide differential of chest pain, the history should include questions to help determine the likelihood of ACS versus other causes of chest pain. The information obtained concerning the patient’s pain should include its location, onset, character, time course, severity, whether it radiates, any alleviating and/or exacerbating factors, history of similar episodes, and presence of any associated symptoms (e.g., diaphoresis, dyspnea, dizziness, palpitations, or nausea). Symptoms of myocardial ischemia are classically described as diffuse chest heaviness, pressure, or tightness that may radiate to the arm, neck, or jaw. However, careful attention should be made for atypical presentations known as “anginal equivalents” in certain populations such as the elderly, women and diabetic patients. These anginal equivalents include jaw, neck, or arm discomfort without chest pain; dyspnea; nausea; vomiting; diaphoresis; or fatigue. Sharp or stabbing pain may allude to pain that is musculoskeletal in nature. However, keep in mind that the Multicenter Chest Pain Study found that 22% of patients with sharp or stabbing chest pain were eventually diagnosed with ACS.

A normal physical exam is found in the majority of chest pain cases. The exam can help identify higher-risk patients who might have signs of heart failure or peripheral arterial disease. The exam may also help suggest non-ACS causes of chest pain such as unequal extremity pulses (aortic dissection), prominent murmurs (endocarditis), friction rubs (pericarditis), fevers and abnormal lung sounds (pneumonia), or chest wall pain (musculoskeletal). However, any of these findings can be seen in a patient with ACS.

An initial ECG should be obtained within 10 minutes of presentation, as it is crucial in early risk stratification. In patients with a non-ischemic ECG and no history of CAD, the frequency of MI was found to be 2% and 4% in those with a history of CAD. With a normal initial ECG, repeat ECGs have been recommended to assess for evolving ischemia. ST-segment depression (≥0.05mV) in contiguous leads, in the absence of LVH, is associated with an increased risk of ischemia. ECGs with posterior leads (V7-V9) or right-sided leads (V4R-V6R) may be done when suspicion of posterior or right-sided infarction is present.

Most patients with uncomplicated ACS have normal chest radiographs. Findings indicative of other diagnosis maybe noted on radiographs including widened mediastinum, enlarged cardiac silhouette, pleural effusion, pneumonia and pneumothorax.

Cardiac injury markers (highly sensitive and specific cardiac troponin) should be measured in all patients suspected of myocardial ischemia. In patients who present within 6 hours of symptom onset and with negative initial cardiac markers, the markers should be re-measured 6 to 8 hours after symptoms onset. Current troponin assays can identify most MIs within 3 hours of ED arrival. Because there are numerous non-ischemic causes of elevated troponins, confirmation of MI is based on the clinical setting and pattern of troponins. However, though a positive troponin can be diagnostic for myocardial ischemia, negative troponins do not equate to no ACS or myocardial ischemia.

Risk-scoring systems may help in risk stratification of chest pain. One simple criterion can be obtained with one set of cardiac markers, an ECG, and a history of CAD. If all three are negative, the patient can be considered low risk with a probability of MI <6%. The Thrombolysis in Myocardial Infarction (TIMI) score is widely used in high-risk patients but has shown mixed results when applied to low-risk patients. The Global Registry of Acute Coronary Events (GRACE) scoring system has been reported to be accurate in predicting risk, but is more complex than the TIMI score and many variables are not available in the ED. Scoring systems are recommended as adjuncts to clinical judgment in the evaluation of chest pain.

**Chest Pain Units and Accelerated Diagnostic Protocols**

Chest pain units (CPU) provide short-term observation of low-risk patients. They were created to carry out accelerated diagnostic protocols (ADP). ADPs provide cost-effective rapid assessment and exclusion of ACS in low-risk patients in order to prevent admissions and prolonged hospital stays. CPUs use ADPs to further stratify low-risk patients with serial ECGs and cardiac markers. If negative, further confirmatory testing is done to exclude inducible ischemia.
Confirmatory Test Selection in ADPs

