



H&P

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PERSPECTIVE

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LETTER FROM THE EDITORS

Dear Readers,

Thank you for taking the time to read the latest issue of *H&P*. This edition of our journal is entitled "Perspective," in tribute to the diverse viewpoints that guide medical practice. Seeking out and taking to heart alternate perspectives – from patients, colleagues, and other medical professionals – deeply enriches patient encounters. Even within the microcosm of a medical team, patient care hinges upon the perspectives of every team member, from the senior attending to the most junior medical student.

However, perspective is also something that one gains along the journey through medical school, residency and beyond. Patient care depends critically upon physicians seeking out each other's perspectives in the form of shared expertise, consults, second opinions, and academic reports. Perspective can be a powerful currency; in fact, it has been the driving force behind global efforts to cure disease. As Dr. Atul Gawande wrote about the World Health Organization's (WHO) campaign to eradicate smallpox, "The WHO hires no vaccinators, distributes no vaccine... The only substantial resource that WHO has cultivated is information and expertise."

The authors featured in this issue explore perspectives on medical training and practice through a variety of forms. Two pieces center around the change in perspective that medical students experience between their pre-clinical and clinical years, as a result of being deeply immersed in patient care for the first time. The staff of *H&P* presents a survey of the School of Medicine's graduating class to garner their insights on succeeding and staying healthy during this difficult transition. Also, in a series of vignettes, Jai Madhok (SMS IV) chronicles clinical interactions during his first year on the wards that profoundly impacted his perspective on patient care.

Major insights are also garnered through stretching the boundaries of one's comfort zone through working in different settings and with individuals from outside the medical profession. Diane Wu (SMS I) recounts her experience in a 'hackathon,' seeking to create new tools for chronic disease management with an interdisciplinary team.

It is also vital to harness alternate forms of media for new perspectives on human disease and medical practice. Sarah Schlegel (SMS II) presents poignant pieces of prose, reminding us of the powerful connection between medicine and humanity, and the vital importance of diverse literary mediums in accessing that connection. Mihir Gupta (SMS IV) presents a photo essay capturing his journey to Rwanda to improve health in homes. Casey Means (SMS IV) expresses her perspective in a cleverly constructed analogy designed to portray the nuances of a surgical rotation. Many of the photographs that we showcase herein are examples of scenery, action, and humanity presented from both traditional and unconventional lenses.

We conclude this issue with our traditional Leaders in Medicine interview. Angela Guerrero (SMS I) and Afaaf Shakir (SMS I) interview acclaimed physician and author Dr. Sandeep Jauhar, who was the keynote speaker at this year's Medicine and the Muse symposium. Dr. Jauhar reflects on a wide range of topics, from the challenges and rewards of writing about medicine to the difficulties facing modern practitioners. From the staff of *H&P*, we extend our sincere gratitude to Dr. Jauhar, and hope that his unique perspective will inspire our readers as much as it inspired each of us.

Sincerely,
MIHIR GUPTA AND AARTI SHARMA

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WALKING ON THE SKY

SARAH SCHLEGEL

If I had the whole sky to write on, I would hover beneath it for a century before I could begin. I would hang beneath it, poised to dance, feet dipping toward the waves stretched above the clouds, terrified my toe might drop and make a ripple. Horrified that I might never take the chance. After two centuries, I would begin with a point. Nothing to burn in spiraling streaks, no sharp reds or giddy yellows, but a drop of black ink, a word to fall tumbling above me into the ethos. But then the one would urge on the next, the tenth, the hundredth, all hurrying behind like the ducklings that speckle the shores of the Charles River in Boston, rushing to move forward before they can be too audacious, before anyone can stop to see that they are too feathered, too soft, beaks too hard, and no good.

SURGERY ROTATION: THE TRAVELERS

CASEY MEANS

Pre-rounds

Like the first days of a trip to Cairo,
I don't yet speak the native tongue.

My jet-lagged mind competes with the electric bustle of the *souq*
in the darkness of those early mornings.

As I push my way through the oblivious crowds
Amidst the alarming smell of urine, dirt, and sweat,
I observe the locals as they start their day.

I ask the vendors what they sell. I touch
their shiny trinkets, verify their value,
and pick a few authentic-looking goods to bring home.

Rounds

Soon, tour groups,
(dressed all in matching blue),
huddle together around the sights of town, touching the ruins' stones
gingerly, but with a crazed excitement in their eyes.
They have, after all, traveled a long way to be here, so
with their guide, they discuss the importance
of the sandstone architecture, the hieroglyphics, the art,
and aided
(or maybe distracted) by
a guidebook of dates and names, they scribble furiously
into their notebooks all the things they've learned.

The OR

Later, standing for hours
in the back of a sweaty bus in Gaza:

I finally spy the pyramids,
created by five thousand hands five thousand years ago, in a time I can never fully know.

With guides, I will enter the belly of those stones, am allowed to briefly
put my hands

in the dark warmth

of the catacombs. In touching,

I am electrified with the pulse of a history,
and I feel

I am closer now
to an ancient people and an ancient world
than I ever will be again.

For a moment, I know who came before me, perhaps how they lived,
and what will be left behind:

Stones, dust, rubble, and art.

STATIC

SARAH
SCHLEGEL

A HISSING HANGS ON THE LINE, SWEET AND SHARP AS RAIN. “ARE YOU STILL THERE?”

I call. “Can you hear me?”
She’s there, I know. I can hear the sound of her breath rushing in and in. And out. In and out. Too harsh, too uneven, but there, at least. Still there.

I push the phone into my ear until it aches, hot and sore against my head. I will it to be her, a small sad body I can pull inside me, wrap up like a spool of warm thread and store tightly inside my ribs, my chest, where she’ll be safe.

Please, please, just stay on the line.

“Do you know how?” I’d asked softly, my words shaping themselves woodenly along the thick black letters I’d memorized so long ago. “Do you have plans?”

I’d felt her shudder in her tiny gasp, imagined her cupping her head in her hands as I stared at the floor, willing her to appear. Her sigh swoops down and down. Is there farther to go? Is there a ground to reach, tumbling up



to my feet – can I grab her before she floats away?

She’s frightened, I know. Somewhere out there on her phone, clutching it in her hands until her fingers whiten, gazing blankly at the wall.

Hold on to me, I want to say. Just hold on.

She had pills, she’d whispered. Sitting up on her counter, watching quietly and waiting for her to make up her mind. But she hadn’t. Not yet.

A desperate pinging fills my ears.

“Hello?” I murmur, gently as I can beneath the roaring of the air.

My voice seems to bounce off the plastic receiver. Hello hello.

