

EPIC



The Magazine of the
Georgia College of
Emergency Physicians

WINTER 2011

Sickle Cell Pathway

Dr. Matt Lyon, FACEP

Associate Professor, Emergency Medicine,
Medical College of Georgia

- Emergent Complications of Sickle Cell Disease
- The Observation Option for Acute Otitis Media in the Emergency Department (CME Available)
- Spider Bites

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Greetings Fellow Emergency Physicians!

Robert J. Cox, MD, FAAEM, FACEP, President, GCEP

By the time you read this, the newness of the year will have faded and everyone will be back to the daily routine of battling the cold outside and ED crowding inside. I hope everyone had a great holiday.

Nationally, if they keep their promise, the majority party in the House will have passed a repeal of the “Obamacare” but I (hope, but) doubt that repeal will go anywhere in the Senate or past the President’s veto. In mid-December, the President signed the Medicare and Medicaid Extenders Act of 2010 that postponed the SGR for another 13 months. The “fully paid-for” \$19.2 billion law is offset by raising overpayment penalties for consumers who will get tax subsidies to buy health insurance from state-run exchanges, starting in 2014. The law also repeals a delay in implementing a new Medicare payment structure for nursing homes and delays cuts in rural EMS reimbursement. During the lame duck session, there was concern that the independent contractor status for professionals was at risk as a possible way to pay for the 911 First Responder’s bill. Instead, the \$4.2 billion law will be funded by a fee on some foreign companies that receive U.S. government procurement contracts.

Congratulations are in order for our two new Congressmen from Georgia, Austin Scott from the 8th and Robert Woodall from the 7th. If you already have a relationship with these guys, let us know so that we can complete our ACEP Georgia 911 legislative network. The network allows familiar GCEP members contact their Congressmen about urgent issues identified by the ACEP D.C. office.

At the state level, we look forward to working with the new Governor’s office as well as all of his new appointments throughout the state bureaucracy. Insurance Commissioner-elect Ralph Hudgens has already contacted us for recommendations for an appointment to his

Medical Provider Insurance Advisory Committee and we were happy to send him the name of GCEP Board member Matt Keady, MD, FACEP. There were two judicial run-off elections we were watching closely: David Nahmias for GA Supreme Court Justice and Chris McFadden for Appeals Court Judge are both friends of medicine that defeated the candidates supported by the trial attorneys.

The Board voted at our last meeting for GCEP to participate in the Coalition for the Preservation of Choice in Georgia. This group will focus on the concerns we all have with the recent settlement agreement between the U.S. Dept. of Justice and the state that calls for the closure of all Georgia state hospitals which will directly impact nearly 1,000 Georgians with profound intellectual and developmental disabilities, and 10,000 Georgians with mental illness.

The Georgia Association of Physician Assistants contacted us for collaboration with their legislative agenda. Emergency Physicians work closely with physician assistants daily and many of their issues overlap with our legislative priorities. We invited a national board member from the Society of Emergency Medicine Physician Assistants to our last meeting to brainstorm on ways to include more EM PA’s in GCEP activities.

As you can see, with just these few items, GCEP has the potential to influence your daily practice of emergency medicine. We want you to be involved. If your time is not available for things like board, committee work or legislative activities, we will take your money as substitute! GEMPAC continues to be the avenue to open doors and maintain excellent relationships at the capitol. It’s important that you participate, let us know what we can do to help. I hope to see everyone in Atlanta on Feb 15 for the GCEP Legislative Day.

From the President



**Robert J. Cox, MD, FAAEM,
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Dr. Cox is a practicing emergency physician at Henry Medical Center in Stockbridge, Georgia.

GEMPAC—What to Do Now? Why?

Rob Higgins, MD, FACEP, GEMPAC Chair



Rob Higgins, MD, FACEP
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Dr. Robert Higgins is the managing partner at Northside Emergency Associates.

For about two years now I have been turning over every stone I know of to improve our fundraising for GEMPAC, our state PAC, which donates money to the election campaigns of legislators in Georgia who are in support of our emergency medicine initiatives. In the past, tort reform has been issue number one. Now that the Georgia Supreme Court has upheld our gross negligence protection in the ED we have started to see malpractice rates decline significantly. Finally, we do know that there are some tangible results to this whole “advocacy business.” Can I please ask you to give back one year of savings on malpractice to fight future battles? In our practice in 2011, we will save \$150,000 on our malpractice costs for 25 physicians. Over the last three years those same physicians have donated \$75,000 to GEMPAC. What a return on investment in years to come.

Where do we turn our efforts to now? We have many more legislative issues on the horizon. As I write this in December 2010, Georgia is faced with a \$2 billion budget shortfall and 75% of the budget is funding for education and Medicaid. I expect reimbursement must decline and that the EDMD may be one of the “last standing” participants in this state health program. Maybe taxes on MD services will be added to this hit to cover the shortfall. Should we be exempt in the ED as the safety net provider? I know we can’t keep our hands in our pockets while others decide our fate. Does lack of trauma funding, again, not affect you and your patients or your own family? Does insurance reform and keeping these companies playing by the rules, or even by contract, (i.e. rental networks) not affect you?

It seems that only about 20% of our membership feels that funding GEMPAC makes any difference to them. About 10% of the general membership donates \$100 annually on their ACEP dues. (That’s roughly \$.06/hour or \$.02/patient, not really too much to ask.) This totals to

about 70 people giving \$7,000. Another 70 docs, or so, in five practices donate about \$45,000 and we get about \$3,500 from the silent auction at the summer meeting. The other 560 GCEP members choose not to donate. I must ask why? Do they not see a need, do they not feel it effective, or do they disagree with how the money has been used to support candidates in the past. Some argue this is politics and their group wants “politics” to be an individual decision, so they “stay out of it.” But that misses the point. GEMPAC supports EM issues that we ALL can agree on. It then supports candidates who agree with our goals. This is not party politics.

In the past two years, through these columns, I have tried to explain the imperatives of the political process. Laws are made that affect our practice and our patients in the ED. State budget cuts will strain Medicaid reimbursement rates, this budget is discussed and passed by these same legislators that we explain our priorities to. Our impact is limited by our lack of GCEP member participation, or their lack of understanding, or our poor explanations to the membership of why this fund is important.

In the past, I had felt the majority of GCEP members were employees of large groups and ignorant of the impact that the state legislature had on their take home pay. Therefore, I had hoped that more donations should rightly come from owners. Corporate PAC donations are legal in Georgia and if anyone is saving money on tort reform it is the people who pay for malpractice, usually the contract management group. Unfortunately, CMG’s, with a few exceptions, have had little interest in donating to GEMPAC and our corporate match program has had limited participation. Inequitably, the windfall in malpractice savings to everyone will come from the hard work and donations of a few. If the message is getting out, why won’t people act?

Save the Dates!

The Georgia College of Emergency Physicians Annual Meeting will be **June 9-12, 2011**, at the **Hilton Head Marriott Resort & Spa**.

This year, GCEP wants to make the Annual Meeting and Educational Conference a record setting year. If you have been to this meeting in the past, you know how much fun it is, for not only the attendee, but also for the whole family! Hilton Head, South Carolina is a great place to spend part of the summer, with tons to do for the family. The educational presentations are top notch, and the golf tournament and beach party add an entertaining and social component that makes for many great memories. If you have been, and are nodding your head, or smiling as you recall the meeting from past years, you know what I am talking about. But if you have never been, this is your time to come!

We are making an offer to try to help the past attendees get the word out about how great the meeting can be, as well as to get those who have never gone to make the plunge. Past conference goers will be encouraged to "tell-a-friend" by receiving a discount of their conference fees for each new conference participant. If you convince a colleague or friend to come to the 2011 GCEP Annual Meeting, make sure they use your name as a reference, because you will receive \$50 off your meeting registration fees for each person that you bring along as a new attendee.

BUT THAT'S NOT ALL!!! If you are the one who has always wanted to go to the meeting, but never made the trip, this is your chance. New attendees to the annual meeting will receive a discount off their meeting registration fees as well. We are offering a "first timers discount" of 25% off meeting registration fees. The costs for this meeting are already low compared to the fees charged for other meetings of the same caliber and CME credit, but we are making it even lower for those who have not been before.

We know how popular this meeting is with the people who have been in the past, and that people really enjoy the whole experience. We have many people that make it every year, it is that good! Come with us this year, and start a tradition of fun with your family and the GCEP family!

GEMPAC: continued from previous page

I think the problem is that our membership doesn't know or understand GCEP's legislative agenda. I think it is hard for them to see if their donations are making a difference. Malpractice savings from tort reform is a solid eye-opener. Yet for most issues, it's hard to tell if one race or one vote was changed based on our candidates support. We must understand that just being asked to provide an opinion on proposed legislation is a simple victory. Our EM opinion does matter. If we stop now we'll soon see that our access to legislators will diminish and our voices will fall on deaf ears. If we don't fight for our needs they certainly won't.

Despite my ranting, our state PAC is better funded this year than last. The few corporate donors giving \$50,000 have really impacted our efforts at the capitol. The dollars have grown, but not the general participation amongst our members. Most have missed the message, chosen to ignore it or can't see any compelling logic in my argument. Over the next few months I will transition this post to Dr. Pascal Crosley from DeKalb Medical Center. I know he will have new ideas to energize the members and to improve donations to an area that I think will need more attention in the future. Thanks for taking the time to listen and to donate to GEMPAC.

Get to Know Your Board of Directors

Dr. Matthew J. Watson



Matt Watson, MD, FACEP
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A partner in Northside Emergency Associates, Dr. Watson graduated from Jefferson Medical College, and completed his Emergency Medicine Residency at Geisinger Medical Center in Danville, PA.

EPIC: Where did you grow up (hometown)?

MW: I am a pure Pennsylvanian, born in Altoona and grew up in Bethlehem, PA.

EPIC: How did you keep your self out of trouble in high school?

MW: Well, I kept busy as a photographer for the school paper in both my junior and senior years.

EPIC: Let me guess, after high school you stayed in the land of virtue, liberty and independence for the rest of your education.

MW: Yep, attended college at Moravian College in Bethlehem and received my Bachelors of Science in 1994, then onto Jefferson Medical College in Philly. After getting my MD in 1998 went to Geisinger Medical Center in Danville, PA and served as the Chief Resident 2000 - 2001.

EPIC: Any interesting jobs along the way?

MW: My first job at age 15 was at a Carvel ice cream shop. But I have had many a W-2, ranging from bagging groceries, restaurant help, pizza delivery in Wildwood NJ, loading trucks at UPS, and teaching MCAT prep classes at Kaplan. I was even a software designer for my medical college, and creating computer-based teaching modules for the physiology department.

EPIC: How did you get interested in medicine?

MW: I originally went to college at Penn State University on an Air Force scholarship. When I was growing up I always wanted to be a pilot. My grandparent's house was in the landing pattern at ABE airport, and I used to lie on their porch swing watch the jets come in for a landing. I always thought I'd be a fighter pilot or a pilot for Eastern Airlines. So I went to college, and the Air Force said they would pay for 3.5 years of electrical engineering (yawn). They would not guarantee me a "pilot slot" until after I would have had a commitment to them do whatever they

thought I should do with an EE degree, so I told them to keep their money.

I went on to study computer science for a while, but it didn't really interest me, and eventually I took some time off from college to "find myself." While I was "finding myself" (loading trucks for UPS) I had also joined the volunteer fire department so that I could get a "blue light" on top of my car, because that looked pretty cool. When I joined the fire department, they said that they really needed help on the ambulance service. I went to E.M.T. training, and about the time I had finished my training, one of the local hospitals was trying out a new idea - using "techs" in the ER to help unburden the nurses. So I began riding ambulance calls, and working in the ER taking care of patients, and I really enjoyed it!

Eventually I met my future wife, and I thought I needed to have a more substantive career. I went to the local community college to study nursing, possibly headed toward flight nurse, or something. But as time passed, my study group pushed me toward pre-med and med school. It was kind of a "spur-of-the-moment" decision when we were studying for the anatomy-physiology final. We called around to the local colleges to find out about pre-med programs, and a week later I had an interview. The rest snowballed from there.

EPIC: What was the best advice you ever received?

MW: *It's not the school you put the student in, but the student you put in the school.* I got this advice when I was choosing the medical school I would attend, trying to figure out what was the "best choice" to help get me to the next fork in the road. I have used this advice when selecting my residency program as well. It really is true. People spend so much time analyzing their choices, based on what the choice will provide them as a stepping stone, rather than what they will actually "do" during that step. You

can get so much more out of any opportunity you are presented with, if you are really “in it” for the right reasons. Great schools will still turn out some mediocre doctors, and some great doctors will come from mediocre schools. And I am sure this same principle applies to any other realm of society.

EPIC: Why did you choose EM?

MW: With my round about path to medical school, I had the experiences of the ER and ambulance services to color my judgment. I had kept an open mind in medical school, trying out all the specialties and primary rotations, but the acute care aspects of all of them always was more interesting to me. The chronic management of diseases I could not cure was particularly unappealing to me. The episodic visits were much more attractive, and that was reinforced with my ED rotations. I had gotten to medical school by working in the ER, and saw that the only way out was through the same door.

EPIC: Unfortunately Wifeypoo always makes me watch chick flicks. If I have to watch “Steel Magnolias” one more time my head will explode. So what are your favs?

MW: Tough question. It’s probably a tie between “Top-Gun” (remember I wanted to grow up to be Maverick) and “The Blues Brothers.” My high school friends and I also probably watched “Weird Science” and “Some Kind of Wonderful” about 100 times each.

EPIC: Rumor is you are a dessert connoisseur. Any suggestions for our readers?

MW: Crème Brûlée, but not the way most places serve it. I guess I’m kind of spoiled. When we were living in Philadelphia, we discovered a restaurant that served it hot, and it also had a layer of chocolate melted in the bottom of it. This is the way my wife makes it, and I am always a little let down when the Crème brûlée served in a restaurant is brought to the table chilled.

EPIC: What was your best experience in the ED?

MW: This is always a hard question, but this has been a memorable year, and there is a recent case that has been particularly rewarding. I was working this past August, when the heat was unbearable as it is every August, and we had our fair share of the local high school football players being treated for heat-related illnesses, etc. I was on one afternoon, and the EMS service had called in with a “seizure” from one of the high school practices.

But when they arrived, we immediately knew something was different, and this young man was in bad shape. He was unresponsive, with a blown pupil, and decerebrate posturing. There was a report of a minor head injury the day before, but on the day we saw him,

he had “just collapsed.” Our ER team was moving in perfect sequence, and we had him intubated, CT scanned, steroid administered, seizure medication given, and the helicopter on the way to take him to the neuro-surgery equipped hospital in about 20 minutes. We had identified a large subdural hemorrhage. I had to talk to the mother, and tell her we were transferring him to try to save him, but that the odds were not in his favor.

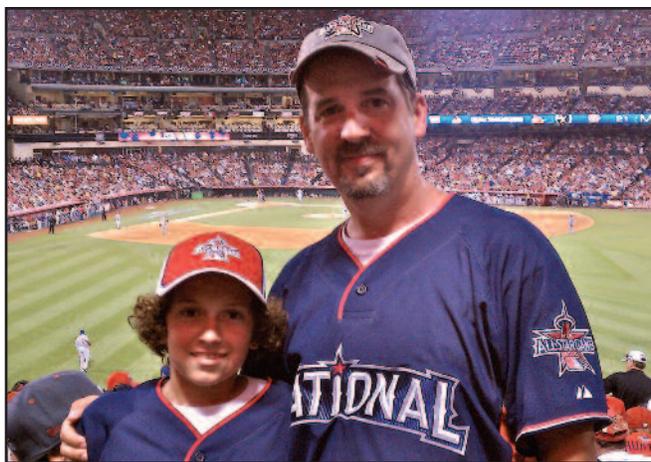
However, events continued to align in a way to make good things happen, and he made it through surgery, and recovered much quicker than any one had anticipated. Just last week, this young man had driven himself back up the ER just to see me, and to say “thank you.” Having been a part of the success of the care of this patient had been rewarding in itself. Rarely in this field do the patients remember where the care begins, and understandably they usually remember the inpatient services that they spend weeks with, rather than the team that sees them in crisis. It was very touching to have him personally come back and see us.

