Rethinking preop testing

Risk assessment a key role for hospitalists

By Thomas R. Collins
REPORTING FROM HM18

ORLANDO / Michael Rothberg, MD, a nocturnist who works at Presbyterian Rust Medical Center in Albuquerque, often is torn when asked to routinely perform preoperative tests, such as ECGs, on patients.

On the one hand, Dr. Rothberg knows that for many patients there is almost certainly no benefit to some of the tests. On the other hand, surgeons expect the tests to be performed — so, for the sake of collegiality, patients often have tests ordered that hospitalists suspect are unnecessary.

This was a big part of why Dr. Rothberg decided to come a day early to HM18, held in early April in Orlando, to attend the pre-course “Essentials of Perioperative Medicine and Co-Management for the Hospitalist.” He was looking for expert guidance on which patients need what tests before surgery, and also how to better determine what preoperative tests are a waste of time and money for certain patients, so that he’ll be armed with useful information when he went back to his medical center.

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COMMENTARY
A U.S. model for Italian hospitals?
By Valerio Verdiani, MD; Francesco Orlandini, MD; Micaela la Regina, MD; Giovanni Murialdo, MD; Andrea Fontanella, MD; and Mauro Silingardi, MD

In the United States, family physicians (general practitioners) used to manage their patients in the hospital, either as the primary care doctor or in consultation with specialists. Only since the 1990s has a new kind of physician gained widespread acceptance: the hospitalist (‘specialist of inpatient care’).1

In Italy the process has not been the same. In our health care system, primary care physicians have always transferred the responsibility of hospital care to an inpatient team. Actually, our hospital-based doctors dedicate their whole working time to inpatient care, and general practitioners are not expected to go to the hospital. The patients were (and are) admitted to one ward or another according to their main clinical problem.

Little by little, a huge number of organ specialty and subspecialty wards have filled Italian hospitals. In this context, the internal medicine specialty was unable to occupy its characteristic role, so that, a few years ago, the medical community wondered if the specialty should have continued to exist.

Anyway, as a result of hyperspecialization, we have many different specialists in inpatient care who are not specialists in global inpatient care. Nowadays, in our country we are prone to maximizing their tools than rationalizing them. So, at present, our traditional hospital model has been generating care fragmentation, overproduction of diagnoses, overprescription of drugs, and increasing costs.

It is obvious that a new model is necessary for the future, and we look with great interest at the American hospitalist model.

We need a new hospital-based clinician who has wide-ranging competencies, and is able to define

By Valerio Verdiani, MD; Francesco Orlandini, MD; Micaela la Regina, MD; Giovanni Murialdo, MD; Andrea Fontanella, MD; and Mauro Silingardi, MD

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We need a new hospital-based clinician who has wide-ranging competencies, and is able to define
Pediatric Special-Interest Group to open new era of opportunity

More visible, systemic pediatric presence within SHM

By Felicia Steele

Editor’s note: Each month, the Society of Hospital Medicine puts the spotlight on some of our most active members who are making substantial contributions to hospital medicine. Visit www.HospitalMedicine.org for more information on how you can lend your expertise to help improve the care of hospitalized patients.

This month, The Hospitalist is spotlighting Jeffrey Grill, MD, a professor in the department of pediatrics, the chief of the division of pediatric hospital medicine at the University of Louisville (Ky), and the director of Just for Kids Hospitalist Service at Norton Children’s Hospital in Louisville. Dr. Grill has been a member of the Pediatrics Committee since 2012, has been instrumental in leading the transition from committee to special-interest group (SIG), and is on the Pediatric Hospital Medicine 2018 Planning Committee.

Why did you become a member of SHM?

After being in a general pediatrics practice for a few years, I saw a lot of value in and got a lot of support from working with other outpatient pediatricians and the American Academy of Pediatrics. When I left that outpatient practice to focus on hospital pediatrics 13 years ago, I needed to find people who knew a lot more than I did about inpatient work and an organization that could support my growth and development in this new role. Of course, SHM was the answer.

I knew there was a ton I could learn from the internists who had been doing this work a lot longer and senior pediatric hospitalists who could share their experiences. I found all of that, and more, and was honored to join the Pediatrics Committee in 2012 to help serve the community that’s helped me so much.

During your time on the Pediatrics Committee, what goals were accomplished?

Over the years, this great committee has been very active at the direction of some fantastic leaders. We have had the privilege and responsibility to advise the SHM Board on pediatric issues and concerns, and we’ve developed some interesting pediatric-specific educational content in areas such as quality and safe handoffs. We’ve worked on the Choosing Wisely campaign and are now in the process of updating the Pediatric Hospital Medicine Core Competencies.

Each year we develop the content for the Pediatric Track of the SHM annual conference, and for several years, I was also on the Annual Conference Committee, which was a fantastic opportunity to bring the pediatric world to the broader work of SHM.

The Pediatrics Committee is transitioning from a committee to a Pediatric Special-Interest Group. What can members look forward to in this transition?

I was asked to lead the subcommittee that is working on the SIG transition, and I must say, I am excited! You know, as great as the Pediatrics Committee is, it’s still only 15-20 people. And there are opportunities for pediatric hospitalists to join other SHM committees, but even at that, the footprint of active, engaged pediatric hospitalists within SHM is fairly small.

The transition to a much more open-ended pediatric hospitalist SIG will allow many more hospitalists who take care of children to become involved. That’s more people, from more places, with more perspectives and ideas. It’s more energy, more collaboration, and hopefully, in the long run, a more visible and systemic pediatric presence within SHM.

Sure, there are questions and a few concerns, and I’m not sure all the details have been quite worked out, but in the big picture, I think it’s good for pediatric hospital medicine and good for SHM. Stay tuned as the process develops, but I think SHM members are going to see the new opportunity to get involved directly in SIG projects and goals, collaborate with more pediatric hospitalists, and see some real dynamic and forward-thinking leadership in the SIG Executive council … and opportunities to be on that Executive Council in a transparent, collegial way.

What were your main takeaways from Pediatric Hospital Medicine 2017? What can attendees expect at PHM 2018?

The annual Pediatric Hospital Medicine (PHM) meeting is always a bit of a whirlwind and our meeting in Nashville in 2017, hosted by SHM and our very own board member, Kris Rehm, MD, SFHM, was no different. There is always so much to experience and a diversity of offerings, which is really representative of how broad and rapidly growing our field is.

Of course, the “Top Articles in PHM” review is always popular and well received, and the poster and platform research sessions really show how far PHM has come and how much incredibly detailed and diligent work is being done to advance it further. There were some particularly thought-provoking plenary sessions last year on evidence-based health policy challenges and how some things we take as PHM dogma might not even be true! Left us all scratching our heads a bit. The final plenary on magic and pediatrics was inspiring and hilarious.

As far as PHM 2018, I suppose for full disclosure I should mention that I’m on the planning committee, so of course it’s going to be awesome! We really are putting together a fantastic experience. We had so many high-quality submissions for workshops, clinical sessions, research truly spanning the whole range of PHM work. Whatever you’re coming to learn about, you’ll find it.

We have some tremendously gifted plenary speakers lined up; some are sure to inspire, some will make you smile with pride about being a hospitalist, and at least one will almost certainly crack you up. We’ve shortened the length of many of the workshops to allow attendees to have more experiences while making sure the content is still meaningful. There will be several opportunities to mentor and be mentored in a comfortable, casual setting. I could go on and on, but if you take care of kids, come to Atlanta and see for yourself in July!

Do you have any advice for early-stage pediatric hospitalists looking to advance their careers?

This is an exciting time to be a pediatric hospitalist. Like it or hate it, subspecialty designation in PHM is around the corner, the new SHM pediatric SIG is going to open up an new era of opportunities, research in the field is gathering tremendous momentum, and fellowship training is going to only fuel that.

But PHM is still so far from becoming a single, one-size-fits-all path. There is still a huge range of practice locations, settings, responsibilities, and challenges.

I tell my junior folks: “Put yourself out there. Try some things. Try a lot of things. If you have opportunities to practice in a few different settings, try it. If there are learners, teach. Join a research or quality improvement group. Go to some big meetings; talk to new people. If you hear someone give a great talk that gets you fired up about something you have a passion for, stick around, go talk with them; they get it, they were you once, and probably not even that long ago. Throw your hat in a ring and help out with a project. It might turn out to not be your ‘thing,’ but it might lead you to your ‘thing.’ Or not, but you’ll come away with some experience and two new friends.”

That’s what makes this journey fun. There is no goal, no endgame. It’s all about the journey and the joy you find in the ride.

Ms. Steele is a marketing communications specialist at the Society of Hospital Medicine.
Giving hospitalists a larger clinical footprint

By Christopher Moriates, MD, SFHM

We are playing the same sport, but a different game,” the wise, thoughtful emergency medicine attending physician once told me. “I am playing speed chess – I need to make a move quickly, or I lose – no matter what. My moves have to be right, but they don’t always necessarily need to be the optimal one. I am not always thinking five moves ahead. You guys (in internal medicine) are playing master chess. You have more time, but that means you are trying to always think about the whole game and make the best move possible.”

In recent years, the drive toward “efficiency” has intensified on the wards. I am seeing us playing much more speed chess as hospitalists, and I don’t think that is a good thing. The pendulum has swung quickly from, “problem #7, chronic anemia: stable but I am not sure it has been worked up before, so I ordered a smear, retic count, and iron panel,” to “problem #1, acute blood loss anemia: now stable after transfusion, seems safe for discharge and GI follow-up.”

(NOTE: “Acute blood loss anemia” is a phrase I learned from our “clinical documentation integrity specialist” – I think it gets me “50 CDI points” or something.)

“Our job is not merely to work shifts and stabilize patients – there already is a specialty for that, and it is not the one we chose.”