“What do you think it would be like?” I ask. “How would it feel?”

The great unknown. The great not anything. What is it that brings her so close? To circle round and round, tripping in the sharp burst of those bright white waves, dipping in her smallest baby toe, and peeking shakily through her fingers to watch the ripples explode and then vanish. Out and out, and then where do they go?

See where the light lies to rest beneath the surface. So bright to the eye, so cold to the touch. So.

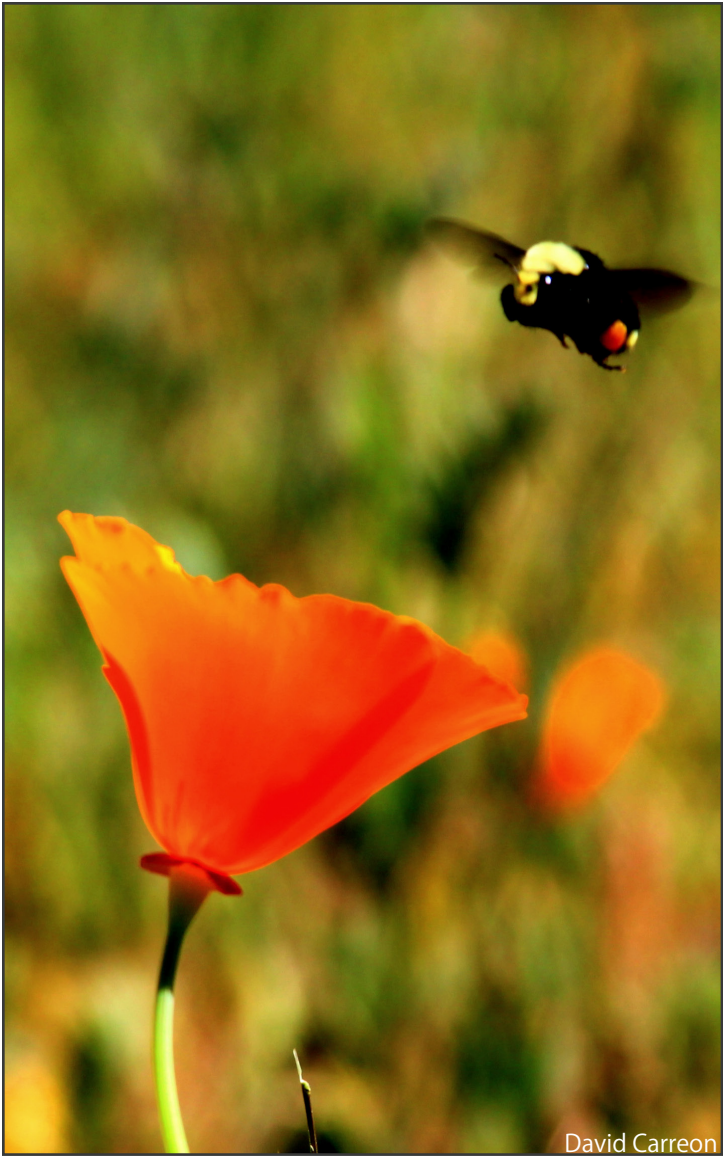
She doesn’t know. She doesn’t know how it would feel.

My phone is my rock. I scramble to grasp its crevices with one hand, reaching back for my rope. But perhaps I forgot it today. How did I? How could I?

But then, would she catch it? Or would she let it slide by, slip through her fingers like a farewell kiss? Goodbye, goodbye.

Hold on. Would you hold on to me?

Her breath never reaches my ear. The curve of her eye, her deepening gaze, her smile that I felt in



one sudden sweet moment, all are lost to me. Were never even mine.

I will never see her face, never know her name. When she hangs up, her words will be gone, flapping quietly as they head for the sky.

And then? And then.

Somewhere out there a girl is crying. Her tears fall silent on sheets too blank, too lost in her nowhere to see.

A hissing hangs on the line, cold and sharp as rain.

Please. Please just hold on. &

MS3: A CHRONICLE

JAI MADHOK

I. GOALS OF CARE

It's my third week of medicine and I've interacted with a total of 14 patients, who when summated have probably close to a 100 different items listed on their 'problem lists.' However, each of these patient encounters was more challenging by virtue of their unique histories. I had been considering starting to write about some of



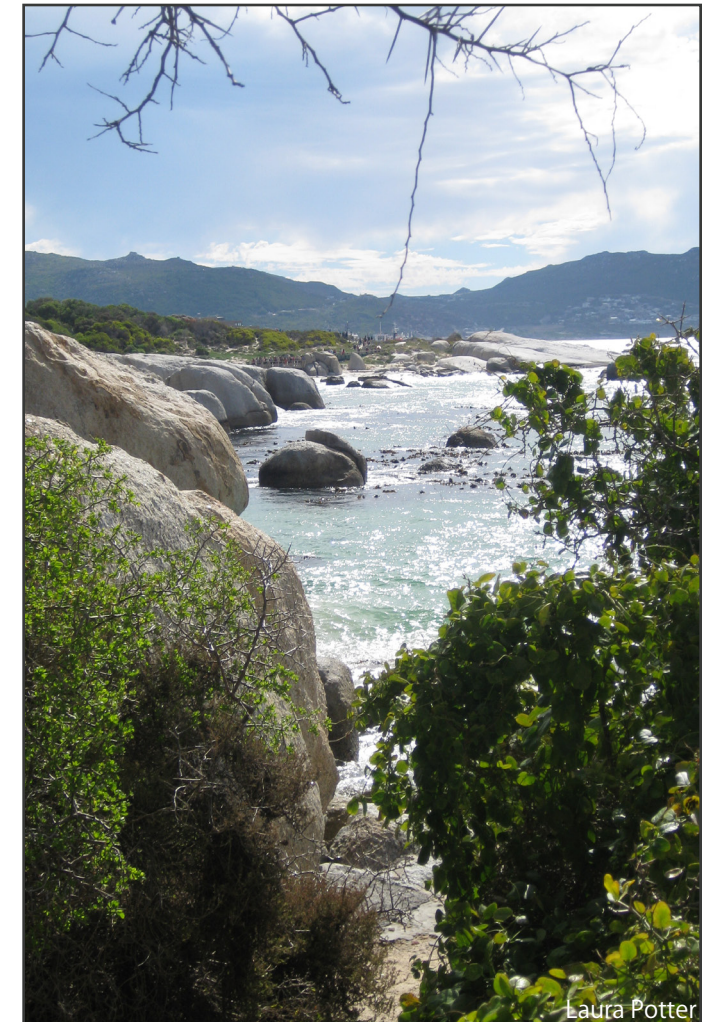
Laura Potter

these interactions, but unfortunately laziness prevailed. However, this morning I met the first of my patients who might not be alive when I go back to the ward tomorrow morning, and the course of events during the day initiated some thinking on my part.

