

Medical Humanities

Modern Medical Education—Some Things Old Should Be New Again

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There are many reasons modern physicians are finding themselves burning out. Artificial intelligence lists a top five: excessive administrative tasks, overwhelming workloads, lack of work-life balance, insufficient control, and emotional drain from patient care.

These stressors and others can be addressed in part by a reassessment of priorities of life for persons who sense that they might have a true vocation to be a physician. Most young doctors and doctors-in-training began their careers with great determination to be successful and have a happy life with financial security and sufficient family time. Most are aware of lucrative specialties with short work hours. Most do not realize that success in such a field does not necessarily lead to a happy life. The reverse is more likely true. That is, discovering and choosing a medical field which is fascinating and interesting will result in both happiness and success. Reading typed words on an electronic medical record will never replace hands-on medicine at the bedside or in clinic and will likely result in eventual burnout. World-class physical examinations of the likely culprit body system can be stimulating especially when findings are confirmed by attending physicians. Reviewing histopathology, blood smears, Gram stains, imaging, and ECGs in person with an expert can be a form of hands-on learning and is much more likely to lead to understanding of pathophysiology than memorization of facts. Such exercises should be incorporated into medical curricula and is an important hedge against physician burnout.

There are many reasons modern physicians are finding themselves burning out.

Artificial intelligence lists a top-five:

1. Excessive administrative tasks (eg. complex documentation and billing on electronic medical record)
2. Overwhelming workloads (eg. long hours, high patient volumes)
3. Lack of work-life balance (eg. insufficient time for personal life and families)
4. Insufficient control (eg. lost control over scheduling and workload)
5. Emotional drain from patient care (eg. high-stakes decisions, end-of-life issues)¹

These stressors and others²⁻⁴ can be addressed in part by a reassessment of priorities of life for persons who sense that they might have a true vocation to be a physician. Most young doctors and doctors-in-training began their careers with great enthusiasm and great determination to be successful and have a happy life. Even before training begins, many are aware of the disciplines in medicine which are known to be very lucrative and without long hours.⁵ Choosing such an occupation would provide both financial security and, for most, sufficient family time. They have been told that landing a residency in those disciplines is highly competitive and slots for training are few. Accordingly, many are focused at the outset on grades and exam

scores which will successfully land them a position and result in general satisfaction with their career and their lives. What few realize is that success doesn't necessarily result in happiness. It's the other way around! If a young trainee can discover genuine interest and passion for one of the many fields of medicine available, not only will happiness be found, but he or she is bound to be successful in that discipline. Therefore, it behooves an incoming medical student to keep somewhat of an open mind for that perfect fit in a career as they study the organ systems of the body, get exposed to research, and rotate through the various specialties.

For today's medical students, formal evaluation of learning success will be their constant and often unwanted companion. Compared to that of their older professors, information about the pathophysiology of disease has logarithmically increased in complexity. Outstanding grades aside, sheer survival in quizzes and exams requires even more memorization than for students of the past. The modern medical student often turns to popular learning tools in which facts are assimilated by ridiculous association. Consequently, high performance on USMLE exams may simply reflect superior memorization. A question which has not been studied is this: How many high scores on USMLE exams are the result of rote memorization of facts rather than true understanding of concepts?

In fairness, high USMLE scores have been linked to lower in-hospital mortality.⁶ Nevertheless, it is not uncommon for students to experience imposter syndrome and burnout after their USMLE preparation and performance. Moreover, the stress of preparation for these examinations appears to have a negative impact on the mental health and well-being of medical students everywhere.⁷ Could it be that students are inwardly aware that they *really are* impostors in patient care because many of the facts which resulted in those high scores have been purged from their short-term memories?

A partial solution to anxiety and a hedge against burnout for troubled trainees is to find a field in medicine which fascinates them—one which gives them an insatiable appetite to learn more. For most, choosing that field for a career will result in the success and the gratification which comes with it. The effect will very likely ripple through their loved ones and friends as well as their entire life.

