

### Erratum

Several errors were identified in Table 2 of the article "Hospitalist Procedure Services" by Ricardo Franco-Sadud, MD; Ria Dancel, MD; Dan Schnobrich, MD; David M. Tierney, MD; Nitin Puri, MD; and Nilam J. Soni, MD, which appeared in the May 2016 issue of *SGIM Forum*. The corrected table has been posted to the May 2016 content at <http://www.sгим.org/publications/sgim-forum/past-issues/2016-forum-issues>. We apologize for the mistake.

## SIGN OF THE TIMES

### An Acute Care Curriculum: From An Idea To Reality

Attila Nemeth, MD, FHM

*Dr. Nemeth is assistant professor of medicine at the Case Western Reserve University School of Medicine.*

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**A**s an internal medicine hospitalist at the Cleveland Veteran Affairs (VA) Medical Center, I care for patients on the inpatient ward and in the emergency department (ED). Many VA EDs are staffed by physicians who are trained in both internal medicine and emergency medicine. I view myself as a clinician-educator, having the opportunity to work with both internal medicine residents and medical students. The Accreditation Council for Graduate Medical Education (ACGME) recognizes ambulatory experience as an integral part of internal medicine training. Residents are expected to demonstrate sufficient knowledge to recognize and provide initial management of emergency medical problems.<sup>1</sup> Through my work with residents, the concept for an acute care curriculum was created. I want to share my experience on how the curriculum project progressed from an abstract idea to a reality. This project has been a collaborative effort with supportive colleagues and has evolved into the process described below:

1. *Develop an idea for a curriculum/education project.* This was by far the most difficult part. I wanted to create something unique and interesting for the residents, without duplicating an existing educational experience. This entailed reviewing the existing program and examining opportunities to introduce a new project, with minimal disturbance in the residents' schedules. Discussions about projects were held with the chief residents and with my hospitalist colleagues, and the result was the acute care curriculum.
2. *Perform a needs assessment.* I surveyed the residents, chief residents, the hospitalists at our institution, and the residency program leadership for interest in this voluntary curriculum and for topics that would be most beneficial for residents.
3. *Create objectives.* The objective of the curriculum was to provide residents with the skills necessary for the initial management of emergency medical problems in two potential settings: 1) in an urgent care/ED setting and 2) on night float with limited

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## Being *Forum* Editor

Karen R. Horowitz, MD

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Three years ago, I took a chance. I decided to “lean in” for general internal medicine (GIM). Three years ago I accepted the role of editor in chief for *SGIM Forum*, and I have never regretted that decision.

To me, GIM physicians are the keepers of the “Big Picture.” We provide the institutional memory, the collective conscience, and the vision for the future of organized medicine. We are the physicians for whom, “the buck stops here.” When the cardiologist has said, “It’s not your heart,” and the orthopedist has said, “Nothing’s broken,” we explain, we teach, and we empower our patients to be the best version of who they can be despite their health burdens. We are the ones who say, “I understand. I have seen this before. I recognize your pain and can help you live with this.”

Academic general internists and leaders in organizations such as ours are uniquely positioned to represent the medical profession in advocating for social changes that enhance the lives of our communities. Every day, we witness the impact that health policy decisions have on the lives of our patients and the professional lives of our members.

There is a great sense of urgency in what we do as an organization.

SGIM leaders possess a strong sense of responsibility and commitment to members and to the community we serve. SGIM leaders live up to this challenge by investing their wisdom, vision, commitment, and time to creating a just health care system on a daily basis. As *Forum* editor, it has been my privilege to chronicle these efforts and report to the membership on advances in our profession that affect us all.

What has led to the success of *Forum* over the last 2 1/2 years? For me, it has been a labor of love, beginning with a deep respect for the members of the society and the work we do. Next has been a commitment to inform and engage the readership on issues that affect our patients, our students, and our profession as they emerge. In addition, *Forum* has provided the opportunity to include new members and emerging leaders in the work we do. We (the *Forum* editorial board) have challenged ourselves to present leading-edge topics that represent our commitment to diversity, social justice, and community engagement. We are proud to have presented topical issues on LGBT health care (October 2014), criminal justice and medicine (January 2015), immigrant health care (October 2015), and medical marijuana (March 2016) and focused issues on hospital medicine (March 2015), medical education (June 2015), and social media and health care (June 2016). If you missed any of these, back issues of *Forum* are available on the *Forum* website at: <http://www.sgim.org/publications/sgim-forum>.

As *Forum* editor, I have been proud to carry the mantle of responsibility for *Forum* as the representative voice of GIM. I have met and collaborated with SGIM members throughout the country, including four SGIM presidents and innumerable representatives of academic in-

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## MACRA, SGIM's Health Policy Committee, and Alphabet Soup

Eileen E. Reynolds, MD

In ending use of the SGR formula, MACRA instead creates a new payment structure (and a different strategy to control costs) by rewarding physicians for providing higher quality care.



Until a few years ago, health policy terms sounded like alphabet soup to me: SGR, RUC, PQRS, CHIP, MVPS, RVRBS, CMS. To be honest, if you work in an academic medical center as I do, we are often many layers removed from the way physicians and hospitals are paid for services. It's easy to lose track of where things stand on the issues of importance to us, our patients, and to SGIM. But then in 2013, I went to my first SGIM Hill Day, an opportunity for SGIM members to gather in DC, brush up on SGIM's health policy advocacy priorities, and "storm the Hill." (Learn more about Hill Day at <http://www.sgim.org/communities/advocacy/hill-day>.)

At the Hill Day events I attended in 2013, 2014, and 2015 (and for years before that), the SGIM advocacy platform included requesting the repeal of the SGR or the Sustainable Growth Rate. This formula had been created in the Balanced Budget Act of 1997 as a method to control costs by ensuring that Medicare budget increases did not exceed the growth in the gross domestic product. The calculation was such that annually physicians faced substantial potential pay cuts, and Congress passed 16 different "patches" or "doc fixes" to prevent dramatic losses.

The good news is that SGIM advocacy must have worked (!) because in 2015, President Obama signed the Medicare Access and CHIP Reauthorization Act of 2015, or MACRA, which ended use of the SGR.

So what is MACRA? If you don't know, then join the crowd: A recent Deloitte survey found that only half of physicians had even *heard of* MACRA.<sup>1</sup> Twenty-one percent of non-pediatric physicians in private or independent practice were "familiar" with it; only 9% of us—who like most SGIM members are employed by hospitals or large groups—were familiar. Recently, I sat in a faculty meeting where only two or three of the 30 primary care faculty present had heard of MACRA—at least anecdotally confirming the Deloitte results.

Yet MACRA fundamentally changes how we are all paid—or at least how our medical centers and practice plans are paid for our work, assuming we receive Medicare Part B payments—and moves all physicians toward value-based payment and away from payment based on volume. In ending use of the SGR formula, MACRA instead creates a new payment structure (and a different strategy to control costs) by rewarding physicians for providing higher quality care. There are two payment pathways: the Merit-based Incentive Payment System (MIPS) and Alternative Payment Models (APMs). Many of us will qualify under APMs because our medical centers or contracting groups have already engaged in accountable care organizations (ACOs). Smaller practices, or those geographically located where APMs have not penetrated, will be paid under MIPS. MIPS creates a single composite quality score that incorpo-

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rates three existing quality reporting programs (i.e. the Physician Quality Reporting System (PQRS), the Value-Based Payment Modifier (VBPM), and Meaningful Use (MU)) and adds a fourth—the new Clinical Practice Improvement Activities (CPIA) program. Together, the four programs establish a single composite performance score on a scale of 100 used to determine physician payment.