We were on pick-up this morning, which meant that our team was assigned two patients that the night team acquired from the ED. As a medical student, I am allowed to co-follow one of the interns' patients, so I dutifully read the chart and accompanied my intern as she interviewed the patient. The lady had severe Alzheimer's dementia and was brought in overnight by her daughters because they noted that she had progressive difficulty with breathing and controlling secretions.¹ Per the ED notes, the daughters provided the history as the patient herself was non-verbal and non-communicative at baseline. Apparently, she had choked on her food the previous day, and was now septic possibly from aspirating her gastric contents or respiratory secretions. I meticulously read her entire chart from last night to see what was done, how her potassium was corrected, how much fluid she received, whether or not she even met sepsis 'criteria' (because that's the first question someone would ask me before presenting) but paid little attention to the fact that she had end-stage Alzheimer's until I saw her weight. She registered at just 30kg (66lbs) – less than many elementary school children.

We went to examine her. As expected, she was unresponsive but lying comfortably in bed. Secondary to her DNR/DNI status, she was receiving only IV fluids and antibiotics but no other life-sustaining or preserving measures. We talked to the family, and the first thing they mentioned was their desire to expediently transport her back home because she didn't want to die in the hospital. I've always made it a point to make sure to ask the patients and their families their goals and expectations

¹ As per regulations, names and details have been modified to protect privacy and confidentiality of the patients.



Laura Potter

upon hospital admission. For me, the focus theretofore shifted from whether or not she needed anaerobic coverage to 'How can we stabilize this woman enough to move her home?' There was no point in keeping someone in the hospital to endlessly poke and prod them if it wasn't going to change the final outcome – especially if they didn't want it in the first place. We discussed the patient on rounds and our team decided to obtain a palliative consult for home hospice and let them decide. I asked my resident, who agreed to let me sit in on the conference.

I walked in after lunch just 5 minutes before the palliative meeting to check on the patient, where I found that she was desaturating to 88% on 10L of oxygen. In the morning she was doing well on 3L or so of

oxygen. We all knew that this was a significant decline in status over the past 5 hours, signifying that she would likely not survive the remainder of the day. Her breathing was now more labored and she was moaning in pain because the nurse was trying to draw blood to check for normalization of her potassium and lactate levels. I almost wanted to tell the nurse to stop because this clearly wasn't helping anything, but I couldn't. So I just stood and watched helplessly, intermittently silencing the telemetry so that the family wouldn't perpetually be alarmed by the loud beeping from low O₂ saturations. By this time, a few additional family members had con-



gregated in the room. The palliative team finally arrived and we all sat down. For the first time during the day, they started talking to the family about what had transpired these past few years.

We found that the patient had essentially been non-verbal and non-communicative for the past three years with no functionality besides being escorted to the restroom a few times a week. The family members had single-handedly fed her pureed food, bathed her and attended to her daily living requirements. Remarkably – through their care – this lady had survived 11 years after her Alzheimer's diagnosis, which was quite unprecedent-

ed (especially sans any episodes of aspiration pneumonia). We talked to the family about the patient's wishes and told them what a wonderful job they had done all this time and how lucky the patient was to have them. It was an emotionally charged conversation, but one that the palliative team executed beautifully. I could see that talking about everything was in many ways therapeutic for the family, especially as they were about to undergo a huge loss. I had read about all this before, but this was the first time I had the opportunity to experience it firsthand.

It was decided that the patient would be provided comfort care, and subsequently all other medical interventions (including the blood draws) would be discontinued. She would be moved to a quieter and more capacious private room so that she could spend the last period

of her life in peace and surrounded by her family – exactly as the setting would be had she been at home. (Even though we tried, she wasn't actually being sent home because there was no guarantee she would survive the rigor of the ambulance ride and the lack of oxygen at home would make her last few hours more miserable than they needed to be.)

I think a recurring theme in my 3 weeks on medicine so far has been that sometimes we try to do too much that ultimately results in more harm than good. Unquestionably, what is of utmost importance is that we respect patients' and family members' requests. But oftentimes we forget that it is our responsibility as the people on the other side to inform them of the grave consequences of doing compressions or intubations on their 90-year-old loved one, who – despite these resuscitation measures – will have a poorer quality of life given their co-morbid medical conditions. Sadly, this is also easy for us to see, but difficult for the family to hear as they will ultimately bear the ensuing loss.

My team thus far has been very conscientious about approaching topics of code-status and goals of care. It goes without saying that this is patient-specific and depends on their baseline activity as well as what is acceptable to them in terms of their quality of life. Some 90(+)-year-olds, unlike my patient with severe Alzheimer's, have a very different baseline – and for them we would do everything we can to make sure they stay there. And then there are those patients who we as a medical team believe should receive every possible intervention, but for various reasons have decided not to pursue anything further.

I don't know what is the right thing to do or if there is a right thing at all, but what I do understand is that there is no textbook that has the answers, and everyone – no matter how experienced – is still learning.

I came back, finished my progress note, and soon after left for the day.



II. WHEN IS IT TOO LATE TO CHANGE?

Smoking cessation is one of the first issues addressed as we start medical school. Per the CDC, smoking accounts for an estimated 443,000 deaths (i.e., nearly 1 in 5 deaths) in the US. Further, deaths caused by tobacco (including smokeless) exceed all deaths by HIV, recreational drug use, alcohol, motor vehicle accidents, suicides, and murders. And as everyone knows, smoking accounts for 90% of lung cancer-related mortality in men and 80% of lung cancer mortality in women.

Despite knowing these statistics, many of us don't feel comfortable broaching the subject of smoking cessation with our patients, and even if we do we are hesitant to pursue them. I for one haven't had the opportunity to do this very much. But the one chance I had recently, I believe I didn't do a good job.

I was taking care of a 75-year-old lady who was admitted for recent-onset chest and back pain and upon evaluation was found to have a Type A aortic dissection (a tear in the proximal portion of the aorta). Although this problem is generally managed via surgical repair, our patient was not a candidate per vascular surgery. We consequently decided to manage her medically with blood pressure control. While speaking to her in

the morning, I found out that she still smoked about a pack of cigarettes per day. She reported continued use for the past 60 years and I briefly inquired as to whether she had thought about quitting – to which she replied that it made her happy. Considering that she was already advanced in age with a marginally terminal condition, I decided not to push the topic further and left her room. We gave her a nicotine patch while she was with us, adjusted her blood pressure medicines and discharged her home, only to have her readmitted to our service 4 days later.