In Italy, this is the first concrete priority of collaboration between the main association of Italian hospital-based internists (Federation of Associations of Hospital Doctors on Internal Medicine, or FADOI) and the University of Genoa’s Department of Internal Medicine, Academy of Health Management, and the Center of Simulation and Advanced Training.

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Theoretically, the development of the hospitalist model should be easier in Italy when compared to the United States. Robert Wachter, MD, and Lee Goldman, PhD, wrote in 1996 about the objections to the hospitalist model of American primary care physicians (“to preserve continuity”) and specialists (“fewer consultations, lower income”), but in Italy family doctors do not usually follow their patients in the hospital, and specialists have no incentive for in-hospital consultations.³ Moreover, patients with comorbidities, or pathologies on the border between medicine and surgery (for example, cholecystitis, bowel obstruction, polytrauma), are already often assigned to internal medicine, and in the smallest hospitals, the internist is most of the time the only specialist doctor continually present.

Nevertheless, the Italian hospitalist model will be a challenge. We know we have to deal with organ specialists, but we strongly believe that this is the most appropriate and the most sustainable model for the future of the Italian hospitals. Our wish is not to become the “bosses” of the hospital, but to ensure global, coordinated, and respectful care to present and future patients.

Published outcomes studies demonstrate that the U.S. hospitalist model has led to consistent and pronounced cost saving with no loss in quality.⁴ In the United States, the hospitalist field has grown from a few hundred physicians to more than 50,000,⁵ making it the fastest growing physician specialty in medical history.

Why should the same not occur in Italy?

References


Dr. Verdiani is a director of internal medicine in Grosseto, Italy. Dr. Orlandini is health administrator, ASL4 Liguria, Chiavari (GE), Italy. Dr. La Regina works in risk management and clinical governance, ASL5 Liguria, La Spezia, Italy. Dr. Munialdo is in the department of internal medicine and medical specialty, at the University of Genoa (Italy). Dr. Fontanella is director of medicine and president of the Federation of Associations of Hospital Doctors on Internal Medicine (FADOI), Naples, Italy. Dr. Silingardi is director of internal medicine, and director of training at FADOI, Bologna, Italy.

Sneak Peek: The Hospital Leader

Also in The Hospitalist Leader

• How Hospitalists See the Forgotten Victims of Gun Violence by Vineet Arora, MD, MAPP, MHM
• Hospitals, Hospice and SNFs: The Big Deceit by Brad Flansbaum, DO, MPH, MHM
• But He’s a Good Doctor by Leslie Flores, MHA, SFHM
Health care, technology, and the future

Major forces combining to reshape care delivery

By Leonard J. Marcus, PhD

What will be the role of humans in the future health system? At first blush, this is a peculiar question. Health care is all about humans. How could one doubt their presence or role? It is working with and for people that attracted many to this profession.

On the cusp of a significant health system reformulation, it is the very question that hospitalists now must ponder. Just as ATMs replaced bank cashiers, online shopping replaced retail stores, and autonomous cars will soon replace drivers, the human landscape of health care is about to change. What pressures will force the change?

Like the massive shifting tectonic plates that spark earthquakes, two major forces are combining to reshape service delivery as we know it.

On one hand, there is increasing demand. The Affordable Care Act opened the insurance door for people previously uncovered. Aging is delivering the baby boomer bubble into their sicker years. Hospitalists witness this phenomenon every day in the ballooning parade of patients they serve. At times, those pressures can overwhelm.

On the other hand, the political will to provide government subsidized health coverage is waning. Washington is tripping over itself to dismantle Obamacare with glancing concern for how it will inflate the ranks of the uninsured. Employers are eager to free themselves from the burden of providing increasingly expensive health coverage benefits. By removing the mandate to buy health care insurance, the current political health system architects are liberating the healthy paying population from their contributions to the overall insurance pool. Simply put, there is and will be less money and less of all that it buys.

Combine building demand with decreasing budget into a system that does not follow general market forces: You get that earthquake. A consumer can forgo that new phone in hard times but not that cardiac procedure. People will be caught in the fissures of the system. Waits, quality, burnout, morale problems, and financial losses will all trend in the wrong directions. The process will evolve in slow motion. Some might argue that we have already arrived.

Enter entrepreneurs, technologic advances, and a growing savvy and willingness to engage tech solutions to everyday problems. If Alexa can turn on your toaster, could it take your blood pressure? If a robot can vacuum your rug, could a different robot provide personal care services? And, if an algorithm can drive your car, could it similarly diagnose what ails you?

On Jan. 30, 2018, one of the greatest disrupters of all time, Amazon, announced that it is joining forces with Berkshire Hathaway and JP-Morgan Chase to leap into health care. While they are initially experimenting with health care changes for their corporate employees, the ultimate marketwide goal is to apply technology to both reduce costs and improve patient care. Warren Buffett, Berkshire Hathaway’s founder, said in a statement, “The ballooning costs of health care act as a hungry tapeworm on the American economy.” (And yes, I imagine that many hospitalists would take umbrage with that characterization.) In addition to the Amazon alliance, CVS Health and Aetna also recently agreed to join forces.

The rising health care interest by Amazon begs the imagination. Technology already is far along in automating routine procedures, elevating patient safety protocols, and recalculating patient flows and information. This added corporate interest and investment will further expand new ideas and innovative technologies. And, for sure, it will challenge long-held beliefs and practices that shape the health system we have today.

Hospitalist insight needed

What is the role of hospitalist leaders in this shifting equation? Hospitalists already can claim significant credit for introducing major changes in the landscape of hospital care in this country, with all the concurrent improvements in the efficiency and quality of more integrated service delivery. Can you also guide the system in strategically selecting where and how technology can best be applied to automate and reconfigure service delivery?

The most important questions are: What is it that humans in health care uniquely do that cannot otherwise be accomplished? Are we able to hold onto the humane sides of health care, even as we seek to introduce cost-saving efficiencies?

Top of mind come the most personal sides of health service delivery: touch, empathy, understanding, and care itself. Next come human analysis, understanding, and translation. And beyond that, leadership, direction, and the vision to craft a health care system that meets our societal expectations – not just for the wealthy who can afford it – but for everyone.

It would be easy to dismiss this conversation. Society never decided whether those bank tellers, travel agents, or journalists were critical to our functioning. Along these same lines, you and your patients are more than mere algorithms.

As I often share in my leadership seminars, one key function of leaders is to identify and ask the right questions and to be at the decision-making table. What are those questions? As a hospitalist leader, which part of your work and your activities could be eased by automation?

Where might technology ease pressures and enhance your interactions with patients? How do we improve the efficiency and effectiveness of health service delivery while we preserve the very human qualities that are fundamental to its values?

No patient wants to speak to a physician who stares at a computer screen without eye contact, reassurance, or genuine interest. We can do better than that.

Business stakeholders in the system – and clearly, they are positioning and are powerful – will hold great sway on the contours of our future health care system. They could see humans – with all their costs, imperfections, and distractions – as replaceable.

Know that as you lead and pose your questions, there are people interested in listening. Certainly, the tech industry is looking for opportunities to generate broad market appeal. Similarly, health system decision makers looking to enhance how the system functions likewise seek guidance on what could – and could not – work. And who knows: Those decision makers could very well be you.

This is a conversation the country deserves. There is nothing more intimate, more personally important, and more professionally satisfying than the genuine person-to-person quality of what we do in health care.

What we arrive at in the end should be achieved by intent, not by accident.

“Technology already is far along in automating routine procedures, elevating patient safety protocols, and recalculating patient flows and information.”

Dr. Marcus is coauthor of “Renegotiating Health Care: Resolving Conflict to Build Collaboration,” 2nd ed. (San Francisco: Jossey-Bass Publishers, 2011) and is director of the program for health care negotiation and conflict resolution, Harvard T.H. Chan School of Public Health, Boston. Dr. Marcus teaches regularly in the SHM Leadership Academy. He can be reached at ljmarcus@hsph.harvard.edu.
**CMS sepsis measure a challenge to report**

Hospitalists can champion sepsis-improvement efforts

*By Kelly April Tyrrell*

In October 2015, the Centers for Medicare & Medicaid Services implemented its first meaningful policy to attempt addressing sepsis. The condition – one of the leading causes of mortality among hospitalized patients – affects more than a million people each year in the United States, and between 15% and 30% of them die. Sepsis is one of the leading drivers of hospital readmissions, sending more patients back to the hospital than heart failure, pneumonia, and chronic obstructive pulmonary disease.¹

However, while providers seem to agree that the time to address sepsis is past due, not everyone has embraced the Sepsis CMS Core Measure program, or SEP-1, as the means to best achieve it. This is, in part, because of discrepancies in how sepsis is defined, the burden of reporting, and what some consider to be arbitrary clinical requirements that may not correlate with better patient outcomes.

"Sepsis is indeed a critical public health problem, and it’s appropriate and valuable that Medicare and other policy makers are focusing on sepsis," said Jeremy Kahn, MD, professor of critical care medicine and health policy and management at the University of Pittsburgh. "This was really the first approach at that ... but at 85 pages long, it really is an enormous effort for hospitals to adhere to this measure."

This is because of the tension between the "intense desire to improve sepsis outcomes" and the "incredible burden" of keeping up with the necessary documentation while also providing quality care, Dr. Kahn said.

In December 2017, Dr. Kahn helped lead a study published in the Journal of Hospital Medicine aimed at trying to understand hospital perceptions of SEP-1. Over the course of 29 interviews with randomly selected hospital quality leaders across the United States, including physicians and nurses, the results came as a surprise.²

"Generally, hospitals were very supportive of the concept, and there was no pushback on the idea that we should be measuring and reporting sepsis quality to CMS," he said.