Although standardized examinations will always be a reality for trainees and physicians, the approach to learning should change and incorporate genuine understanding of pathophysiology to minimize memorization. The metamorphosis begins at the bedside or in the clinic with an orderly history and a “world-class” examination of at least the culprit organ system. For example, if the problem is very likely cardiovascular in nature, a cursory entry into the electronic medical record (EMR) like the hackneyed, “no murmurs, gallops, or rubs” will not be indicative that the examination was truly thorough.

Those reading such a phrase in the EMR will likely assume that the exam was unremarkable. Indeed, most likely it was not.⁸ However, the student, resident, and even the attending physician should feel an obligation to note the location of the PMI, the presence or absence of parasternal heaves, the intensity, location, and quality of any murmur, the characteristics of the second heart sound, and the effect of inspiration on any audible third or fourth heart sound. Auscultation in the left lateral decubitus position rounds out a quality examination. The entry in the EMR should reflect those findings for the reader. If a student should hear a sound which is not recognized, the resident or the attending physician should be queried at the bedside as to the origin of the sound. Hands-on learning has to follow. Predicting what the physical examination should show from the history is another intellectually challenging and stimulating exercise which helps maintain interest and enthusiasm for the culprit organ system. Regarding each patient not only as a fellow person, but as a clinical puzzle which a careful history and physical examination might unravel can be a highly intriguing pursuit and well worth the time.

Nonetheless, the search has only begun. If the history and physical exam point to an organ system such as the hematopoietic, pulmonary, gastrointestinal, or genitourinary system as the cause of the patient’s problem, only minimal learning comes from reading a report on the EMR. However, there is a combined sense of wonder and fascination which momentarily comes over a physician who actually microscopically examines their sick patient’s own urine, blood film, histopathology, sputum Gram stain, or viewing a chest x-ray, CT scan, MRI, or ECG. It harkens back

to that deeply personal feeling in undergraduate school or the beginning weeks of the first year of medical school when students learned to prepare their own blood smears and then viewed their own cells under a microscope. When it is further realized that the average human cell, a virtual universe in itself, averages only 10 to 30 ten thousandths of a millimeter in diameter, the sense of awe can be immense. Such feelings rarely occur when simply reading typed results from an EMR. Moreover, a connectivity with their fellow person and deepening empathy for their health problem can occur with such exercises in patient care. When instructed along with an expert in these endeavors, true learning and greater understanding necessarily follow. Person-to-person encounters going over findings with such experts may spawn the interest in that physician’s field of study. Perhaps providentially, a choice in a career may be solidified or even changed and result in genuine satisfaction in life. At least a part of the medical school or residency curriculum should be modified to guarantee some hands-on learning on patients.

In a university setting, most consultants are professors at some level. They are paid whether they “profess” or not. Why not get them to teach students or residents in a hands-on manner? As an intern, I had an attending hematologist, the late Dr. Alvin Mauer, to whom I am especially grateful because he insisted that we personally review the blood film of any patient he admitted to the hospital before attending rounds the next morning and report what we saw. We were all frightened not to do that, but in retrospect he was right for forcing us to learn in a hands-on fashion and we became familiar with most common hematology problems. We were all having personal microscopic encounters and indelible memories with patients with iron-deficiency and hemolytic anemias and acute leukemias. As a resident, a rotation on the cardiology service required our “wet reading” of the stack of ECGs done on the 30-50 patients that day. The attending cardiologist sat with us residents later and provided the official reading correcting our faux interpretations. There was a certain level of excitement in this exercise as we tried to match the expertise of our professor. On the inevitable certifying examinations in our futures, the ability to recognize common blood smear or ECG abnormalities unquestionably yielded a certain momentary comfort level during the other anxious moments of such timed events.

For a trainee or practicing physician whose daily routine is primarily confined to a computer screen or cell phone, typed results are read, personal connections to patients remain superficial, and a consult to the respective service is typically ordered. Can burnout be far behind?

However, for one whose choice in a career is based on the intangibles such as love of fellow person and individual fascination with microscopy, technology, procedures, or deciphering complex diagnostic problems, a successful career, and personal happiness will likely result. A physician armed with such an attitude should be able to combat any unexpected challenges that a vocation in medicine should bring.