Organizations participating under APMs will get a 5% Medicare bonus as early as 2019; that bonus is in addition to all incentives and payments available through the APM. Five percent more for doing what you are already doing is a powerful incentive for organizations to join APMs. Those participating under MIPS will have performance-based payments begin-

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## Piecing Together the Past

Avital Y. O'Glasser, MD, FACP

*Dr. O'Glasser (@aoglasser) is a teaching hospitalist with the inpatient medicine teaching service and outpatient pre-operative medicine clinic at Oregon Health & Science University (OHSU).*

I am a medical nerd by nature and a genealogy buff by training. Wait... reverse that. I am a genealogy buff by nature and a medical nerd by training.

My penchant for genealogy research preceded my interest in a career in medicine by more than 10 years. A third-grade project sparked a joint effort with my maternal grandfather that lasted right up until his death during my third year of residency. He was a fount of information, dipping back to memories that had preceded his own birth by decades. With the help of the Internet and the explosion of digitized records, the "aha" moments would come in spurts and waves.

I tell people that I love the scavenger hunt in internal medicine—the challenge of following an obscure patient complaint or history element to a treasure trove of clinically relevant information. It can be a giant puzzle, the solution dependent on recognition of subtle clues. I hone my ability to see day-to-day trends during an admission or week-to-month trends in outpatient follow-up and respect the need to interchange macro lenses and micro lenses. I treasure the knowledge that each patient is a person with his/her own story. I love genealogy for all the same reasons. As I read between the lines of old vital records, I am piecing together a story from the fragments—sewing together the individual narratives from discrete historical facts. I see my own origins in their beginnings.

The latest wave of "aha" moments came last year when the New York City Department of Records made old vital records, such as death certificates, readily available online. Until then, I only knew a fraction of the confluence of medical history and genealogy in my family. I knew that my paternal grandfather had died suddenly of a massive myocardial infarction in the 1960s. I knew that both of my grandmothers had died with ad-

vanced Alzheimer's disease. I knew my grandmother's youngest sister had died in 1945 from childhood cancer. Yet the narrative was often fuzzy. I knew my great-great uncle with Down syndrome had lived to be 12 years old before dying in 1925—and that he had been lovingly cared for at home rather than being sent to an institution. Nevertheless, I wondered what had caused his early passing. Was it a result of his trisomy? Leukemia? Cardiac pathology?

My great grandfather's death certificate arrived first. I knew that he had died at age 49 due to a lower extremity osteosarcoma, having already been an amputee. His death certificate told me that he had been at an out-of-state hospital for 110 days before dying. I learned that my great-great uncle died at 8:10 pm on his 24th day in the hospital and that the staff physician had also last seen him alive at 8:10 pm. The biggest surprise was learning that my great-great grandmother, who we had previously believed had died of relatively "old age" at 70, died three days after being admitted to the hospital with pemphigus vulgaris.

The literature shows that death certificates, including those completed by residents, are often inaccurate, especially regarding cause of death.<sup>1,3</sup> I remember my own consternation—multiple times as a resident and as an attending—at filling in all the blanks in the form. How often was I faced with this for a patient I did not know well or in the middle of a busy call night? While death in the hospital could be so dramatic and finite, the hasty completion of the form allowed me to close the chapter on one patient and move on to dozens of other items on my clinical to-do list. Until recently, I had not considered how the death certificate had evolved over time and what "factoids" from decades ago a busy clinician had rushed to complete.

Does it matter now that my great grandfather died 150 miles from home after being in the hospital for months, or do seven decades now trump that time and distance? Does it matter now that my great-great uncle was apparently not alone when he died, or are all those ghosts long gone? Does it matter now that my great-great grandmother died of a rare dermatologic pathology, or is that now just a "fascinoma" for conversations with colleagues?

The pragmatist in me wants to reiterate the importance of accurate death certificates to impact mortality statistics, population health, and health policy. The humanist in me wants to believe that these discoveries transcend being mere factoids—that out of the vital statistics in the official death certificate a story can still be read decades later. At the very least, these personal discoveries have taught me the important lesson that someone's narrative does not end with a quick signature on a death certificate. Maybe, perhaps, per chance...in 20, 40, or even 100 years a curious descendant will read the words I scribbled down in semi-legible handwriting and claim another piece of his/her own puzzle.

### References

1. Villar J, Pérez-Méndez L. Evaluating an educational intervention to improve the accuracy of death certification among trainees from various specialties. *BMC Health Serv Res* 2007; 7:183.
2. Messite J, Stellman SD. Accuracy of death certificate completion: the need for formalized physician training. *JAMA* 1996; 13; 275(10):794-6.
3. Wexelman BA, Eden E, Rose KM. Survey of New York City resident physicians on cause-of-death reporting, 2010. *Prev Chronic Dis* 2013; 10:E76. *SGIM*

## Rectus Sheath Hematoma in the Setting of Anticoagulation

Murtaza Saifee, MS3 (presenter), and Maygen Del Castillo, MD (discussant, in italic)

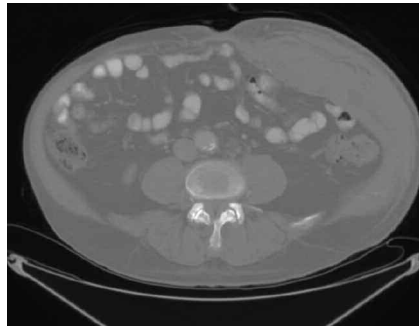
*Mr. Saifee is a third-year medical student at the Baylor College of Medicine, and Dr. Del Castillo is a resident in the department of internal medicine at the Baylor College of Medicine.*

**A** 71-year-old Caucasian male with a history of coronary artery disease, mechanical mitral valve replacement 14 years ago, atrial fibrillation, and ischemic cerebrovascular accident presents to the hospital from clinic with a two-day history of left lower abdominal wall tenderness, swelling, and spreading erythema. The patient was preparing for an upcoming colonoscopy to evaluate anemia and had held his warfarin seven days prior to the procedure and started therapeutic enoxaparin subcutaneous injections (1 mg/kg q bid) four days prior to admission.

Two days after initiation of enoxaparin, the patient noticed a sharp pain and a small red nodule after self-injecting enoxaparin into the left lower quadrant of his abdomen. Since then, the lesion has become ecchymotic and spread laterally and posteriorly into the left flank with increasing pain. Upon further questioning, the patient reports having injected enoxaparin directly into his abdomen without pinching his skin. Of note, the patient has bridged off warfarin with enoxaparin injections several times in the past for procedures without any complications.

The patient denies lightheadedness, chest pain, or shortness of breath. He has no bright red blood per rectum or melena. He does not have any hematemesis, reflux symptoms, or coffee ground emesis. He has no bruising or gum bleeding. He is not taking any other anticoagulants or antiplatelets.