EPIC: And your worst experience in the ED?

MW: When I was in residency, we took turns being the “flight doctor.” One of us was assigned to Life Flight and we went on all scene calls and unstable transfers. It was my day, and I got called to the roof from the ER at about 5:30 pm, near the end of my 12-hour shift. There was an accident, car versus tractor trailer, so off I went. I could not have imagined the scene before getting there, even if I knew what I was flying into. A sports car, driven by an 18-year-old, had lost control and slid into a gasoline tanker truck. The truck jack-knifed, and struck a large road sign, and burst into flames. The car must have been going under the truck, and was caught in the explosion. The driver had been ejected, and was lying in



Dr. Watson and his family at Yellowstone



Matt and his son, Daniel at an All Star game.

a field about 100 yds from the accident.

As we landed, we thought there was no way there was anyone to treat, but as we approached the patient, he was completely awake, but has sustained ~90% 3rd degree burns. Ground paramedics were unable to find any IV access, since he had basically no unburned skin. The patient looked up at me, unable to move and scared, and said, "I'm going to die!" I could not bring my self to lie to him, so I said, "we will do everything we can to take care of you." We had flown to a scene that was less than five miles from the hospital, but because of the terrain, the accident had blocked any ground route to the hospital. By air we were less than three minutes from the hospital, so we "scooped and ran." I got him to the trauma bay, awake, and un-medicated. We began to try to make him comfortable, and address his injuries.

There was nothing that we were going to do to change the end outcome, and we all knew that. We did the cut-downs, treated his pain, and intubated him to prevent airway edema from the burns. I wound up staying with the trauma team, and being part of the transfer team that took him to the burn center 100 miles away. I didn't get home until after midnight, and the patient didn't survive the night. Sometimes there is no way for us to change the outcome, only to help alleviate the pain of the journey.

EPIC: Tell us about your family.

MW: My wife Chris and I have three wonderful children, Owen (13), Sydney (11), and Daniel (8). They each keep us busy, and seem to be good at whatever they do. My boys are avid baseball players and fans. My daughter has been a zealous competitive rope-jumper, and has won many medals at the Junior Olympic games. And my youngest son has really taken to the guitar, and continues to amaze me with the dedication and talent he has with music. Academically, they are exceptionally gifted,

and they are certainly a challenge to my wife and I to keep up with them.

EPIC: Any non-human members of the family?

MW: We have a miniature Australian Shepherd, Rylan, who is almost four in people years.

EPIC: Following your exploits on Facebook, I know you are quite active as a family. Mind sharing with our readers?

MW: We enjoy skiing, baseball games, and of course the yearly trip to Hilton Head! I have been a baseball coach for both of my boys for the past five years, and this usually translates into All-Star activities as well. My daughter and I are into photography, and she just won the middle school photo competition! Her photograph has been permanently placed in the school foyer with the other prior year winners. I am a proud (and exhausted) father!

EPIC: In June you will assume the role of president for GCEP. What is your vision for GCEP for the next five years?

MW: To continue to pursue the advocacy activities, expand the rural medicine efforts, and continue to defend the tort reform environment we have been able to achieve over the past few years.

EPIC: Anything specific you want to accomplish as president?

MW: I would like to see increased membership, and member involvement in the chapter activities. GCEP has so many areas of activity, that there is something in the Chapter that every ED physician can find an interest or passion about. We will be trying to increase the attendance and involvement at the annual meeting as well, and are offering discounts to first time attendees, and discounts to those members that have been in the past that help get the word out and get a colleague or friend to come to the meeting.

EPIC: And now as a father, physician and soon to be Chapter president, if you had a super power, what would it be?

MW: The ability to stop time. There is so much to do in life, and the farther along I get, the more I want to stop and do. I wish I had more days, weeks, years to spend time with my wife and kids, while still enjoying the practice of medicine.

EPIC: It has been a pleasure. Thanks for talking with us.

Medical College of Georgia Emergency Medicine Residency Update

Stephen A. Shiver, M.D., Residency Director

As I am writing this update, we are once again in the middle of interview season. Emergency Medicine continues to be a quite popular choice among U.S. medical students. In fact, we received more applications this year (>700) than we have in the history of the residency. Due to the large numbers of qualified applicants, we are now interviewing weekly November – January. It is definitely a great time to be in Emergency Medicine education!

Each interview season is unique, but patterns emerge over time. One certain trend is that residency applicants are increasingly seeking programs that offer more than just outstanding training in core Emergency Medicine. In particular, there is a desire for niche development. Whether it is Wilderness Medicine, Emergency Ultrasound, Operational Medicine, Sports Medicine, etc., applicants want the opportunity to explore and develop certain areas of expertise. At MCG, we have a long history of embracing the idea of niche development and strongly encourage our residents to get engaged.

Over the past few interview seasons, I have noticed an increased interest in Wilderness Medicine in particular. As such, our offerings in this area are rapidly increasing and a number of our current residents

claim Wilderness Medicine as their niche. Dr. Michael Caudell was recruited for the sole purpose of advancing Wilderness Medicine at MCG. He is ideally suited for the task. At present, he serves as Vice President of the Wilderness Medicine Society Education Committee and is President Elect of the ACEP Wilderness Medicine Section. Additionally, he recently received the 2010 Mountain Laurel Award from the Appalachian Center for Wilderness Medicine.

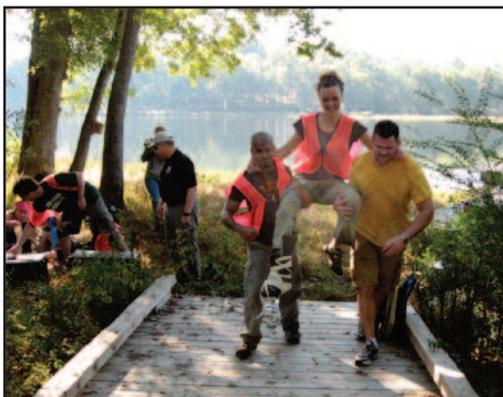
One way we are getting our residents engaged is via our annual resident “Wilderness Medicine Day,” last held in October. Rather than meet in the lecture hall, we convened on the banks of the Savannah River to enjoy a day of ‘hands-on’ Wilderness Medicine. The residents were organized into teams of four as we engaged in some friendly competition. A ‘mini’ MedWAR course involving land navigation, canoeing, and moulage scenarios was enjoyed by all. As an added bonus, there were no capsized canoes this year!

Regarding MedWAR, we are honored to host the annual Southeastern MedWAR. It is a great experience and occurs on the beautiful grounds of Fort Gordon. You will encounter pine forests, swamps, and other interesting terrain as you confront various medical scenarios. We welcome your participation. Our residents are already forming teams for the event in an effort to dethrone the reigning champions “No Permanent Damage,” a team whose members include myself, Brad Reynolds, and Richard Schwartz. We have had a year to brag and look forward to some friendly competition come April. For more information on the race, please visit <http://www.medwar.org/southeast/>.

We welcome any questions or comments you may have concerning our residency program. Our Program Coordinator, Courtney Buckner, may be reached at (706) 721-2613.



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Fun On Wilderness Medicine Day

Emory Emergency Medicine Residency Update

Phillip Shayne, MD, FACEP



Phillip Shayne, MD, FACEP
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Dr. Phillip Shayne is Associate Professor, Residency Director and Vice Chair for Education at Emory University School of Medicine.

The Year of the Fellow at Emory

This year has been marked with a dramatic growth in the number of fellowships within the Emory Department of Emergency Medicine. There are essentially two types of fellowships. ACGME accredited fellowships require the fellow to be an advanced resident and the graduates are eligible for subspecialty board certification from the ABMS. Examples at Emory are Medical Toxicology, Pediatric Emergency Medicine, and Sports Medicine. A second model of fellowship is non-accredited, and thereby more flexible. Fellows come in as junior faculty at the clinical instructor level with attending level privileges in the ED, a reduced clinical load and a curriculum under the supervision of a faculty director. These fellowships not only allow for an area of focus and expertise, but give junior faculty extra time and breathing room to get a toe hold on the early steps of an academic career. As we have found this an increasingly effective avenue for faculty development, the number of Emory fellowships has burgeoned.

Long established fellowships within Emory Emergency Medicine include the ACGME accredited, 2-year Medical Toxicology fellowship. Dr. Brent Morgan takes one to three fellows per year. This year's first year fellow is Sophia Sheikh, MD. Dr. Sheikh received her medical degree from the University of Alabama at Birmingham in 2007 and completed her Emergency Medicine residency at the University of Florida Health Science Center in 2010. Dr. Sheikh is providing patient care at Emory University Hospital Midtown. She is joining our three, second-year Tox fellows: Soumya Pandalai, MD; Sarah Jane Reedy, MD; and Rizwan Riyaz, MD. Dr. Pandalai is a graduate of Youngstown State University and Northeastern Ohio College of Medicine. She completed a pediatric res-

idency at Phoenix Children's Hospital/Banner Good Samaritan Hospital. Her favorite toxin is mercury. Dr. Reedy attended Tulane University, majoring in Ecology & Evolutionary Biology and graduating in 2002. She then attended Emory University School of Medicine, graduating in 2006. She completed her residency in Emergency Medicine at Emory University in 2009. Her favorite toxin is the saxitoxin which is associated with paralytic shellfish poisoning. However, she also likes botulinum toxin primarily for the diversity of potential uses from biological terrorism to wrinkle reduction. Dr. Riyaz graduated from Sindh Medical College in Pakistan. He completed the Emergency Medicine Residency Program, Aga Khan University Hospital in Karachi, Pakistan, which is directed by former Emory faculty Junaid Razzak, MD. His favorite toxin is thallium.

Also long established is our EMS fellowship. While EMS was just recognized by ABEM for board certification this summer, it will be several years before there is ACGME accreditation for fellowship training. Currently we have two EMS fellows: Lekshmi Vaidyanathan, MBBS and Gerald Beltran, DO. Dr. Vaidyanathan received her medical degree from Vinayaka Missions Kirupananda Variyar Medical College in 2001 and completed her General Medical Council Registration in the UK in 2005. She completed her Emergency Medicine residency at the Mayo Clinic in 2010. Dr. Vaidyanathan will be completing a Pre-Hospital and Disaster Medicine fellowship, pursuing an MPH, and is providing patient care at Emory University Hospital and Grady Hospital. Dr. Beltran completed medical school at the University of New England College of Osteopathic Medicine after a career in law enforcement. He is a graduate of the Medical College of Georgia Emergency Medicine residency program in



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2009. Dr. Beltran is in his second year of the fellowship.

Another established, non-ACGME fellowship is our International Health Fellowship. Currently Catherine Lynch, MD is in her second year of the program. Dr. Lynch is a graduate of the UMDNJ – New Jersey Medical School and the Yale University Emergency Medicine residency program. Dr. Lynch is an NIH post-doctoral fellow last year studying preventable trauma deaths in Mozambique while working under the mentorship of Dr. Scott Sasser and other faculty members. She is heavily involved with all of the department's international projects, including project leadership, strategic planning, and onsite evaluation and management.

This year our department has two Research Fellows: Tamara Espinoza, MD and Anitha Mathew, MD. Dr. Espinoza received her medical degree from the David Geffen School of Medicine, UCLA in 2006 and completed her Emergency Medicine residency at John H. Stroger Hospital of Cook County in 2010 where she served as Chief Resident. Dr. Mathew received her medical degree from Baylor Medical College in 2007 and completed her Emergency Medicine residency at University of Chicago in 2010. Dr. David Wright is mentoring Tamara in emergency neurosciences research and Dr. Deb Houry is mentoring Anitha in injury prevention research. Both fellows are taking courses towards their Masters of Public Health in Behavioral Sciences and Health Education. They are active members of our Department of Emergency Medicine Research Committee meetings and attend our department's monthly fellowship curriculum lectures. Dr. Mathew is studying the relationship between IPV and everyday health behaviors in women who access the Emergency Department. Her goal is to define the relationship between IPV and commonly practiced health behaviors among at-risk patients in the ED. Her second project will use a large, existing database of Emergency Department (ED) visits to Georgia-area hospitals from 2000 to 2009 to examine risk factors and outcomes for patients who are victims of nonfatal assault. Dr. Espinoza is actively participating in several clinical trials including ProTECT III, ALIAS, RAMPART, and POINT. Her current research focus highlights her interests in neurological injury and injury prevention. She will be working with young athletes to reduce their exposure to repetitive concussions in contact sports and better develop a strategy for sidelines assessment of concussion. Her study "Sideline Identification of Closed Head Injury in Football Players: A Novel Approach to Immediate Concussion Injury Assessment" will examine the relationship between sport contact impact force and sideline assessment of cognitive impairment utilizing two novel technologies.

This year also brings our first Ultrasound Fellow:

Nadim (Mike) Hafez, MD. Dr. Hafez received his medical degree from the Medical College of Georgia in 2007 and completed his Emergency Medicine residency at Henry Ford Hospital in 2010. Dr. Hafez will be providing patient care at Emory University Hospital Midtown and Grady Hospital. He is working under the supervision of William Manson, MD, our Director of Ultrasound.

Finally, and most exciting to me is our first Education Fellow: Rachel O'Malley, MD. Dr. O'Malley received her medical degree from Wake Forest University School of Medicine in 2007 and completed her Emergency Medicine residency at Emory University in 2010. She will be completing an Education fellowship, focusing on Simulation and Observation Medicine, and providing patient care at Emory University Hospital Midtown and Grady Hospital. Her fellowship includes completing the ACEP Teaching Fellowship and she will participate in the CORD "Navigating the Academic Waters" course in San Diego this March.

Fellowships hold huge strategic value for both the fellows and our department. Next year we hope to grow these by adding an Administrative Fellowship, and a possible joint EMS-International Health Fellow. More information about our fellow programs can be found at our web site at: <http://em.emory.edu/fellowships.html>.



"A Round of Applause...."

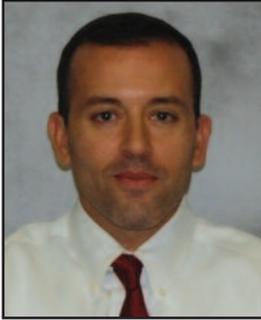
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Resident Life: New Resident Work Rules

Massimo Federico, MD



Massimo Federico, MD
mfederico@mcg.edu

Dr. Federico is a graduate of Tufts University and the Uniformed Service University of the Health Sciences. He is currently a resident in emergency medicine at the Medical College of Georgia, Augusta, GA.



As a current EM-2, I can bluntly state, at the risk of sounding whiny, lazy, or any other adjective that my father would have used to describe me during my teenage years—that I dread call. As an emergency medicine physician, I of course, spend many nights in the hospital working in our department. In-house call while we are off-service, however, is a different animal – one whose stripes and fangs are familiar to current residents and certainly well remembered by those who have completed their training. I would never argue against the education and experience gained by in-house call, but I will say that I anxiously await the day when I can look back on that education and experience.

The current work rules for residents, adopted by US medical schools in 2003, limit a resident's work week to 80 hours. New rules set forth by the ACGME (Accreditation Council for Graduate Medical Education), which go into effect in July of the upcoming year, will depart significantly from the current guidelines. The new rules require longer rest periods after duty blocks, place limits on moonlighting, and...drum roll, please...limit first year residents' shifts to a maximum of 16 hours. Yes, you are reading correctly – the new standards essentially eliminate overnight call for interns.