However, the research team found that respondents believed the program’s requirements with respect to treatment and documentation were complex and not always linked to patient-centered outcomes. Meeting the SEP-1 bundles consistently required hospitals to dedicate resources that not all may have, especially those in small, rural communities and those serving as urban safety nets.

Some, like emergency medicine physician Annahieta Kalantari, DO (who did not participate in the survey), feel that SEP-1 forces providers to practice “check-box” medicine and undermines successful efforts that don’t necessarily align with the CMS policy.

She arrived at her institution, Aria-Jefferson Health in Philadelphia, before CMS adopted SEP-1; at that time, she took note of the fact that the rate of sepsis mortalities in her hospital was, in her words, not great when compared with that at similar institutions. And then she helped do something about it.

"I thought, 'We’re a Premier reporting hospital, and they’re basing them on because no one can agree on a definition anyway. Now they’re penalizing hospitals if they don’t hit the check marks in time, but we’d already demonstrated that our mortality and patient care was exceptional.’"

She added: "I am extremely dissatisfied, as someone who provides frontline patient care, with how CMS is choosing to measure us."

Dr. Kalantari wrote a piece in the Western Journal of Emergency Medicine in July 2017 in which she and coauthors outline the issues they take with SEP-1. They lay out the tension among the varied definitions of what sepsis is – and isn’t – and they also illuminate the apparent conflict between what CMS has officially defined and what evidence-based studies conducted since 2001 have suggested.³

In particular, CMS defines severe sepsis as an initial lactate above 2 mmol/L and septic shock as an initial lactate presentation of greater than 4 mmol/L. However, Dr. Kalantari and her coauthors argue in the paper that there is no standard definition of sepsis and that decades of attempts to achieve one have failed to reach consensus among providers. CMS, she said, fails to acknowledge this.

**Defining sepsis**

In fact, in 2016, another new definition of sepsis emerged by way of a 19-member task-force of experts: The Third International Consensus Definitions for Sepsis and Septic Shock, also called Sepsis-3.⁴ In March 2017, the Surviving Sepsis Campaign adopted this definition, which defines sepsis as a "life-threatening organ dysfunction caused by a dysregulated host response to infection."⁵

"I think the definition has always been a challenging part of sepsis," said Kencee Graves, MD, a hospitalist at the University of Utah, Salt Lake City. "The definitions came about for research purposes, so ... they are not perfectly sensitive nor specific."

However, Dr. Graves believes SEP-1 is a step in the right direction in that it brings awareness to sepsis and holds providers accountable. Several years ago, she and her colleague Devin Horton, MD, also a hospitalist at the University of Utah, embarked on a massive undertaking to address sepsis in their hospital. It was, at the time, lacking in “sepsis culture,” Dr. Horton said.

"One of the big things that motivated both of us was that we started doing chart review together and – it’s always easier with 20/20 hindsight – we were noticing that residents were missing the signs of sepsis," Dr. Horton explained. "The clinical criteria would be there, but..."
but no one would say the word.” This is important, he said, because sepsis is time critical. So the pair set out to create a cultural change by sharing data and collecting input from each service and unit, which relied heavily on nursing staff to perpetuate change. They created an early warning system in the medical record and worked with units to achieve flexibility in their criteria.

While the early warning system seemed helpful on the floor, SEP-1 adherence rates changed little in the emergency department. So Dr. Graves and Dr. Horton worked out an ED-specific process map that started at triage and was modeled after myocardial infarction STEMI protocols. From April through December 2016, the ED achieved between 29.5% adherence to the SEP-1 bundles, they said according to CMS abstractor data. After the change, between January and March 2017, the ED saw 52.2% adherence.

Dr. Kalantari would like to see CMS allow hospitals to evaluate and alter their processes more individually, with the required result being lower sepsis mortality. Hospitalists, said Dr. Kahn, are well poised to champion these sepsis improvement efforts.

“Hospitalists are uniquely positioned to lead in this area because they are a visible presence and a link between providers doing multidisciplinary acute care,” he said. “The other thing hospitalists can do is insist on rolling out approaches that are evidence based and not likely to cause harm by leading to over resuscitation, or ensuring patients are receiving central-line insertions only when needed.”

“This is currently a moment for hospitals to innovate and provide meaningful feedback to CMS, which, he said, is listening. ‘It’s a myth that CMS rolls out policy without listening to the clinical community, but what they want is constructive criticism, not just to hear ‘We’re not ready and we have to push this down the road,’” Dr. Kahn said.

“The time is now in the era of accountability in health care.”

References
INNOVATIONS | By Suzanne Bopp

A patient portal for the inpatient experience
Hospitalists, nurses most impacted

Hospitalists see patients at their most fragile – and, as a result, they have a unique opportunity to affect their health going forward.

“These moments can transform the way patients see their health and their behaviors, and any opportunity to position patients as empowered to influence their experience is one that can not be squandered,” said Timothy Huerta, PhD, MS, lead author on a study of patient portals and tablets during inpatient care.1 “In that context, hospitals have the opportunity to set expectations for engagement that can be influenced by technology. Patient portals, positioned within the inpatient setting, offer a platform to integrate new technologies that can transform the patient experience,” he added.

His experience – at the first and largest academic medical center to engage, empower, and educate.”

Inpatient portals and tablets during discharge, offering easy-to-read materials, and a nursing care plan containing relevant educational recommendations.”

To me it is a cringe-worthy event to give a 10-page AVS [after-visit summaries] to a patient who can’t read,” Dr. Leverence added. “Health literacy screening allows us to tailor the discharge process to meet the needs of the individual patient. Once these patients are identified, then appropriate efforts can be efficiently deployed.”

Those efforts might include, at discharge, offering easy-to-read materials and teach-back, and having a caregiver in the room and a pharmacist performing bedside medication education.

Reference

Implementing a health literacy assessment
Limited health literacy results in poor outcomes

Hospitalists regularly treat patients with limited health literacy, and in many cases, the hospitalist may not even be aware of it. “Patients are unlikely to know or, more importantly, disclose their limited health literacy status,” according to a recent study.1 But hospitalists certainly see its effects: Limited health literacy often results in poor outcomes and high rates of readmittance.

“We know patients with limited health literacy are common and that they have poor health outcomes,” said study coauthor Robert Leverence, MD. “We also know there are ways to mitigate those outcomes. For that reason, we believe screening is important. In our study, we showed such routine screening is feasible in a large teaching hospital.”

The study describes the implementation of a hospitalwide routine health literacy assessment at an academic medical center initiated by nurses and applied to all adult inpatients. “We incorporated the health literacy screen and care plan into our electronic health record,” the authors wrote. “When a patient screens positive for limited health literacy, two automated responses are triggered: a one-time alert on chart entry for all users … and a nursing care plan containing relevant educational recommendations.”

“Technology battles medication noncompliance
Creating a digital pill

Hospitalists and other physicians have long struggled with medication noncompliance, which can lead to sicker patients and higher rates of readmittance, and costs some $100-$200 billion a year.

There is a growing field of digital technologies being developed to address this problem. The Food and Drug Administration has just approved the newest one: a medication with a sensor embedded that can tell doctors if, and when, patients take their medicine, according to an article in the New York Times.1 It’s expected to become available in 2018.

The digital medication is a version of the antipsychotic Abilify. Patients who agree to take it will sign consent forms allowing their doctors (and up to four other people) to receive electronic data showing the date and time pills are ingested.

The sensor, created by Proteus Digital Health, contains copper, magnesium, and silicon, all said to be safe ingredients found in foods. The electrical signal is created when stomach fluids contact the sensor; a patch worn on the rib cage detects that signal and sends the message.

Other companies are joining the race to create digital medication technologies; these are being tested in medications for patients with conditions including heart disease, diabetes, and HIV infection. Some researchers predict the technology might have applications for monitoring the opioid intake of postsurgical patients or patients in medication clinical trials.

Reference
Quick byte: PrEP advances

There are recent advances in pre-exposure prophylaxis as a promising prevention option for HIV, according to a recent study.1 "Modeling studies suggest that pre-exposure prophylaxis has the potential to curtail the HIV epidemic when used as part of a combination public health prevention strategy. The estimated number needed to treat to prevent one new infection might be as low as 13 when pre-exposure prophylaxis is given to a group at high risk of HIV (for example, incidence of 9%)."

Reference

Addressing malnutrition and improving performance

Stakeholders develop a malnutrition toolkit

Hospitalists are key players in improving hospital performance, but they may be overlooking a leading cause of morbidity and mortality, especially among older adults.

Research suggests that, at the time of hospital admission, some 20%-50% of all patients are at risk for malnutrition or are malnourished, but only 7% of those patients are diagnosed during their stay, according to research cited in an abstract presented at HM17.1

"Because individuals who are malnourished lack sufficient nutrients to promote healing and rehabilitation, and are at increased risk of medical complications, it can have a serious impact on patient safety indicators, such as rates of pressure ulcers, wound healing, and risk of falls," said lead author Eleanor Fitall of Avalere Health. "Early identification and subsequent treatment of these patients is the best way to prevent this risk."

To address the issue, Avalere Health and the Academy of Nutrition and Dietetics established the Malnutrition Quality Improvement Initiative (MQii), a multi-stakeholder effort to identify tools to support hospital-based care teams in improving malnutrition care. They developed a malnutrition toolkit, which was piloted in 2016 and was shown to effectively improve malnutrition care.

"Since the poster presentation in May, we have successfully implemented the toolkit at 50 hospitals via a multi-hospital Learning Collaborative," Ms. Fitall said. They are now recruiting hospitals and healthcare systems to participate in an expanded Learning Collaborative. Interested sites should contact the MQii team at MalnutritionQuality@avalere.com.