The purpose of CPU observation and confirmatory testing in an ADP is to further minimize the likelihood of ACS low enough to warrant a safe discharge. Exercise treadmill testing (ETT) is the cornerstone of confirmatory testing in an ADP. The patient must be able to exercise and must have a normal baseline ECG. If the patient does not fit these criteria, an imaging test (myocardial perfusion imaging, echocardiogram, coronary angiography, or computed tomography coronary angiography (CTC)) may be considered. Historically, ETTs were done 48 hours after clinical stability but the AHA changed the recommendations in 2002 stating that ETTs should be done 6 to 8 hours after an evaluation that revealed no evidence of ischemia. Studies have shown the cost benefit of ETT in an ADP. One study of 421 patients showed no difference in cardiac events in 6 months in those managed with an ADP versus usual care, but the cost was 61% higher in the latter group.

Since many institutions are not able to provide confirmatory testing at all times, the American College of Cardiology (ACC)/AHA guidelines approve outpatient ETT in selected low-risk chest pain patients after a negative evaluation. The criteria include no further chest pain, non-diagnostic initial and follow-up ECGs, and normal cardiac injury marker measurements. A prospective study of 900 patients who underwent outpatient ETT had 3 nonfatal MIs and no deaths during follow up. This outpatient ETT should be obtained within 72 hours of their ED evaluation.

When ETT is not an option, the two most common stress imaging tests performed in CPUs are myocardial perfusion imaging (MPI) and echocardiography. They are both more accurate in detecting CAD than ETT, and they also provide information on left ventricular function as well as the location and extent of ischemia, if present. Stress imaging can be done with treadmill exercise as well as with pharmacologic agents such as dobutamine. MPIs can use coronary vasodilators such as dipyridamole or adenosine. Rest MPIs involve the injection of technetium 99m butilfenin radiopharmaceuticals. The technetium is taken up by the myocardium in direct relation to tissue perfusion and its redistribution is negligible, which makes it a good agent in the resting state. Because rest MPIs detect perfusion defects, old infarctions may also be seen on imaging. The rest MPI is beneficial because normal perfusion is associated with a very low clinical risk of ACS. Multiple studies have shown that rest MPIs can identify low and high-risk patients. Although MPI is associated with significant radiation exposure, they are a Class I indication in current guidelines for evaluation of patients with chest pain and non-ischemic ECGs.

Coronary artery calcification is considered a marker for CAD due to its relation with atherosclerosis. The coronary artery calcium (CAC) score is a quantitative index of the extent of calcification measured by either electronic beam or multidetector computed tomography (CT). Studies have shown that a high CAC score is associated with an increased risk for coronary events and that a zero CAC score indicates a very low risk. A zero CAC score also has a negative predictive value close to 100% for early adverse events.

CTCA provides anatomic, rather than functional, information regarding coronary patency. With the advent of 64-slice multidetector CT scanners, major coronary arteries and branch vessels can be visualized. In a study of 368 patients, CTCA was found to have a sensitivity of 100% and a negative predictive value of 100% for ACS after 6 months of follow up. Compared with standard care, CTCA has been reported to decrease time to diagnosis (15 versus 3.4 hrs), the number of repeat evaluations for chest pain, and cost. However, several limitations do exist. About 25% to 50% of patients presenting to the ED with chest pain may not be candidates due to obesity, contrast allergy, intolerance to beta blockade, arrhythmia, renal insufficiency, or a history of CAD. Despite the limitations, CTCA has the potential for major clinical utility in the evaluation of low-risk patients in the ED due to its high negative predictive value (NPV).

Follow-Up of Patients with Negative CPU Evaluations

Most cases of chest pain with negative evaluations are non-cardiac in nature and require further evaluation for identification of the cause and management of their symptoms. Common causes of non-cardiac chest pain include pulmonary, gastrointestinal, musculoskeletal, or psychological causes. Panic attack or somatoform disorders may be causative factors in up to 40% of these patients. Finding a cause and managing symptoms will prevent unnecessary returns to the ED and improve quality of life. For patients with persistent concern even after negative noninvasive cardiac evaluation, coronary angiography or CTCA may be considered.