*Given that the patient is on therapeutic anticoagulation, there is concern for intra-abdominal bleeding. The patient's presentation is most consistent with a rectus sheath hematoma (RSH). RSHs are uncommon causes of abdominal pain, caused by hemorrhage into the rectus sheath due to shearing of the superior or inferior epigastric arteries or direct trauma to*



*the muscle itself. They are often associated with anticoagulation therapy and can be spontaneous or secondary to trauma or abdominal straining. While rarely fatal, RSHs should be promptly evaluated and diagnosed to avoid unnecessary laparotomies to investigate the etiology of the acute abdominal pain. Less likely causes of abdominal pain in this setting include superficial injection site hematoma, hemorrhagic peptic ulcer disease, ischemic bowel, infectious colitis, diverticulitis, omental infarction, and inflammatory bowel disease.*

On presentation, he is afebrile, and his vital signs are stable with a blood pressure of 151/96 and a heart rate of 96 bpm. Abdominal examination shows a large left-sided erythematous and ecchymotic plaque with mild induration that extends from the umbilicus to the left flank, with significant protrusion, swelling, and tenderness. The lesion now extends 3 cm past the demarcating line drawn three hours ago.

*The patient's physical exam shows a quickly advancing abdominal lesion indicating an active bleeding process. His vital signs are stable, indicating current appropriate compensation for his blood loss. Further enoxaparin should be held. In addition, reversal agents such as protamine should be considered in cases of life-threatening bleeding. If the last dose of enoxaparin was within 8 hours, 1 mg of protamine per 1 mg enoxaparin can be given; if between 8*



*and 12 hours, 0.5 mg protamine can be given. In general, protamine is unlikely to be helpful after 12 hours. However, even with higher doses of protamine, the aPTT may remain prolonged to a greater extent than usually seen with unfractionated heparin. Anti-factor Xa activity is never completely neutralized (maximum about 60%). Laboratory data will be helpful in risk stratifying the patient, and abdominal and pelvis CT is the diagnostic test of choice.*

Subsequent labs show hemoglobin of 11.7 g/dL, platelet count of 190 K/cmm, and INR of 1.58. A CT scan of the abdomen reveals a left ventral and lateral abdominal wall hematoma measuring 19 cm by 4.9 cm in the subcutaneous and intramuscular regions.

Given the large size and rapid progression of the hematoma, the patient is transferred to the medical ICU, where IV access is established with serial hemoglobin and hematocrit monitoring. Later that evening, the patient undergoes an emergent transcatheter vascular embolization of the left epigastric artery by interventional radiology without any complications.

Two days post-embolization, the patient is bridged with heparin drip for five days until his warfarin therapy is therapeutic (i.e. INR 2-3).

*The decision to restart anticoagulation is difficult in this patient as one must balance the risks of re-bleeding versus thromboembolic*

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## LETTER TO THE EDITOR

Dear Editor:

I have been fascinated by the physical examination since hearing the legend that physicians could determine a PR interval merely by assessing the intensity of S1. True or not, it was inspiring.

After reading with interest, and sadness, “The Demise of the Physical Exam” (Frank M, et al. *SGIM Forum* 2016; 39(5):1,10-11), I would like to add some observations I’ve made over the years in trying to teach physical exam skills to medical students and house officers.

The biggest hurdle is getting the learner to identify abnormal results—more so than performing the exam skill correctly. Anyone can be taught how to examine the tympanic membrane or listen to a heart; the difficulty arises in getting the student to distinguish what is normal from what is not. As such, I would propose that the examination for early medical students integrate physiology directly with the normal exam, but for more senior medical students and residents, the focus should be on abnormalities. Until then, the capillary flush over the malleus is going to be misdiagnosed as otitis media.

The use of standardized patients is essential, as having medical students practice on each other is fraught with limitations. However, this is only useful in learning the normal exam. To build on this, I would propose that medical schools and academic medical centers generate registries of patients—each of whom has abnormal physical findings—and use them to invite patients to “Physical Exam

Days” so that students and residents can experience the findings. How much better to see the hand of an actual patient with acromegaly or hear the murmur of critical aortic stenosis than to be exposed to it via lecture or textbook! Granted, not all common anomalies can be presented “in the flesh”—and use must be made of multimedia—but the “real thing” should be made available when able and, if nothing else, reinforce that we care for humans with disease, not disease itself.

Although extant, research into the physical examination pales in comparison to bench and other clinical research. To keep the art alive, we should try to transform the physical exam into a science. I would like to see a society, or at least an interest group, dedicated to the physical examination, replete with its own journal and conference.

The final hurdle—one that would seem to pertain to almost all non-revenue generating activities—is support from the upper echelons of administration. Too often educational activities, such as teaching physical examination skills, must compete with the RVU quotas that have been set such that the “academic mission” somehow becomes secondary to the “clinical mission.” I would submit, however, that more finely honed examination skills would, in the long run, save our health systems money, as they would allow for a more thoughtful ordering of diagnostic tests rather than taking the proverbial “shotgun” approach.

—Mark Glenn Stokes, MD, FACP  
Great Neck, NY

## JGIM Ranked #1 in Google Scholar!

The 2016 Google Scholar metrics were released in July. This release covers articles published in 2011-2015 and includes citations from all articles that were indexed in Google Scholar as of June 2016.

For 2016, *Journal of General Internal Medicine* is ranked as the #1 journal in the Primary Health Care category! The h-5 index for the journal is now 61, meaning that 61 articles published by *JGIM* have been cited at least 61 times.

The editorial board of *SGIM Forum* wishes to extend congratulations to our *JGIM* colleagues on this outstanding accomplishment!

## General Internists and Cancer Care Across the Continuum

Jenny J. Lin, MD; Mita Sanghavi Goel, MD, MPH; Linda Overholser, MD, MPH; and Larissa Nekhlyudov, MD, MPH

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**G**eneral internists play a vital primary or collaborative role in cancer prevention, screening, diagnosis, and care for newly diagnosed patients, longer-term cancer survivors, and those dying with cancer. In the United States, more than 1.6 million new cases of cancer are diagnosed each year. It is projected that between 2010 and 2030, total cancer incidence will rise to more than 2 million, and by 2024, the population of cancer survivors will increase to nearly 19 million. A significant number will experience cancer multiple times in their lives. Among those newly diagnosed with cancer and those who are living with cancer, most are age 65 and older and have comorbid medical conditions. Yet while most patients diagnosed with cancer are older, cancer also affects younger populations, leading to premature death and for many late and long-term effects as well as considerable morbidity.

Demand for cancer care is growing, driven by the rise in its incidence, earlier detection, increased survival, and the aging population. General internists play a critical role in the care of patients across the cancer continuum. Evidence has shown that when primary care providers are involved in the care of individuals living with cancer, their care is more comprehensive; however, many internists lack the skill and confidence to care for this patient population.

Over the last decade, the Cancer Research Interest Group (formed in 2006) has been active within SGIM and currently includes approximately 50 members. (Prior to the conversion to GIM Connect, there were close to 100.) The Interest Group includes SGIM members who are leaders in cancer research and education, as well as junior faculty and trainees with interests in this area. The group has had a featured role at the annual meetings, and from 2010-2015 it hosted an externally funded Distinguished Professor in Cancer Research Program. These activities have provided important networking and collaborative opportunities and engaged national experts in cancer care with the SGIM community (Table 1).