Our attending had changed in the interim between her two admissions and we decided to see her during team bedside rounds. After our exam, he started talking to her about smoking. When he asked her if she

knew all the things her smoking had done to her, she said she wasn't actually sure. Being one of the 4 people who worked her up in the past, I felt embarrassed that I hadn't thought of asking her such a simple question. Essentially, all of her major problems – her high blood pressure, COPD, and aortic dissection were all related to her smoking. He also asked her if she knew what she was going to die of and she responded “from this heart thing I have.” That is exactly what I would have said if he had asked me the same question. “You're going to pass away from your smoking,” said my attending. Everyone could see that she was getting anxious and upset. When he explained further that smoking was probably a large contributor to everything she was dealing with, she started to cry – in front of an 8-person team. It made me feel horrible inside, and made me wish that I had spoken to her about this earlier so it didn't come at her in this way, in front of this many people. Either way, the conversation lasted a long time and then we all left to debrief in one of the dictation rooms.

“Do you know how a patient with COPD dies?” None of us had witnessed such a scenario save for the senior resident, so we kept quiet. The attending continued, “If you see one, you'll never forget it.” He then went on to explain that while there are comfort measures for some auxiliary issues in these patients, there is nothing you can do for the air-hunger. People with COPD tend to retain carbon dioxide over time and their respiration centers become rewired to use oxygen as a stimulus for respiration as opposed to carbon dioxide (which is the primary driver in healthy adults). This implies that giving them oxygen for their air-hunger would only kill them faster. He then went on to describe the misery of these patients' last few days, which left me not just a little disconcerted.

That day I couldn't stop thinking about why none of her other doctors had ever encouraged her to quit previously or been successful at such an endeavor. Why did everyone just draw the line at telling her that smoking is

bad but do nothing to help her? Not only do we have pharmacologic tools when it comes to smoking cessation but also an array of social support services that can help people with this problem. Doctors have learned motivational interviewing in school and written about it extensively, but then why do they fail to take the time to counsel patients about something so life-changing? Are we afraid of not being liked? Do we not have enough

“What made patients unique for me were not their adrenal tumors or unexplained fevers... but other aspects of their life.”

time? Do we just not understand the magnitude of the problem? Or do we just not care? It's unlikely to be the latter, but I think it's a combination of broaching a potentially charged compounded by the inadequate 15-minute encounters during which a doctor must do a history, exam, and cover patient education and health maintenance.

Perhaps some day the system will automatically create a longer clinic appointment time for active smokers so that there is plenty of time to talk. The onus of not having that conversation will then solely be upon the physician.

This brings me to my last point: When is it too late to change? Having observed people, both young and old, I have come to realize one simple thing. Change is difficult to make even if you know it's good for you. There are habits that everyone has ingrained from a young age which are hard to undo or extract. It's hard enough for a 25-year-old to change a simple thing like giving up fried food. Think about how much more difficult it would be for a 75-year-old lady who has smoked for 60 years to give up a habit which lends her a sin-



gular source of pleasure, especially now knowing that she has a limited time to live? When should we stop bringing up smoking cessation? Research shows that no matter when you stop smoking, the damage of its previous insults cease at that moment. So hypothetically it is never too late to stop and reap the benefits – but what about in this case? It’s hard to say. Part of me still thinks that maybe we shouldn’t have pushed this lady to the point of making her cry, but maybe she’ll stop and can live longer than she would have.



Alice Eamsherangkoon

I’ll never know what happened to her, but one thing is for certain: the next time I see an active smoker in the hospital I’ll surely bring up the topic of smoking cessation despite the discomfort I might feel. How I go about surmounting those qualms remains to be seen.

III. DOES EVERY PATIENT TELL A UNIQUE STORY?

Medicine is oftentimes the subject of frequent romanticisation. Even before I decided to become a pre-medical student I used to read stories about how one essential fact buried deep in a patient’s history led to the clinching diagnosis of a fatal condition that would have otherwise gone undiagnosed. Add to this mix the wide array of medical shows aired on mainstream television, ranging from the mysteries solved by pill-popping self-centric misanthropic Hopkins-trained diagnostician extraordinaire ‘House, M.D.’ or the oftentimes unimaginable surgeries performed by a team of 5 attending physicians (unrealistically good-looking ones, if I may add) on Grey’s Anatomy, and people begin to develop a romantic notion of what it is exactly that transpires in the hospital outside of patient rooms.

Prior to entering medical school, I read many medical non-fiction books written in the recent past, and while I cannot recount the exact details of cases described in any of them, the one thing all of them seemed to emphasize was how each patient is unique. This theme is not unique to anyone who has gone to medical school, as the importance of a good history and physical is instilled even before we know what an H&P entails. As a naive third-year medical student entering the wards, I was shocked to see how little time was actually expended talking to patients before a diagnosis was made and that label attached to the patient. This fact in itself was not too



Alice Eamsherangkoon

upsetting as it only indicated that physicians who were years into practice develop a clinical acumen where a few important questions enable them to tease apart the presenting symptoms and unify them into a single diagnosis. In some ways, it was inspiring – I had a lot to learn to build my mental repository of illness scripts. However, the disappointing aspect was the amount of time a medical team spent sitting in front of computer screens looking at lab values, scans, and old records instead of actually talking to the patient. Soon after, each patient would just become ‘the guy who came in with a CHF exacerbation’ or the ‘diabetic lady with the Charcot foot.’ The labor and delivery floor becomes a Venn diagram of ‘*multips*’ and ‘*nullips*’² with further subsets of ‘normal vaginal deliveries’ and caesarean sections, and every other patient on the general surgery ward becomes yet another ‘*lap chole*’ or ‘*lap appy*.’³ What was it then that made patients unique?

Though we all know the answer to that question, it becomes quite hazy in the hospital corridors at 5am when you have a slew of post-operative patients

² Multiparous and nulliparous, respectively, signifying the gestational parity.
³ ‘Lap’ = laparoscopic. ‘Chole’ = cholecystectomy, or removal of the gallbladder. ‘Appy’ = appendectomy, or removal of the appendix.

to round on before new cases for the day. What made patients unique for me were not their adrenal tumors or unexplained fevers (not to say that I did not enjoy the mystery) but other aspects of their life: how they approached their illness, what gave them strength to cope with challenges they faced, who their loved ones were, what they had done for a living, the first thing they wanted to do upon discharge, and lots more that never made their way into the daily progress note. Sadly, on some of the busier services I have rotated on during my third year, no one had the time to find out basic details about our patients’ lives. Having been on my sixth continuous inpatient month, the motivation to go the extra mile was lacking, sleep deficit was accumulating, studying for the routine end-rotation shelf exam was piling up and 4am pre-rounding was not getting any easier. It was then that I was reminded of the importance of knowing our patients.