"By supporting efforts to improve malnutrition care in the inpatient setting, hospitalists can help reduce the incidence of these problems as well as decrease rates of readmissions and reduce patient lengths of stay," Ms. Fitall said. "Hospitalists are critical to addressing malnutrition care gaps in the hospital. Dietitians that have undertaken malnutrition quality improvement projects using the MQii Toolkit have found that they are most successful when hospitalists are actively engaged in the team, particularly when looking to improve the rate of malnutrition diagnosis. Hospitalists are ideally positioned to champion these efforts."

Support for MQii was provided by Abbott, she said.

Reference
Rethinking preop testing

Dr. Rachel Thompson

An enormous swath of surgical care could benefit from hospitalist involvement. ... Of the 50,000 hospitalists in the U.S., 87% are involved in preoperative care.

- Dr. Rachel Thompson

Assessing risk

Paul Grant, MD, SFHM, codirector of the perioperative medicine pre-course, said that risk assessment is a crucial part of hospitalists’ role, and although risk calculators are available, “they’re not perfect – in fact, it’s important to think about using them very individualized for your patient.” Dr. Grant has begun using the Frailty Risk Analysis Index more often in his own work as director of the consultative and perioperative medicine program at Michigan Medicine, Ann Arbor, since frailty has been shown to be such a telltale indicator of perioperative risk.

As for preoperative testing, history is replete with examples of tests once considered crucial but that have proven to be unimportant for many patients, including preoperative carotid endarterectomy, preop ECG, preop coronary revascularization, and preop lab work. “I was always listening for bruits years ago,” Dr. Grant said. “I’ve sort of stopped doing that now. You’ll hear it; you won’t know what to do with it. We used to take care of those things before surgery. We now know that’s not helpful for patients without symptoms.”

Steven Cohn, MD, SFHM, director of the medical consultation service at Jackson Memorial Hospital in Miami, reviewed cardiac risk assessment in noncardiac procedures. He cautioned that the Revised Cardiac Risk Assessment was created based on patients with lengths of stay of at least 2 days and shouldn’t be used for low-risk or ambulatory procedures because it will overestimate the risk.

Dr. Cohn’s philosophy is to not suggest a delay without firm evidence that it is necessary. “I try not to interfere with surgery unless I feel that there is significant risk,” he said.

Kurt Pfeifer, MD, professor of internal medicine at the Medical College of Wisconsin, Milwaukee, said general risk factors for perioperative pulmonary complications include functional dependence, prolonged surgery or surgery close to the respiratory tree, older age, and multiple comorbidities. Dr. Pfeifer recommended using lung expansion for high-risk patients, screening for obstructive sleep apnea with the STOP-BANG questionnaire, and identifying potentially difficult airways well in advance of a procedure.

In workshop discussions at the HM18 pre-course, hospitalists considered their contributions to preoperative care and ways they might be able to contribute more effectively.

Among their ideas were better communication with anesthesiology – regarded as severely lacking by many hospitalists in the session – as well as designating smaller perioperative teams to foster knowledge and greater trust with surgeons.

Aron Mednick, MD, FHM, director of the comanagement service at Tisch Hospital, NYU Langone Medical Center, New York, said his group talked about an “identify, mitigate, propose, and resolve” method – identifying services or conditions with a high rate of preoperative problems, finding data on how to solve them, and proposing ways to get hospitalists involved in the solution.

“We noted that a lot of people experience resistance with getting hospitalists involved in care early,” he said. “So one of the ways to do this is actually to identify problems and start above the surgeon, at the CMO and COO level, and then move down through department chairs and, basically, impose our existence on the care of the patient.”
Antibiotic stewardship in sepsis
‘Treat only clinically significant infections,’ expert says

By Kari Oakes
MDedge News

FROM HM18 / ORLANDO / When is it rational to consider de-escalating, or even stopping, antibiotics for septic patients, and how will patients’ future health be affected by antibiotic use during critical illnesses?

According to Jennifer Hanrahan, DO, of Case Western Reserve University, Cleveland, locating the tipping point between optimal care for the individual patient in sepsis, and the importance of antibiotic stewardship is a balancing act. It’s a process guided by laboratory findings, by knowledge of local pathogens and patterns of antimicrobial resistance, and also by clinical judgment, she said at the annual meeting of the Society of Hospital Medicine.

By all means, begin antibiotics for patients with sepsis, Dr. Hanrahan, also medical director of infection prevention at MetroHealth Medical Center, Cleveland, told attendees at a pre-course at HM18. “Prompt initiation of antibiotics for sepsis is critical, and appropriate use of antibiotics decreases mortality.” However, she noted, de-escalation of antibiotics also decreases mortality.

“What is antibiotic stewardship? Most of us think of this as the microbial stewardship police calling to ask you, ‘Why are you using this antibiotic?’ she said. “It’s really the right antibiotic, for the right diagnosis, for the appropriate duration.”

Of course, Dr. Hanrahan said, any medication is associated with potential adverse events, and antibiotics are no different. “Almost one-third of antibiotics given are either unnecessary or inappropriate,” she said.

Antimicrobial resistance is a very serious public health threat, Dr. Hanrahan affirmed. “Antibiotic use is the most important modifiable factor related to development of antibiotic resistance. With regard to multidrug resistant (MDR) gram negatives, we are running out of antibiotics” to treat these organisms, she said, noting that “Many antibiotics to treat MDRs are ‘astronomically expensive – and that’s a really big problem.’

It’s important to remember that, when antibiotics are prescribed, “You’re affecting the microbiome not just of that patient, but of those around them,” as resistance factors are potentially spread from one individual’s microbiome to their friends, family, and other contacts, Dr. Hanrahan said.

The later risk of sepsis has also shown to be elevated for individuals who have received high-risk antibiotics such as fluoroquinolones, third- and fourth-generation cephalosporins, beta-lactamase-inhibitor formulations, vancomycin, and carbapenems – many of which are also used to treat sepsis. All of these antibiotics kill anaerobic bacteria. Dr. Hanrahan said, and “when you kill anaerobes you do a lot of bad things to people.”

Identifying the pathogens
There are already many frightening players in the antibiotic-resistant landscape. Among them are carbapenem-resistant Enterobacteriaceae, increasingly common in health care settings. Un fortunately, with methicillin-resistant Staphylococcus aureus (MRSA), “we’ve lost the battle,” Dr. Hanrahan said.

Acinetobacter is another increasing threat, she said, as is Candida auris, which has caused large outbreaks in Europe. Because it’s resistant to azole antifungals, once C. auris comes to U.S. hospitals, “You’re going to have a really big problem,” she said. Finally, multidrug resistant and extremely drug resistant Pseudomonas species are being encountered with increasing frequency.

And, of course, Clostridium difficile infections continue to ravage older populations. “One in 11 people aged 65 or older will die from C. diff infections,” said Dr. Hanrahan.

For all of these bacteria, she said, “I can’t tell you what antibiotics to use because you have to know what the organisms are in your hospital.” A good resource for tracking local resistance patterns is the information provided by the Centers for Disease Control and Prevention, including interactive maps showing health care-associated infections, as well as HealthMap ResistanceOpen, which maps antibiotic resistance alerts across the United States. The CDC also offers training on antibiotic stewardship; Dr. Hanrahan said the several hours she spent completing the training were well spent.

After a broad-spectrum antibiotic is initiated for sepsis, Dr. Hanrahan said that the next infectious disease-related steps should focus on identifying pathogenso antimicrobial therapy can be tailored or scaled back appropriately. In many cases, this will mean obtaining blood cultures – ideally, two sets from two separate sites.

It’s no longer thought necessary to separate the blood draws by 20 minutes, or to try to time the draw during a febrile episode, she said.

What is important is to make sure that you’re not treating contamination or colonization – “Treat only clinically significant infections,” Dr. Hanrahan said. A common red herring, especially among elderly individuals coming from assisted living or in patients with indwelling urinary catheters, is a positive urine culture in the absence of signs or symptoms of urinary tract infection. Think twice about whether this truly represents a source of infection, she said. “Don’t treat asymptomatic bacteruria.”

In order to avoid “chasing contamination,” do not obtain the blood culture samples from a venipuncture site. “Contamination is twice as likely when drawing from a venipuncture site,” Dr. Hanrahan noted. “When possible you should avoid this.”

It’s also important to remember that 10% of fever in hospitalized individuals is from a noninfectious source. “Take a careful history, and do a physical exam to help distinguish infections from other causes of fever,” said Dr. Hanrahan.

Additional investigations to consider in highly immunocompromised patients might include both mycobacterial and fungal cultures, although these studies are otherwise generally low yield. And, she said, “Don’t send catheter-tip cultures – it’s pointless, and it really doesn’t add much information.”

Good clinical judgment still goes a long way toward guiding therapy. “If a patient is stable and it’s not clear whether an antibiotic is needed, consider waiting and re-evaluating later,” Dr. Hanrahan said.

Generally, duration of treatment should also be clinically based. “Stop antibiotics as soon as possible, and remove catheters as soon as possible,” Dr. Hanrahan said, adding that few infections really warrant treatment for a fixed amount of time. These include meningitis, endocarditis, tuberculosis, and many cases of osteomyelitis.

Similarly, when a patient who had been ill now looks well, feels well, and is stable or improving, there’s usually no need for repeat blood cultures, Dr. Hanrahan said. Still, a cautious balance is where most clinicians will wind up.

“I learned a long time ago that I have to do the things that let me go home and sleep at night,” she concluded.
Few acutely ill hospitalized patients receive VTE prophylaxis

By Doug Brunk

REPORTING FROM THSNA 2018  /  SAN DIEGO  /  Both the 4Ts Score and the HIT Expert Probability (HEP) Score are useful in clinical practice for the diagnosis of heparin-induced thrombocytopenia, but the HEP score may have better operative characteristics in ICU patients, results from a real-world analysis showed.

