

## Not the Last Word: Agonizing Appropriately Over the Residency Match Rank List

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Life is difficult. M. Scott Peck, citing the Buddha, bases his best-selling book, *The Road Less Traveled* [11] on this “noble truth.” Successful living, Peck argues, does not entail avoiding all suffering, but suffering appropriately.

Peck’s analysis can be applied to long-suffering medical students as they agonize over their residency match lists. This

group has successfully surmounted many challenges, with anguish at each station: Mastering the basic-science courses, finding grace on the clinical rotations, more-than-passing the pass/fail United States Medical Licensing Examination (USMLE) [2], and affecting interest without desperation at their interviews. With that behind them, fretting over the order in which programs are to be listed for the match might be excessive.

Students should worry less about their match rank lists because they, like most people, are probably not very good at anticipating how future events will impact their happiness [15]. One may assume that winning the lottery brings boundless joy or that paraplegia ensures unremitting misery, but that’s just not so—over time, people rebound to their baseline affect [3]. It is likely we bring our happiness with us, and those with a propensity to be morose will do no better at their first choice than their last (and vice versa). Just as arranged marriages can be as successful as romantic unions [9], maybe a randomly constructed list will serve the students just as well.

I would further guess that students may make mistakes in their evaluation of programs because they are employing the wrong idiom. Students facing the choice of various residency

programs may borrow the tropes of college selection, but the analogy breaks down.

In my experience, students generally evaluate colleges on four axes: Pedagogy, signaling, experience, and potential for future networks. Ideally, you go to a college that teaches you everything you need to know, broadcasts to the world that you’re smart enough to get in and out, is fun to attend, and introduces you to the friends that sustain you for life.

This scheme does not really apply to residency program selection. Here’s why:

- Although there are some differences in the pedagogic potential across programs, the Residency Review Committee (RRC) ensures that the necessary minima are met and thus differences, if any, are apt to be small. Moreover, these minima are high, such that residents will likely fill their schedules completing just the basics. If programs with a history of RRC difficulties are downrated accordingly, this domain is not worthy of much concern.
- Graduating from a storied institution of course has signaling benefit. Nonetheless, the message to the insiders that “I trained at the Mecca” is drowned out by the more potent label, “I am a board-certified orthopaedic surgeon”—which all programs can bestow. Along those lines, I note that

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whereas every American president and Supreme Court Justice during the last 30 years received a degree from a set of just five elite schools, the presidents of the American Academy of Orthopaedic Surgeons in that timespan trained at two dozen different residency programs (Table 1), a majority of which, by definition, cannot be in the top 10, however you define that set.

- The experience of residency is important—deeply so. The commitment of the faculty and the interaction with one’s classmates,

to name just two, can have a profound effect on the overall value of the endeavor. Yet faculty members move on and many of one’s classmates have yet to be identified, and so important parts of the experience cannot be known. At the other extreme, the parts that are known—such as the program’s geographic location or the amount of ancillary support it offers—can be known effortlessly.

- Last, while networks are important, it is likely a resident can build these networks outside of residency. I’ve reached out to leading orthopaedic surgeons I had never met for advice regarding tough clinical cases, and they have never turned me down. Even within residency itself, I was the beneficiary of this fraternal attitude: When I posed research questions by email to Dr. Tom Einhorn (then at Mount Sinai in New York), I received not only detailed answers, but an invitation to visit his lab and learn his techniques.

In all, programs differ from each other far less than colleges do; and to the extent that important differences exist, they are likely to either be unknowable, easily knowable, or not that important. Thus, taken together, formulating a rank list should not be an agonizing experience.

And yet I think students are wise to suffer, at least a little bit. The suffering has an important psychological benefit—after the match.

Peck would agree: Residency is difficult. In fact, he states so explicitly, dissecting his own experience training in psychiatry. Because residency is difficult, there will be times that residents may ask themselves, “Why am I here? Maybe I should quit.” And in those instances, the

prematch suffering can serve as a source of solace and inspiration. Specifically, in those instances, residents can remind themselves, “I chose to be here.”