The authors conducted a cohort study to evaluate the ability of the HEART score, as a clinical decision aid, to safely reduce the need for objective cardiac testing in patients with low risk chest pain. The HEART score consists of: History, ECG, Age, Risk Factors, and Troponin (see Table 1). Low risk was defined as a score of 0-3 and high risk was a score of 4 or above. Prior clinical decision aids, such as the TIMI and GRACE score have lacked the sensitivity required to avoid the need for additional diagnostic testing or hospital admission. The primary outcome was a major adverse cardiac event (MACE); defined as a composite end point of all-cause mortality, MI (defined as initial troponin greater than 1.0 ng/mL), or coronary revascularization during the index visit or within 30 days.

Patients were part of a registry of chest pain patients evaluated in the ED-based observation unit at Wake Forest Baptist Medical Center in North Carolina over a 28-month period between 2008 and 2010. The authors identified 1,070 low risk chest pain patients (mean age of 46.3 years old, 60.6% male, 56.5% Caucasian, 38.8% African American). To be included in the study population, low risk was defined as chest pain patients with normal or non-diagnostic ECGs and negative initial cardiac biomarkers. HEART scores were determined for all patients in the registry using registry data and blinded chart review. Of the initial 1,070 patients deemed low risk, the HEART score categorized 84.5 % (904/1,070) as low risk and 15.5% (166/1,070) as high risk.
Of the 1,070 patients, 1.1% (12/1,070) had an index MACE. Cardiac testing (defined as stress test or cardiac imaging) was completed in 93.7% (1,003/1,070) patients. Record review for MACE was completed on all registry patients and 30 day follow up data was available for 70% (753/1,070) of patients without index MACE. No additional MACEs were reported in the follow up data.

Patients with a low risk HEART score were significantly less likely to have a MACE than patients with a high-risk HEART score (0.6% vs. 4.2%, p<0.001). Using HEART would have resulted in 5 missed cases of ACS (a miss rate of less than 0.5%). Comparing the use of a high HEART score versus a TIMI score of <2 to assess for the need for further testing resulted in a potential reduction in cardiac testing of 84.5%. A high-risk HEART score was only 58.3% sensitive, and 85% specific for MACE. To improve the sensitivity and specificity, the authors combined HEART and use of 4-6 hour serial troponin. A high HEART score or a serial troponin greater than 0.065 ng/mL, resulted in 100% sensitivity and 83.1% specificity for a MACE with a potential cardiac testing reduction of 82.1%.

Analysis of the study reveals several limitations. The results may not be generalizable or reproducible. The HEART score needs to undergo external validation. The population was already preselected by the physicians’ decision to admit to the observation unit. Height and weight were not routinely recorded on registry patients, and thus body mass index (BMI) was not included as part of the HEART score calculation. Additionally, follow up data was only available for 70% of patients without an index MACE, and patients without complete follow up data were included in the final analysis as not having a MACE. Although promising, the use of the HEART score with serial troponin levels needs additional validation.

### Table 1. The HEART SCORE (adapted from Table 1 of original article)

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISTORY</td>
<td></td>
</tr>
<tr>
<td>Highly suspicious</td>
<td>2</td>
</tr>
<tr>
<td>Moderately suspicious</td>
<td>1</td>
</tr>
<tr>
<td>Slightly suspicious</td>
<td>0</td>
</tr>
<tr>
<td>ECG</td>
<td></td>
</tr>
<tr>
<td>Significant ST depression</td>
<td>2</td>
</tr>
<tr>
<td>Nonspecific repolarization abnormality</td>
<td>1</td>
</tr>
<tr>
<td>Normal</td>
<td>0</td>
</tr>
<tr>
<td>AGE</td>
<td></td>
</tr>
<tr>
<td>65 or older</td>
<td>2</td>
</tr>
<tr>
<td>45-65</td>
<td>1</td>
</tr>
<tr>
<td>Younger than 45</td>
<td>0</td>
</tr>
<tr>
<td>RISK FACTORS</td>
<td></td>
</tr>
<tr>
<td>DM on treatment, more than 90 days smoker, HTN on treatment, diagnosed hypercholesterolemia, family history of CAD, BMI above 30, history of atherosclerotic disease</td>
<td></td>
</tr>
<tr>
<td>3 or more</td>
<td>2</td>
</tr>
<tr>
<td>1-2</td>
<td>1</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TROPOIN</td>
<td></td>
</tr>
<tr>
<td>Greater than 3 times normal limit</td>
<td>2</td>
</tr>
<tr>
<td>1-3 times normal limit</td>
<td>1</td>
</tr>
<tr>
<td>Normal limit or less</td>
<td>0</td>
</tr>
</tbody>
</table>