It was a cold December morning and being a busy general surgery service we had walked around almost all wards and floors of the hospital checking in on patients when we headed to our last consult patient’s room in the oncology unit – a.k.a our ‘onc SBO.’ This



middle-aged gentleman was admitted for a small bowel obstruction (SBO) possibly caused by recurrence of his pelvic tumor or from post-operative adhesions from the procedure he had undergone previously for said tumor. He was well aware of his overall grim prognosis given his rapidly spreading metastatic cancer. He was sleeping with his eye-bands on when we woke him up to ask him how he was feeling. This was our fifth day seeing him and he still had a nasogastric tube that was draining bilious fluid, a distended belly that was neither improving nor worsening, and he hadn't received a thing to eat or drink since his admission almost a week ago; all components of the standard protocol for non-surgical conservative management of a small bowel obstruction. As usual, our team senior told him to 'hang in there' and walk around more as it would likely help with getting things 'moving' so that we could save him the return trip to the OR.

Right before we stepped out, he said, “Is it possible for me to just have one cup of coffee? That’s all I want.” Here we were – five young healthy gentlemen caring for a patient with terminal cancer for about a week – and not one of us had ever asked him if there was anything we could do to make him feel better. All of us just stood there in silence for a few seconds and then the

senior spoke. “Yes, we’ll make sure they get you some, but you should know its going to come right out the tube after you drink it.” The *onc-SBO* nodded, adding that he was well aware of the fact *but* that a cup of coffee was all that he had been craving.

Later that morning, having made it my personal mission to ensure he received his beverage, I came back to check in on him to see if he did get his cup of coffee, as we still had NPO orders for him in the computer. Even before I finished my question, I saw brown-colored liquid collecting in his suction canister. Words fail me to adequately describe the expression of peace on his face. It was almost as if his obstruction had resolved. He smiled and was so thankful to me that we had *allowed* him that cup of coffee. I, on the other hand, felt somewhat ashamed and had a tear in my eye as I walked out of the unit. To add to my guilt, I had only now noticed the wheelchair in his room and upon asking his nurse found out that he was paraplegic from a motor vehicle accident and had not walked in over a decade. Here we were giving him the standard ‘try to walk around as much as you can’ advice that we provide our other SBO patients. Agreed – a general surgery service probably sees more bowel obstruction consults in a week than it can keep track of – but how did we fail to learn this important fact about our patient, yet knew the exact variation of his abdominopelvic anatomy from his prior operation?

I only saw him once more as it was time for me to switch services, but this was a patient who – despite having been hit by lightning twice – was always in the best of spirits, thankful to everyone who was involved in his care and never once corrected a consult team of five each time we told him to walk around. I don't think I'll ever forget him – but I won't remember him as the 'onc-SBO' or the 'paraplegic patient with metastatic cancer.' To me, he will always be the San Francisco Giants fan who loved coffee and had a fancy state-of-the-art wheelchair with no brakes. &

THE GRADUATION SURVEY

The Stanford Medical School graduating class of 2013 on how to impress your attendings, stand out and stay sane during clerkships.

ARGUABLY THE MOST CHALLENGING TRANSITION IN MEDICAL TRAINING

MEDICAL TRAINING is going from pre-clinical student to clinical clerk. For the first time, students experience the burdens and joys of caring for patients – from long call nights and difficult team dynamics to the thrills of diagnosis and treatment. *H&P* asked twenty members of the SMS graduating class of 2013 for their advice on how to succeed in clinical rotations, and their favorite resources for two of the most difficult clerkships.

As a new generation of Stanford medical students starts clinical rotations, we hope that these words will enrich their experiences, benefit their teams, and most importantly, translate to even better patient care.



Visualization rendered using Tagxedo

“Roll with things. Take nothing personally. If you have a bad day, forget it and start fresh the next day. You will not be beaten down. **You are strong and resilient.**”

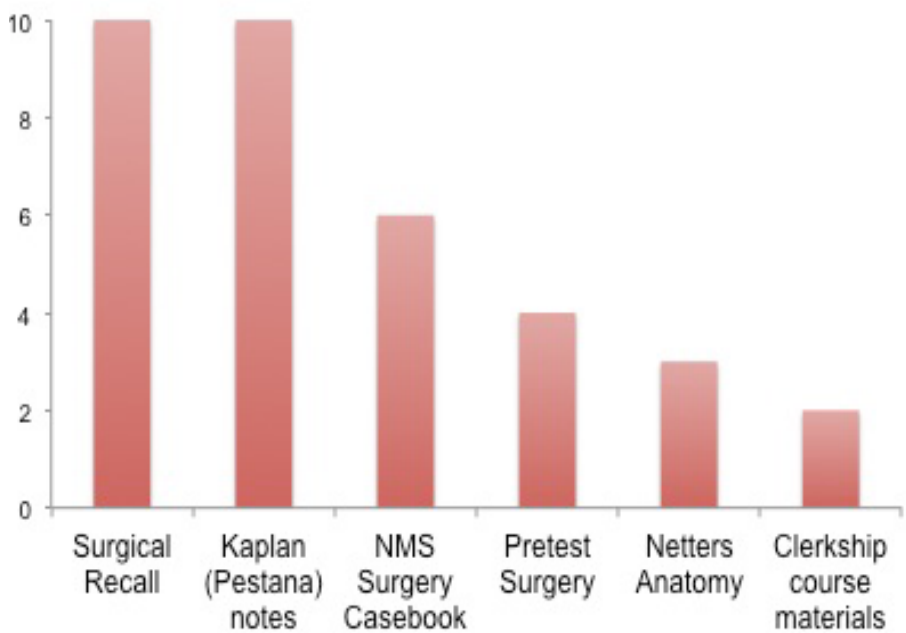
“**Show your enthusiasm** by asking good questions – ones that show you already know the basics and are using that information **to ask the ‘next-level question.’**”

“It’s not about grades or performance. **It’s about patient care.**”

“**Be a team player.**”

“**Take care of yourself.** Don’t sacrifice personal interests and time for clinical duties. Making the mistake of not leaving time for hobbies, friends and family can wear you down such that you may not perform well in the hospital.”

“**Make your residents’ lives easier.**”



Must-Have Resources for Surgery ...

Left: number of students recommending each resource as a ‘must-have’ for the Surgery clerkship.

Also receiving one vote: USMLE World Qbank.