We are at a critical time period in the intersection between primary care and cancer care; there is a vital need to redesign health care delivery systems with a greater focus on team-based care. For example:

- General internists need to work in teams with oncology specialists and non-physician personnel to deliver the highest quality care.
- Cancer screening, treatment, and survivorship options continue to evolve, and general internists must participate in the implementation and dissemination of new guidelines.

- The growth of the oncology workforce is not expected to keep pace with the growing demand for cancer care, particularly for supportive and surveillance care following treatment. Seamless transition from active treatment to surveillance and follow-up and from oncology care to primary care is critical for maintaining high-quality patient care.
  - Multimorbidity—the heart of what general internists manage on a daily basis in clinical practice—is becoming increasingly recognized as a crucial issue in cancer care that may complicate treatment decisions across the cancer trajectory. Helping patients with multiple active comorbidities balance the risks and benefits of various treatments requires expertise in general medicine, care coordination, and team-based care.
  - Many late and long-term effects of cancer treatment may predispose individuals to premature morbidity and mortality long after cancer treatment is complete. General internists need to be aware of these risks and should be active participants in studying the long-term consequences of cancer and its treatment, given that they are called upon to manage them.
  - Health care costs are high, and cancer is a principal driver. General internists must ensure that care is patient centered, evidence based, and of high value.
  - For those individuals at risk for new cancers due to hereditary
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We are at a critical time period in the intersection between primary care and cancer care; there is a vital need to redesign health care delivery systems with a greater focus on team-based care.

## ProudtobeGIM at 1 Year: The Future Looks Bright

Paul O'Rourke, MD, MPH

*Dr. O'Rourke is an assistant professor at Johns Hopkins University and an associate program director of the internal medicine residency at Johns Hopkins Bayview.*

The ProudtobeGIM campaign was launched in 2015 to expose medical students to career opportunities in general internal medicine (GIM). The aim of the program is to inform students of the variety of amazing career options in GIM and the multitude of opportunities to be a leader in patient care, research, health policy, and medical education. The campaign's website ([proudtobegim.org](http://proudtobegim.org)) was launched at the 2015 SGIM Annual Meeting. This site features GIM career resources for students and medical educators, including multiple videos, podcasts, and information on mentoring programs. The campaign was strategically featured on social media as well as promoted by many professional societies and groups, including the American Association of Medical Colleges, the American Medical Student Association, and the *New England Journal of Medicine* Knowledge+. With support from the Hess Foundation, the campaign was able to fund pilot ProudtobeGIM events at six US medical schools:

Boston University, Emory University, Johns Hopkins University, Tulane University, the University of Colorado, and the University of Miami. Each event set out to bring together medical students and GIM role models to allow for sharing of information and to create connections. These proceedings were well attended and highly valued; feedback from these events was used to develop campaign materials for other medical centers interested in hosting their own ProudtobeGIM affairs.

At the recent 39th SGIM Annual Meeting in Florida, the presence of ProudtobeGIM was palpable. Scores of attendees participated in the ProudtobeGIM photo booth to show their GIM pride. Social media caught fire with GIM love; on Twitter alone, there were 371 #ProudtobeGIM posts during the week of the conference with an estimated reach of 105,261 Twitter users. On the first full day of the conference, the campaign hosted, "Say it Loud and Say it ProudtobeGIM," a town

hall meeting to share ideas and suggestions of how to promote GIM by hosting promotional events for medical students.

As the campaign moves beyond its first birthday, it is hoped that its reach and impact will swell. This year, funding for up to 25 additional medical institutions is available to support ProudtobeGIM events and programs. We will be continually adding new resources on the webpage to help interested internists and institutions plan incredible events for their learners. The campaign is also exploring new ways to expand our target audience to internal medicine residents as well as medical students. We hope that the entirety of the SGIM community will get involved and participate—it could be as simple as wearing a ProudtobeGIM pin on your white coat to stimulate conversation with your learners. We have many reasons to be proud of what we do, and it is important to spread our GIM love with aspiring medical leaders.

SGIM





## PRESIDENT'S COLUMN

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ning in 2019; by 2022, payment will be adjusted as much as -9% or +22% based on the quality score. The year 2019 feels far away; however, the quality reporting period is due to begin in January 2017. (Yes, in three months.) The timeline is presented in Figure 1. Learn more about the quality measurement program for MIPS here: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/index.html>.

Mostly, this should be great news for our patients as well as for SGIM members. Medicare's push toward quality-based payment is likely to benefit primary care. We've been advocating for repeal of the SGR for years; MACRA rewards quality over quantity; and there is opportunity for significant gain for high-performing primary care organizations. In fact, Kocher and Chiguru-pati recently wrote in the *New*

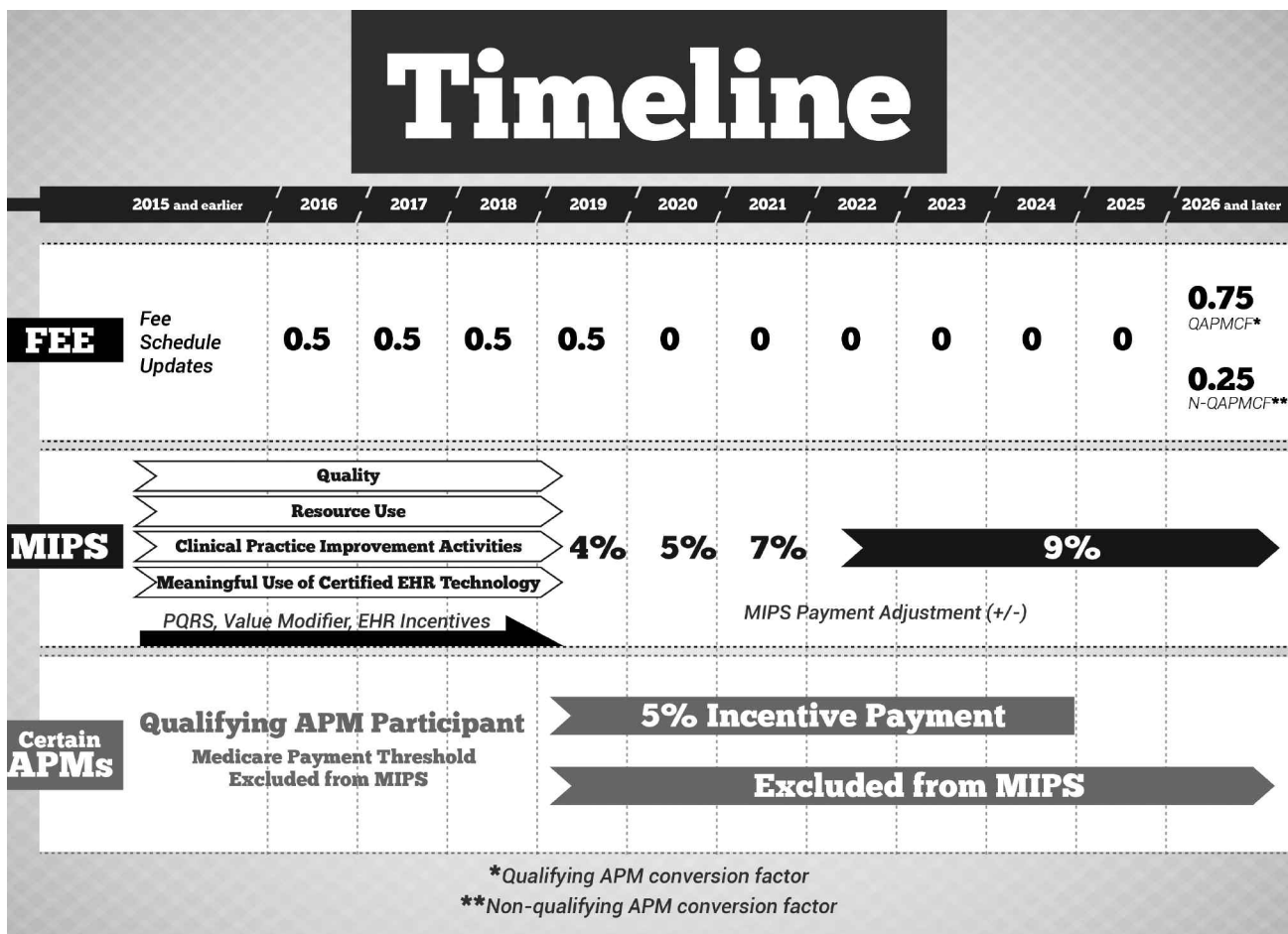
*England Journal of Medicine*, "APMs are designed to distribute savings to PCPs, reflecting the broader roles for primary care established by MACRA and the Affordable Care Act.... As health care reimbursement shifts from fee-for-service to risk-based payments, PCPs are well positioned economically and strategically. Their incomes are likely to grow substantially over the next decade, at the expense of hospitals and specialists."<sup>2</sup>