For nearly twenty years, troponins have been the preferred cardiac biomarker for detection of myocardial injury. During this time period troponin assays have continued to evolve. Most recently, a new troponin assay has been developed which can detect changes in concentration of the biomarker at or below the 99th percentile for the normal population. The clinical utility of this new “high-sensitivity” troponin has been called into question due to its ability to detect very minor degrees of myocardial injury, even in the absence of acute coronary syndrome (ACS). This study used a high-sensitivity test for troponin (hsTnT) that used the 99th percentile cutoff and compared the hsTnT results with the clinical presentation and results of cardiac computed tomography.

The study participants were 377 low- to intermediate-risk patients who presented to the Massachusetts General Hospital ED between May 2005 and May 2007 with a chief complaint of chest discomfort. Exclusion criteria were as follows: elevated troponin on initial presentation, new ST depression or elevation on EKG, hemodynamic or clinical instability, known contrast allergy, serum creatinine >1.3 mg/dL, treatment with metformin, hyperthyroidism, inability to provide consent or perceived interference with standard clinical care of patients. Patients were followed for 6 months with an endpoint of a final diagnosis of ACS (unstable angina or acute MI). Charts were retrospectively reviewed by 2 physicians who were responsible for making the final diagnosis of ACS. Disagreement in the final diagnosis occurred in 4% of cases and was resolved by evaluation by a third reviewer.

Of the 377 patients, 37 (9.8%) were determined to have ACS and 25 of these were deemed to have unstable angina. Sixty-two of the 377 patients had an hsTnT > 13 pg/mL. Median concentrations of hsTnT were found to be higher in patients with ACS and the highest in patients diagnosed with acute MI. Compared with cTnT, an hsTnT > 13 pg/mL detected 50% more cases of ACS, and though more sensitive than cTnT, hsTnT was significantly less specific. Of the patients with hsTnT > 13 pg/mL, 38 (62%) did not meet criteria for ACS. However, compared with patients without ACS and a negative hsTnT, patients with a high hsTnT were found to have higher incidence of cardiac abnormalities on CT angiography, such as larger cardiac chambers and increased left ventricular mass.

Based on the results above, the authors concluded that the hsTnT is more sensitive for detection of ACS than the cTnT in low- to intermediate-risk patients with chest pain. Furthermore they determined that patients with elevated hsTnT were found to have evidence of myocardial abnormalities on cardiac CT even in the absence of ACS, indicating that hsTnT may be a marker for cardiac structural disease and a sign of early myocardial injury. However, though the hsTnT was found to confer increased sensitivity for ACS when compared to conventional troponin, it was found to have a 10% reduction in specificity.
There are a few limitations to this study. The first is its small sample size, though a similar study by Reichlin which had a larger sample size yielded similar results. A second possible weakness of the study is the timing of the hSTnT blood draw. Both the hSTnT and cTnT were drawn about four hours after presentation, at the same time as the CT angiography. It is possible that, had the samples been drawn earlier, the hSTnT may have proven less sensitive. Finally, only one set of cardiac markers was drawn, whereas serial measurements of troponins is standard of practice during evaluation for possible cardiac ischemia.

Though further research is needed regarding time to peak levels of hSTnT, and interpretation in patients with multiple medical comorbidities, the highly sensitive cardiac troponin has been proven to be highly sensitive in the diagnosis of ACS. Interestingly, it may also provide insight into underlying cardiac disease, even in patients without ACS.


The purpose of this study was to determine the diagnostic accuracy of early absolute change versus relative change in high sensitivity cardiac troponin levels within the first 2 hours of presentation for the diagnosis of AMI in a nonselective heterogeneous population presenting with acute chest pain to the ED.