“The diagnosis of heparin-induced thrombocytopenia (HIT) is challenging,” Alpesh Amin, MD, wrote in a poster presented at the biennial summit of the Thrombosis & Hemostasis Societies of North America.

According to Dr. Amin, who chairs the department of medicine at the University of California, Irvine, hospitalized patients with acute medical illnesses face an increased risk for VTE during hospital discharge, mainly within 40 days following hospital admission. However, the treatment patterns of VTE prophylaxis in this patient population have not been well studied in the “real-world” setting. In an effort to improve this area of clinical practice, the researchers used the MarketScan database between Jan. 1, 2012, and June 30, 2015, to identify acutely ill hospitalized patients, such as those with heart failure, respiratory diseases, ischemic stroke, cancer, infectious diseases, and rheumatic diseases. The key outcomes of interest were the proportion of patients receiving inpatient and outpatient VTE prophylaxis and the proportion of patients with VTE events during and after the index hospitalization. They used Kaplan-Meier analysis to examine the risk for VTE events after the index inpatient admission. The mean age of the 17,895 patients was 58 years, 55% were female, and most (77%) were from the Southern area of the United States. Their mean Charlson Comorbidity Index score prior to hospitalization was 2.2. Nearly all hospitals (87%) were urban based, nonteaching (95%), and large, with 68% having at least 300 beds. Nearly three-quarters of patients (72%) were hospitalized for infectious and respiratory diseases, and the mean length of stay was 5 days.

Dr. Amin and his associates found that 59% of hospitalized patients did not receive any VTE prophylaxis, while only 7% received prophylaxis in both the inpatient and outpatient continuum of care. At the same time, cumulative VTE rates within 40 days of index admission were highest among patients hospitalized for infectious diseases and cancer (3.4% each), followed by those with heart failure (3.1%), respiratory diseases (2%), ischemic stroke (1.5%), and rheumatic diseases (1.3%). The cumulative VTE event rate for the overall study population within 40 days from index hospitalization was nearly 3%, with 60% of VTE events having occurred within 40 days.

The study was funded by Portola Pharmaceuticals. Dr. Amin reported having no financial disclosures.

Diagnosing heparin-induced thrombocytopenia

By Doug Brunk

REPORTING FROM THSNA 2018  /  SAN DIEGO  /  Both the 4Ts Score and the HIT Expert Probability (HEP) Score are useful in clinical practice for the diagnosis of heparin-induced thrombocytopenia, but the HEP score may have better operative characteristics in ICU patients, results from a real-world analysis showed.

“The diagnosis of heparin-induced thrombocytopenia (HIT) is challenging,” Allyson M. Pishko, MD, one of the study authors, said at the biennial summit of the Thrombosis & Hemostasis Societies of North America.

The 4Ts Score is commonly used, but limitations include its low positive predictive value and significant interobserver variability. The HEP Score, on the other hand, is based on the opinion of 26 HIT experts, said Dr. Pishko, a hematology/oncology fellow at the University of Pennsylvania, Philadelphia. It contains eight categories with positive or negative points assigned within each category. Results from a single-center retrospective study showed a higher positive predictive value and less inter-rater variability, compared with the 4Ts Score (J Thromb Haemost. 2010 Dec;8[12]:2642-50). One external prospective study showed operating characteristics similar to those of 4Ts scores (Thromb Haemost. 2015;113[3]:633-40).

The aim of the current study was to validate the HEP Score in a real-world setting and to compare the performance of the HEP Score versus the 4Ts Score. The researchers enrolled 292 adults with suspected acute HIT who were hospitalized at the University of Pennsylvania or affiliated community hospitals, and who had HIT laboratory testing ordered.

The HEP Score and the 4Ts Score were similar to validate the HEP Score in a real-world setting and to compare the performance of the HEP Score versus the 4Ts Score. The researchers enrolled 292 adults with suspected acute HIT who were hospitalized at the University of Pennsylvania or affiliated community hospitals, and who had HIT laboratory testing ordered. The median HEP Score in patients with and without HIT was 4.1 minutes. A 4Ts Score of 4 or greater had a sensitivity of 97.7% and specificity of 32.9%, with a positive predictive value of 98.8% and a negative predictive value of 20.1% and a predictive value of 98.8% and a negative predictive value of 20.1% and a negative predictive value of 98.8% and a negative predictive value of 20.1% and a negative predictive value of 98.8%.

The area under the receiver operating characteristic curves for the HEP Score and 4Ts Score were similar (0.81 vs. 0.76; P = .121). Subset analysis revealed that compared with the 4Ts Score, the HEP Score had better operating characteristics in ICU patients (AUC, 0.87 vs. 0.75; P = .029) and with trainee scorers (AUC, 0.75 vs. 0.72; P = .032). “Our data suggest that either the HEP Score or the 4Ts Score could be used in clinical practice,” Dr. Pishko said.

The National Institutes of Health funded the study. Dr. Pishko reported having no financial disclosures.
Diagnosing pulmonary tuberculosis in the hospital

An uncommon but serious problem in certain populations

By Syam Mallampalli, MD, MPH, FACP; Satyananta Velidi, MD; Malachi Courtney, MD
Geisinger Medical Center, Danville, Pa.

Key Clinical Question
Diagnosing pulmonary tuberculosis in the hospital

Background
Active pulmonary tuberculosis (APTB) remains an important but often-missed diagnosis in hospitalized patients in the Western world. Because of its relative rarity, the diagnosis of APTB often is delayed in the United States, which can lead hospitalized patients to nosocomial transmission, unnecessary exposures, patient harm, and potentially avoidable cost to the health care system. The diagnosis and management can be challenging involving isolation needs, sputum clearance, treatment strategy, and criteria for discharge to home.

Diagnosis
Any patient with risk factors presenting with signs and/or symptoms of APTB such as productive cough for more than 4 weeks, night sweats, weight loss, low-grade fevers, upper-lobe cavitory lesions, or hemoptysis should be suspected. The diagnostic work-up for APTB should always begin with a thorough medical and social history. A chest radiograph or a CT scan should always be obtained. Risk factors for infection and for progression to active pulmonary TB are listed below.

Risk factors for TB infection:
• Homeless people.
• Individuals who have been incarcerated.
• International travelers.
• HIV patients.
• Intravenous drug users.

Risk factors for progression to APTB:
• HIV infection.
• Intravenous drug use.
• Silicosis.
• Younger than 5 years of age.
• Immunosuppressed.

All patients with suspected or confirmed APTB who cannot be safely discharged home (see discharge considerations below) should be kept in negative-pressure airborne isolation rooms. Isolation can be discontinued once APTB has been ruled out or the patient is determined to be noninfectious based on three consecutive negative sputum smears.

Although rapid and inexpensive, acid-fast bacilli (AFB) smear microscopy has poor sensitivity (45%-80%, with culture-confirmed APTB cases) and poor positive predictive value (50%-80%) for TB in settings in which nontuberculous mycobacteria are commonly isolated. This makes an AFB smear nondiagnostic in the early diagnosis of APTB. The burden of mycobacteria seen in the sputum smear correlates with infectivity.

For improved sensitivity of testing, it is strongly recommended that three AFB smears be completed in 8- to 24-hour intervals and positive smears be accompanied by nucleic acid amplification (NAA) testing. If APTB is suspected, but the patient is unable to expectorate, induced sputum samples should be obtained, and, if unable to induce sputum samples, flexible bronchoscopy sampling should be pursued especially for the high-risk populations described above.

The Centers for Disease Control and Prevention recommends that at least one sputum specimen be tested with NAA to expedite the time to diagnosis of APTB. A negative NAA does NOT rule out TB. The turnaround time for this test is about 24-48 hours. NAA has better positive predictive value (greater than 95%) with AFB smear-positive specimens in settings in which nontuberculous mycobacteria are common. The ability to confirm rapidly the presence of Mycobacterium tuberculosis is 50%-80% in AFB smear-negative, culture-positive specimens.

In patients with clinical or radiologic suspicion of APTB who are unable to produce sputum or have negative sputum smear microscopy results, bronchoscopy is a safe and reliable method for the diagnosis of pulmonary tuberculosis. For the diagnosis of tuberculosis, bronchoalveolar lavage has a sensitivity and specificity of 60% and 100%, respectively. Adding transbronchial biopsy further increases the sensitivity to 84%, and postbronchoscopy sputum smear microscopy increases the sensitivity to 94%. In 2005, the CDC released guidelines for using interferon-gamma release assays (IGRA) to test for Mycobacterium tuberculosis infection. Both tuberculin skin testing (TST) and IGRA assess lymphocytes’ response to M. tuberculosis. Although these tests can be supportive of a previous tuberculosis infection, they are not diagnostic tests for APTB. Neither an IGRA nor a TST can distinguish latent from active tuberculosis.

Sputum AFB culture remains the preferred method for laboratory confirmation of APTB. Once APTB is confirmed, it is essential for susceptibility testing and genotyping. However, in the absence of a positive culture, APTB can be diagnosed based on signs and symptoms alone in a high-risk patient.

Treatment
A multidisciplinary, patient-centered approach involving the patient, providers, and public health officials is required to accomplish the following treatment goals: eradicating Mycobacterium infection, eliminating the risk of transmission, avoiding the disease, and preventing drug resistance.

Infectious disease consultation is mandatory in all HIV-positive and suspected or confirmed multidrug-resistant cases. Directly observed therapy is an essential component of APTB treatment to ensure compliance in many situations.

Admission and discharge
Admission to a hospital is not required unless a patient meets criteria for admission independent of APTB diagnosis, or proper risk stratification and assessment cannot be completed in a timely manner. A patient with suspected APTB should be placed in airborne isolation. Three acid-fast bacilli smears should be completed in 8- to 24-hour intervals, and positive smears should be accompanied by nucleic acid amplification testing.