There will be no change from the current 80 hour limit on the work week, but first-year residents will need to be supervised by an on-site physician at all times. The maximum continuous work time by residents other than PGY-1s will be 24 hours, with up to four hours beyond that for patient safety and resident education. This is down from the current 30 hour continuous work period. The new rules state that time spent by residents in internal and external moonlighting must be counted towards the 80 hour maximum weekly hour limit. Previously, only internal moonlighting counted towards the 80 hours. Additionally, PGY-1s will not be allowed to conduct any moonlighting.

I can only imagine what residency program directors across the nation are saying behind closed doors, if not in public elevators. While a bit of the discontent can likely be attributed to a “we had it harder” sentiment, there are legitimate concerns. A recent *Boston Globe* editorial (12/25/10) pointed out the problematic areas involved with the shift in hours. First off, from a pure patient care standpoint, continuity of care was the major concern. As emergency physicians, we are well aware of the risks associated with “sign-out;” the new work rules will make “sign-out” occur earlier and more often in patients' care on the wards. Cost was the next major factor cited, with an annual cost of up to \$1 billion dollars needed nationwide for hospitals to cover possible gaps in physician coverage that was previously provided by residents. It nearly goes without saying that the largest concern in reducing work hours is a similar reduction in education and experience.

All current and former residents can attest to feeling awful after working for 30 straight hours. There is no shortage of studies supporting the concept that not sleeping and being fatigued have detrimental effects on a physician's performance. We are not allowed to drink alcohol while in the hospital, of course; but after having been awake for 24 hours, our level of impairment is similar to being legally drunk. Commercial aviation has had far stricter work rules in place for decades longer than medicine, having recognized a large reduction in skills, judgement, concentration, and response times with increasing fatigue. The Institute of Medicine (IOM), mandated by Congress to review the relationship between duty hours and patient safety since the initial changes in 2003, released its report in December 2008 and recommended further limitation of residents' work hours and increased supervision. Most European physician work rules limit shifts to 13 hours. The ACGME is clearly not breaking new ground nor acting without basis.

How do residents feel about the work rule changes? Researchers from Brown University asked that question and published their findings in the *New England Journal of Medicine* recently (12/1/10). More than 2,500 residents responded to the survey, with most feeling that the new rules will improve their quality of life, but that the quality of patient care and their education will suffer. The respondents were divided on patient safety, with 34 percent feeling it would be better, while 39 percent felt it would be worse. Perhaps most interestingly, 84 percent of the residents said their programs followed the current rules, while only 45 percent thought their programs would comply with the new rules.

While these new work hour rules will only peripherally impact emergency medicine training, they are likely to lead to significant program schedule restructuring for medicine and surgery departments. The issue of balancing work hour restrictions with patient care and medical education is certainly not closed; it will be examined and debated by physicians, old and new, for years to come.




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Emergent Complications of Sickle Cell Disease

Michael J. Bono, MD, FACEP



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Dr. Michael Bono is professor of emergency medicine at Eastern Virginia Medical School.



Sickle cell disease is a severe, inherited hematological disorder that affects nearly every body system. The disease is caused by a single mutation of the hemoglobin gene. It provides protection against malaria in heterozygous carriers (sickle cell trait), but has severe complication in those who are homozygous (sickle cell disease). In African Americans, the prevalence of sickle cell trait is 8-10% among newborns, resulting in 4,000-5,000 pregnancies a year at risk for sickle cell disease. These patients frequently require emergency department and clinic care due to the severity of their disease and wide variety of potential complications. Sickle cell complications include central nervous system events, acute chest syndrome, splenic sequestration, aplastic crisis, right upper quadrant syndrome, infectious complications, priapism, and painful vasoocclusive crisis.

Central Nervous System Events

Neurological complications occur in up to 25 percent of patients with sickle cell disease. These events often occur in the pediatric population. CNS events more common in sickle cell disease than the general population include cerebral infarction, cerebral hemorrhage, seizures, and spinal cord infarction. Cerebral thrombosis accounts for 70-80 percent of all cerebrovascular accidents in sickle cell disease, but the patients are also at much greater risk for intracerebral hemorrhage. Cerebrovascular accidents are fatal in roughly 20 percent of patients; additionally there is a high rate of recurrence in survivors. Presenting symptoms for CVA are the same as in the general population, including weakness, numbness, vision changes, speech difficulties, seizures, and may include headaches, though patients may be pain-free. Subarachnoid hemorrhage may also present as coma.

Risk factors for central nervous system events include severe anemia, high reticulocyte count, migraines, and systolic hypertension. Patients presenting with symptoms concerning for central nervous system

events need urgent neuroimaging to discriminate thrombosis from hemorrhage, and a lumbar puncture may be necessary in the evaluation for hemorrhage or CNS infection. In those with intracranial hemorrhage, urgent neurosurgical consultation is necessary and additionally, conventional or MR angiography may be needed prior to neurosurgical intervention. One very significant difference in the treatment of both thrombosis and hemorrhage in patients with sickle cell disease as opposed to the general population is the use of partial exchange transfusion to decrease the concentration of hemoglobin S below 30 percent. Partial exchange transfusion has been found to help prevent recurrent events as well as promote resolution of the current event. After the diagnosis of CVA is made, the child must be maintained on a chronic, monthly exchange transfusion regimen to maintain the hemoglobin S level at less than 30 percent.

Acute Chest Syndrome

Acute chest syndrome is a feared pulmonary complication of sickle cell disease that can lead to pulmonary fibrosis and is a leading cause of mortality in this population, accounting for about 15 percent of adult deaths. Acute chest syndrome is thought to be caused by vasoocclusion in the vasculature of the lung which infarcts lung tissue, with or without a concurrent infection. Acute chest syndrome has similar symptoms to other causes of lower respiratory tract disease. Signs and symptoms include cough, pleuritic chest pain, dyspnea, tachypnea, and fever. Leukocytosis is frequently present, as is an infiltrate on chest radiography. All children with the above described symptoms and an infiltrate on chest radiography should be admitted for acute chest syndrome. Radiographic findings may lag clinic symptoms for several days.

The differential diagnosis must consider a pulmonary thromboembolic event since patients with sickle cell disease also are at higher risk for pulmonary embolism.

Evaluation for pulmonary embolism should include basic laboratory evaluation, chest radiography, and ABG, with CT pulmonary angiography or ventilation/perfusion scanning. Treatment includes supplemental oxygen, with intubation and mechanical ventilation as clinically necessary for hypoxemia; antibiotic coverage; and emergent partial exchange transfusion. Adequate hydration is necessary, with care taken to avoid fluid overload. Some patients may benefit from bronchodilators if they have coexisting bronchospasm. Partial exchange transfusion is especially important in those patients whose partial pressure of oxygen cannot be maintained above 70 mmHg. Since bacteria commonly involved in acute chest syndrome include *Streptococcus pneumoniae*, *H. influenzae* as well as atypical pathogens like *Legionella*, *Mycoplasma*, and *Chlamydia*; antibiotics should cover these groups, usually consisting of a third generation cephalosporin and a macrolide.

Splenic Sequestration

Splenic sequestration occurs in infants and young children with sickle cell disease. This complication is much less common in older children and adults due to the fact that the spleen is significantly fibrotic in most patients by age five within this population. Splenic sequestration carries a 15 percent mortality rate and is the second leading cause of death in children with sickle cell disease.

Splenic sequestration causes a severe worsening of baseline anemia that may be accompanied by hypotension, and a tender enlarged spleen. The mechanism is thought to be secondary to blocked splenic outflow by sickled cells. Other associated symptoms include fatigue, listlessness, and pallor. An association exists between this crisis and viral infections, especially parvovirus B19. Treatment includes initial therapy with intravenous fluids to restore blood volume while awaiting transfusion of packed red blood cells. Exchange transfusion is also used to decrease hemoglobin S concentration and therefore the percentage of sickled cells. Serial hemoglobin values should be followed since the anemia may continue to worsen. Splenectomy is not usually performed in the acute phase of the event, but it is recommended since splenic sequestration has been found to recur in up to 50 percent of cases and is a life-threatening event. Parents of all children with sickle cell disease should be taught to palpate the spleen during viral illness in order to detect this complication earlier.

Aplastic Crisis

An aplastic crisis is a transient slowing or arrest of erythropoiesis. This event can be life-threatening due to baseline anemia and concurrent hemolysis. Aplastic crisis can result in severe anemia with hematocrit levels of

less than 10 percent. WBC and platelet counts often remain stable throughout. Reticulocyte count may be low or normal in the face of significant anemia, and should be obtained if the patient's hemoglobin level has decreased by 2 g/dl. These crises are often precipitated by infections, especially parvovirus B19 but *Streptococcus pneumoniae*, *Salmonella*, other *Streptococci*, and Epstein Barr Virus have also been implicated. Aplasia related to parvovirus results early in the course of the infection before the rash and other clinical characteristics associated with this infection appear. Treatment consists of red blood cell transfusion as necessary for anemia. The decrease in erythropoiesis is usually self-limited, but admission is required to ensure anemia does not worsen.

Right Upper Quadrant Syndrome

Patients with sickle cell anemia are also at risk for hepatobiliary complications. Bilirubin gallstones occur in children as young as three years of age due to rapid turnover of red blood cells, and eventually approximately 70 percent of sickle cell patients have bilirubin gallstones. Right upper quadrant syndrome is an acute complication of bilirubin gallstones. Symptoms and signs include abrupt onset of right upper quadrant abdominal pain and tenderness, fever, hepatomegaly, anorexia, severe hyperbilirubinemia, and elevated liver function tests. Causes of right upper quadrant syndrome include cholelithiasis, biliary cholestasis, cholecystitis, viral hepatitis, gallstone ileus, and hepatic ischemia. If the underlying etiology is hepatic ischemia due to vasoocclusion, right upper quadrant syndrome can progress to hepatic failure and death; or it may resolve. Further evaluation of the biliary system should include ultrasound or HIDA scan. Treatment consists of supportive care with hydration and analgesia, with cholecystectomy as warranted if cholelithiasis, gallstone ileus, or cholecystitis are implicated.

Infectious Complications

Another major cause of morbidity and mortality in this population is infection. Sepsis is the most common cause of death in children with sickle cell disease under the age of five. People with sickle cell disease are at greater risk of overwhelming sepsis due to functional asplenia after the age of five but they also have more severe infections before this age due to deficient antibody formation and impaired phagocytosis. Pneumococcal sepsis is a leading cause of childhood death, with a 14 percent mortality rate. Vaccination and penicillin prophylaxis have reduced the rate of this infection recently but it still persists. Another encapsulated organism, *H. influenzae*, is the second most common cause of sepsis, although the Hib vaccine has helped

decrease the incidence of this infection. These patients are also at a much greater risk than the general population for 'atypical' pneumonias, meningitis, urinary tract infections, and osteomyelitis. The most common organism in osteomyelitis remains *Salmonella typhi* although these patients also can be infected with *Staphylococcus aureus*.

All patients with temperatures of greater than 38.50C, particularly children, require an aggressive clinical evaluation. In addition to a thorough history and physical examination, evaluation should include a complete blood count, urinalysis, blood and urine cultures, chest radiography, as well as a lumbar puncture if there is any suspicion of meningitis or if no other source for the fever is found. All patients who appear toxic, have fevers higher than 400C, or who are not receiving prophylactic penicillin should receive intravenous ceftriaxone and should be admitted for further care. Patients with lower temperatures, who appear nontoxic, and have been compliant with prophylactic penicillin, may be considered for intramuscular ceftriaxone with close outpatient follow-up after several hours of emergency department evaluation. Vancomycin may be added to the above regimens in areas where *S. pneumoniae* resistance to penicillin is high.

If osteomyelitis is suspected, further testing with radiography, bone scan, CT scan or MRI is necessary. Parenteral antibiotics are given for two to six weeks, and surgical drainage may be required. Treatment for pneumonia should also cover atypical organisms with a combination of a third generation cephalosporin and erythromycin or azithromycin.

With regard to urinary tract infection, the most likely uropathogen is *Escherichia coli*, as it is in the general population. However, patients with sickle cell have higher rates of pyelonephritis and sepsis with *E. coli*. All urinary tract infections in patients with sickle cell disease warrant treatment as a complicated UTI with a full course of 10 to 21 days of an appropriate antibiotic.

Priapism

Priapism is a common condition in men with sickle cell disease characterized by an unwanted, sustained erection that does not result from sexual desire and is not relieved by sexual activity. This is the result of accumulation of sickled cells in the corpora cavernosa, and is ischemic or 'low-flow' priapism. Pain develops as the corpora become increasingly ischemic. Peak incidence of priapism is between the ages of five and 13 with a second peak between 21 and 29. Priapism can result in impotence. Detumescence within 12 hours is optimal to retain potency.

The first step in the management of priapism is oral administration of beta- or alpha-adrenergic agonists like terbutaline or pseudoephedrine. Either agent may be used orally, according to common practice, though alpha agonists are required for injection. Urology consultation is often required for irrigation of the corpora with or without the intracavernosal injection of alpha-adrenergic agonists. Partial exchange transfusion can also be attempted. If there is no response within 12 hours, surgery consisting of creation of a fistula between the glans penis and corpora cavernosa or saphenous vein bypass shunt is required.

Painful Vasoocclusive Crisis

The most common cause of presentation to the clinic or emergency department is a painful vasoocclusive crisis. This pain can be almost anywhere in the body, often involving the back, chest, abdomen, or extremities. Acute painful episodes are thought to be due to the sickled red blood cells obstructing the microcirculation of the effected area. Obstruction of the microcirculation causes deprivation of oxygen and nutrition to the effected tissue, resulting in hypoxemia and ischemia. Pain is the result of the ischemia. Vasoocclusive events are precipitated by stress, cold exposure, hypoxia, dehydration, menses, alcohol consumption, and infections.

Acute painful episodes vary greatly in those affected by sickle cell disease both in the quantity and quality of painful events. Approximately one-third of patients rarely have pain, the second third are hospitalized two to six times per year, while the last third require greater than six hospitalizations per year. Acute care medical providers most often encounter the most severely afflicted group of patients. Duration of acute painful episodes varies from hours to several days, with hospital admissions lasting from four to 10 days.

There is no specific testing to evaluate for an acute painful crisis. Assessing whether this pain is 'typical' of prior painful episodes is very important; if this episode represents a significant variation, then further evaluation is warranted.

Pain management is a very difficult in these patients. Patients with severe disease often have developed tolerance to pain medications due to treatment of frequent acute painful episodes with narcotics. It is important to note that patients with sickle cell disease do not have higher rates of narcotic addiction than the general population.

Inadequate treatment of pain is not uncommon due to pain medicine tolerance, concern for potential addiction, and disparities between a patients's self-report of pain

continued on page 16

Sickle Cell Pathway

Matt Lyon, MD, FACEP

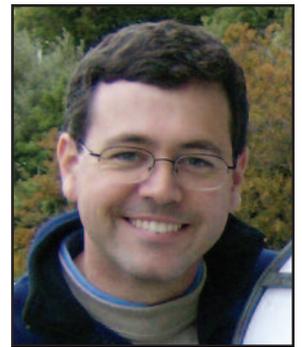
The treatment of Sickle Cell (SC) patients presenting to the emergency department can be a challenge. SC disease is a life-long hemoglobinopathy and is the most common inherited blood disorder in the U.S. In patients with this disorder, red blood cells form a rigid sickled shape when they become de-oxygenated. With the loss of the normal RBC elasticity, these sickled blood cells become lodged in the small capillaries all over the body. This results in ischemia to the tissues supplied by these capillaries. The consequences of this ischemia, known as a vaso-occlusive crisis, depends on the organ affected and can result in strokes, renal infarctions, leg ulcers, and most commonly ischemic bone pain, also known as a vaso-occlusive pain crisis.