“Spend time with patients and **enjoy the time that you spend with them.**”

“Use the social interaction knowledge you’ve gathered your whole life. A lot of doing well is figuring out **how you can be helpful.** The core of this is sometimes **how well you get along with others.**”

“**Get informal feedback** often.”

“Learn by imitating your interns and residents. **Being a good medical student is not enough** – very soon, you will be the real doctor taking care of patients.”

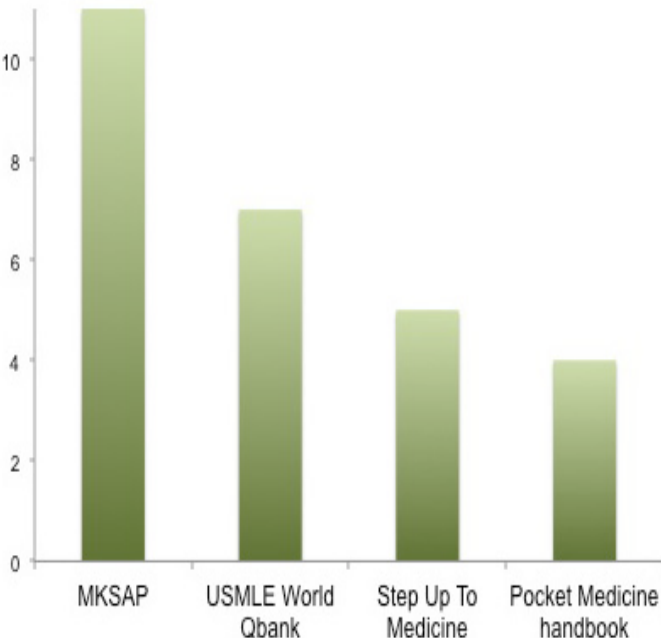
“**Be creative and willing to do just about anything** in the interest of taking care of your patients and helping your team run smoother, and **you will shine.**”

“Discuss expectations with attendings **as early as possible.**”

... and for Medicine

Right: number of students recommending each resource as a ‘must-have’ for the Medicine clerkship.

Also receiving one vote each: UpToDate, Lane Library PICO, *Case Files*, *UCSF Hospitalist Handbook*, *First Aid Medicine*, *Pretest*, *Harrison’s*, Medscape and Diagnosaurus (iPhone apps).





Alice Eamsherangkoon

CONQUERING THE STARTX MEDICAL INNOVATION CHALLENGE

DIANE WU

THIS FEBRUARY, I PARTICIPATED in the StartX Medical Innovation Challenge, an event which brings together eager engineers, designers, health care providers, and innovators for a 50-hour “hackathon.” Participating teams develop and implement ideas that attempt to revolutionize healthcare. Each team assembles a proto-

type and pitches to investors in the healthcare industry. The grand prize of the Innovation Challenge was the chance to become a finalist for StartX Med, a nonprofit startup accelerator, and receive mentorship from both StartX Med and Stanford Hospital & Clinics.

In general, a hackathon is an event where teams of programmers work together to accomplish a task within the timespan of a few days. The StartX Medical Innovation Challenge (MedIC) is a variation on this theme because it does not focus on programming or engineering efforts, but rather involves a mix of coding, business acumen, and healthcare. When I heard about MedIC, I decided to apply because I had taken a health-centered class at the design school, and wanted to use the skills which I had learned. I also thought it would be a great opportunity to meet new people.

The weekend started with a series of talks about current issues in healthcare, and the resources we could use to address them. Next, individuals pitched their particular ideas, which ranged from transportable sleeping pods for tired employees to services aimed at helping families plan for the long-term care of their parents. Teams formed around the ideas, and the hacking commenced from there.

I joined a diverse team that was working towards a solution for diabetes management. My team included another medical student, a physician, a trio of programmers, a data scientist and a business-focused individual. While MedIC was the first hackathon for most of us, we also had seasoned veterans on our team. Our idea was to provide a virtual con-

cierge service for diabetes patients. Using a smartphone app, patients would input their blood glucose measurements and record their medication adherence. Doctors and nurses on the receiving end of this system would be alerted in the event of any alarming values or if the patients did not take the requisite medication. The doctors and nurses would then be able to contact the patient and try to get them back on track.

For the next two days, we divided up tasks and tackled them in mini-teams. Our objective for the end of the weekend was to put together as functional a product as possible, solicit user



Laura Potter

feedback, and present a pitch. Some engineers worked on the server which would receive input from the smart-phone app. Other engineers worked on the app itself. Our business-savvy team members created a budget and projected the value of our service. Those of us who were knowledgeable about healthcare researched the relevant health indicators for diabetics, and formed a realistic system for delivering our service. Occasionally, we would interrupt our work to get feedback from mentors who were respected in the healthcare field. We celebrated milestones such as inventing a name for our product, and being able to send emails from the app to the doctor. We went around campus to find individuals to test our product.

That weekend, I ended up using skills I had not exercised in a long time; I designed logos, researched

health statistics, and served as a liaison between the programming and business sides of our team. I met some engaging individuals who I will never forget.

The weekend ended with a series of pitches, followed by sometimes blunt comments from the panel of investors. I was glad that my team's pitch went smoothly. It was amazing to see each team's progress during a single weekend. Along the way I felt a sense of community with my team and others. When results were announced, some of my team members were a bit disappointed that we weren't selected as winners. But another one of my partners, an older man who had participated in many hackathons, said "I'm here to learn some new things, have some fun, and meet people." Ultimately, this is what hackathons are all about. &



Laura Potter



IN THE COURSE 'DESIGN FOR EXTREME AFFORDABILITY,'

medical and graduate students work in interdisciplinary teams to develop low-cost innovations for developing countries. The crux of design thinking is to cultivate 'extreme empathy' in order to spark insights and invention – to design not just *for* users, but *with* them. This year, two teams of medical, business and engineering students traveled to Rwanda as part of the course, focusing on improving the health of the home environment.

Above: an architecture student explains healthy housing design to a neighborhood community gathering in Kigali.

Right: a child in Nyamirambo plays with an empty pill bottle.





Above: a sieve for processing cassava flour.

Left: a pot of *isombe* cooking over an open fire. The dish, made of mashed cassava leaves and served with dried fish, is a staple in Rwanda.

Below: a man in Gitega by his recently constructed home, made of adobe bricks with a clay tile roof.



Above: pharmacists navigate the supply room of the Butaro district hospital, built with support from Partners in Health and the architecture firm MASS Design.



Above: the path to the doctors' housing at Butaro hospital. The hospital and housing units are made with local materials including lava rock and compressed stabilized earth blocks.