While MACRA is overall good for primary care physicians, it's important that we understand some of the complex implications for us and for our patients and that SGIM have a voice in the final rules, which are due out in October. CMS invited public comment about MACRA. You can read the details of SGIM's comments here: <http://www.sgim.org/File%20Library/SGIM/Communities/Advocacy/Legislative%20Endorsements/SGIM-MACRA-Letter.pdf>. Our response included these suggestions, among others:

1. *True payment reform.* MIPS and APMs are built on a fee-for-service platform: We suggest that the basic value proposition is "unattainable" without transformation of the RBRVS and the reworking of the evaluation and management (E/M) service codes. While Medicare can say that MACRA moves payment from volume to value, the hidden reality is that the new payment system is built on the current E/M service codes and on the RVU system, which inherently undervalues care provided by general internists.<sup>3</sup> A cornerstone of SGIM's advocacy for the past

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Figure 1: MACRA Implementation Timeline



<https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/Timeline.PDF>

## SIGN OF THE TIMES

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supervision. We wanted to do this by creating daily focused lectures and workshops, with each session lasting between 20 and 30 minutes.

4. *Develop an assessment tool for the curriculum.* The residents were asked to complete an anonymous survey after each lecture or workshop. The survey collected feedback on the quality of the lecture or workshop, residents' confidence in demonstrating the skill, perceived overall usefulness of the lecture or workshop, major take-home points, and participant questions and suggestions. I used this information to identify specific areas for improvement and adapted the curriculum to address these needs.
5. *Manage logistics.* This was the next most difficult step. I met with the chief residents to identify the best time and setting for the curriculum based up on the residents' schedules. Second- and third-year residents are divided into groups, and each group follows a six-plus-two schedule (i.e. six weeks of inpatient medicine followed by two weeks of ambulatory)

repeated throughout the two years. The curriculum was intended to follow the schedule of the second- and third-year residents. First-year residents have additional time set aside for primary care, so their schedule is not as predictable as second- and third-year residents. Due to morning rounds, morning report, scheduled noon lectures, afternoon lectures by inpatient attendings, and residents' need for patient care time, I realized that including the curriculum for inpatient residents would be difficult. I therefore focused on the residents' ambulatory schedules. Ambulatory residents have lectures on chronic disease management on Friday mornings for a half day, which provided an opportunity to schedule lectures and workshops Monday through Thursday. Since the 8-9 am hour historically has a lower patient volume in the ED than other times, 8 am was chosen as the lecture time.

6. *Create a pilot study.* For approximately 2.5 months, a colleague and I gave three to four lectures for each two-week ambulatory ED rotation. Our individual schedules and clinical duties precluded us from providing daily lectures Monday through Thursday. At the end of the pilot study, the residents and chiefs were again surveyed.
7. *Roll out the curriculum.* The pilot study was well received, and the decision was made to move forward with the acute care curriculum. I followed an interdisciplinary approach when recruiting colleagues. Core faculty included hospitalists and ED physicians as well as intermediate care technicians (ICTs). (At the VA, ICTs are corpsmen in the military who possess practical experience from military service and add a valuable perspective to our work.) The acute care curriculum went live in January 2016.

8. *Disseminate results.* I am currently collecting data. I plan to review the surveys, develop a manuscript, and submit it for publication.

This project did not require external funding. The largest expense was my time. Fortunately, my schedule had protected academic time, which provided me with the opportunity to work on this curriculum. My supportive colleagues value educating residents and have graciously volunteered their time. The supplies needed for the workshops were already available in the ED. The Cleveland VA has a simulation lab, and we were able to request simulators, which will be incorporated into the curriculum when they arrive. The simulators include a knee for arthrocentesis; a torso to practice venopunctures in the internal jugular, external jugular, and femoral veins; an arm for peripheral intravenous punctures; and skin pads for learning how to incise and drain an abscess and for suturing. We also had workshops on splinting upper and lower extremities. The simulators we chose would teach residents simple and common procedures that one would expect to use in an urgent care/ED or on the wards. We may introduce other simulators based on the needs and requests of the residents.

By far, this has been the largest education project that I have undertaken. It has been fun, intellectually stimulating, and stressful at times. Looking back, would I do it all again? Definitely!

### References

1. Accreditation Council for Graduate Medical Education (2015). ACGME program requirements for graduate medical education in internal medicine. Available at: [https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/140\\_internal\\_medicine\\_07012015.pdf](https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/140_internal_medicine_07012015.pdf)

### Midwest SGIM Announces 2016 Award Winners

Tracie Collins, MD, 2016  
*Leadership in GIM Award*

Neda Laiterapong MD, 2016  
*Clinician Investigator Award*

Doriane Miller, MD, 2016  
*Service Award*

Wei Weil Lee, MD, 2016  
*Clinician Educator Award*

Diane Levine, MD, 2016  
*Clinician Educator Award*

**Congratulations to all!**

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## FROM THE EDITOR

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stitutions throughout the world. We have built a formidable team of *Forum* associate editors who share your commitment, creativity, and passion for your vocation. We have celebrated your achievements, heralded your accomplishments, and debated the challenges and opportunities of a GIM career in this very turbulent health care environment.

It is now time for SGIM to begin the search for a new *Forum* editor. It

is our time to challenge you—our members and loyal readers—to “lean in” for GIM. If you have enjoyed reading *Forum*, if you wish to share your dedication to your career in GIM, and if you seek an opportunity to join the discussion and become a change leader in GIM, then the position of SGIM *Forum* editor is right for you!