This is the idea behind the “pay to quit” program at Amazon. Across the board, workers at Amazon fulfillment centers are given an annual offer (ranging between USD 2000 and USD 5000) in return for their resignation [13]. This program not only weeds out unengaged workers, but it also cements the relationship between the company and those who remain. When the going gets tough (and I’d imagine that Christmas season at Amazon can be as immiserating as internship), a worker can say, “I liked this job enough not to take thousands of dollars to leave; it must be better than it feels right now.” Likewise, a resident going through a rough patch may say “I liked this program to rank it as highly as I did; it must be better than it feels right now.”

Dr. Peck’s message is correct: Students should not try to avoid suffering altogether, but to suffer in the right amount, for the right cause.

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I agree with Dr. Bernstein’s basic premise—that where a medical student does her or his residency has little to do with their eventual success however defined as an orthopaedic surgeon. So why do we collectively struggle so much with the match?

In part, it’s anxiety about the randomness of the process. There is a lack of certainty about whether one matches, no matter how qualified a candidate may be. Over the past 20 years, I have seen highly qualified candidates occasionally not matching into orthopaedics—and it’s unclear whether this occurred due to a deficiency in their written application,

**Table 1.** Residency Programs from which AAOS Presidents (1989-2018) have graduated.

#### Residency programs

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Brooke Army Medical Center  
 Campbell Clinic  
 Harvard University  
 Indiana University  
 Jackson Memorial Hospital  
 Jefferson Medical College  
 Johns Hopkins University  
 Mayo Clinic  
 San Francisco Residency Program  
 Stanford University  
 UCLA  
 University of Iowa  
 University of Miami  
 University of Michigan  
 University of Minnesota  
 University of Pittsburgh  
 University of Texas  
 University of Vermont  
 University of Virginia  
 University of Washington  
 University of Wisconsin  
 Walter Reed Army Medical Center  
 Washington University at St. Louis  
 Yale University

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their ranking algorithm, or an idiosyncrasy of the system. A majority of students should, however, be reassured from the statistics of the 2018 orthopaedic match; more than 81% of all US senior medical students who applied, were placed in an orthopaedic residency program [10].

The greater reason students are anxious, or suffering can also be explained by the Buddhist teachings Dr. Bernstein alludes to; that acquisition or attachment is the root of all suffering. This anxiety is not from whether they match, but where they match. This comes from their sense of attachment to programs they think are the best. And here, it would be wise for our students and advisors to recognize that this attachment to a particular program or set of programs is unnecessary. Much as the orthopaedic-interested student is an undifferentiated orthoblast, the program is often an evolving fracture hematoma. Their training will largely be similar wherever they end up, their mentors will likely offer similar levels of advice, and their level of success will be determined by their inner drive and grit, rather than the program they are at. To a degree, the resident who manages to navigate a lesser known program and yet rise in the ranks of the orthopaedic world is likely to have higher levels of resilience, energy, and skill than those who may have an easier route to a high-profile career.

It's the multiple rejections and anxieties that all of us have experienced during the course of 20 to 30 years that turn knowledge into the type of wisdom that one can't look up on a smartphone. The grit we develop is what keeps us going through the next round of suffering. As such, some level of anxiety (or suffering) should be fine; go ahead and develop those attachments to the institutions on your rank list and continue to be grateful for

where you end up and the rejections you may receive.

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Agonizing. Harrowing. Torturous. Disturbing. None of these words should be associated with the process of finalizing the residency match list for a medical student. While Match Day continues to represent the finish line of an intense process, finalizing the match list is the penultimate event akin to the white flag in racing, the bell lap in track sports, or that final mile of one's first marathon. With the end in sight, the body experiences a rush of endorphins that provides the hidden energy to push the competitor across the approaching finish line.

The journey through medical school for the aspiring orthopaedic surgeon is a harrowing experience. The accomplishments and credentials of the applicants are reflective of the tireless hours they put in. In the last decade, the average successful orthopaedic applicant has increased his or her score from 234 to 245 on the USMLE Step 1 examination and more than doubled the number of publications and presentations [6]. After putting together a jaw-dropping resume, the students then apply to an average of nearly 80 programs. Orthopaedics has had the highest number of applicants per student since 2015 [1].