LEADERS IN MEDICINE

DR. SANDEEP JAUHAR

ANGELA GUERRERO
AFAAF SHAKIR

Dr. Sandeep Jauhar, acclaimed author of *Intern: A Doctor's Initiation* and contributor to The New York Times, was featured as the keynote speaker of this year's Medicine and the Muse Symposium on April 20, 2013. Before the evening's celebration of music, art, film, and poetry, we had the chance to converse with Dr. Jauhar regarding his reflections on his career not only as a physician, but also as an author.



Afaaf Shakir: What made you start writing?

Sandeep Jauhar: I was always very interested in writing when I was growing up. My father is a research scientist, so he never really encouraged writing as a subject. Being an immigrant to this country, he really wanted me to be a scientist – and a doctor more than anything. In the beginning, I didn't possess a lot of genuine interest in medicine, in contrast to my elder brother. So I set writing and my interests in the humanities aside, proceeding full-on into a scientific education. I studied a lot of math and physics in high school, going on to attend Berkeley where I both majored in and later decided to pursue a Ph.D. in physics.

Towards the end of my graduate training in physics, I started asking the harder questions. *Is this really what you want to do for the rest of your life? Are you talented enough to accomplish what you want in physics academia?* When I asked those questions, I realized I really wasn't. So I started looking for other things to do. At that point, I was in a deep research rut. I went to visit my brother and he was so happy as a doctor, living on a beach. Literally – living a mile from the beach in San Diego. He was having a great life despite being a resident. And I thought, "Oh, my God. This is what being a doctor is like. I want to be a doctor." So I decided that I was going to apply to medical school. As such, my becoming a writer and doctor were intimately linked in that I knew if I wanted to write, I would have more opportunity to as a doctor than I would as an academic physicist.

When I decided to apply to medical school, I started to think about the things I was really interested in when I was younger. Was this really what I wanted to be doing? I didn't want to make another mistake, to go down another track that was not going to lead anywhere. And I kept coming back to the realization that I loved writing, and I thought if I became a doctor I'd have plenty of opportunity to do so. Look at Oliver Sacks, look at Bertin Roueché, look at all these famous physician-writers.

I had a summer off before going to medical school, during which I received a journal fellowship to Time Magazine. I spent the summer there having a great time. As I was leaving to go to Washington University in St. Louis, my editors at Time said that I was a good writer and should pursue opportunities to write in medical school. And that's really what I did.

My second year of medical school, I started a literary journal and wrote a profile of the Chief Resident in Surgery, which I entitled "Master of Mayhem." It sparked a big stir on campus and I was a bit of a celebrity for a period. I thought it was so cool being a writer – people get to know you and admire you. I sent

that piece to the St. Louis Post, which turned out to be my first officially published article.

They apparently enjoyed what I had written and granted me other opportunities to write. During

"You can disguise things in fiction – things that won't directly stain you as a doctor."

my second year of medical school, I would actually spend a few afternoons per week playing hookey from my classes. I would go downtown to the St. Louis post dispatch at around 1:30 in the afternoon. They would say something like, "Today, you're going to write a piece on wild turkeys in Forest Park," or "Go research an article on wasps stinging people who eat on the sidewalks in the Central West End." They would give me the topic at 1:30 p.m. and they expected it to be reported, researched, and completely written by the 5:30 p.m. deadline. So I had 4 hours to write approximately 300 to 500 words. It was just amazing – to simply return to the flow of writing and also know that I would have a published piece once or twice every week.

I graduated from Washington University and went to New York to start my internship. There, I started assembling my published pieces. I went to the NYT one day and said, "Hey, I'm here. Can I write for you?" They happened to have a new science editor who was very interested in health/medicine and willing to take a chance on an intern – on me. Having read my pieces and thus possessing a sense of my capabilities, she said I was welcome to write some pieces if I wanted. And that's the key: you have to have something published if you really want this. So get ahead. The hardest piece to publish is your first one. So that's

how I started writing, and it's been a lot of fun.

Angela Guerrero: You mentioned that you were provided topics when you were a medical student. I know that you now write Op-eds. How do you independently choose a topic these days?

SJ: It's simply whatever interests me. It gets progressively harder as you go on because you start to accept the culture that you're in and you stop questioning as

"If you're going to write, you just have to be honest and raw and a little naked. Memoir doesn't work any other way."

much. When I was an intern, I would see something in particular which would raise a question. The first medical piece I wrote for the NYT was on 'ICU psychosis,' a term used to describe the phenomenon of certain patients going completely crazy in the intensive care unit setting. Nobody is really sure as to the exact etiology. There are probably physiological and psychological factors – being in a place away from family, friends, and familiar objects. During my second month of internship a patient called me into her room. We proceeded to have an extended conversation where she thought she was in her apartment and I had adjusted the IV drip. I thought it was completely bizarre – so I thought I had to write about it.

In my second year of residency, there was a patient who didn't want a feeding tube – but he kept aspirating into his lungs. His attending physician refused to insert the feeding tube despite the fact that he would die without one. He said, "Just feed him."

I remember thinking how bizarre it was that this guy was breaking the system. So I wrote about aspiration pneumonia, feeding tubes, and what happens when someone doesn't want one. Now I see this all the time. Back then, my impression was "Wow, this is so interesting and new!" The key is to maintain that freshness of perspective, because it becomes much harder as you go on. As such, I think internship is the perfect time to start writing about medicine. Because everything is new – all your barriers are broken down because you're physically exhausted. You don't think about things too much and you don't worry about the consequences – you just write whatever comes to your head. That's what I started doing, and it eventually led to the book.

AS: Speaking of your book, there are many students in my class who are really interested in writing and trying to figure out what kind of personas they would like to be as authors. A particular apprehension is writing something now that could potentially be held against them later as established physicians. How do you determine how much of your own opinion and your own life you include in your writing? And where is that line?

SJ: I've been fairly fortunate in that I haven't received a lot of backlash. Granted – I garnered my job before I wrote the book. But even during residency, I was writing about material such as the Bell Commission and work hour violations and I didn't get fired. I still received my Cardiology Fellowship during a very competitive year in that field. The chairmen of the NYU department where I was hired said that the fact that I was writing fearlessly interested them. So I wouldn't worry too much about those things. I suppose it's conceivable that a residency program would hold it against you if you write something about them, but most physicians are fairly forgiving. They know how fallible we are as doctors. Physicians are more accepting if you write about your own mistakes rather than those of other people. No one really wants a muckraker in their midst.

AS: Does that ever affect the manner in which you interact with your patients? If one of your patients comes in with your book, does that change the way you would have an encounter?