The call for applications for the next *Forum* editor will be posted this month on the SGIM website and

GIM Connect and will soon appear in your inbox. I will be happy to discuss the responsibilities of the position as well as counsel the next editor toward a smooth transition of leadership when the time comes. For now, we have six great months of *Forum* content planned for our readers. Please keep reading *Forum*!

Thank you for all that you do every day to contribute to the legacy of SGIM. SGIM

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## PRESIDENT'S COLUMN

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many years has been calling for reform of the RUC, E/M coding, and RVUs. In the past year, SGIM and our member John Goodson have led the Cognitive Care Alliance, which was created to advocate for more appropriate E/M service codes that reflect complexity density and for a reduction in required documentation. (Read about this in more detail in the July issue of the *Forum*.<sup>4</sup>)

2. *Feedback.* As educators, we know that meaningful and timely feedback leads to performance improvement. Because the final rule for MACRA will not be released until October, we suggest delaying implementation for three months—from January 2017 to April 2017—to allow practices to adapt to the final format. We also request quarterly feedback from CMS to physicians to allow those participating to have a good understanding of their areas of strength and of areas where they are potentially failing. Feedback should be frequent and with enough advance notice to allow time for improvement.

3. *Risk adjustment.* Because MACRA will involve comparing how physicians do on many quality measures, CMS must use a valid and transparent risk-adjustment methodology so that

panel comparisons can be apples to apples, instead of apples to... Caesar salad.

4. *Patient attribution.* SGIM recommends a combination of a retrospective and prospective methodology to allow physicians to know which patients will count but also to allow patients the opportunity to choose their own physicians. Attribution is particularly challenging at academic medical centers because residents serve as primary care providers.

There are many more points about the implementation of MACRA to read about in SGIM's letter. Stay tuned, since CMS plans to announce the final “rule” in October.

Has this column been alphabet soup for you, and do you want to learn more? Or are you a health policy nerd looking to take your knowledge and career to the next level? SGIM's Health Policy Committee (HPC) will soon be starting the Leadership in Health Policy Program or “LEAHP.” A year-long opportunity similar in construction to the Association of Chiefs and Leaders in General Internal Medicine's LEAD and SGIM's TEACH programs, LEAHP aims to train the next generation of SGIM leaders in health policy. The program will include a half-day training at the 2017 annual meeting, quarterly webinars, longitudinal men-

toring from current SGIM leaders, Hill Day participation, work with CRD Associates, and capstone projects such as white papers on pressing advocacy issues. More is forthcoming in the next issue of *Forum*.

Like all SGIM members, I owe many thanks to our HPC, its leaders, and longtime SGIM HPC staffer Francine Jetton. Even when some of these issues seem like alphabet soup, I know that our HPC will be working hard in the best interests of our patients, our members, and our organization.

### References

1. <http://www.prnewswire.com/news-releases/deloitte-survey-finds-low-physician-awareness-and-many-needed-changes-by-physicians-for-medicare-macra-program-300297982.html> (accessed on July 19, 2016).
2. Kocher R, Chigurupati A. The coming battle over shared savings—primary care physicians versus specialists. *N Engl J Med* 2016; 375:104-6.
3. Berenson RA, Goodson JD. Finding value in unexpected places—fixing the medicare physician fee schedule. *N Engl J Med* 2016; 374:1306-09.
4. Goodson J. SGIM and its new best friends: the Cognitive Care Alliance. *SGIM Forum* 2016; 39(7):1,10.

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## MORNING REPORT: PART I

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events. Large studies of RSH have demonstrated a 4.9% risk of recurrent RSH in patients who were restarted on anticoagulation therapy. We determined the patient's risk was 10% per year for a catastrophic thromboembolic event off anticoagulation. Due to the risk of rebleeding, such patients should be closely monitored for several days to ensure no repeat bleeding occurs.

A majority of RSHs occurs in the setting of anticoagulation, with reported values up to 69%. Outpatient therapeutic anticoagulation is typically performed with enoxaparin, warfarin, or novel direct thrombin or factor Xa inhibitors. Enoxaparin is a low-molecular-weight heparin (LMWH) drug administered subcutaneously, which offers convenient dosing without required monitoring. Its ease of administration has facilitated increased outpatient use in recent years and allows the patient, family members, or caretakers

greater participation in care. However, despite its convenience, there are significant risks associated with its use, including major bleeding.

Although our patient has had successful experiences in the past with using enoxaparin to bridge off warfarin for procedures, he still developed complications. Thus, clinicians should be vigilant of complications of anticoagulation in both newly and chronically anticoagulated patients. Patients should also be educated on proper injection technique, especially the importance of injecting pinched skin to avoid the underlying muscle and blood vessel.

This patient's experience highlights that outpatient anticoagulation therapy not only has critical importance in several diseases but also has many associated risks, including RSH. Subcutaneous enoxaparin has gained significant popularity in recent years due to its convenient dosing and lack of required monitor-

ing; it has been specifically adopted in several situations, including anticoagulation in pregnancy, hypercoagulability of malignancy, and those bridging off warfarin for medical or surgical procedures (as in this case). Patient education and counseling regarding anticoagulation and subcutaneous administration have become critically important to help reduce the risks of such complications. Education and vigilance should not be limited to just enoxaparin but also other subcutaneously administered medications, such as insulin, octreotide, and epoetin alfa.

### Key Points

- Recognize the clinical signs and symptoms of rectus sheath hematoma (RSH).
- Assess the risks of outpatient anticoagulation therapy.
- Manage the risks associated with restarting anticoagulation therapy vs. rebleeding.

### References

1. Berna JD, Zuazu I, Madrigal M, Garcia-Medina V, Fernandez C, Guirado F. Conservative treatment of large rectus sheath hematoma in patients undergoing anticoagulant therapy. *Abdom Imaging* 2000; 25:230-4.
2. Cannegieter SC, Rosendaal FR, Briet E. Thromboembolic and bleeding complications in patients with mechanical heart valve prostheses. *Circulation* 1994; 89:635-41.
3. Cherry WB, Mueller PS. Rectus sheath hematoma. *Medicine* 2006; 85(2):105-10.
4. Firoozbakhsh S, Parsaei R, Jafarshad R. Hematoma of rectus sheath following subcutaneous enoxaparin injection. *Acta Med Iran* 2013; 51(5):334-6.
5. Holmes SJ, Yale SH, Mazza JJ. Rectus sheath hematoma as a cause of acute abdominal pain. *Am Fam Physician* 2001; 64:1681-2.
6. Kayrak M, Bacaksiz A, Yazici M. Is enoxaparin injection from the

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**KAISER PERMANENTE®**

The Division of Research in Kaiser Permanente's Northern California region is accepting applications for its **July 2017 class of Delivery Science post-doctoral fellows**. The application deadline is **September 15, 2016** for fellows beginning **July 2017**

**Location:** Oakland, California

**Eligibility:** We seek outstanding candidates with health professional doctorate degrees and/or research doctorate degrees in related fields. Applicants must be eligible for US employment. Women and minority candidates are encouraged to apply.

**Program Goals for Delivery Science Fellows:** Enhancing skills to help highly-qualified researchers pursue successful research careers in delivery science; address critical health care delivery problems in priority areas and conduct research to help support advances in how medical care is delivered within the Kaiser Permanente integrated care setting and the U.S. health care system overall.

**Learning Opportunity:** Fellows will develop their delivery science research and writing skills for presentations and publications while being mentored by experienced scientists.