Now back to the top five causes for burnout and partial solutions:

1. Excessive administrative tasks (eg. complex documentation and billing on electronic medical record): Manufacturers of EMRs must recognize the time constraints average physicians face and streamline and simplify the interface with their most important clients.
2. Overwhelming workloads (eg. long hours, high patient volumes): Physicians-in-training should investigate prospective hospital and clinic requirements before entering into any contract with hospitals, group practices, hospital maintenance organizations, locum tenens opportunities, and hybrid models. It would also be prudent to contact a healthcare attorney to review contracts and escape clauses before signing any agreements. Such considerations are particularly relevant to female physicians who require time for maternity leave following the birth of their children or leave for unanticipated complications of pregnancy. Remuneration as a physician may not result in massive wealth, but a comfortable life can be expected for most families and priorities should be carefully considered first.
3. Lack of work-life balance (eg. insufficient time for personal life and families): Prospective spouses and significant others of physicians should proceed with caution in relationships with doctors. After any infatuation has subsided, it may take a period of months to recognize and observe a person's response to the requirements of a career that must focus first on the lives of others. Acceptance of the expected time constraints of a physician will be a prerequisite to a long-lasting partnership. Failure to thoroughly consider and discuss the topic of having children could be catastrophic to the beginning of a life together, not to mention each of their careers.
4. Insufficient control (eg. lost control over scheduling and workload): As a medical practice flourishes, physician and staffing shortages may develop and these changes should be discussed frankly with senior members and owners on a regular basis to foresee problems and possible solutions.
5. Emotional drain from patient care (eg. high-stakes decisions, end-of-life issues): Trainees should take electives in the care of special patient groups such as those in units that require intensive care for neonates and other pediatric patients, severe burns, oncology, major surgery and trauma, acute and chronic medical conditions and neurological emergencies or spinal cord injury. Such patients require an emotional and time commitment requiring forethought before choosing a career in these crucial areas.

The adage, "Find something you love to do and you'll never work a day in your life" in the busy world of a physician is only partly true, but it is an essential element in a career which can exhaust the practitioner but never the beloved subject.

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REFERENCES

1. Text generated by ChatGPT. OpenAI. December 22, 2025. <https://chatgpt.com/>
2. Drummond D. Physician burnout--Its origin, symptoms, and five main causes. *Family Practice Managment*. Published online September–October 2015.
3. Fred H, Scheid M. Physician burnout: causes, consequences, and (?) cures. *Tex Heart J*. 2018;45:198-202. doi:[10.14503/THIJ-18-6842](https://doi.org/10.14503/THIJ-18-6842). PMID:30374225
4. Shanafelt T, West C, Derby L, et al. Changes in burnout and satisfaction with work-life integration in physicians during the first two years of the COVID-19 pandemic. *Mayo Clin Proc*. 2022;97:2248-2258. doi:[10.1016/j.mayocp.2022.09.002](https://doi.org/10.1016/j.mayocp.2022.09.002). PMID:36229269
5. Yang Y, Li J, Wu X, et al. Factors influencing subspecialty choice among medical students: a systematic review and meta-analysis. *BMJ Open*. 2019;9:e022097. doi:[10.1136/bmjopen-2018-022097](https://doi.org/10.1136/bmjopen-2018-022097)
6. Abulela M, Jurich D, Grabobsky I. Are physicians' USMLE scores associated with patient mortality? A multilevel modeling approach to USMLE predictive validity evidence. *Health Sci Rep*. 2025;8:e71237. doi:[10.1002/hsr2.71237](https://doi.org/10.1002/hsr2.71237). PMID:40970102
7. Villwock J, Sobin L, Koester L, Harris T. Impostor syndrome and burnout among American medical students: a pilot study. *Int J Med Educ*. 2016;7:364-369. doi:[10.5116/ijme.5801.eac4](https://doi.org/10.5116/ijme.5801.eac4). PMID:27802178
8. Asif T, Mohiuddin A, Hasan B, et al. Importance of thorough physical examination: a lost art. *Cureus*. 2017;9:e1212. doi:[10.7759/cureus.1212](https://doi.org/10.7759/cureus.1212). PMID:28589061