The Advantageous Predictors of Acute Coronary Syndromes Evaluation (APACE) study is an ongoing prospective, international, multicenter study designed and coordinated by the University Hospital Basel in Switzerland. From 2006 to 2009, 1,247 consecutive patients were recruited (Caucasian, presenting to ED with symptoms suggestive of AMI who had onset of symptoms within last 12 hours). Dialysis patients and patients with ST elevation MI were excluded. All study patients received a standard assessment, initial troponin level and serial troponin levels as per the usual protocol at 6 to 9 hours as indicated. Additional highly sensitive troponin samples were collected on patients at 1 and 2 hours for study purposes. The study used both high-sensitive cardiac troponin T (hSTnT) and cardiac troponin I ultra (cTnI-ultra). Results were similar for both types of study troponin.

Of the remaining 1,197 patients, a 1-hour serial troponin was available for 836 patients, and 2-hour serial troponins were available in 590 patients. The outcome of interest AMI is defined as evidence of myocardial necrosis with significant changes in troponin consistent with MI (at least one troponin value above the 99th percentile). The final diagnosis for each patient was determined by two independent cardiologists blinded to the troponin measurements taken for study purposes from time of presentation to 60-day follow-up. Disagreement would be adjudicated in conjunction with a third cardiologist.

Of the 836 patients with 1-hour troponin levels, AMI was the final diagnosis in 108 patients (13%). Of the 590 patients with 2-hour troponin levels, AMI was the final diagnosis in 11%. Both the absolute change and relative change between troponin levels at presentation and 1 hour and 2 hours were significantly higher in patients diagnosed with AMI (p<0.001). However, absolute change was superior to relative change in diagnostic accuracy using both 1-hour and 2-hour troponin levels for diagnosis of AMI (p<0.001). This diagnostic superiority was consistent in important subgroups such as the elderly and patients with impaired renal function. The diagnostic superiority of absolute over relative changes may be explained by the improved sensitivity of the troponin assays to detect very small changes, and patients presenting several hours after onset of symptoms will already have elevated baseline troponin levels and thus will not be able to mount a significant relative increase.

In addition, the combined use of elevated baseline troponin and early absolute changes resulted in a significant improvement of diagnostic accuracy for AMI for hSTnT (p=0.001 for 1 hour, p<0.001 for 2 hour absolute change), and improved, but less significantly for cTnI – ultra (p=0.05 for 1 hour, p=0.02 for 2 hour absolute change). The analysis also revealed that 1- or 2-hour absolute change in troponin levels was as good as a 6-hour serial troponin level for diagnosis of AMI. Lastly, statistical analysis reveals the optimal cutoff for the 2-hour absolute troponin changes were approximately half of the 99th percentile value of their respective assay. These results suggest that the traditional threshold of above 99th percentile is no longer needed to diagnosis AMI using these new assays.

This study is limited because it was an observational study and we can only infer the potential impact of study troponins had they been used to determine clinical care. There was an inherent bias in the group with 6-hour troponins, because most patients with AMI would have already been transferred to cardiac catheterization lab. In addition, this study excluded dialysis patients. Despite these limitations, the conclusions from this study regarding early absolute troponin level changes could greatly impact ED evaluation of chest pain patients.


The authors of this prospective study investigated whether implementing point-of-care (POC) testing of cardiac biomarkers would decrease the amount of time necessary to risk stratify patients with chest pain in the ED.

Adults greater than 18 years old being evaluated for suspected ACS were approached for enrollment in this prospective study, as long as the initial ECG showed no ST-segment elevation. Enrolled patients were immediately tested for cardiac markers, both core laboratory TnT and a POC multimarker. They were then retested with the POC multimarker at 2 hours, and the core laboratory TnT at 6 hours. The POC multimarker chosen for the study included TnI, myoglobin, and creatinine kinase MB.

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The study enrolled 151 patients, all of whom had both the accelerated POC pathway and the standard 6-hour TnT interval testing. The standard core laboratory pathway identified 12 patients with elevated TnT, and all of them were also identified via the accelerated pathway. The POC pathway also had 48 false-positive elevations (32%), which were confirmed by negative TnT enzyme levels at 6-hours. Based on these results, a positive predictive value of the POC pathway was calculated to be 20%, with a negative predictive value of 100%.