In the absence of a positive culture, APTB can be diagnosed based on signs and symptoms alone in a high-risk patient.

The intensive phase of therapy may include pyrazinamide, rifampin, ethambutol, and isoniazid along with pyridoxine.

Key Points
• Active pulmonary tuberculosis (APTB) remains an important but often-missed diagnosis in hospitalized patients.
• A patient with suspected APTB should be placed in airborne isolation.
• Three acid-fast bacilli smears should be completed in 8- to 24-hour intervals, and positive smears should be accompanied by nucleic acid amplification testing.
• In the absence of a positive culture, APTB can be diagnosed based on signs and symptoms alone in a high-risk patient.
• The intensive phase of therapy may include pyrazinamide, rifampin, ethambutol, and isoniazid along with pyridoxine.

Clinical Case
A 40-year-old Indian immigrant presented to the emergency department with hemoptysis. He had had an intermittent productive cough for the past 4 weeks with increasing fatigue and lack of appetite. He also had intermittent fever with drenching night sweats. Chest radiograph and CT scan showed a left upper lobe cavity lesion with infiltrate. He was admitted to the hospital with concern for pneumonia and to rule out possible active pulmonary tuberculosis.
The patient was discharged after medications and staying at home importance of taking all of his medications and staying at home except for medical visits until the DOH had deemed him to be noninfectious.

**Bottom line**
APTB in the hospital is an uncommon but serious problem in certain populations. It requires a high index of suspicion and a multidisciplinary approach for effective treatment and prevention of transmission.

References
1. Miller AC et al. Missed opportunities to diagnose tuberculosis are common among hospitalized patients and patients seen in emergency departments. Open Forum Infectious Diseases. 2015. doi.org/10.1093/ofid/ofv171.


**Key Clinical Question**

- Coordinate discharge with the DOH.
- Make sure proper follow-up is scheduled.

**Back to the case**
Our patient was placed on airborne respiratory isolation immediately upon admission and sputum was sent for AFB. Sputum smear was positive for AFB as well as a positive nucleic acid testing for *Mycobacterium tuberculosis*. HIV antibody testing was negative. Once the sputum AFB was determined to be positive, the department of health was informed. He was started on the intensive phase of therapy with pyrazinamide, rifampin, ethambutol, and isoniazid along with pyridoxine. He tolerated his medications well and had no immediate reactions. His family and close contacts were screened and advised to be tested. The patient was discharged after proper follow-up with primary care doctor was scheduled. The department of health arranged for directly observed therapy. He received information about the importance of taking all of his medications and staying at home except for medical visits until the DOH had deemed him to be noninfectious.

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Clinician reviews of HM-centric research

By Bassima Abdallah, MD, Neal Biddick, MD, Bethany Roy, MD, Gregory Salber, MD, Kevin Winters, MD, Joshua Allen-Dicker, MD, MPH, FHM
Beth Israel Deaconess Medical Center, Harvard Medical School, Boston

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By Bassima Abdallah, MD

1. After initial rivaroxaban, aspirin is noninferior to rivaroxaban for thromboprophylaxis following joint arthroplasty.

CLINICAL QUESTION: Is aspirin as effective as rivaroxaban at reducing rates of symptomatic venous thromboembolism (VTE) after hip or knee arthroplasty?

BACKGROUND: While there is a consensus on the need for chemoprophylaxis to reduce the rates of postoperative VTE, there is wide variation in choice of agents recommended. Aspirin, while cheap and widely available, has never been directly compared with a direct oral anticoagulant in randomized, controlled trials.

STUDY DESIGN: Multicenter, double-blind, randomized, controlled noninferiority trial.

SETTING: 15 university-affiliated health centers in Canada from January 2013 through April 2016.

SYNOPSIS: 3,224 patients who received daily rivaroxaban for 5 days following joint arthroplasty were randomized to either receive aspirin 81 mg daily or continue daily rivaroxaban. Duration of therapy was determined by type of surgery (9 days for knee, 17 days for hip). The primary effectiveness outcome was defined as symptomatic pulmonary embolism or proximal deep venous thrombosis diagnosed in the 90-day follow-up period. The primary outcome results met the predetermined criterion for noninferiority with similar rates of symptomatic VTE in the aspirin and rivaroxaban group (0.64% vs. 0.7%; P less than .001). There was no significant difference in bleeding rates between the groups. Given that patients with prior VTE, morbid obesity, or cancer were not well represented in this study, these results should not be extrapolated to those populations felt to be at highest risk for VTE.

BOTTOM LINE: For thromboprophylaxis after joint arthroplasty, rivaroxaban followed by aspirin may be noninferior to extended rivaroxaban.


2. Pulmonary Embolism Rule-Out Criteria Strategy is noninferior when clinical probability is low.

CLINICAL QUESTION: Can low probability pulmonary embolism (PE) be safely excluded using the Pulmonary Embolism Rule-Out Criteria (PERC) rule?

BACKGROUND: There is an alarmingly high rate of patients with low clinical probability pulmonary embolism (PE) who are tested for PE in the ED, and this is associated with unnecessary diagnostic testing and imaging. The PERC rule was devised to be used in populations of patients with low clinical probability of PE to guide which patients would likely not benefit from CTPA imaging. Recent concerns have been raised that the use of the PERC rule could result in high false-negative rates.

STUDY DESIGN: Crossover cluster-randomized clinical noninferiority trial.

SETTING: 14 EDs in France from August 2015 to September 2016.

SYNOPSIS: 1,916 emergency department patients with low clinical probability of PE were cluster-randomized to usual care or to a PERC strategy where, if the PERC score was zero, PE was ruled out without additional testing. The primary outcome was diagnosis of a symptomatic PE within 3 months that had not been diagnosed initially. Primary outcome results met prespecified noninferiority criteria for the PERC group, compared with the usual-care group (0.1% in the PERC group, 0% in the control group). The PERC group had significantly lower median length of ED stay and lower likelihood of admission. Limitations of this study include its younger average patient age (44 years) and its cluster, as opposed to per-patient, randomization design.

BOTTOM LINE: In patients for whom the clinical probability of PE is low, use of the PERC rule is noninferior to a conventional d-dimer and CTPA strategy for ruling out symptomatic PE.


Dr. Abdallah is a hospitalist at Beth Israel Deaconess Medical Center, and instructor in medicine, Harvard Medical School, Boston.

By Neal Biddick, MD

3. Balanced fluid resuscitation vs. saline does not decrease hospital-free days.

CLINICAL QUESTION: Does balanced crystalloid fluid improve outcomes versus saline in noncritically ill patients who are hospitalized?

BACKGROUND: Prior research has raised concerns about a connection between intravenous saline administration and adverse outcomes. However, this work has been limited to patients in the ICU and operative room settings.

STUDY DESIGN: Single-center, unblinded, multiple crossover (cluster-randomization) trial.

Continued on following page
Dr. Roy

By Bethany Roy, MD

5 PE is rare in patients presenting to the ED with syncope.

CLINICAL QUESTION: What is the prevalence of pulmonary embolism (PE) in patients presenting to the ED with syncope?

BACKGROUND: PE is commonly accepted as a ‘can’t miss’ diagnosis in the work-up of syncope. However, the actual prevalence of PE in patients presenting with syncope is inconsistently characterized.

STUDY DESIGN: Retrospective, observational study.

SETTING: Canada, Denmark, Italy, and the United States, from January 2010 to September 2016.

SYNOPSIS: Longitudinal administrative databases were used to identify patients with ICD codes for syncope at discharge from the ED or hospital. Those with an ICD code for PE were included to calculate the prevalence of PE in this population (primary outcome).

The prevalence of PE in all patients ranged from 0.06% (95% confidence interval, 0.05%-0.06%) to 0.55% (95% CI, 0.50%-0.61%); and in hospitalized patients, from 0.15% (95% CI, 0.14%-0.16%) to 2.10% (95% CI, 1.84%-2.39%). This is a much lower than the estimated 17.3% prevalence of PE in patients presenting with syncope estimated by the PSIT study published in the New England Journal of Medicine in 2016. Further definitive research is needed to better characterize prevalence rates.

Limitations of this study include the potential for information bias: The inclusion criteria of patients coded for syncope at discharge likely omits some patients who initially presented with syncope but were coded for a primary diagnosis that caused syncope.

BOTTOM LINE: Patients with PFO undergoing noncardiac surgery may be at increased risk of perioperative ischemic stroke.


Dr. Roy is a hospitalist at Beth Israel Deaconess Medical Center, and instructor in medicine, Harvard Medical School, Boston.

By Gregory Salber MD

7 Catheter ablation of AF in patients with heart failure decreases mortality and HF admissions.


4 Multifaceted pharmacist intervention may reduce postdischarge ED visits and readmissions.

CLINICAL QUESTION: Can a multifaceted intervention by a clinical pharmacist reduce the rate of ED visits and readmission over the subsequent 180 days?

BACKGROUND: The period following an inpatient admission contains many potential risks for patients, among them the risk for adverse drug events. Approximately 45% of readmissions from adverse drug reactions are thought to be avoidable.

STUDY DESIGN: Multicentered, single-blinded, randomized, control trial, from September 2013 to April 2015.

SETTING: Four acute inpatient hospitals in Denmark.

SYNOPSIS: 1,467 adult patients being admitted for an acute hospitalization on a minimum of five medications were randomized to receive usual care, a basic intervention (medication review by a clinical pharmacist), or an extended intervention (medication review, three motivational interviews, and follow-up with the primary care physician, pharmacist and, if appropriate, nursing home by a clinical pharmacist). The primary endpoints were readmission within 30 days or 180 days, ED visits within 180 days, and a composite endpoint of readmission or ED visit within 180 days post discharge. For these endpoints, the basic intervention group had no statistically significant difference from the usual-care group. The extended intervention group had significantly lower rates of readmission within 30 days and 180 days, as well as the primary composite endpoint compared to the usual-care group (P less than .05 for all comparisons).