While most patients with SC disease are affected by vaso-occlusive crisis, the frequency and severity of these crises can vary widely from patient to patient. Because SC patients experience vaso-occlusive pain crisis from a very young age, many of them display a relative stoicism with respect to pain. The reported pain is incongruous with the patient's clinical presentation. The result of which is often undertreatment of the patient's pain. The Emergency Department is the frequent location for treatment of acute pain crisis due to the shortage of both primary care and SC specialists. While all emergency physicians strive to provide the best care for all patients, frequent visits with a lack of objective measures of pain often lead to under treatment of pain in SC disease patients.

Several years ago, I developed in conjunction with the Sickle Cell Outreach Program at the Medical College of Georgia an Emergency Department-based treatment regimen for patients presenting to the ED with a complaint of pain due to SC disease. This program rapidly evaluates SC disease patients at triage. If the patient presents with his usual vaso-occlusive pain crisis, the hemoglobin is within his usual range (by hemocue) and there are no signs of a complicated vaso-occlusive crisis (i.e. fever,

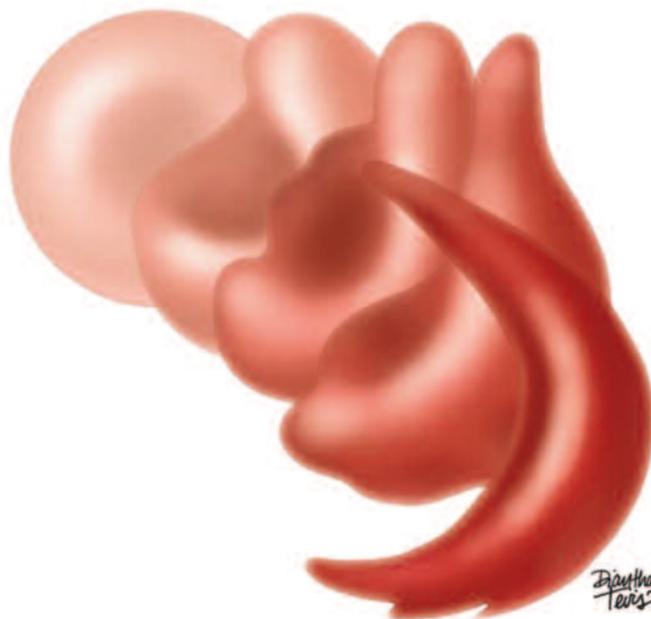
shock, or hypoxia), he is immediately triaged to the Emergency Department Observation Unit for treatment via a standardized pathway. The Sickle Cell Pathway is an observation unit based pathway, which uses a Patient Controlled Anesthesia (PCA) model for narcotic administration. This has several advantages. First, the patient is in control of his treatment regimen, utilizing only the amount of narcotic needed to control his pain. Second, there is less physician and nurse work interaction with the patient. Since the patient is controlling the narcotic delivery, only periodic reassessments (every hour by the nurse) are required for effective treatment. Finally, since the narcotic is delivered in small increments rather than bolus administration, patients do not experience the euphoric narcotic side-effects typically described as a "high". This provides a disincentive to those SC patients who have become addicted to narcotics to use the ED for narcotic administration.

Implementation of this pathway has significantly impacted the emergency care of SC patients in our ED. While this is a patient-directed pathway (i.e. the discharge criteria is based on the patient's subjective pain experience), the pathway has resulted in



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Dr. Lyon is Associate Professor of Emergency Medicine at the Medical College of Georgia. He serves as the director of the Section of Emergency and Clinical Ultrasound as well as the director of the Emergency Department Observation Unit. He has significant educational experience, lecturing both nationally and internationally, and has published over 30 peer-reviewed articles on the use of ultrasound in clinical practice.



less utilization of ED resources and more importantly, less admission to the hospital for non-complicated vaso-occlusive pain crisis. Mean ED visit length has decreased from 5 hours 35 minutes to 2 hours 4 minutes and mean number of per patient per year has decreased from 6.77 visits per year to 5.82 visits per year. Mean admissions to the hospital have decreased from 2.16 admissions per year to 1.57, and the typical length of stay in the EDOU is approximately 17 hours (mean of all patients using the SC pathway) with only an approximately 16 % admission rate. Further, the care of SC patients has been improved by increasing the uniformity of care, decreasing the ED burden for providing care, improved SC

patient satisfaction, and improved provider (nurse and physician) satisfaction.

As part of a NIH grant, this pathway will be expanded to other hospitals within the State of Georgia (and South Carolina). This pathway can yield significant benefits to both ED physicians as well as hospitals, even when an observation unit is not part of the ED. I am looking for more potential sites for implementation of this or a variation of this pathway. If you or your hospital is interested in participating in this grant, please contact me (mlyon@mcg.edu) and I'll provide you with more information.

and perceived pain by the provider. Treatment should consist of adequate hydration in addition to pharmacologic agents. Free water is important, so a reasonable fluid is 5% dextrose in half-normal saline at 150 to 200 ml/hr. Nonsteroidal anti-inflammatory medications can be helpful for mild to moderate pain alone, also used in conjunction with opiate agents. The most potent nonsteroidal agent is ketorolac, which should be used with caution in patients with renal insufficiency, a history of peptic ulcer disease, or bleeding diathesis. Opiate agents are frequently required, with patient controlled analgesia devices in widespread use for hospital admission. An approach to opiate delivery is the administration of intravenous morphine 0.1 mg/kg up to 10 mg per dose, every 20 minutes until pain is resolved, while monitoring for respiration depression and sedation. Another approach is to give a 5 mg dose of morphine sulfate, followed by a constant infusion of 5 mg/hr. Oral agents can be used and a short course of outpatient opiates is warranted for patients whose pain can be controlled ade-

quately. Meperidine (Demerol) should be avoided due to side effects including propensity to induce seizures. Other adjunctive agents include antihistamines, benzodiazepines, and antidepressants. Many patients benefit from the oral administration of hydroxyurea, which acts as an antisickling agent.

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CORRECTION: In Fall 2010's issue of the *EPIC*, Risk Management column, the article on *Consulting Physician Interaction* was authored by Dr. Pete Steckl.

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How Can I Keep From Being Sued?

David A. Olson, Attorney at Law, Drew-Eck Farnham

Recently, I asked some physicians what it was that a physician would want to read about from a lawyer. Aside from the tremendous opportunity to take some jabs at the legal profession, the million dollar question seems to be, “how to keep from being sued?” Oddly enough, this is a question which plagues the legal profession just as much as it does the medical profession. From the perspective of this lawyer, the answer is quite simple. You cannot conclusively prevent becoming a defendant in a lawsuit.

Free and equal access to the courts is a core and founding principle behind the American justice system, and an unfortunate and complicated problem that results from such is the notion that anyone can initiate a lawsuit. This invariably means that some lawsuits will be baseless. While the law affords a defendant the ability to get frivolous lawsuits dismissed through summary judgment, you still must go through the process with an attorney. Moreover, you cannot really rely on a judge to see the same dearth of facts supporting the lawsuit as you do, which might otherwise allow you to recover your attorney’s fees and costs if the lawsuit is dismissed.

Still, there are ways to minimize chances of being sued. Again, from this lawyer’s perspective, the answer is simple. Perform your professional skills at or above the standard of care for the particular type of profession in which you practice. If you are concerned or have some uncertainty regarding your practice and whether or not some decisions may give rise to a lawsuit, you can always talk to colleagues or other informal peer reviews. A collaborative analysis of certain practice methods might shed light on activities you did not even realize may need to be altered. Trusted colleagues are an invaluable resource to continually learn and improve.

Other options include talking to your lawyer when you believe you may have made a mistake. Some professional egos may not take kindly to this action, but it is

an important step in maintaining a protective barrier against the unknown future. It is certain this will not prevent lawsuits, but it will prove to minimize the headache should one arise. Your lawyer can take steps to ensure you will be protected as much as possible even in the event of a frivolous lawsuit by documenting your version of the events while it is still fresh in your memory. This is the same principle behind why the police write incident reports for every call to which they respond. In dealing with such a vast amount of people, the only way to ensure an accurate account of what occurred years after the actual incident is to keep good records. Of course, hospital records are a good start, but with the attorney-client privilege protecting all communications you have with your attorney, it may be wise to discuss these events with someone experienced in handling the legal issues involved with the practice of medicine.

Ultimately, the answer to this article’s headline question may be simple, but it is doubtful it was the answer most were hoping for. The Georgia Legislature, time and time again, attempts to quell the use of frivolous lawsuits for people to make a quick buck. This process, however, is one of trial and error and necessarily involves much litigation to force courts to interpret and rule on the fairness or effectiveness of the newly enacted statutes. Some laws work, others just do not. Free and equal access to the courts may cause some problems, but in some countries, individuals are wronged and have no avenue to redress these grievances. We are fortunate to live in a country that does its best to be fair to everyone. It is not a perfect system, but it is a system that strives to ensure that those who have been wronged are made right, and those who have wronged someone are held accountable. Even with some of its imperfections, we are all privileged to have access to American courts to resolve disputes civilly. If you have genuine concerns about being sued, as always, I recommend speaking to your lawyer to determine the best course of action.



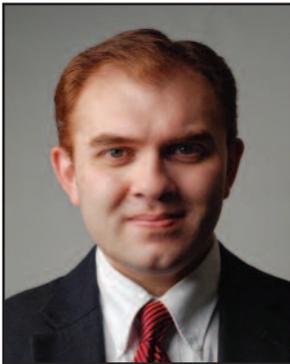
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Get Your Financial Life in Order

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Dr. Setu Mazumdar helps physicians like you make smart decisions about your money so you can take control of your financial life. He is President and Wealth Manager at Lotus Wealth Solutions, an independent fee-only wealth management firm in Atlanta, GA exclusively for physicians. Setu received his MD from Johns Hopkins School of Medicine and he is board certified in emergency medicine.

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First Happy New Year to all of you! Now that the holidays are over and tax season is here, it's a great time to get your entire financial life organized. Most physicians I meet have a mish mash of chaotic investments and financial products without any purpose or unity. I bet that describes over 90 percent of you. Look I know this isn't fun for most of you, but at some point you have to face the music. So how do you begin to get your entire financial life in order?

While this seems like an overwhelming task, you can break down your financial life into three broad areas: wealth protection, wealth enhancement, and wealth transfer. Before you come up with solutions to each of these areas, you need to ask the right questions. So let's take a look at the questions you or your financial advisor need to ask and address in each of these three areas.

Wealth Protection

Most physicians think that financial planning is about investments, and while that is certainly important, the first step is to protect what you already have. Wealth protection involves insurance planning, risk management, and asset protection. So here are relevant questions you need to address in this area:

1. Do I have enough liquidity (cash) to meet potentially unexpected cash requirements?
2. What activities in my personal and professional lives expose me to risk?
3. What risks can I eliminate altogether?
4. What types and amount of risk am I willing to accept?
5. What types and amount of risks am I not willing to accept?
6. What types and amount of risks must I accept but which I can transfer to someone else?
7. What will happen to myself, my family, and my retirement if I become disabled?
8. How much disability insurance do I

need and what type of policy is appropriate for me?

9. What will happen to my family if I die suddenly?
10. How much life insurance do I need and what type of policy do I need?
11. Will my family be able to take care of me for long term medical care?
12. Do I need long term care insurance and what type of policy do I need?
13. How much dwelling coverage do I need in my homeowners policy?
14. Do I have adequate personal liability protection from my homeowners and auto insurance policies?
15. Do I need umbrella insurance and how much and what type of policy?
16. Am I adequately shielded from potential creditors?
17. What types of investment accounts and trusts provide asset protection?

Only after you've addressed those questions can you think about building your wealth.

Wealth Enhancement

Now that you've thought about protecting what you already have, it's time to build more. Wealth enhancement involves investment portfolio management and retirement planning. Here are the essential questions you need to answer in order to enhance your wealth:

1. How much risk are you able to take in your investments?
2. How much risk are you willing to take in your investments?
3. How much risk do you NEED to take in your investments to achieve your retirement goals? (This is THE most important question.)
4. What is the proper mix of investments (asset allocation) that meets your ability, willingness, and need to take to risk?
5. How will you change your asset allocation as your age and as your life circumstances change?

6. How do you properly diversify an investment portfolio?
7. What specific investment products do you need?
8. What specific investment products should you avoid? (This is just as important as determining what you need.)
9. How do you minimize taxes in your portfolio?
10. How much do you need to save to meet your financial goals in retirement?
11. What are the chances that you will meet your retirement goals?
12. What options do you have if you cannot meet your ideal retirement goals?
13. How do minimize the chance of outliving your money? (THE ultimate goal of any financial plan)
14. How does inflation impact my future spending and how does that effect my savings rate and asset allocation?
15. How do I allocate investments across different accounts?
16. What is the role of annuities, and do you need an annuity?
17. Which type of retirement accounts are appropriate for me (IRA, SEP IRA, solo 401k, etc.)?
18. Should I invest money in Roth accounts or traditional accounts?
19. When should I take Social Security?

Wealth Transfer

That brings me to the final big area of your financial life you need to address in order to have a unified wealth management plan. And that's wealth transfer, which is the efficient redistribution of your wealth after death and during life.

Wealth transfer encompasses three aspects of financial planning: estate planning, gifting, and education planning.



So here are the questions you need to answer:

1. When was the last time I reviewed my will with an estate planning attorney?
2. Alternatively, do I even have a will? (I know numerous physicians who don't have a will, so if you don't, then draft one...NOW!)
3. Who are the executors, trustees, and beneficiaries in my will and are they still accurate?
4. Do I have successor executors and trustees in my will?
5. Are appropriate provisions in place for minor children, such as naming guardians?
6. Have I titled my assets to minimize the chance of being subject to probate after I die?
7. Have I titled my assets to minimize the effect of estate taxes upon my death?
8. Will I or my spouse be subject to estate tax upon death?
9. Are the beneficiary designations on my life insurance policies as I wish? Do I have secondary beneficiaries on my life insurance policies?
10. Do I have a durable power of attorney, a living will, and a power of attorney for health care?
11. Do I need to buy permanent life insurance for liquidity purposes upon my death?
12. Do I need to start a gifting program during life to remove assets from my estate?
13. Am I giving to charity in the most income tax and estate tax efficient way?
14. Do I have provisions in my will to give my wealth to my favorite charities (for philanthropic reasons and for estate tax reasons)?
15. What types of trusts do I need to set up during life and after death for estate tax minimization, asset protection, and for appropriate distribution of my wealth?
16. What types of college funding vehicles are most tax efficient and how much do I need to save for my children's education to meet their college funding requirements?

That rounds out a good list of questions that you need to address to get your entire financial life and wealth management plan in order—from wealth protection to wealth enhancement and ultimately to wealth transfer. A good advisor should be proactively addressing most of these issues already.

But that's just the beginning. Now it's time to start implementing strategies to meet your goals. And that's what I'm going to help you with from here on.

Refusing Treatment After a Suicide Attempt

Richard L. Elliott, MD, PhD; Carol Babcock, MFT; and Jason Glow



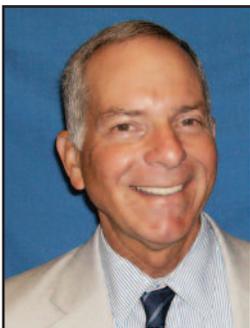
Carol Babcock, MFT

Carol Babcock, MFT, is a Manager of the Center for Palliative Care at the Medical Center of Central Georgia, in Macon, GA.



Jason Glow

Jason Glow, a fourth year student (at the time article was written) at Mercer University School of Medicine in Macon, GA.



Richard L. Elliott, MD, PhD

Dr. Elliott is Professor and Director of Medical Ethics at Mercer University School of Medicine in Macon, GA.