**Questions and Application** - Email [DOR-Fellowship@kp.org](mailto:DOR-Fellowship@kp.org) or go to [www.dorfellowship.kaiser.org](http://www.dorfellowship.kaiser.org)

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- abdominal wall safe in elderly people? A fatal case of rectus sheath hematoma. *Can Fam Physician* 2008; 54:1246-8.
7. LaPointe NMA, Chen AY, Alexander KP, et al. Enoxaparin dosing and associated risk of in-hospital bleeding and death in patients with non ST-segment elevation acute coronary syndromes. *Arch Intern Med* 2007; 167(14):1539-44.
  8. Salemis NS, Oikonomakis I, Lagoudianakis E, et al. Enoxaparin-induced spontaneous massive retroperitoneal hematoma with fatal outcome. *Am J Emerg Med* 2014; 32:1559. SGIM

## INTEREST GROUP UPDATE

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- cancer syndromes, familial predisposition, or prior treatments, lifelong surveillance is required. Risk reduction, preventive care, and screening strategies are evolving; general internists need to be prepared to engage their patients in discussions around these issues.
- End-of-life care for cancer patients must be addressed during the trajectory of cancer care, and general internists who have long-term relationships with patients can play a pivotal role in initiating these discussions and coordinating care so that decisions are consistent with patients' values.
- SGIM, as the leading voice of academic internists, is well positioned to act to improve care across the cancer continuum by facilitating strong leadership in cancer care among its members and by educating, engaging, and advocating for general internists to play a more central role in the cancer care team. SGIM members have unique and valuable skills to contribute to cancer research, education, and clinical care. As we enter our second decade, the Cancer Research Interest Group will continue to offer our members opportunities to learn, collaborate, and contribute to cancer-related education and research in general academic medicine. Please join us!
- SGIM

**Table 1. Selected Activities Led/Sponsored by the Cancer Research Interest Group (2006-2016)**

Workshops	- Cancer Survivorship 101: What Primary Care Clinicians Need to Know to Improve the Care of Cancer Survivors
	- Meeting the Health Care Needs of Breast Cancer Survivors in Primary Care
	- Translating Cancer Control Research into Community Practice
	- Genes and Generalists: Identifying Patients at Risk for Hereditary Cancer Syndromes
	- The Many Faces of Generalism: General Internists' Role in Caring for Patients with Cancer in the Medical Home
	- Invited Clinical Update: 2012 Update in the Care of the Cancer Survivor
	- Invited Clinical Update: 2013 Update in the Care of the Cancer Survivor
	- Institute of Medicine Recommendations for Improving the Quality of Cancer Care: What They Mean for the General Internist
	- Special Symposia: From Screening to End of Life: Caring for Patients across the Cancer Control Continuum
	Journals and Books
- Chapter on caring for cancer survivors in <i>Care of the Adult with Chronic Childhood Condition</i> (DeLaet et al., editors)	
- Handbook: <i>Caring for Patients across the Cancer Care Continuum: Essentials for Primary Care</i> (pending)	
Distinguished Professor of Cancer Research	2010 Dr. Suzanne Fletcher, Harvard Medical School
	2011 Dr. Edward Wagner, Group Health Research Institute
	2012 Dr. Patricia Ganz, UCLA Cancer Center
	2013 Dr. Stephen Taplin, National Cancer Institute
	2014 Dr. Karla Kerlikowske, UCSF
	2015 Dr. Craig Earle, Ontario Institute for Cancer Research
Best Oral Presentation	Recipients annually from 2010-2016
Best Poster Presentation	

NOTE: Collaborative manuscripts and grant proposals not included.

## An Unusual Case of Back Pain in Primary Care Clinic

Eric Tannenbaum, MD (presenter), and Meghan Kiefer, MD, MPH (discussant, in *italic*)

**M**r. R is a 65-year-old gentleman with no significant past medical history who presents to this primary care clinic with a chief complaint of back pain. He describes razor-like bilateral upper back pain, 10/10 in intensity, starting adjacent to his spine and radiating to the upper chest above his nipples in a band-like distribution. The pain started six weeks ago while he was on a cross-country bike ride. The pain is made worse by inhalation but is unaffected by exercise or movement. The patient cannot recall any trauma to his back or chest. Two weeks prior to the onset of pain, Mr. R had experienced subjective fevers, lethargy, diffuse muscle weakness, night sweats, headache, dysuria, and difficulty urinating; all of these symptoms gradually resolved over a two-week period. The back pain began as his constitutional and urinary symptoms resolved.

On review of systems, the patient reports a red rash on his wrists and ankles approximately one year ago but no skin changes on his chest or back. He endorses contact with ticks and states that one to two years ago he removed a brown tick from his leg but could not recall further details. His travel history over the past year includes riding his bike through the American southwest, northeast, and northwest, as well as southeastern Canada. He endorses minimal consumption of alcohol, denies tobacco use, and denies ever using illicit or intravenous drugs.

The patient had sought care for back pain several times prior to this visit. Five weeks ago, within days of the initial onset of his pain, he had presented to a different primary care clinic. Plain chest radiography was performed, revealing a possible left-sided pleural effusion. He was prescribed nonsteroidal anti-inflammatory drugs.

The pain continued, and he presented to an emergency department four weeks ago. At that time, he was afebrile, and his vital signs were within the normal range. A workup for acute coronary syndrome was negative. CBC revealed a mild normocytic anemia (Hb 12.9) with mild monocytosis. Basic chemistries and liver function tests were within normal limits. A PA-L chest radiograph did not reveal any significant abnormalities, and a CT angiogram of the chest revealed a 7 mm pulmonary nodule in the lower left lobe and was negative for pulmonary embolism. No bony abnormality was noted.

Two weeks ago, he presented to yet another primary care office with persistent back pain. He was prescribed gabapentin 100 mg twice daily. At this time the patient began taking ibuprofen 600 mg four times daily and oxycodone (obtained from a friend) 5 mg three to four times daily. His pain was still poorly controlled.

At the current visit, vital signs are: BP 105/74, pulse 90, T 37.6C. Physical exam reveals a healthy-appearing man in no apparent distress who appears younger than his stated age. Heart and lung exams are normal. Neurological exam reveals: CN II-XII intact, strength 5/5 throughout, reflexes 2+ throughout. He has no sensory deficits and no spinal or paraspinal tenderness; range of motion in his spine is normal. Digital rectal exam shows normal rectal tone and normal prostate. No rashes are seen. Lab testing reveals microcytic anemia (Hb 12.0) with mild monocytosis, HIV negative, UA normal, hepatitis C negative, Quantiferon Gold negative, ESR 62. The etiology of his pain remains unclear. Due to the neuropathic quality of his pain, gabapentin is increased to 300 BID.

Mr. R is called one week after this initial visit to our clinic. He reports worsening pain. Nortriptyline

25 mg daily and naproxen 500 mg twice daily are added to his gabapentin, and a thoracic MRI with contrast is ordered.

The MRI reveals discitis/osteomyelitis of T4-T5 with erosive changes and associated ventral epidural abscesses. Cord compression is noted without signal abnormality. The patient is contacted and instructed to go to the emergency department. He is hospitalized and admitted to the spine service.