The average time for the 2nd POC test to become available was 270 minutes, compared to 660 minutes for the 2nd TnT result. The average time savings from implementing a POC cardiac pathway was calculated to be 390 minutes (6.5 hours), 4 hours of the 6.5 hours time saved can be explained from use of the accelerated pathway and the remaining 2.5 hours saved is from bringing the test to the bedside. The average 390 minutes per patient time savings was then compared to the cost of implementing a more expensive accelerated cardiac pathway. Using a theoretical ED with 70,000 annual visits, 5% of which are evaluated for ACS using serial cardiac biomarker measurements, it was projected that this intervention would provide a savings of 13,650 direct patient care hours in the ED per year. After estimating an incremental cost of $100,800 per year to implement the rapid acute cardiac evaluation pathway, it was calculated to cost $7.40 for every hour of direct patient care saved.

Patients with suspected ACS have traditionally been admitted to the hospital for cardiac monitoring and serial cardiac biomarker measurements after one blood draw. It has been proposed that with better risk stratification fewer patients would require telemetry admissions. This study shows that trending cardiac biomarkers via an accelerated pathway utilizing a bedside multimarker approach could save an average of 6.5 hours per patient suspected of having ACS. Though more expensive, it is presumed that the direct cost of the strategy would be more than offset by a reduction in patient workload, increased utilization of the same ED bed, as well as patient satisfaction by more efficiently risk stratifying patients to an appropriate level of care.

This study was limited by a relatively small number of patients and a single ED experience. Furthermore, other EDs may not experience the same delay in obtaining the 6-hour TnT lab results. The study also does not take into account that 32% of the POC testing demonstrated false positive results, which would either increase the number of admissions to telemetry or decrease in the amount of time-savings by requiring a confirmatory 6-hour TnT test. This study also does the address the need for a provocative test to evaluate for inducible myocardial ischemia.

Coronary computed tomography angiography (CCTA) is a test that can rapidly and accurately visualize significant coronary artery stenosis and coronary atherosclerotic plaques. The relationship between such findings and acute coronary syndrome, however, has not been established. The authors of this observational study investigated the utility of CCTA in assessing patients with low to intermediate risk for ACS who present to the ED with acute chest pain.

This was a prospective observational cohort study of patients without established CAD who presented to the ED with a chief complaint of acute chest pain for greater than 5 minutes during the last 24 hours. All patients had a normal initial troponin and an ECG that was negative for ischemic changes. If enrolled, patients underwent a contrast-enhanced CCTA prior to admission to the hospital floor using a 64-slice CT scanner. Images were reconstructed and read by 2 experienced investigators in search of coronary plaque and stenosis. Significant stenosis was defined as a luminal narrowing greater than 50%. If a consensus was not reached, a third expert reader made the final diagnosis. All physicians caring for the patient remained blind to the result of the CCTA. The two clinical endpoints established for the study included ACS during hospitalization and MACE within the 6-month follow-up.

The study enrolled 368 patients, of which 31 were diagnosed with ACS. Of the 337 subjects without ACS, zero suffered a MACE at 6 months. Of the 368 enrolled subjects, 183 were found to have no CAD by CCTA or ACS giving the test a negative predictive value of 100% when completely negative. A plaque with no significant stenosis was found in 117 patients, and 34 were read as positive for stenosis greater than 50%. The specifics of finding plaque and significant stenosis on CCTA were calculated to be 54% and 87% respectively for ACS.

This study demonstrates that CCTA can be utilized for ruling out ACS in low-risk patients presenting with acute chest pain. In the future CCTA may also improve management of acute chest pain as the presence and extent of CAD is considered a powerful predictor of future cardiovascular events. The strength of CCTA, however, is the high NPV for ACS and the fact that half of the patients in the studied population had no CAD detected. Low risk chest pain patients with a negative CCTA can be directly discharged from the ED without further diagnostic testing or hospital admission.