SJ: A little bit. You would think it might matter a lot to the patients because most of *Intern* is about my screw-ups, figuring out and then not being sure what I wanted to do with my life, then making mistakes which sometimes had very severe consequences. I've never had a patient come to me and say, "I don't want to be your patient because you're not good with your hands. You admit it in your book!" No one has ever said that. Some patients have asked, "You're still here. They haven't fired you yet?" One said, "I was a construction executive, and if any of my employees wrote a book like the one you wrote, they would have been out of here so fast!"

But I was also writing about events that transpired ten years ago. It wasn't that fresh. If you're going to write – and especially if you're going to write memoir – you just have to be honest and raw and a little naked. Memoir doesn't work any other way. You can disguise things in fiction – there are ways of being creative and expressing your opinions without having them trace directly back to you – things that won't directly stain you as a doctor. I never really worried about it too much, which I think has served me well. People have reacted negatively. I wrote one piece about overtesting in medicine, and the cardiology group where I practice wrote letters to the chair and vice-chair of my division demanding that I be fired or they would never refer another patient to our department for a procedure. Some people become angry when you write about material that directly impacts them or when you point the finger at the way medicine is practiced. It besmirches many populations within our profession, but when you write about yourself



and your own failings, they generally don't mind. I don't think a budding writer in your class should worry too much about that.

AG: Another concern is the protection of patient privacy. You mentioned that you're writing about things ten years ago, whereas the material about which we might potentially write would be fairly current. It might be easy for someone who knows or has worked with us to trace the incident described therein.

SJ: That is a very difficult aspect of being a physician writer because we are entrusted with these intimacies and these stories. There are several ways to look at it. One is that it's both the patient's as well as your story because you are the patient's doctor. You have a right to tell your story so if the perspective of the piece is really how *you* responded or how this encounter affected *you* – then I think it's fair.

But obviously we don't want to hurt anyone, and we want to protect confidentiality. There are a few ways



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to do it. One is by changing names and certain identifying details. That's what I did in *Intern*. After the whole book was written, everything was real names, real descriptions. I then spent about 8-12 hours with a lawyer going through every single line of the book. Every real name or description was changed. You can do that in memoir writing because you state candidly that "Names and identifying details have been changed to protect confidentiality." You can do that to some degree in magazines, where you say "Here's this patient, I'll call him X," but that isn't feasible when you're writing for a newspaper like the New York Times. Everything has to be true, and you have to remove details to protect confidentiality inasmuch as possible. This stipulation changes the writing, but it's something I felt I've needed to do.

I can remember one incident as a third-year resident, when one particular detail slipped through the cracks. The employer of the patient's wife recognized to whom I was referring, and she was very, very unhappy

with the piece. She wrote to the residency director and for a while all of my pieces required pre-approval before I could send them to the Times. I actually thought that was a perfectly reasonable action. I felt awful. The piece addressed some aspects of how the patient died, and I think the wife was probably unaware of such details because she wasn't with him when he passed away. It was difficult. You're treading a fine line – no question about it.

AS: Earlier we were talking about how having physicians or medical students engage in activities outside of medicine affects their relationships with their patients. Do you find that writing or other humanities-oriented activities helps you better connect with patients?

SJ: I don't know if the writing so much has changed how I would practice because it was

always there in me. So I don't know what kind of physician I would have been if I didn't have that. Does it make me pay more attention to patients, what they're saying? Does it make me pay more attention to their social history? Yes. When you write about patients, you have to humanize them. Once you do this, you realize they're not just a bag of enzymes. They are complex beings. I think that my writing has helped remind me of that in my practice. It's hard to say whether it always does that for other physicians who have this interest. I think it could potentially interfere with your practice of medicine because you're looking for a story. There are ways I could see that it could be counterproductive.

We mentioned earlier whether physicians who have a lot of extra interests are going to serve our society well in this century. It's hard to know at this point. It's very clear to me that, as I said earlier, we need more physicians to do the grunt work of medicine, providing basic care to a population that's getting older and sicker with more chronic diseases. I'm not saying that

having avocational pursuits is going to necessarily interfere with that. I think it can inform you as a doctor; I think it can help the doctor-patient relationship. But I think that if it becomes too salient a phenomenon in medicine, you may start seeing some adverse effects.

AG: Can you tell us a little bit about *Doctored*, your most recent book in the works?

SJ: *Doctored* is about my trying to find a place within modern practice and the difficulties therein. The stressors of modern practice do propagate you away from the patient and the bedside and force you to grapple with issues like decreasing reimbursement and relative value unit collections and everything that you don't want

"When you write about patients, you have to humanize them. Once you do this, you realize they're not just a bag of enzymes."

to think about. Because that's not really why I or you went into medicine. It created somewhat of a crisis in me as I emerged from my training very eager to be a doctor, to be remunerated for all that work – only to realize that the tangible rewards weren't there. The rewards were really more intangible spheres, like doing well for and learning from your patients, experiencing the human moments and being a good person. That's something that no insurance company will be able to take away. But the insurance companies are doing a very efficient job at cutting our reimbursements. And that's forcing us to work faster and cut down time with any individual patients, which is a significant problem for someone like me who possesses somewhat of a petite practice. I don't have a large population of patients.

I take care of very sick heart failure patients, and like to spend some time with them just because I can't do it any other way. Like many other doctors, I was thrust into a situation where I couldn't practice the way I wanted. The book is about that.

AS: This year's theme for Medicine & the Muse is 'resilience,' which is certainly a recurrent theme in your books. How does this concept resonate with you and what does it mean in your writing?

SJ: The theme of resilience has to echo in every practicing physician's life because what we do is so hard. There is so much stress at every single stage. You start medical school not knowing anything. And there's the fear factor of ignorance, of looking stupid, which requires a lot of fortitude to plow through. The training is so long and arduous; there's so much physical stress. And you have to bounce back after every call night. When I was training, we still would do long call on every third night. It was 6 in the morning until noon or 1 p.m. the following day, then you slept, and the next day you worked 6 a.m. to 5 p.m. And you slept, and then the next day you were on call again. You were constantly having to bounce back.

One thing I think people don't always appreciate is that you need more resilience as a practicing physician. You feel as if you have such minimal control over the stressors in everyday practice – like doing well for your patients, spending the requisite time, and avoiding becoming bogged down in paperwork. Just because you're an attending physician doesn't mean you have much more autonomy than you did in medical school. There's a learning curve at every single stage.

How does it inform the writing? Well, everyone wants to see someone scrappy fight back, survive an ordeal, and come through. Fighting the good fight and making it through to the end. That's what most good plots are about, right? &

H&P