Spinal biopsy is performed and culture reveals methicillin-sensitive *Staphylococcus aureus* (MSSA). T3-6 laminectomy and T4-T5 corpectomy are performed with surgical stabilization and hardware placement. Broad spectrum antibiotics are begun but later narrowed to nafcillin. His hospital course is complicated by meningitis and later interstitial nephritis presumed to be caused by nafcillin. He is switched to levofloxacin and discharged with levofloxacin 750 mg PO daily and rifampin 300 mg PO twice daily to complete a six-week course. He is neurologically intact and ambulating independently upon discharge.

*Spinal epidural abscess (SEA) is a rare cause of back pain. In one study the rate of spontaneous SEA was found to be 0.88 cases/100,000 person years.<sup>1</sup> Peak incidence is believed to be between ages 50 and 70. Major risk factors for SEA in the absence of spinal surgery or instrumentation include concurrent infection, diabetes mellitus, immune system compromise, and intravenous drug use.<sup>2,3</sup> Other risk factors include alcohol abuse, recent spinal fracture, indwelling catheter, cancer, and chronic renal failure. It is unusual for a patient to present with an SEA in the absence of risk factors; in one emergency department based study, 98% of patients had at least one listed risk factor.<sup>3</sup>*

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*S. aureus* is the most common causative agent and is present in up to 70% of cases.<sup>4</sup> The most common bacterial source identified in cases of SEA is skin and soft tissue infection, although urinary tract infections, respiratory tract infections, and prior sepsis from an unknown source have also been implicated. Spinal instrumentation and invasive procedures are estimated to be responsible for 15% of cases

SEA is often missed on initial presentation because the classic triad of spine pain, fever, and neurologic deficits is rare (i.e. 8% of patients on initial visit), so diagnostic delay, as occurred in this case, is common.<sup>3</sup> Back pain is the most common complaint with SEA, with 95% of patients describing this at their initial visit, compared to 41% reporting a neurologic deficit and 33% reporting fevers.<sup>3</sup>

MRI with gadolinium contrast is the diagnostic study of choice for SEA, with a sensitivity approaching 100%. MRI revealed or suggested the diagnosis in all 59 patients in one study.<sup>5</sup> Although rarely diagnostic, X-ray of the spine can often suggest an abnormality (i.e. vertebral collapse, osteomyelitis) and the need for further imaging. The exact sensitivity of plain radiography for SEA is unknown, but in a systematic review of pyogenic osteomyelitis, plain radiography revealed a bony abnormality in 89% of cases.<sup>6</sup>

*This patient was an interesting case as despite his serious diagnosis he presented to a primary care clinic with the common complaint of back pain with normal vital signs and prior negative imaging. His red flags were new back pain at an older age and the non-mechanical nature of the pain. The sharp nature of the pain and apparent dermatomal pattern raised concern for a neurologic source. The primary diagnoses considered at the time of the clinic visit included infectious causes (i.e. bilateral herpes zoster, West Nile Virus, Lyme disease, other viral nerve root infections); structural causes (i.e. malignancy, including metastatic prostate cancer; other mass causing bilateral nerve root compression; spinal fracture); and musculoskeletal causes. It is notable that this patient had no known risk factors for SEA. While MRI clearly revealed the etiology of this patient's pain, multiple PA-L chest radiographs did not reveal signs of SEA nor did thoracic CT angiography. Potential bacterial sources for this patient's SEA include unnoticed skin and soft tissue infection (i.e. possible saddle sores during his bike ride) and urinary tract infection, as suggested by his urinary symptoms but less likely given that *S. aureus* was found to be the offending organism.*

*Back pain is a common complaint in primary care, and new back pain in an elderly patient—especially non-*

*mechanical back pain—must be taken seriously. We should keep in mind that SEA is often missed on initial presentation and can present as isolated back pain.*

### References

1. Ptaszynski AE, Hooten WM, Huntoon MA. The incidence of spontaneous epidural abscess in Olmsted County from 1990 through 2000: a rare cause of spinal pain. *Pain Med* 2007; 8(4):338-43.
2. Sendi P, Breginzer T, Zimmerli W. Spinal epidural abscess in clinical practice. *QJM* 2008; 101(1):1-12.
3. Davis DP, Wold RM, Patel RJ, et al. The clinical presentation and impact of diagnostic delays on emergency department patients with spinal epidural abscess. *J Emerg Med* 2004; 26(3):285-91.
4. Tompkins M, Panuncialman I, Lucas P, et al. Spinal epidural abscess. *J Emerg Med* 2010; 39:384-90.
5. Rigamonti D, Liem L, Sampath P, et al. Spinal epidural abscess: contemporary trends in etiology, evaluation, and management. *Surg Neurol* 1999; 52(2):189-96.
6. Mylona E, Samarkos M, Kakalou E, Fanourgiakis P, Skoutelis A. Pyogenic vertebral osteomyelitis: a systematic review of clinical characteristics. *Semin Arthritis Rheum* 2009; 39(1):10-7.

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## SGIM Request for Application #ProudtobeGIM Institutional Honorarium

### Deadline: September 12, 2016

SGIM is seeking medical schools interested in participating in the second phase of ProudtobeGIM, a nationwide campaign to introduce medical students and PGY 1-2 residents to the field of GIM ([www.proudtobeGIM.org](http://www.proudtobeGIM.org)).

Selected institutions will receive an honorarium in the amount of \$1000 to host one or more local event(s) aimed at encouraging medical students/early residents to enter the field. Additionally, institutions will have access to ProudtobeGIM campaign materials, such as an exclusive idea-sharing online community, videos, brochures, a slide set, and advice for hosting an event for trainees.

SGIM piloted this institutional grants project in 2015 with six participating institutions. The program was extremely successful and we are excited to offer up to 25 additional grants for the 2016-2017 year.

Institutions who receive funding will be expected to do the following during the grant year:

- Participate in ProudtobeGIM week, January 23-27, 2017, at your local institution.
- Host a local event either during or closely related to ProudtobeGIM Week at which you bring the message about why you are ProudtobeGIM to medical students/residents and encourage them to enter into the field. This could be a panel session, brown bag, or some other speaker-related session but must be an in-person session (not virtual). You may host more than one event so long as the first one occurs before February 15, 2017.
- Host a social media campaign at your department/institution using our ProudtobeGIM messaging and using the hashtag #ProudtobeGIM. SGIM can provide you with messaging and ideas.
- Help SGIM distribute our messaging about the event—for example sharing our videos, etc.
- Participate in 2-3 conference calls throughout the early fall as phase 2 of the institutional program gets underway.
- Share best practices and details about your event with the GIM Connect Community
- Submit a report with detail about your grant expenditures prior to March 1, 2017.

**To apply:** Any SGIM member at any level may apply. Please send a letter of intent of NO MORE THAN two pages to Francine Jetton, SGIM Director of Communications, at [jettonf@sgim.org](mailto:jettonf@sgim.org). This letter should state how you plan to use the honorarium to bring ProudtobeGIM to your trainees. Please identify the main point of contact at your institution (name and email address).

### Deadline: September 12, 2016 by 5pm Eastern Time.

The ProudtobeGIM workgroup (chaired by Brita Roy, MD, MPH) will make decisions on these applications based on the scope of the letter of intent as well as geographic and institutional diversity.