A 55-year-old white male patient with a history of multiple previous suicide attempts was discovered by a friend in a “loopy” state of mind, and admitted through the EC. It was subsequently determined he had ingested ethylene glycol and antidepressants in an apparent suicide attempt.

During intermittent periods of clarity, the patient stated that his wife had separated from him, and that she had recently asked for a divorce. He stated that he wanted her to be happy and that, with his life insurance, she would be able to care for herself. The patient also stated that he had abused his children verbally and had also abused alcohol and drugs. But, during these intervals of relative lucidity, he maintained he did not want any life-saving treatment, including dialysis.

The attending physician requested an ethics consultation to assist with the decision whether the patient should be treated against his will, and requested a psychiatric consultation for an opinion as to the patient’s ability to make healthcare decisions.

A psychiatrist found the patient had a history of bipolar disorder and was currently under the care of a psychiatrist and psychologist. The consulting psychiatrist also determined the patient was incapable of making healthcare decisions based on his depression and wish to die. The ethics committee decided that, under Georgia law, the decisions would need to be made by his wife.

The patient’s wife and adult daughter agreed the patient should be treated despite his desire to die. The patient was medically treated, transferred to a psychiatric unit, started on antidepressants, and counseling continued for three weeks. A plan was made at discharge for continued psychotherapy and his pastor agreed to take him home and to visit with him weekly. However, on discharge the counselor felt that patient was “therapy savvy” and knew “what to say to

be discharged.”

The day following discharge the patient was found dead in his running car locked in a garage.

Commentary

This ultimately tragic case raised several important ethical issues. Would agreement to withhold dialysis by the medical team have been considered as contributing to suicide? Should the patient’s wife have been given the choice whether to act as his surrogate decisionmaker, given the relationship between her wish to seek a divorce, his suicide attempt, and his statement that his suicide would provide her with insurance monies? If she had agreed with his request to refuse dialysis, should a guardian ad litem have been appointed to act as a surrogate decisionmaker? Given his past psychiatric history, the seriousness of the suicide attempt, and the presence of the precipitating stressor (wife seeking divorce), should longer term involuntary hospitalization have been sought?

In general, patients are presumed to be competent, and a competent patient has the legal right to refuse life sustaining medical interventions, including ventilators, parenteral nutrition, and dialysis.¹ This patient was thought by a psychiatric consultant to have lacked the capacity to make a decision to refuse dialysis based on his level of depression, and because of a confusional state caused by the overdose and ethylene glycol ingestion. To have been considered to have had the capacity to refuse a potentially life-saving treatment such as dialysis, he would have had to have a very high level of decisionmaking capacity, as such a decision would have involved a relatively safe procedure with a very high benefit to the patient. A higher level of capacity would have required both fully intact cognition and emotional stability.

The presence of a confusional state resulted in the patient having only intervals of clarity, with inconsistent understanding

of the risks and benefits of the treatment, including dialysis. To have the capacity to refuse, the decision must be consistent over a period of time, (an interval not precisely determined), but sufficiently long to convince the treating team that the decision would be that of the cognitively intact patient absent the condition causing delirium. Of course, it should also be noted that, had he “consented” to dialysis during a confusional state, no ethical issue would have been involved, given the extremely favorable benefit-to-risk ratio.

Would the presence of depression alone render a person incompetent? Many depressed patients are cognitively intact, can understand intellectually the information presented to them regarding benefits, risks, alternatives, and prognosis without treatment, but are deemed to lack capacity because they do not fully appreciate the consequences of refusing treatment. Thus a patient who refuses treatment in order to die, in the belief they deserve punishment, would lack capacity to make an informed decision. Thus cognitive capacity alone may not be sufficient to make an informed decision.

Yet a suicide attempt alone should not necessarily lead to the conclusion that the patient lacks capacity to refuse life-saving treatment. Some suicide attempts may be rational, i.e., would be considered reasonable by non-depressed individuals.² Patients with intractable terminal pain conditions, ALS in its terminal stages, and other terminal conditions might choose to end their lives to preserve physical and personal integrity. Thus patients requesting a prescription with which to end their lives under Oregon’s Death with Dignity Act have been determined to be competent to make this decision, and certainly are capable of refusing life-saving treatment after having ingested the lethal medication. In addition, individuals bound by a culture that demands suicide to preserve personal and family honor might choose suicide as the less harmful alternative to living with or causing dishonor. But, with our patient, neither set of conditions for a rational suicide existed.

Even when such conditions do exist, would it be professionally acceptable for an emergency physician to agree to withhold treatment for a patient refusing treatment following a suicide attempt? To agree to withhold treatment would require a high level of certainty about the facts leading to the suicide attempt, and emergency physicians rarely have such a complete set of facts available to them at the time treatment must be rendered. Further, despite a patient’s seemingly competent decision to refuse treatment following a suicide attempt, the possibility of suit brought by the family is a very real possibility.³

The questions surrounding the decision to rely on

the decisions of the wife acting as surrogate decision-maker did not unnecessarily complicate the picture ethically, as her decisions were consistent with the team’s opinions regarding the patient’s lack of decisionmaking capacity, and the team’s wish to proceed with emergency treatment. However, had the wife decided to withhold treatment, it was likely the treatment team and the ethics committee would have requested the appointment of a guardian ad litem to help with the decision whether to withhold treatment, and could have consented to life-saving emergency treatment until a full hearing in probate court could be arranged. In emergency situations, when time does not have permit legal consultation or intervention, especially where life-saving treatment is indicated, consent is implied and physicians ethically can and should act to provide treatment until ordered to cease by a court.

Thus, in our opinion, the decision by the medical team to proceed with dialysis on an involuntary basis for a short period of time was justified based on both on benefit to the patient, and based on the opinion that the patient lacked capacity to refuse treatment.

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Sonographic Diagnosis of Pneumothorax

William Manson, MD, RDMS, RDCS and Matt Lyon, MD, FACEP



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The diagnosis of a pneumothorax can be challenging in the Emergency Department. Ultrasound can aid in this diagnosis and is quite sensitive, more sensitive than chest X-ray (100% versus 67% respectively). The sliding lung sign (SLS) is the sonographic image of the pleural surfaces, which can be seen moving or 'sliding' relative to each other. When air is present between the two surfaces as in a pneumothorax, the deeper, visceral pleura cannot be visualized using ultrasound. Hence, the relative sliding of the two surfaces against one another is not seen and there is loss of the SLS.

To perform this exam, the patient must be supine in order for the air (pneumothorax) to move to an anterior position in the thorax. If the head of the bed is elevated, the

air will move more towards the clavicles and will not be visualized by ultrasound. Since the air between the plural layers is anterior, it will start at the sternum and move laterally around the chest wall. The location around the chest wall will be dependent upon the size of the pneumothorax. A small pneumothorax will be seen only under the clavicle, whereas a large pneumothorax may be seen all the way towards the back. Either a curvilinear probe, as is used with the FAST exam, or a linear probe is utilized for this exam. The probe is placed across ribs in order to visualize the ribs in cross-section with the pleural line deep to the ribs (Figure 1). It is difficult to describe the SLS appearance (but this exam is easy to practice whenever an

continued on page 25

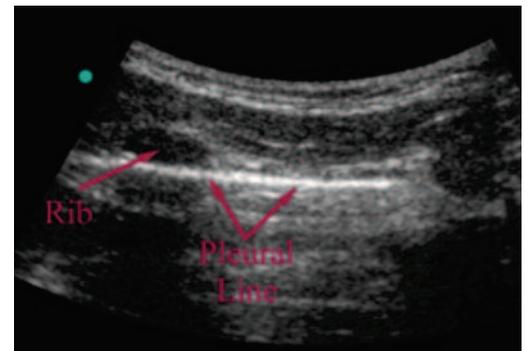
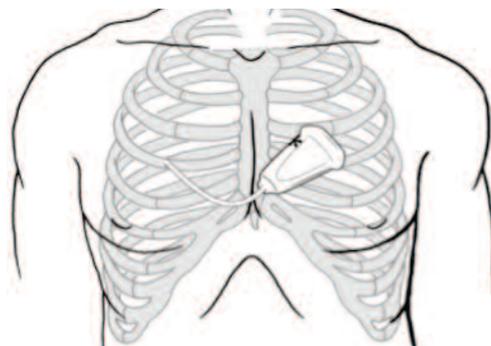


Figure 1. Placement of the US probe on the chest wall (left) and the US appearance (right)



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Dr. Lyon is Associate Professor of Emergency Medicine at the Medical College of Georgia. He serves as the director of the Section of Emergency and Clinical Ultrasound as well as the director of the Emergency Department Observation Unit. He has significant educational experience, lecturing both nationally and internationally, and has published over 30 peer-reviewed articles on the use of ultrasound in clinical practice.

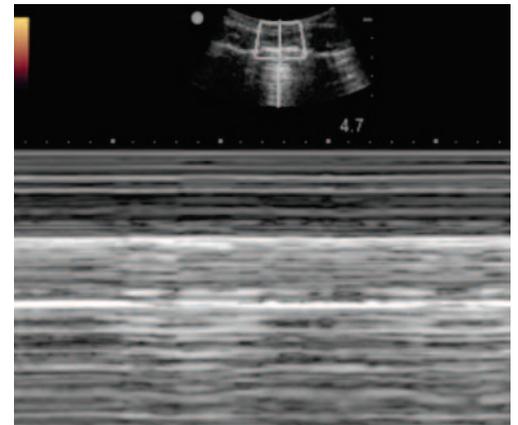
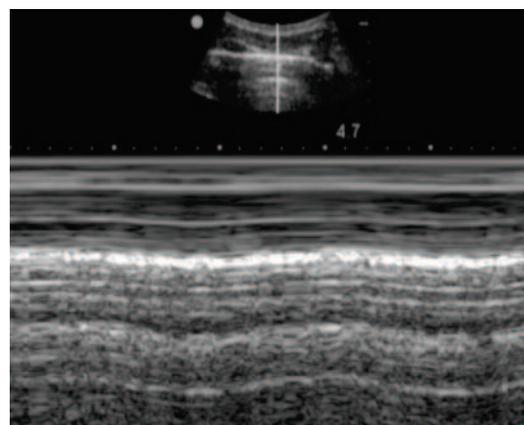


Figure 2. M-mode ultrasound image of normal lung, Sea Shore Sign (Left) and pneumothorax also known as the Stratosphere Sign (right).

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Remember to Think Hyperkalemia

Stephen A. Shiver, MD, FACEP and Ben Holton, MD, FACEP



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Ms. H is a 65-year-old female who presented to the Emergency Department with a complaint of shortness of breath. Her shortness of breath started two days prior to coming to the ED but had worsened the day of presentation. She had not had a fever, and her cough was productive of clear sputum. She did not have chest pain, but had noted swelling in her ankles. She also described orthopnea for the last few days.

Her past medical history is significant for hypertension, diabetes, and GERD. She has a remote history of ovarian cancer. She had a visit to the emergency department a month prior to this visit with a complaint of dizziness, was noted to be bradycardic at that time, was admitted to the hospital, but details of her hospital course were not available in the medical record.

Her medications included Januvia, metformin, and Prandin for her diabetes, and a combination of amlodipine and benazepril for her hypertension.

Her vital signs included a temperature of 37.0, respiratory rate of 24, heart rate of 44, and blood pressure of 163/106. Her physical exam showed her to be in moderate respiratory distress, with an O₂ saturation of 99% on non-rebreather mask. Her O₂ saturation on room air was 90%. JVD was present. She had globally decreased breath sounds, some rales in the bases, and faint expiratory wheezes. Her cardiovascular exam revealed bradycardia with a regular rhythm, normal S₁ and S₂. She had 2+ pitting edema in both lower extremities up to her knees. She was awake and alert, conversant, with equal strength in all four extremities.

Her initial lab work reveals a BNP of 1482, wbc of 16,200. Cardiac enzymes and comprehensive metabolic panel were still pending.

CXR suggested fluid in the fissure and vascular congestion with prominent interstitial markings but not overt pulmonary edema.

The EKG below shows the following:

It was initially read as showing junctional bradycardia with a right bundle branch block.

My initial clinical impression was new onset congestive heart failure, and the patient was treated with CPAP, lasix, and nitroglycerin with improvement of her dyspnea.

Her electrolytes eventually came back a revealed a sodium of 116, potassium of 6.3, chloride 84, bicarb of 19, BUN 28, and creatinine of 1.26 with a previous creatinine of 0.64.

Her EKG tracing (on previous page) shows changes consistent with her hyperkalemia. The classic findings in hyperkalemia include tall peaked T waves progressing to widening of the QRS and QT interval, then progressing to a "sine wave" morphology. However, hyperkalemia can also cause bradycardia, which this patient has, and loss of the P wave, which this patient also demonstrates. The loss of P waves often leads to the conclusion the patient has a junctional rhythm, but usually in hyperkalemia the rate is slower than expected for a junctional rhythm. Her T waves are not obviously peaked on this tracing, but her QRS is widened in a right bundle branch block pattern. Review of old EKG's for this patient showed the right bundle branch block was old.

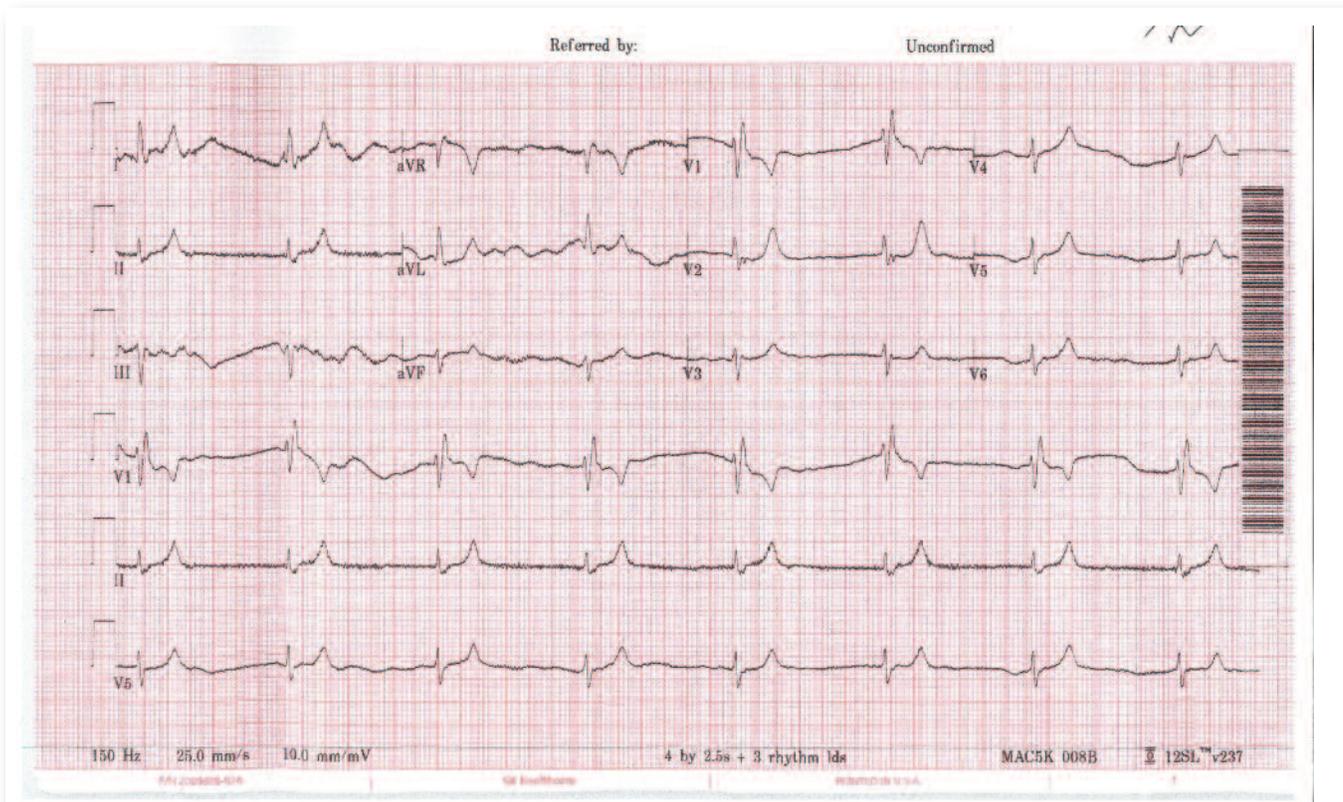
Once the patient's elevated potassium was identified, she was treated promptly for hyperkalemia with calcium, insulin, glucose, and sodium bicarb. Her heart rate promptly improved, and a repeat EKG revealed she now had visible P waves. Her right bundle branch block remained.