For the extended intervention, the number needed to treat for the main composite endpoint was 12.

BOTTOM LINE: For patients admitted to the hospital, an extended intervention by a clinical pharmacist resulted in a significant reduction in readmissions.


Dr. Biddick is a hospitalist at Beth Israel Deaconess Medical Center, and instructor in medicine, Harvard Medical School, Boston.
patients with heart failure with reduced left ventricular ejection fraction (LVEF)?

**BACKGROUND:** Rhythm control with medical therapy has been shown to not be superior to rate control for patients with both heart failure and AF. Rhythm control by ablation has been associated with positive outcomes in this same population, but its effectiveness, compared with medical therapy for patient-centered outcomes, has not been demonstrated.

**STUDY DESIGN:** Multicenter, open-label, randomized, controlled superiority trial.

**SETTING:** 33 hospitals from Europe, Australia, and the United States during 2008-2016.

**SYNOPSIS:** A total of 363 patients with HF with LVEF less than 35%, New York Heart Association II-IV symptoms, and permanent or paroxysmal AF who had previously failed or declined antarrhythmic medications were randomly assigned to undergo ablation by pulmonary vein isolation or to medical therapy. The primary outcome—a composite of death or hospitalization for heart failure—was significantly lower in the ablation group, compared with the medical therapy group (28.3% vs. 44.6%; \( P = .006 \)) with a number needed to treat of 8.3. The secondary outcomes of all-cause mortality and heart failure admissions were also significantly lower in the ablation group (13.4% vs. 25%; \( P = .01 \) and 20.7% vs. 35.9%; \( P = .004 \) respectively). The burden of AF, as identified by patient implantable devices was significantly lower in the ablation group, suggesting the likely mechanism of ablation benefit. Limitations of this study include its small sample size and lack of physician or patient blinding to treatment assignment.

**BOTTOM LINE:** Compared with medical therapy, catheter ablation of atrial fibrillation for patients with symptomatic heart failure with LVEF less than 35% was associated with significantly decreased mortality and heart failure admissions.


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**Discharge opioid prescriptions for many surgical hospitalizations may be unnecessary.**

**CLINICAL QUESTION:** Do opioid prescriptions after surgical hospitalization correlate with opioid use immediately prior to discharge?

**BACKGROUND:** Prescription opioids play a significant role in the current opioid epidemic. Opioids used for non-medical purposes often are obtained from the prescription of friends and family members, and a majority of heroin users report that their first opioid exposure was via a prescription opioid. Prescription of opioids following low-risk surgical procedures has increased over the past decade.

**STUDY DESIGN:** Cross-sectional study.

**SETTING:** Two Boston-area acute care hospitals from May 2014 to September 2016.

**SYNOPSIS:** The authors identified 6,548 inpatient surgical hospitalizations lasting longer than 1 day with a discharge to home in which the patient used no opioid medications in the final 24 hours prior to discharge. Of these, 13.7% received an opioid prescription at discharge. The mean prescription morphine milligram equivalents (MME) provided to this group was 343. The authors identified these cases as instances in which overprescription of opiates may have occurred. Surgical services that tended to have more patients still using opioids at the time of discharge had a higher likelihood of potential overprescription. For patients who used opioids during the final 24 hours of their hospitalization and received an opioid prescription at discharge, inpatient MME use and prescription MME were only weakly correlated (R\(^2\) = 0.112). The retrospective two-site design of this study may limit its generalizability.

**BOTTOM LINE:** In postoperative surgical patients, overprescription of opioid medications may occur frequently.

**CITATION:** Chen EY et al. Correlation between 24-hour predischARGE opioid use and amount of opioids prescribed at hospital discharge. JAMA Surg. 2018;153(6):e174859.

Dr. Salber is a hospitalist at Beth Israel Deaconess Medical Center, and instructor in medicine, Harvard Medical School, Boston.

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**Short Takes**

**Trimethoprim associated with increased risk of AKI and hyperkalemia.**

In a cohort study of older patients with urinary tract infections, trimethoprim was associated with increased risk of acute kidney injury and hyperkalemia, but not increased risk of death, in comparison to other antibiotics for UTIs. These risks were amplified for patients simultaneously taking renin-angiotensin system blockers or spironolactone.

**CITATION:** Crellin E et al. Trimethoprim use for urinary tract infection and risk of adverse outcomes in older patients: cohort study. BMJ. 2018;360:k341.

**Mortality of in-hospital cardiac arrest is decreasing, but disparities between on- and off-hours persist.**

An analysis of 151,071 in-hospital cardiac arrests (IHCA) during 2000-2014 found that patient survival to hospital discharge increased from 13.6% to 22.0%, but return of spontaneous circulation, postresuscitation survival, and overall survival to hospital discharge were all significantly lower for IHCA that occurred during nights or weekends, compared with weekday IHCA. The difference in on- and off-hours postresuscitation survival rates did not significantly change over the 14-year study period.


**Young women with acute myocardial infarction present differently than young men.**

Interviews of 2,009 young women and 976 young men hospitalized for acute MI at U.S. hospitals revealed that, while both groups of patients reported chest pain as the predominant symptom, women were more likely to report a greater number of additional, non–chest pain symptoms.

ESBL-resistant bacteria spread in hospital despite strict contact precautions

By Michele G. Sullivan
MDedge News

FROM ECCMID 2018 / MADRID / Standard contact precautions for carriers of extended-spectrum, beta-lactamase-resistant Enterobacteriaceae (ESBL-E) didn’t impact the spread of that organism in non-ICU hospital wards, even when staff employed an active surveillance screening protocol to identify every carrier at admission.

The failure of precautions may have root in two thorny issues, said Friederike Maechler, MD, who presented the data at the European Society of Clinical Microbiology and Infectious Diseases annual congress.

‘Adherence to strict contact isolation and hand hygiene is never 100% in a real-life scenario,’ said Dr. Maechler, of Charite University Hospital, Berlin. Also, she said, contact isolation can only be effective in a ward if all, or at least most, of the ESBL-E carriers are identified. ‘Even with an extensive surveillance screening program established, many carriers remained unknown.’

The 25-month study, dubbed R-Gnosis, was conducted in 20 Western European hospitals in Geneva, Madrid, Berlin, and Utrecht. It compared 12 months of contact precaution with standard precaution infection control strategies in medical and surgical non-ICUs.

The entire study hinged on a strict protocol to identify as many ESBL-E carriers as possible. This was done by screening upon admission to the unit, once per week during the hospital stay, and on discharge. Each patient underwent deep rectal swabs that were cultured on agar and screened for resistance.

The crossover design trial randomized each unit to either contact precautions or standard precautions for 12 months, followed by a 1-month washout period, after which they began the other protocol.

In all, 50,870 patients were entered into the study. By the end, Dr. Maechler had data on 11,387 patients with full screening and follow-up.

Standard precautions did not require a private bedroom, with gloves, gowns, and apron needed for direct contact to body fluids or wounds only, and consistent hand hygiene. Contact precautions required a private bedroom and strict hand hygiene, with gloves, gowns, and aprons used for any patient contact. Study staff monitored compliance with these procedures monthly.

The primary outcome was the ESBL-E acquisition rate per 1,000 patient days. This was defined as a new ESBL-E detection after the patient had a prior negative screen. Dr. Maechler noted that, by epide-
miological definition, acquisition does not necessarily imply cross-transmission from other patients.

Adherence to both contact and standard precautions was about 85%, she said, while adherence to hand hygiene was less at around 62%.

Admission ESBL-E screenings revealed that about 12% of the study population was colonized with the strain at admission. The proportion was nearly identical in the contact and standard precaution groups (11.6%, 12.2%).

The incidence density of ward-acquired ESBL-E per 1,000 patient-days at risk was 4.6 in both intervention periods, regardless of the type of precaution. Contact precautions appeared to be slightly less effective for E. coli (3.6 per 1,000 patient-days in contact precautions vs. 3.5 in standard), compared with Klebsiella pneumoniae (1.8 vs. 2.2).

A multivariate analysis controlled for screening compliance, colonization pressure, and length of stay, study site, and season of year. It showed that strict contact precautions did not reduce the risk of ward-acquired ESBL-E carriage.

**Clinical Setting:** randomized, controlled trial.

**Study Design:** Double-blind, randomized, controlled trial.

**Setting:** 21 ICUs in the Netherlands, from July 2013 to March 2017.

**Synopsis:** A total of 1,789 critically ill adults with an anticipated ICU stay of at least 2 days were randomized to receive 1 mg of haloperidol, 2 mg of haloperidol, or a placebo three times daily. All study sites used ‘best practice’ delirium prevention (for example, early mobilization, noise reduction, protocols aiming to prevent oversedation).

The primary outcome was defined as the number of days patients survived in the 28 days following inclusion, and secondary outcome measures included number of days survived in 90 days, delirium incidence, number of delirium-free and coma-free days, duration of mechanical ventilation, and length of ICU and hospital stay. The 1-mg haloperidol group was stopped early because of futility. There was no significant difference between the 2-mg haloperidol group and the placebo group for the primary outcome (P = .93), or any of the secondary outcomes.

**Bottom Line:** In a population of critically ill patients at high risk of delirium, prophylactic haloperidol did not significantly improve 28-day survival, nor did it significantly reduce the incidence of delirium or length of stay.

**Citation:** van den Boogaard M et al. Effect of haloperidol on survival among critically ill adults with a high risk of delirium: The REDUCE randomized clinical trial. JAMA. 2018 Feb 20;319(7):680-90.
Penn Medicine Lancaster General Health

Penn Medicine Lancaster General Health Physicians (LGHP) - Internal Medicine Hospitalists in Lancaster, PA seeks a BC/BE Internal Medicine Physician to join our hospitalist team. Internal Medicine Hospitalists is an established practice serving Lancaster General Hospital. This a large and collegial group that is well-supported by administration. Rotation will be 7 on / 7 off. Night coverage is provided by full-time, dedicated Nocturnists.