One restraint to this approach in low risk chest pain patients is the associated radiation exposure and its potential long-term affects. The study has limited generalizability because it was at a single center, had a dedicated research team who performed the CCTA exams, and highly experienced personnel to interpret the images. Nonetheless, lack of plaque and stenosis on CCTA can negatively predict ACS independent of cardiovascular risk factors or TIMI risk score. Given the large number of patients with low to intermediate risk of ACS presenting to the ED with chest pain, early CCTA has the potential to significantly improve patient management in the ED.

Chest pain accounts for 5% of emergency department visits in the United States and represents the second most common presenting complaint. The decision by an ED physician to admit or discharge a patient with chest pain can be a difficult one, which often relies on risk stratification. Despite this, one study by Pope et al. found that ED physicians discharged home 2.1% of acute myocardial infarctions and 2.3% of patients with unstable angina.

This disposition decision can be further complicated in the setting of a patient who has had a recent negative stress test. Depending on the study and the type of stress test, the sensitivity and specificity of cardiac stress tests for diagnosing coronary artery disease range from 67-85% and 70-95%, respectively. This study sought to determine the likelihood of adverse cardiac events in patients with recent negative stress tests.

This study is a retrospective chart review of patients with a presenting chief complaint of chest pain that have undergone a negative cardiac stress test within the last three years. Charts were reviewed for adverse cardiac events in the 30 days after ED presentation.

The study was performed at a community teaching hospital with 70,610 ED visits in 2007, 7.9% (5,591) of which were for chest pain. For patients with multiple ED visits for chest pain, each visit was counted as a separate entry in the study. For patients who have undergone multiple stress tests, only the results from the most recent stress test were included. Of note, stress tests that were reported as inconclusive because the patient did not reach the 85% maximum heart rate target were included in the study and considered equivalent to a negative test.

Of the 337 charts reviewed, 164 patients met inclusion criteria. Forty-two of these patients had an inconclusive, rather than a negative, stress test. While the majority of patients had a treadmill echocardiogram, other types of stress tests such as pharmacological echocardiograms, pharmacologic nuclear studies, treadmill nuclear studies and a treadmill ECG study were included as well. Of the 164 patient encounters reviewed, 34 had significant CAD within 30 days following admission. Significant CAD was defined as a myocardial infarction with positive cardiac markers, positive stress test, cardiac catheterization requiring intervention (angioplasty or medical management), CABG or death due to non-traumatic cardiac arrest. Of note, 25 of the 122 patients who had a negative stress test had CAD, while 9 of the 42 patients who had an inconclusive stress test had CAD. Based on this data, the authors concluded that a prior negative stress test should not be used to definitively rule out CAD.

There were several limitations to this study that deserve mentioning. The first is inherent in the study’s design as a retrospective chart review with a relatively small sample size. Also, the fact that it was performed at a single institution makes it possible that results may not be entirely applicable to other populations. Furthermore, as only admitted patients were included, the study results are biased towards a population which is more likely to have a higher rate of significant CAD when compared to patients who were discharged from the ED. Finally, chart reviewers were not blinded to the study’s purpose.

This study found that 20.7% of patients presenting to the ED with chest pain who had negative cardiac stress testing within the prior 3 years suffered a significant cardiac event in the 30 days after admission. This percentage is significantly higher than a similar study by Nerenberg in which CAD was found in 5.2% of patients with a recent negative stress test. However, the authors in this study attributed this difference to the inclusion of both admitted and discharged patients in the other study. This discrepancy, in addition to the limitations outlined above, demonstrates the need for additional research on this subject. The major take home point is that a negative stress test does not mean the patient does not have CAD. Even if you use the Nerenberg study which showed that only 5.2% of patients with a negative stress test had CAD, that means you will be sending home 1 in 20 patients that can have an MI. Future research should include a larger sample size and may consider distinguishing between different modalities of cardiac stress testing.