Unfortunately for the patient, the story does not end there. Within a few minutes of being treated for hyperkalemia, the patient developed aphasia and right sided weakness. My initial thought was that the insulin the patient received made her hypoglycemia, but fingerstick glucose was 290.

She was given D50 anyway, without improvement of her symptoms. The stroke team was notified, patient received a stat head CT and CT with perfusion which showed no evidence of hemorrhage but the perfusion study suggested a left MCA lesion. The patient received tPA for acute stroke and was admitted to neuro ICU. While in the hospital she had both a transthoracic echo and a transesophageal echo, neither of which demon-

strated a clot in her atria or on her valves that might have been a source for emboli.

In conclusion, remember to think of hyperkalemia if you have a patient with a bradycardic rhythm with no P waves visible on the tracing, even if the other classic findings of hyperkalemia, such as peaked T waves, are not present.



Ultrasound: continued from page 22

ultrasound machine is available). The SLS appears as a fine movement or shimmering along the pleural line that corresponds to respiration and can be subtle. When the SLS is not present, as with a pneumothorax, this shimmering or fine movement is not present.

M-mode can be used to confirm the presence or absence of the SLS. M-mode demonstrates motion-over-time within the ultrasound picture (Figure 2). When the SLS is present, the M-mode image is characteristic and is referred to as the ‘Sea Shore Sign.’ The Sea Shore Sign appears to have “waves” (straight lines at the top of the image) and a “beach” (static on the lower half of the

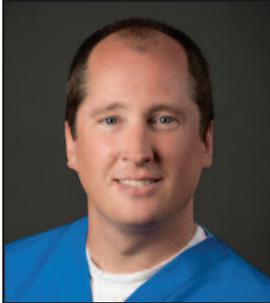
screen). In other words, when a pneumothorax is not present, the M-mode ultrasound looks like waves coming into the sandy beach, the ‘Sea Shore Sign.’ When the SLS is absent, as with a pneumothorax, the M-mode image does not have a ‘sandy beach’ and only appears as straight lines. This M-mode appearance is sometimes referred to as the ‘Stratosphere Sign.’

Using this technique, it is quite easy, with practice, to demonstrate the absence of a pneumothorax. This is particularly useful in the supine patient, such as the blunt trauma victim, but also with patients whose history is low risk for a pneumothorax.

Orthopedic Pearls and Pitfalls: Part One: General Principles

Carl Menckhoff, MD, FACEP and John Rogers, MD, FACEP, FACS

Missed orthopedic injuries not only result in bad outcomes, but in lost income for patients and also puts the physician at risk of a high malpractice payout.



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Dr. Menckhoff was on the faculty in the Department of Emergency Medicine at MCG and served as the Secretary of GCEP prior to relocating to Texas two years ago. You may find his full presentation on Orthopedic Pearls and Pitfalls on the GCEP website.



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Dr. Rogers is the Secretary-Treasurer of GCEP.

Gwynne, Barber and Tavener:

- J Accident Emerg Med 1997
- 105 consecutive negligence claims in the United Kingdom
- 54 claims involved missed fractures

Karcz et al: Am J Emerg Med 1996

- 549 Malpractice claims against EPs in Massachusetts
- 17% involved fractures, 35% payed out

Musculoskeletal injuries are often the first presentation of child abuse.

Child Abuse

- Incidence 0.5 to 4%
- 1200 annual deaths
- 50% will be seen for a musculoskeletal injury

Those at risk:

- Age <3, premature, handicapped, drugs or EtOH at home
- Suspicious history or delayed presentation
- Fractures in <15 months, unknown mechanism
- Highly specific injuries include:

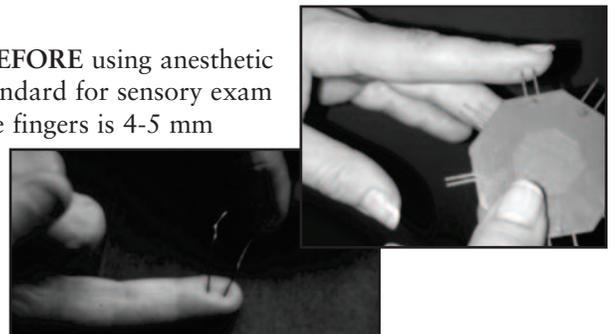
Posterior rib, spinous process, scapula, sternum, corner fractures

Use Nerve Blocks When Possible

- Less painful than local infiltration
- Don't distort the anatomy
- If they are not complete, more distal infiltration is less traumatic

Physical Exam

- Do good sensory and motor exam **BEFORE** using anesthetic
- 2 point discrimination is the gold standard for sensory exam
- Normal 2 point discrimination of the fingers is 4-5 mm
- There are several Two Point Discriminators on the market
- Google two point discriminator device for selections



Bupivacaine or Lidocaine?

	Onset	Duration	Maximum Dose No Epinephrine	Maximum Dose With Epinephrine
Lidocaine	Seconds	1 hr	5mg/kg	7mg/kg
Bupivacaine	Seconds +	> 6 hrs	2mg/kg	3mg/kg

Radiographs require at least 2 views and often 3



If you would think ligament injury in an adult, think growth plate injury in a kid.

Be liberal with plaster, even when in doubt

- Relieve pain
- Prevent fracture displacement
- Satisfy patients/parents
- Assures follow-up

What about comparison x-rays?

- Comparison X-Rays are probably not as useful as additional x-rays of the injured side

Chacon D et al.: Ann of Emerg Med - 1992.
Fifty sets of radiographs from 25 children with elbow injuries

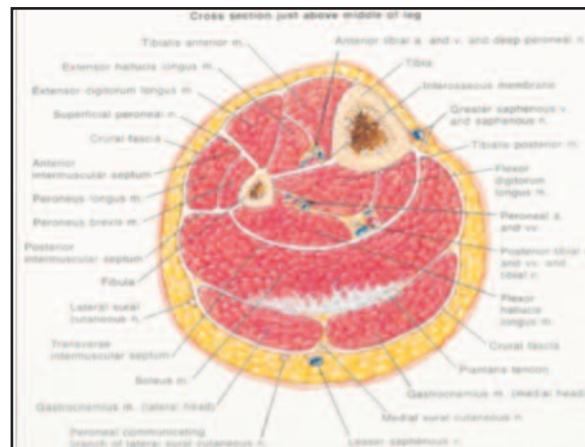
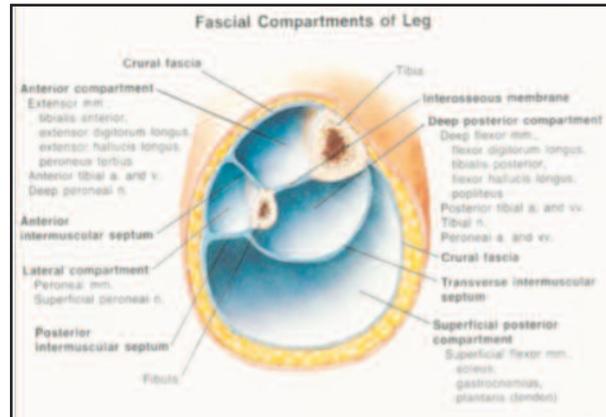
Beware fractures with overlying lacerations – open fractures should go to the OR within 6 hrs.

Remove cast for any symptoms under it.



Think Compartment Syndrome

External compression: cast, burn
Internal compression: edema, hematoma
75% of cases are due to fractures.
Most of these are in fractures of the tibia with the anterior compartment involved.
The treatment is emergent fasciotomy.

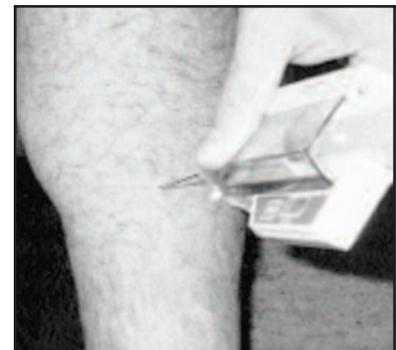


5 P's of Compartment Syndrome:

- Pain (earliest)
- Paresthesia (most reliable)
- Paresis
- Pallor
- Pulselessness (too late)

Pressures

- 0-10 mm Hg: normal
- >20: compromised cap flow
- >30: ischemic necrosis of muscles/nerves



Spider Bites in the U.S.

Rittirak Othong, MD, FACEP and Brent W. Morgan, MD, FACEP

A 27-year-old female was brought to the Emergency Department by EMS. The patient reported she was bitten by a spider on her lower left arm around an hour ago. The EMT reported the patient has had an indurated area at the bite site and developed muscle fasciculations at the involved extremity.

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Dr. Morgan is a physician with the Department of Emergency Medicine, Emory University School of Medicine and Georgia Poison Center.

Q1. How many kinds of significant venomous spiders are in the U.S.?

A1. The 2006-2008 annual reports of the American Association of Poison Control Centers' National Poison Data System (NPDS) showed that there are three major venomous spiders in the U.S. Black widow spiders account for the great majority of the bites around 2,500 cases/year which is followed by Brown recluse spiders, 1,560-1,900 cases/year, and, far less important, Tarantulas, 108 cases/year. Although these venomous spiders can cause moderate to severe outcome, no deaths were reported in these reports.¹⁻³

In the ED. (4 hours after the bite)

The patient complained severe pain at bilateral thighs with muscle spasm.

PE:
 VS: BP 120/74, HR 102, RR 16, Temp 36.4, pain score 9/10
 General: Good consciousness
 CVS: Tachycardic, regular pulses, radial pulses 2+ bilaterally, no cardiac murmur
 Lungs: Normal breath sounds bilaterally
 Abdomen: Normoactive bowel sounds, soft, not tender, no distention
 Extremities: Tenderness and rigidity on palpation at bilateral thighs, very minimal area of erythema over posterior left forearm with no induration
 Neuro: Awake and alert, CN II-XII intact, sensation intact.

Q2. What kind of spider envenomation can cause the signs and symptoms in our patient?

A2. The following are clinical pictures of U.S. venomous spiders.

- Black widow spiders:

Currently there are four recognized black widow species native to North America. Clark RF, et al. reviewed 163 cases bitten by the black widow spider and reported the onset of symptoms ranged from immediately to 12 hours after envenomations. The most common presenting symptoms and signs were generalized muscular abdominal or back pain (78%), local or extremity pain (38%), and some patients had hypertension, tachycardia, diaphoresis, chest pain, shortness of breath, nausea, vomiting, and headache.⁴

Muscular cramping explains the muscular pain in these patients and mostly involves large skeletal muscle groups such as thighs, abdomen, and back. Sometimes patients present with severe abdominal pain with rigidity. There were reported cases that were misdiagnosed as having surgical conditions and undergone surgical exploration.^{5,6,7,8}

Additionally, some case reports showed that the envenomation can cause priapism in children^{9,10} and may cause uterine contractions, spontaneous abortion, and premature delivery in pregnancy.^{11,12} Myocardial infarction was reported in two patients, 16-year-old patient in Rome,¹³ and the other, 22-year-old man in Turkey.¹⁴ Both of them were envenomated by *Latrodectus tredecimguttatus*. A fatal case of toxic myocarditis from the bite of the same species mentioned above was also reported from Greece.¹⁵ In the U.S., there was a 32-year-old patient who suffered chest pains in the ED after the black widow spider bite and had



Black widow



Brown recluse



Tarantulas

ECG changes suggestive of lateral wall ischemia. These changes resolved quickly and the patient was discharged with no evidence of myocardial injury.¹⁶

• Brown recluse spiders:

Local reactions: The bite initially may be painless or have a stinging sensation but then blisters and bleeds, and ulcerates 2-8 hours later. Then the lesion develops violaceous necrosis, surrounded by ischemic blanching of skin and outer erythema and induration over 1-3 days. Necrosis of the central blister occurs in 3-4 days, with eschar formation between 5 and 7 days. After 7-14 days, the wound becomes indurated and the eschar falls off.¹⁷

Systemic reactions: Uncommonly occur in the first 24-48 hours and may not correlate with the severity of local reactions. The manifestations include fever, chills, malaise, nausea, and myalgias. Rarely, intravascular hemolysis, rhabdomyolysis, hemoglobinuria, disseminated intravascular coagulopathy, and death may occur.^{17, 18}

• Tarantulas:

Rarely cause significant envenomation but can produce a painful bite because of their large size. Tarantulas also have thrashing hairs that they can flick at predators and cause mucosal irritation. Ophthalmia nodosa can be developed when Tarantulas' hairs embed in the cornea.¹⁸

Diagnosis:

The patient's clinical presentations consisted of muscle fasciculations at the involved extremity followed 4 hours later by severe bilateral lower extremity pain without obvious local inflammation at the bite site. These manifestations correlate well with the black widow spider bite.

Q3. What is the mechanism of the black widow spider envenomation?

A3. The black widow spider venom contains at least 86 unique proteins,¹⁹ including several homologous Latrotoxins (LTX) which play a role in its toxicity to insects and crustaceans, with only one, -LTX, targeting

vertebrates specifically; reviewed by Rosenthal and Meldolesi.²⁰ -LTX causes opening of nonspecific cation channels, leading to an increased influx of calcium and indiscriminate release of acetylcholine (at the motor endplate) and norepinephrine¹⁸ which can lead to vasoconstriction and hypertension.²¹ The release of acetylcholine at the neuromuscular junction induces frequent end-plate potentials causing muscle spasm and pain.²² Symptoms usually begin one to eight hours after envenomation, but appear to be related to the size of the spider, the number of bites, the time of year and the amount of venom injected.²³

Q4. Is the antivenom recommended to treat this patient? If not, what are the recommendations for administration the antivenom?

A4. Antivenom has long been recognized as an effective treatment since 1942.⁵ After that period there have been many reports demonstrated its efficacy.^{4,5,9,10,22,24,25} The largest retrospective 163-case reviews in the U.S. of *Latrodectus* envenomations revealed all 58 patients receiving antivenom had complete resolution of symptoms in a mean time of 31 +/- 26.7 minutes (immediately to 120 minutes) from the end of the infusion. No relapses in symptoms were recorded. 86% of 58 patients were recorded as describing relief of pain after only one vial and required no further pain medication, whereas 12% required an additional vial. No patient required more than two vials. Moreover, a significant difference was found in duration of symptoms in the antivenom group (8.7 +/- 22.7 h) versus the non-antivenom group (22.1 +/- 24.9 h), and the patients receiving antivenom fewer required admission (12% VS 52%).⁴

Early use of antivenom for prompt relief of severe envenomation has been suggested.^{22,26} Even so, there were at least two reports demonstrated the efficacy of the antivenom after envenomation 30 hours²⁷ and 90 hours²⁸ by regression of toxic symptoms within 30 and 10 minutes, respectively, of the infusion.