Dr. Bernstein compares the residency-match process to the college-application process, but importantly notes that residency programs differ from each other much less than colleges do. Matching into orthopaedics is like being indoctrinated into a special society. Every residency experience will have its unique flavor and stresses during the 5

years of clinical training, but the result is more homogenous, the generation of a Board Eligible orthopaedic surgeon.

I tend to agree that a bit of "appropriate suffering" as Dr. Bernstein quotes from the M. Scott Peck book, is formative and helps the traveler recognize the significance of the voyage. The process reminds me of the journey towards maturity taken by the young captain and protagonist in the Joseph Conrad classic, *The Shadow Line* [5], which chronicles the difficult physical journey of the new captain while revealing the more metaphorical one from adolescence to adulthood. The crescendo of the medical student's agony happens during the first half of the final year during the away rotation and interview process. The mental and financial toll that it takes on our students is significant, a fact that we should not ignore and that we have opportunities to improve upon.

While I steadfastly believe that the match process, as designed by Roth and Shaple [14], attempts to create a level playing field for all, programs remain in control of the power balance and there are things we need to do to shift that balance back. This starts with information [8]; we need to provide better data on program characteristics such as USMLE scores, American Osteopathic Association status, and resident demographics that will allow students to make better choices and focus their pursuits. Importantly, a recent survey of orthopaedic surgery applicants found that there was no correlation between an applicant's relative qualifications and the number of programs applied to, indicating that less qualified applicants are not the only individuals submitting excess applications [7].

As evidence of a broken system, I have personally seen rotating students walk out of a patient room to quickly

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reply to an interview invitation email; these students fear they will lose the interview spot if they do not immediately respond. I was only recently made aware that some programs will send out more interview offers than they have availability for, so responding to the offer has become a race. A recent survey found that 25% of applicants reported losing interviews despite an average reply time of 17 minutes and having multiple surrogates answering emails for them [12]. This system needs major reform if we truly want to act in the best interest of our students. The gamesmanship used in scheduling and protecting interviews is not an environment we should perpetuate. Programs should honor every interview offer and extend additional offers if the available spots are not filled. While this may be less efficient or even inconvenient for the program, it is in the best interest of our applicants.

The last remnant of the past that needs to be eliminated is post-interview communication. While officially against the National Resident Matching Program (NRMP) rules, this practice lives on [4] in a variety of direct and indirect ways. A small number of program directors disclosed during a Council of Orthopaedic Residency Directors conference within the past 3 years that they call their top candidates and provide some level of information to these individuals. One such program director justified this practice by explaining that because (s)he did not tell the applicant the exact ranking number nor request a verbal commitment, (s)he did not violate the letter of the NRMP guidelines, but this short-sighted justification fails to consider the vulnerabilities of these students.

The only way to completely remove this coercive practice is to put an absolute stop to post-interview communication. On each of our interview days, I make a clear statement that we do not allow any “second-

look” visits; we will not call or email them to gauge their level of interest in our program nor tell them where they may sit on our rank list; and finally, I explain that even a thank you note is unnecessary, but if they chose to send any communication to me, they should expect a polite but non-committal response indicating that we enjoyed meeting them and wishing them luck in the process. I have learned from this process that students read much into our communication and have even been specifically told by applicants that they have moved programs down on their list when they didn’t hear anything from program directors. This helps demonstrate the unintended consequences of any communication, no matter how well intentioned it may be.

As we focus on teaching wellness and communication for our residents, perhaps it is time that we look at the agony that we create or induce through our actions and manipulations of our students during this process. We can and should make our process better and more transparent. Finalizing the match list should be the joyful culmination of our student’s introduction to the amazing profession we all share. We should insist on more professionalism by Program Directors and Coordinators in this process, so the applicants can save their stress for that “future determining” third Friday in March.

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