References:

Spotlight on Leaders in Emergency Medicine: Larry Weiss, MD JD FAAEM - continued from page 13

Do it early, as a student or resident if you can. You can make up your own minds about what organization you want to be involved in. Just think about which one cares about specialty rights, about you and your patients. If you disagree with the AMA, fine, you can still get active in your state medical society or EM organizations. Obviously, I’m biased towards AAEM, and here’s another reason why: it’s relatively easy to get involved with us. There are a lot of opportunities to get involved with task forces and committees. Just email info@aaem.org or look on our website. Part of leadership also involves liaising with other specialties. If we help other specialties, they will help us. Remember that EM does not exist in isolation; it’s all part of a bigger system.

Editor’s note: We would love to have your feedback on this new column. Please send comments and suggest other leaders you would like to see profiled to wen.leana@gmail.com.
Medical school is wrought with questions: test questions, pimp questions, what specialty to go into. Over the last few months, I have found that as you enter interview season you are inundated with questions that are much more difficult to answer and are some of the most important of your medical career. These are the things that you need to start answering about yourself: why do I want to go into emergency medicine, what are my weaknesses and strengths, and the most important, where do I want to train? As the date to submit our rank list begins to loom in the horizon, I have found many of my colleagues and I are trying to create lists or ways to separate each program on paper to help us give order in the process.

One of the selection criteria that many medical students use to try to weed out sites is, which of the three “types of program” does an institution fall into: county, academic or community. The disclaimer - there is rarely a black and white county or academic program, and the following descriptions are overgeneralizations to introduce you to some of the differences in residency training. Each “category” of residency has amazing perks, and if you keep an open mind, some things might surprise you!

What are the positives of each?

County: when you consider a county program, you should think of things like autonomy and high patient volume. Many county programs are resident-run which means less oversight by attendings and more independence in decision-making. Often, county programs are described as a zoo-like environment where there are frequent traumas and an endless number of patients in the waiting room. These programs are also usually at a county facility and have a higher propensity for an indigent patient population that can provide a wider range of pathology.

Academic: an academic setting is usually associated with a large university, and they have a stronger emphasis on research. These programs are frequently well-funded which allows residents access to newer technology. Many of these institutions may provide a lower volume of patients, which can allow increased teaching opportunities in the hospital setting. These are often four year programs, which can smooth the transition into an academic job as an attending.

Community: these are harder to distinguish and are a blend of county and academic programs. You are often given clinical responsibility with attending oversight, and some say these programs are closer to the private sector experience. Community sites sometimes have an unopposed program or fewer residencies on site allowing residents a broader experience in the hospital setting. These facilities can give you a taste of all the different aspects of emergency medicine training.

If you are beginning to set up your fourth year rotations or about to hit the submit button on your rank list, consider what program will fit best for the person that you are. Do you love the idea of conducting clinical trials and seeing your name in the Journal of Emergency Medicine (JEM)? Do you want to juggle a whole pod of patients on your own? Or do you want a slower pace where you get to spend a little more time with each individual? These are questions I implore you to consider. The dynamics of a program and the interplay of the people around you will decide your happiness for the next three to four years; so in the end, do not forget to trust your gut.

A huge thank you goes out to Georgetown University for hosting the Mid-Atlantic Medical Student Symposium and Loyola University Stritch School of Medicine for hosting the Midwest Medical Student Symposium in October. I want to acknowledge all of the speakers, volunteers and attendees who made both events a huge success! We hope to see you in San Diego on February 7th for the Student Track at the 18th Annual AAEM Scientific Assembly!

Finally, I would like to invite everyone to get involved with AAEM/RSA by running for a position on the medical student council. We hope to continue the excellent tradition set forth by our predecessors by electing a strong council of individuals dedicated to emergency medicine; someone like you!
ACOs may have some conflict with the traditional practice of emergency medicine in several ways. First, physicians will become employees of ACOs. Traditional emergency medicine doctors have the choice in some states to work as independent contractors. Being an independent contractor allows them to provide access to care without a conflict of interest and without outside influence.

ACOs may also conflict with laws in some states that prohibit the corporate practice of medicine. CMP laws are designed to protect the physician patient relationship from conflict of interest, allowing doctors to do what is best for the patient without undue influence.

Overall, many changes have already been implemented and more changes are to come.

4) Ortolon, K. Quashing Ownership. Texas Medicine, 106:8; 29 (August 2010).

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