However, the antivenom is equine-derived. The great concern has been raised due to the potential risk of allergic reactions which can be acute, ranging from urticaria

to anaphylactic shock and death, or delayed as the form of serum sickness.^{4,16,22,29} Nevertheless, a recent retrospective review of the black widow antivenom use in 96 patients showed very low incident of such reactions which urticarial rash occurred in 2 out of 96 patients, and no one had shortness of breath or shock. Neither serum sickness nor death was reported.³⁰

A slow infusion of one vial of antivenom in 50-100 ml of 5% DW or NSS over 30-60 minutes is recommended which may help limit hypersensitivity reactions.^{4,17}

Despite the recent safety profile and high efficacy of antivenom, currently many experts and existing clinical evidences suggest the antivenom for the black widow spider bite is recommended in the severe (intractable pain), the very young, the very old, the hypertensive, pregnancy,^{6,8,16,17,22,24,25,31} and priapism.^{9,10} Prospective controlled trials on safety and cost-effectiveness may be needed to determine the exact role of antivenom administration.

Q5. Is there a role of calcium administration on the treatment of the black widow spider bite?

A5. The administration of calcium in an attempt of providing pain relief was originally postulated from the mechanism of increasing calcium level may counteract the effect of the black widow spider venom acting on nerve endings.^{24,32} However, existing data demonstrated intravenous calcium solution administration is not effective as shown in the study of Clark et al, 96% of patients reported no pain relief after calcium administration and continued to experience severe pain, requiring the addition of antivenom or some combination of parenteral opioids and benzodiazepines.⁴ Due to lack of efficacy and risks of adverse effects, calcium administration is no longer recommended.¹⁷

Q6. How to treat this patient?

A6. A large retrospective case series revealed 55% and 70% of patients who were treated with parenteral opioids and a combination of parenteral opioids and benzodiazepines, respectively, obtained symptomatic relief.⁴ As a result, the mainstay of treatment is supportive care by administering opioids for pain control, and benzodiazepines for controlling muscle spasm.¹⁷ Using a visual analog pain scale (VAS) may help improve the reliability and objectivity of pain assessment in the black widow spider envenomation.

Progression

In the ED, the patient was managed with morphine for pain and valium for muscle spasm. Her BP was never elevated, and she did not require antivenom. She was admitted to the medicine service and continued to

receive opioids and benzodiazepines. She did well and was discharged home the next day.

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Focus On: The Observation Option for Acute Otitis Media in the Emergency Department

Thomas F.X. Fischer, MD, RDMS

Acute otitis media remains the most common diagnosis for which antibiotics are prescribed in children in the United States.^{1,2} Approximately 15 million prescriptions are written every year, amounting to a cost conservatively estimated in the hundreds of millions of dollars.³

Acute otitis media (AOM) is defined in accordance with the Agency for Healthcare Research and Quality (AHRQ) as the acute onset of signs or symptoms of middle ear inflammation in association with a middle ear effusion.⁴ AOM is a disease predominately found in young children, with the incidence rate sharply declining after five years of age. The pathogens are primarily bacterial in origin, with viruses accounting for approximately one-third of cases.⁵

Historically in the United States, AOM always has been treated with antibiotics, even if the diagnosis is in question. Often, a child with a fever and runny nose whose tympanic membrane is only slightly erythematous will be diagnosed with AOM and given a 10-day course of antibiotics. Is this good medicine?

To answer that question, we must first understand the natural history of AOM. AOM is a disease that spontaneously resolves in more than 80% of children.⁶⁻⁹ Appreciation of this fact is perhaps the single most important take-home point from this article, because the excessive and inappropriate use of antibiotics has been linked to a rising prevalence of penicillin-resistant *S. pneumoniae*.¹⁰ Penicillin-resistant *S. pneumoniae* increased from 27.5% in 1995 to 43.8% in 1997.¹¹

For more than 20 years, physicians in the Netherlands have used a treatment strategy for selected patients with AOM that withholds antibiotics for an initial observation

Learning Objectives

After reading this article, the physician should be able to:

- Discuss the diagnostic criteria for acute otitis media (AOM).
- Understand the natural course of AOM.
- Review recent studies that have evaluated the observation option in the emergency department.
- Consider the use of acoustic reflectometry when appropriate.

period of 2-3 days. During that time, treatment is restricted to analgesics and antipyretics. Antibiotics are given only to those patients who fail to improve at the end of the observation period or whose condition worsens during the observation period.

As a result of this policy, the proportion of patients given antibiotics for AOM in the Netherlands is approximately 31%, and the resistance of *S. pneumoniae* remains below 1%.^{10,12}

Although historically the standard approach to the treatment of AOM in the United States has been to administer antibiotics for all cases, concern about the rising rate of bacterial resistance and the success of the Dutch experience with initial observation have led to a shift in the treatment paradigm for AOM.

In the late 1990's, the New York State Department of Health assembled a committee of physicians whose purpose was to formulate a more judicious approach to the use of antibiotics for AOM. The culmination of the committee's work was a treatment strategy called the observation option, based closely on the Dutch model.

The observation option states that, because more than 80% of AOM cases

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resolve on their own, antibiotics can safely be withheld for up to 72 hours in selected children, during which time the child is observed and treatment is restricted to antipyretics and analgesics.

Antibiotics are started if the child fails to improve at the end of the initial observation period or worsens at any time during the observation period. The breakdown of which patients are appropriate for initial observation is shown in the accompanying table.¹³

There are two studies that have addressed this very question. Spiro et al. and Fischer et al. conducted two similar studies in which the parents of children who were diagnosed with AOM and were deemed appropriate candidates for initial observation were sent home with prescriptions for antibiotics. However, the parents were asked not to fill the prescription unless their child's condition worsened or failed to improve at the end of the observation period. Spiro et al. and Fischer et al.

Overview of Acute Otitis Media Treatment Options		
Child Age	Certain Diagnosis	Uncertain Diagnosis
Under 6 months	Antibiotics	Antibiotics
6 months to 2 years	Antibiotics	Antibiotics if severe illness, Observe* if non-severe illness
2 years or older	Antibiotics if severe illness, Observe* if non-severe illness	Observe*

**Observation is appropriate only when follow-up can be assured and antibiotics started if symptoms persist or worsen. Non-severe illness implies mild otalgia and fever less than 39° C orally (about 102° F) or 39.5° C rectally in the past 24 hours. Severe illness is moderate to severe otalgia or higher fever.*

Certain diagnosis is a clinical picture suggesting acute otitis media with a high probability of middle-ear effusion. Uncertain diagnosis is a clinical picture suggesting acute otitis media with anything less than a high probability of middle ear effusion.

Source: Observation Option Toolkit for Acute Otitis Media. State of New York, Department of Health, Publication #3893. March 2002.

As illustrated in the table, the target population for initial observation is the otherwise healthy child two years of age or older who has good follow-up and is not judged to be severely ill, as would be suggested by high fever or severe otalgia not easily ameliorated with analgesics. Children with any associated conditions that might reflect a relatively immunocompromised state would also be excluded from initial observation. Such conditions might include diabetes, Down syndrome, or any craniofacial abnormalities.

In the otherwise healthy child six months to two years, initial observation is an option if the diagnosis is uncertain, as would be suggested by clinical signs or symptoms of acute middle ear inflammation in the absence of high probability of concurrent middle ear effusion.

The observation option has been incorporated into the clinical practice guidelines of the American Academy of Pediatrics and the American Academy of Family Physicians. To date, the American College of Emergency Physicians has not made an endorsement.

The question should be asked: Is the observation option a workable treatment strategy in the unique environment of the emergency department?

demonstrated that in 62% and 73% of cases, respectively, complete resolution of the symptoms of AOM took place without requiring antibiotics. In addition, both studies revealed a high degree of parental satisfaction with the treatment strategy, and no untoward effects occurred.

Given these two studies demonstrating effective and safe use of the observation option in the emergency department, together with more than 20 years of Dutch experience with observation, it would seem likely that there should be a decrease in the antibiotic prescribing rate for AOM in the emergency department. This does not appear to be the case. Fischer et al. demonstrated no decrease in antibiotic prescribing for children with AOM during the years 1996-2004.¹⁴

Why is this so? Several possible explanations exist.

First, it's possible that the word simply has not gotten out to enough emergency physicians in a sufficiently convincing way that AOM is a disease with a high rate of spontaneous resolution, and that antibiotics are not needed in the majority of the cases.

In addition, concerns about the lack of patient follow-up may make emergency physicians uncomfortable with

the idea of not giving antibiotics.

Because ACEP has not yet endorsed the observation option, perhaps this lack of a “seal of approval,” as it were, has given emergency physicians pause regarding the use of the observation option in clinical practice.

Furthermore, in the hectic and harried environment of the emergency department, diagnostic accuracy for AOM may be even harder to achieve than in other clinical environments, triggering antibiotic use when AOM may not even exist.

The goal of diagnostic accuracy in AOM is an elusive one, and diagnostic certainty is often hard to achieve.

Examining the tympanic membrane (TM) of an uncooperative child who is in pain is often challenging. As mentioned previously, the AHRQ definition of AOM requires the presence of a middle ear effusion. Except for a bulging TM, which correlates closely with the presence of middle ear fluid, it is difficult to determine the presence of middle ear fluid by visual inspection of the TM alone.

Pneumatic otoscopy is often rather glibly referred to in the literature as the diagnostic tool to be used to identify a middle ear effusion.

Pneumatic otoscopy, however, is not at all an easy test to perform. It requires a perfect seal of the external auditory canal, an unobstructed view of the TM and the insufflation of air into the ear canal of an already uncomfortable child, giving the examiner but a fleeting moment to assess whether or not the TM is moving normally.

Furthermore, the physician’s assessment of TM mobility is completely subjective. Very few physicians use pneumatic otoscopy with any regularity.

Tympanometry is another diagnostic tool that identifies the presence of middle ear fluid. Although it provides accurate objective data, it too requires a perfect seal of the ear canal and an unobstructed view of the TM – two requirements that are not always easily achieved.

There is, however, yet another diagnostic modality available that, in this author’s opinion, is the most practicable: acoustic reflectometry.

Acoustic reflectometry is a technology that determines the likelihood of a middle ear effusion based on the angle of a sound wave reflected off the TM. The test is performed quickly and painlessly using a portable handheld device approximately the size of an otoscope. In addition, the test does not require a perfect seal of the ear canal, nor does it require a completely unobstructed view of

the TM.

Acoustic reflectometry correlates very closely with the results of tympanometry and is easier to perform.¹⁵

The device is so easy to use that a parental version is sold over the counter to enable parents to follow the course of their child’s chronic ear effusions. When the device was introduced in 1997, it was described in *Contemporary Pediatrics* magazine as one of the best new products of the year. Acoustic reflectometry is also a reimbursable procedure, using the same code as tympanometry.

We hope this brief article will familiarize emergency physicians with the observation option for the treatment of AOM and re-acquaint them with the disease itself and the various nuances regarding its diagnosis.

A new treatment paradigm for AOM has the potential for dramatically decreasing antibiotic use for one of the most common pediatric diagnoses.

References Available Online

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2011 LEGISLATIVE PRIORITIES

Health Insurance Reform

The Medical Association of Georgia (MAG) will promote broad-based health insurance reform legislation that will 1) require the disclosure of "rental networks," which are often inappropriately used by health insurance plans and 2) expands Georgia's prompt pay statute to third party administrators.

Tort Reform

Retain the remaining elements of the tort reform bill that passed in 2005. MAG will also explore other tort reform measures to improve the practice environment in Georgia.

Medicaid

Support reforms that 1) ensure the adequacy of payment to physicians 2) reduce administrative burdens 3) reinforce the physician-patient relationship and 4) promote the practice of quality medicine in Georgia, including the adoption of the patient-centered Medical Home for Medicaid patients.

State Implementation of the Patient Protection and Affordable Care Act

Protect patients and physicians as the new national health care reform law is implemented at the state level (e.g., health exchanges).

Scope of Practice

MAG will oppose initiatives that would inappropriately expand the scope of practice of non-physician practitioners (e.g., nurses).

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Medicare Rate Update

ACEP estimates a 2-3% drop in E/M payments for emergency physicians in 2011. The 2011 conversion factor, \$33.98 (down from \$36.87 in 2010) with the adjustments to RVU values, will produce a 3% drop in reimbursement for CPT 99284 and 99285.



2011 Projected Medicare Payments

Code	2010 Total RVUs	2011 Total RVUs	2011 RVU Increase	2010 Payment	2011 Payment
				\$36,8729	\$33,9764
99281	0.57	0.61	7%	\$21.02	\$20.72
99282	1.12	1.19	6%	\$41.30	\$40.43
99283	1.70	1.80	5%	\$62.68	\$61.16
99284	3.22	3.40	6%	\$118.73	\$115.52
99285	4.74	4.98	6%	\$174.77	\$169.20
99291	5.99	6.40	7%	\$220.86	\$217.45

Hospital Spotlight: Coliseum Northside Hospital

Regina Lee, RN, ED Nursing Director and Tanya Betit, RN, ED Nursing Coordinator

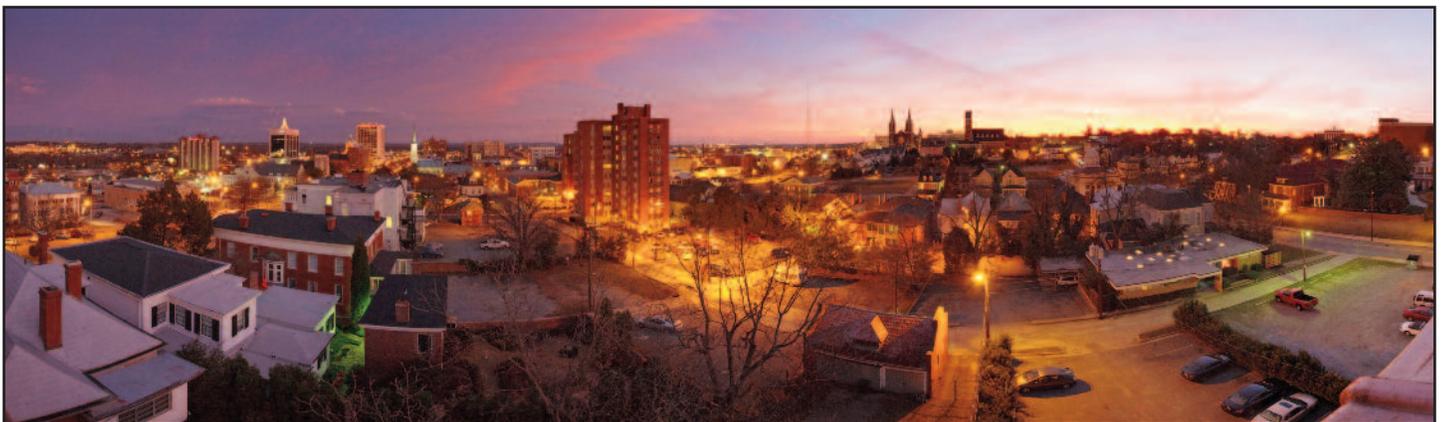
Coliseum Northside Hospital is located in Macon, Georgia and was established in 1984 by Charter Medical Corporation as Charter Northside Hospital. In November of 2005, the hospital's name changed to Coliseum Northside Hospital to reflect the affiliation with Coliseum Health System and HCA. The hospital resides on a beautifully landscaped campus and proudly serves residents of middle Georgia with a variety of comprehensive services.