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Penn Medicine Lancaster General Health, a member of the University of Pennsylvania Health System (Penn Medicine), is a 631-licensed bed not-for-profit health system with a comprehensive network of care encompassing Lancaster General Hospital (LGH), Women & Babies Hospital and the Lancaster Rehabilitation Hospital (in partnership with Kindred Healthcare). Our membership in Penn Medicine brings together the strengths of a world-renowned, not-for-profit academic medical center and a nationally recognized, not-for-profit community healthcare system.

Outpatient services are provided at the Downtown and Suburban Pavilions, along with additional outpatient centers and Express and Urgent Care locations throughout the region. Penn Medicine LGHP is a network of more than 350 primary-care and specialty physicians, at more than 50 offices throughout the region. Pennsylvania College of Health Sciences is a private, co-educational, Middle States-accredited four-year college offering a variety of associate and baccalaureate degree and certification programs in healthcare.

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For more information, please contact Matt Dietz, Physician Recruiter, by calling 717-544-7148 or email mdietz3@lghealth.org.
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Joan Humphries
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**What we’re seeking:**
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For more information please contact: Heather Peffley, Physician Recruiter at: heppley@pennstatehealth.psu.edu

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Dallas, Texas — Oncology and Hematologic Hospitalist Opportunities

The University of Texas Southwestern Medical Center, Department of Internal Medicine, Division of Hematology/Oncology, is seeking physicians to join a thriving oncology and hematologic malignancies program at the new William J Clements University Hospital. This state-of-the-art facility is the flagship of UT Southwestern’s clinical and educational programs in dynamic and cosmopolitan Dallas, Texas. Applicants must have an M.D. degree, or equivalent, from an approved LCME medical school and satisfactory completion of an Internal Medicine residency program from an ACGME accredited program; individuals who have completed training in hematology and/or oncology are preferred and encouraged to apply as well. Level of appointment will be commensurate with experience. Candidate must be eligible for Texas medical licensure and be board certified in Internal Medicine.

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Thomas Froehlich, M.D.
C/O Shawn Balusek, Division Administrator
UT Southwestern Medical Center
5323 Harry Hines Blvd.
Dallas, TX 75390-8852
or email Shawn.Balusek@UTSouthwestern.edu

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Michigan Medicine, Department of Internal Medicine, is seeking a candidate for a leadership role in the Division of Hospital Medicine. The candidate will participate in the administrative and clinical operational activities of Hospital Medicine at Michigan Medicine and the VA Ann Arbor Healthcare System and will work closely with and report to the division chief of Hospital Medicine. This role will include dedicated and protected time for leadership and management duties.

The candidate will oversee all service line directors and corresponding senior divisional leadership and help oversee recruitment and retention of clinical faculty, service line directors, and day-to-day operations. A focus on academic growth of clinical faculty through mentorship, coaching, and sponsorship and the ability to identify opportunities to improve patient flow, fiscal performance, and provider engagement are expected.

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Vineet Chopra, MD, MSc
Chief, Division of Hospital Medicine
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For additional information, please contact:
Brian McGillen, MD — Director, Hospitalist Medicine
c/o Heather Peffley, PHR FASPR — Physician Recruiter
Penn State Health
hpeffley@pennstatehealth.psu.edu

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**HOSPITALISTS & NOCTURNISTS**

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**Hospitalist/Nocturnist Opportunities**

Cambridge Health Alliance (CHA), a well respected, nationally recognized and award-winning public healthcare system, is recruiting for part time and full time hospitalists and nocturnists. CHA is a teaching affiliate of both Harvard Medical School (HMS) and Tufts University School of Medicine. Our system is comprised of three community hospitals and an integrated network of both primary specialty outpatient care practices in Cambridge, Somerville and Boston’s Metro North Region.

- Full time and part time opportunities available
- Schedule will consist of daytime and nighttime shifts, nocturnist positions are available
- Academic Appointment at Harvard Medical School
- Opportunity to teach medical students and residents
- Two coverage locations approximately 5 miles apart
- Physician assistant support at both locations
- CHA’s hospitalist department consists of 25+ clinicians

Ideal candidates will be Board Certified, patient centered and demonstrate a strong commitment to work with a multicultural, underserved patient population. Experience and interest in performing procedures and community ICU coverage preferred. At CHA we offer a supportive and collegial environment, a strong infrastructure, a fully integrated electronic medical record system (EPIC) and competitive salary/benefits package.

www.chaproviders.org

Qualified applicants may submit CVs to Lauren Anastasia, Provider Recruiter at lauren.anastasia@dignityhealth.org or via fax at (617) 665-3553. Cambridge Health Alliance Department of Provider Recruitment may be contacted at (617) 665-3555 or 1493 Cambridge Street Cambridge, MA 02139. We are an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability status, protected veteran status, or any other characteristic protected by law.
By John Nelson, MD, MHM

Burnout is influenced by a seemingly infinite combination of variables. An optimal schedule alone isn’t the key to preventing it, but maybe a good schedule can reduce your risk you’ll suffer from it.

Smart people who have spent years as hospitalists, working multiple different schedules, have formed a variety of conclusions about which work schedules best reduce the risk of burnout. There’s no meaningful research to settle the question, so everyone will have to reach their own conclusions, as I’ve done here.

Scheduling flexibility: Often overlooked

Someone who typically works the same number of consecutive day shifts, each of which is the same duration, might suffer from the monotony and inexorable predictability. Schedules that vary the number of consecutive day shifts, the intensity or length of shifts, and the number of consecutive days off might result in lower rates of burnout. This is especially likely to be the case if each provider has some flexibility to control how her schedule varies over time.

Who really wants the same number of consecutive days worked and days off all the time? While a regularly repeating schedule has benefits, such as ease of coordinating with spouse and child care schedules, meaningful variation that the provider can control may be helpful for many people.

Personal time: Goes on the calendar first

Those who have a regularly repeating work schedule tend to work hard arranging such important things as family vacations on days the schedule dictates. In other words, the first thing that goes on the personal calendar are the weeks of work; they’re “X-ed” out and personal events filled into the remaining days.

That’s fine for many personal activities, but it means the hospitalist might tend to set a pretty high bar for activities that are worth negotiating alterations to the usual schedule. For example, you might want to see U2 but decide to skip their concert in your town since it falls in the middle of your regularly scheduled week of work. Maybe that’s not a big deal (Isn’t U2 overplayed and out of date anyway?), but an accumulation of small sacrifices like this might increase resentment of work.

It’s possible to organize a hospitalist group schedule in which each provider’s personally requested days off, like the U2 concert, go on the work calendar first, and the clinical schedule is built around them. It can get pretty time-consuming to manage, but might be a worthwhile investment to reduce burnout risk.

A paradox: Fewer shifts and burnout risk

I’ve convinced many hospitalists make the mistake of seeking to maximize their number of days off with the idea that it will be good for happiness, career longevity, burnout, etc. While having more days off provides more time for nonwork activities and rest/recovery from work, it usually means the average workday is busier and more stressful to maintain expected levels of productivity. The net effect for some seems to be increased burnout.

Consider someone who has been working 182 hospitalist shifts and generating a total of 2,114 billed encounters annually (both are the most recent national medians available from surveys). This hospitalist successfully negotiates a reduction to 161 annual shifts. This would probably feel good to anyone at first, but keep in mind that it means the average number of daily encounters to maintain median annual productivity would increase 13% (from 11.6 to 13.1 in this example). That is, each day of work just got 13% busier.

I regularly encounter career hospitalists with more than 10 years of experience who say they still appreciate – or even are addicted to – having lots of days off. But the worked days often are so busy they don’t know how long they can keep doing it. It is possible some of them might be happier and less burned out if they work more shifts annually, and the average shift is meaningfully less busy.

The “right” number of shifts depends on a combination of personal and economic factors. Rather than focusing almost exclusively on the number of shifts worked annually, it may be better to think about the total amount of annual work measured in billed encounters, or wRVUs (work relative value units), and how it is titrated out on the calendar.

Other scheduling attributes and burnout: A quick take

I think it’s really important to ensure the hospitalist group always has the target number of providers working each day. Many groups have experienced staffing deficits for so long that they’ve essentially given up on this goal, and staffing levels vary day to day. This means each provider has uncertainty regarding how often he will be scheduled on days with fewer than the targeted numbers of providers working.

Over time this can become a very significant stressor, contributing to burnout. There aren’t any simple solutions to staffing shortages, but avoiding short-staffed days should always be a top priority.

All hospitalist groups should ensure their schedule has day-shift providers work a meaningful series of shifts consecutively to support good patient-provider continuity. I think “continuity is king” and influences efficiency, quality of care, and provider burnout. Of course, there is tension between working many consecutive day shifts and still having a reasonable lifestyle; you’ll have to make up your own mind about the sweet spot between these competing needs.

Schedule and number of shifts are only part of the burnout picture. The nature of hospitalist work, including EHR frustrations and distressing conversations regarding observation status, etc., probably has more significant influence on burnout and job satisfaction than does the work schedule itself.

But there is still lots of value in thinking carefully about your group’s work schedule and making adjustments where needed. The schedule is a lot easier to change than the nature of the work itself.

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Dr. Nelson has had a career in clinical practice as a hospitalist starting in 1988. He is cofounder and past president of SHM, and principal in Nelson Flores Hospital Medicine Consultants. He is co-director for SHM’s practice management courses. Contact him at john.nelson@nelsonflores.com.

The work schedule that prevents burnout

The schedule is easier to change than the work itself
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