Coliseum Northside Hospital is a full-service, medical-surgical facility with 103 beds, providing the following services:

- Inpatient and outpatient surgery, endoscopy, and cardiopulmonary services
- Orthopedic Center
- Inpatient and outpatient laboratory, inpatient and outpatient radiology including MRI, CT scanner, and QCT bone densitometry, mammography, nuclear medicine
- Inpatient and outpatient physical therapy, occupational therapy, speech therapy and recreation therapy
- Surgery – general, urologic, orthopedic, neurologic, laparoscopic, podiatric, GYN and vascular

The Coliseum Northside Emergency Department will care for approximately 22,000 patients this year. This is an increase of 20% when compared to 2009. To accommodate this significant growth, the ED focused on process flow and design. The department is 10 beds with one medical screening room. A subwaiting area was developed in direct response to the increased volume to improve the flow of our patients during peak times. This strategy has been very successful and has allowed the department to continue to have excellent length of stay times for both discharged and admitted patients. We are very proud of the rapid “arrival to physician greet times” in our facility with our most recent month averaging only 20 minutes.

Our hospital is known primarily for Orthopaedics. Often smaller hospitals can only transfer such patients out to other facilities but, in our situation, our ortho program is so successful that we accept transfers from a number of hospitals in the mid-state area. The Admission Center is a great service which assists these other facilities when transferring a patient to us for orthopedic care. Transfer is easily arranged by calling our Admission Center, which will take all the necessary information and make the connection between physicians to expedite the care of the patient. The Admission



Macon, Georgia skyline



Left to right: Imogene Farrar, Clerk; Marcie Meelaphsom, RN; Mary Stone, RN; Jeff Trawick, RN; Jim Gay, RN; Thelma Braswell, Tech; Kelly Lassiter, RN; Chris Kent, RN; Ginger McIntosh, Tech; Debra Haslem, Clerk



Left to right: Dr. Gary Godlewski; Amber Cooling, LPN; Wendell Robinson, RN; Cabel Dupree, RN; Pam Jackson, RN; Doug Wheelless, RN; Ann Lester, Clerk



Left to right: Jim Gay, RN; Marcie Meelaphsom, RN; Dr. John Rogers; Melanie Pohl, PA; Dr. Ralph Griffin, Medical Director; Kelly Lassiter, RN

Center can be contacted by calling 1-877-812-0182.

The nurses' station was updated to improve flow for both physicians and staff. This includes the addition of new computers for several new programs that were recently implemented, including Emergency Department Management (EDM). EDM also added the functionality of patient tracker boards, not only for use by the staff but also in the ED lobby, to enable patients' families to see where patients are in the process. In early December Computer Provider Order Entry was implemented. CPOE will streamline the order process by allowing the physicians and mid-level providers to enter their orders directly.

Providing geriatric patients with a safer more comfortable emergency department experience is one of our strategic goals. Two of our exam rooms have been recently redesigned to better serve our senior patients. Softer colors with contrasting trim were used along with larger televisions for seniors with impaired vision. Low stretchers and thick mattresses will be more comfortable and less likely to cause injuries such as falls or skin breakdown. Even new guest chairs with sturdy arms to aid the patient or visitor to stand easier were added. We're very excited about these rooms for our senior patients and have plans to put a non-slip floor in place as well as greatly improved lighting.

In recent months more than 20% of the patients seen in our department have been children. We are presently concentrating our attention on improving the care that we provide to pediatric patients with the implementation of the Broselow-Luten system. This system is a computer based program that provides critical age- and weight-based information for pediatric medications, equipment and emergency conditions. Our pediatric population has some new rooms too. These rooms are private with an adjoining bathroom and fun animal decals and colors on the walls, as well as flat screen TVs for entertainment.

The 24-hour-a-day, non-stop world of emergency rooms is often quite stressful and very scary. There is the fear of having to visit an unfamiliar place filled with people you have never met. You may also have to undergo tests that you do not understand at a pace that discourages questions and comprehension. That is why a strong, competent, and compassionate staff, both medical and nursing, is so important. The staff at Coliseum Northside Hospital is dedicated to providing the highest quality of care for our patients while never forgetting the fact that they are human and need emotional support as well.

The Decade of the Scribe

Katie Grubbs, President, SuperScribe, LLC

Our world of ever-changing technology has produced numerous advances in the field of medicine. The 1970's introduced the CT scanner, the 80's saw the development of the automatic implantable cardiac defibrillator, and the 90's witnessed increased utilization of laparoscopic procedures. Many of these advances brought with them an array of new complications. Take, for example, the Electronic Medical Record (EMR). The EMR was designed to be an easily searchable, trackable, comprehensive chart where physician orders, diagnostic results, and treatment plans merge seamlessly. No more bulky paper records which take time and space to file. No more difficulties in deciphering a physicians' scribbles...ahem, writing. However, the introduction of the EMR has produced a whole new set of challenges. Use of the EMR is time consuming and requires a certain amount of technological knowledge and skill. It also adds data entry to the physicians' responsibilities which can place the focus on a computer rather than the patient. The initial implementation of an EMR can decrease productivity by as much as 30%.

One solution is the integration of "scribes" into your department. A scribe becomes the physician's personal clerical assistant. Scribes follow providers into patient rooms documenting the entire encounter in a far more detailed fashion than would a busy physician. They document both procedures performed and medications given. Between encounters, scribes track laboratory and radiology studies, follow up on patients' conditions, record physician consultations, and research patients' past medical histories. Charts remain in the scribes' queue until it is time to dispo the patient. At that time the provider assumes the chart, provides diagnosis and prescriptions, and then proceeds to the next patient.

A scribe position is optimal for those with an interest in medicine. Nursing, med-

ical, radiology, medical assistant, and PA students can all benefit from this work experience. They build personal relationships with physicians and other medical professionals all while working in an environment that provides constant learning opportunities.

Scribe programs benefit physicians, hospitals, and patients. Providers are able to see more patients each shift resulting in higher revenue while offsetting the scribe cost. Their focus returns to the patient instead of the computer or paper chart. Their charts are more accurate because they are completed in real time (which reduces the time need to stay late to complete documentation). Scribes also serve as both chaperones and physician/patient advocates, procuring additional tools/supplies, and relaying patients' comfort needs to nurses and staff. Perhaps the most satisfying benefit is the ability to work a shift focused on being a DOCTOR. Physicians who use scribes are happier and feel less stress during their shifts. For the hospital, more efficient physicians mean more patients seen. Accurate records translate to increased revenues and fewer legal issues. There is evidence from scribe programs nationwide that patient wait times decrease as the scribe program builds. The patients benefit from more face time with the physician and a more complete chart for any future visits.

A few challenges may exist for providers as they initially begin working with scribes. Providers must remember to speak during patient exams. Scribes are taught to "chart" what they hear; increased verbal communication translates into a more detailed chart. They are trained to ask the important questions necessary for a complete record, but this can interrupt the flow of a shift if numerous questions are being asked between patients. The greater the flow of patient information while in the room the less wasted time between. Patients appreciate this data sharing because it informs them of the physicians' findings and

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Patient Satisfaction Surveys are Here to Stay

Donald L. Malott, Jr., MBA, PhD, and Bradley R. Fulton, PhD

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Patient satisfaction surveys are here to stay. . . so let's just make sure they are valid and reliable.

For years, the most common argument against measuring patient satisfaction was "I'm here to save lives, not make friends." Studies finding correlations between higher patient satisfaction and enhanced hospital revenue, as well as reduced mortality, convinced many in the industry. Yet there were always those who did not care if patients were satisfied with the experience as long as they survived it.

Today, healthcare providers' opinions about the relative value of measuring patient satisfaction are moot: The Centers for Medicare and Medicaid Services (CMS) already uses measures of patient satisfaction to help determine hospital compensation and soon will base a portion of reimbursement on scores achieved through the Hospital Consumer Assessment of Health care Providers and Systems (HCAHPS) survey instrument.

While currently only inpatient care is affected, once the government implements this policy fully, other health care entities

are almost certainly going to be measured as well. For example, Home Health CAHPS has just recently been implemented, and Clinician and Group CAHPS are currently in development for physician practices. In addition, emergency department experiences affect the attitudes and satisfaction of patients admitted into the hospital. So, improving ED satisfaction will improve inpatient satisfaction, which will, in turn, affect reimbursement.

Thus, the argument by those who challenge the importance of patient satisfaction has shifted from "We don't need to care about satisfaction" to "Satisfaction isn't being measured properly," and, "The data are being misused." This paper seeks to address these concerns.

Properly vetted questions

First, the survey needs to have a standard set of questions with applicability across EDs that all departments in the database will use. These core questions need to be central to the ED experience across wide swaths of the population and the EDs themselves. This allows for realistic benchmarking. In addition, an ED must have the ability to add custom questions to the survey that are pertinent to its own initiatives, challenges and opportunities. To ensure they do not alter the tenor of the survey, change the survey's intent or confuse patients, survey design experts must vet both common and custom questions. Too often, confusing, misleading or marketing questions appear on an otherwise psychometrically sound satisfaction survey. For example, double-barreled questions such as "How would you rate how well the staff explained the patient's care and condition?" do much to harm survey validity while adding no value to the results. Patients get confused because they do not know if they are



responding to “how well the staff explained the care,” “how well staff explained the condition,” or both questions at once.

Pilot-testing

After survey design and health care experts have properly vetted a set of standard questions, these questions need to be pilot-tested. The most important step in measuring patient satisfaction is choosing a valid and reliable survey. No amount of planning will help your ED if it is addressing issues that are not there. Pilot-testing a survey means that it has met industry standards and is an accurate measure of a person’s attitudes and beliefs.

There are many survey vendors with many theories on the proper manner of measuring satisfaction. Rather than debate whose is most correct, it is best to judge each according to standards commonly accepted across the social sciences.

To do this, there needs to be a psychometrics report that details the survey design and testing. This report has two primary functions: It describes the survey reliability and the survey validity. Reliability is a statistical concept that simply means the survey has consistency; it will yield consistent results for the same perceived experiences. Validity means that the survey is properly measuring what it was intended to measure—in this case measuring satisfaction with the ED experience.

A psychometrics report does not ensure that the survey is either reliable or valid; but there is no way to determine whether it is reliable or valid without one. The psychometrics report should include at a minimum: how the survey was tested; what changes were made as a result of the testing; response rates; measures of central tendency; and how the designers tested variability, readability, reliability and validity.

Population definition and sample selection

The most critical aspect of assessing data is making sure it is suitable for descriptive, comparative and evaluative purposes. In most cases, this means either taking a census or some form of a random sample. Random sampling means that each patient has a known and equal chance of being selected.

The argument has been made that CMS has made random sampling impossible by insisting ED patients who are admitted to the hospital be sampled as inpatients; the argument being that not everyone is sampled. It is important to recognize that this is not a sampling issue but a definitional one. This sampling requirement is the same for all hospitals. Therefore, we still have a known population (ED patients not admitted to the hospital) that we can sample.

Proper sample size

For various statistical and theoretical reasons, social researchers commonly use 30 as a cut-off for a minimum sample size. Press Ganey has adopted this as an absolute minimum sample size (for its database of small EDs), but recommends 50 as a minimum because of the large decrease in standard error with relatively low increased cost associated with obtaining 20 more surveys. Note, however, that these are both minimums. Samples based on these minimums are representative within the bounds of statistical parameters, but each ED needs to determine what sample size they are comfortable with. Sampling should be set so that ED leaders have enough data to measure the smallest unit they wish to measure and have the desired degree of confidence in that data. Also, note that for the database of large EDs, the absolute and recommended minimums are 145 and 227 respectively.

Many survey organizations, Press Ganey included, will issue reports with as few as seven returned surveys despite having a stated absolute minimum sample size. This is because it is the ED’s data and it has a right to see it. Moreover, if this data were not provided, valuable information and comments could be lost. Imagine not receiving your data due to a small sample size and then facing a lawsuit as a result of a survey or comment that was never seen. Not providing data based on small sample sizes both takes ownership of the data away from the ED and potentially masks serious issues. This said, Press Ganey is very careful to caution its clients on the interpretation of data based on small sample sizes. It will not defend data based on sample sizes less than 30, and recommends that these data be used to identify potentially serious issues and in a qualitative/informative fashion.

Trending

Regardless of how much data one examines, EDs need to examine their data needs over time. To say “this physician needs coaching” because it suddenly appeared as a priority area in one day’s (or one week’s) worth of data may lead to fixing things that are not broken. Ask yourself, “Was this an issue last week? Last month? Last year? Has something changed that would cause this to suddenly become an issue?” If the answer is “no,” then perhaps, it is better to ask questions than to immediately look to make changes.

Examining data over time is also a way to mitigate problems of small sample sizes. If an ED is unable to obtain a sample size it is confident with, then it should examine data over a quarter instead of a month or over six months instead of a quarter. Also, if you have a set of quarterly data across a few years, for example, and one data point stands out from the rest as “odd,” then there may be reason to be suspicious of that data.

Benchmarking

Patient satisfaction scores do not exist in a vacuum. Suppose your score is 80, 90 or 78. What is a “good” score? The best way to know is to compare your scores with others’. You need at least two representative groups that are similar to your department or what you wish it to be or both. For example, if yours is a large ED in southern Florida, comparisons with the nation overall are helpful. However, it may also be helpful to be able to compare yourself to large EDs in the entire state, large EDs in the Southeast or the second shift of large, metropolitan EDs. These types of comparisons let you know what your score represents when compared to similar organizations using similar metrics.

Data distribution

Are angry or dissatisfied patients over-represented? Most physicians we speak to seem to believe so. However, a recent study of Press Ganey ED data suggests that angry or upset patients are not more likely to respond to the survey, and that the data are a good representation of the underlying population. The patient-level responses in the database have a high proportion of very good and good responses, a smaller number of fair responses and fewer poor and very poor responses. This is exactly what we would expect if the majority of ED care in the United States was very good and very few EDs were performing poorly.

What the data are really about

Once everything is properly in place, and you are ready to make some quality improvement decisions, you need to take a step back from the data. Consider other data sources (clinical outcomes, financial outcomes) as well as your own experience and the experiences of key stakeholders as well. Also, consider your mission as a health care professional and the mission of your organization. For example, do you believe it is better to conduct medically unnecessary tests to appease the patient or find ways to help the patient understand why a test is unnecessary? What do you do when lower acuity patients have longer waits due to one or two higher acuity patients? Do we simply try to rush everyone through, or do we properly inform the waiting patients why they are waiting (and provide constant updates), identify ways to improve the efficiency of the processes and re-examine staffing decisions?

Patient satisfaction is not merely about improving scores but also about what happens next. Examining data in a broader context and identifying creative solutions are keys to providing better care. Yes, a dissatisfied patient may survive, but they also may not come back, comply with the recommended treatment plan, recommend the hospital to others, or even worse, tell others to choose other facilities. All of these have broad implications for the hospital’s ability to survive and continue to offer quality care.

Scribes: continued from page 34

plans for their care.

Most EMR’s do not allow both the scribe and physician to document on the same patient at the same time. The provider must trust that the scribes’ record truly reflects the patient encounter. Experience shows that this trust rapidly develops. At the end of the encounter the physician assumes the chart, reviews the record, and disposes the patient.

As of September of 2010, it was estimated that over 200 emergency departments nationwide had implemented scribe programs. Programs can be home-grown or

executed through a scribe service. Home-grown programs require a provider to take on the responsibility of hiring, training, and managing scribes. A scribe service will take care of all of the above. Some services offer a more consultative approach to starting a program. The initial implementation of the program is set up by the service and after a designated amount of time, the service backs away leaving the management and any future hiring and training in the hands of the physician’s group. Other services offer continued program management, allowing the physicians to manage patients instead of scribes.

The scribe concept is spreading beyond emergency departments. Physicians in other specialties including orthopedics, urology, and family practice are using scribes. Whether your charting is hand written, dictation, or EMR, a scribe can make your day easier by improving patient flow, charting accuracy, and patient satisfaction. Attorney’s and other professionals all have personal assistants, why shouldn’t you? Without a doubt, the decade of the scribe is upon us.

Get involved and Make a Difference

GCEP is here to serve the emergency physicians and emergency patients of Georgia. All of our meetings are open. If you are interested in being more involved, please visit the GCEP website at www.gcep.org



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