



Subinternships

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Overview

Scheduling for the second clinical year of medical school (aka fourth year in a traditional four-year plan, or MS4) is an important process that is often overlooked by prospective applicants. Planning ahead allows the prudent applicant to avoid missing deadlines and secure as many interview opportunities as possible.

Unfortunately, many students misunderstand when residency applications are due and what factors make the Electronic Residency Application Service (ERAS) application “complete.” Programs will have a wide range of “due dates” for the application. **In practice, you should plan to submit and certify your ERAS application by the first date it is open to programs (usually September 15,) because programs do not wait for their published “due dates” to extend interview invitations.**

In order for the application to be considered complete, all materials, aside from the Medical Student Performance Evaluation (MSPE,) or dean's letter, must be submitted and certified on your ERAS account. Almost all programs will only review applications that are complete. If your ERAS application is not complete by the ERAS deadline, you will not be granted interviews at the programs that review applications early in the interview invitation period, regardless of your credentials.

It is often the case that residency admission committees only review applications and decide on interview invitees and wait-list invitees once. Thus, if your application is not complete, it will unfortunately never be reviewed by those programs. Please see the section on [Applying to Neurosurgery](#) for a more detailed overview on ERAS and the application process.

Herein, we will discuss applying to and doing well on subinternships (sub-Is), also referred to as acting internships (AIs), one of the most important parts of the neurosurgery application process. All students whose institutions have a neurosurgical training program or at least a department of neurosurgery will do a sub-I at their home institution first, before doing between 1-3 additional "away" sub-Is at other institutions of interest. We will discuss the process of applying to away rotations, taking on the home sub-I, and going to away rotations in chronological order.

Choosing Where to Rotate

In January of your third year of medical school, you should schedule a meeting with your mentor and/or neurosurgery chairman/program director to discuss their recommendations regarding away rotations. While many medical schools offer career guidance for students, the timeline for applying to neurosurgical away rotations is much earlier than in other specialties. Therefore, it is important to meet with individuals within the field who have better insight into the nuances of the neurosurgery application process.

Based on your board scores, grades, and personality, your mentors can recommend the programs that may be a good fit for you. Keep in mind

that there is really only one reason to go on an away subinternship: to learn more about and impress a program that you think you would like to match with for residency.

You should not go on an away rotation simply to get a letter from a well-known chairman. Rather, begin to generate a preliminary list of programs in which you are interested in applying (for more on this, see [Applying to Neurosurgery](#) section), and select several to discuss with your mentors as potential away rotation sites. Remember, most applicants match at either their home program or a program where they did an away rotation, and the number of sub-Is you complete does not correlate with your chance of matching.

A sub-I at an away institution should be thought of as a month-long interview, where you will be exposed to the risk of at least one person in the away program not liking you. This risk can obviously significantly affect your chance for matching at that program. This exposure risk should be considered during the selection of your away rotations.

Scheduling Your Rotations

Ideally, your away rotations will occur during the summer of MS4. If your medical school allows students to do sub-Is in MS3, we recommend scheduling your first (home) neurosurgery sub-I before the summer (April-June). These timelines are beneficial for several reasons: first, it will be an ideal time to learn from residents who are comfortable in their role before the next clinical year begins in July. In addition, if you rotate early, you may be the only subintern rotating, allowing for more exposure to faculty and residents and your pick of cases to observe. Also, by starting in June, you will likely be finished with your rotations before ERAS opens, which gives you time to complete your application without the stress of being a student on a busy neurosurgical service.

Another reason to avoid late rotations is that many interview offers are sent out by email in October and interview spots at many programs can fill up in minutes. Therefore, if you are scrubbed into a five-hour case on an away rotation and get three interview offers during that time, your late

response may prohibit you from attending some of those interviews or from getting your preferred interview date.

Note that different medical schools are on different schedules, and the terms or periods at one school may not align with your home institution's calendar. If at all possible, use this to your advantage and give yourself one or two weeks off between your away rotations – you will be thankful for the time to decompress, relax, and move to your next rotation site!

Nevertheless, precise scheduling can be difficult during medical school, and [you should not skip an away rotation if it must be done in October](#). Most programs offer at least two or three interview days, so you can usually attend most interviews. If you do find yourself scrubbed in after an interview invitation was sent out, try calling the coordinator and politely asking to be scheduled by phone after explaining that you were scrubbed into a case. They are usually quite understanding of this and will assist you quickly that way. For more information on scheduling interviews, see the section on [Interviews](#).

Applying to Away Rotations

Once you have selected a handful of programs where you are interested in rotating, access their applications. Although many programs have opted into using the [Visiting Student Application Service \(VSAS\)](#), others use their own application, usually available on their website or by emailing their department's clinical coordinator. For these reasons, applicants should be highly organized and prepared with understanding of individual application requirements and deadlines, as they are likely to vary.

As with the ERAS application, the VSAS applications for away rotations should be submitted on the day they open, as early as six months or as late as one month before the rotation begins.

Numerous applicants apply for popular sub-I's around the country, and many of these programs accept applicants on a first-come, first-served basis, as opposed to thoroughly screening potential rotators. In order to obtain an away rotation for your ideal time period, applicants should be

ready to submit all required materials on the date the programs begin accepting applications. Any missing or incorrectly filed documentation may result in your application not being reviewed, and the rotation spots will often fill before the applicant can correct the error.

Given the competitiveness of securing a position to rotate at certain programs and the inconsistent timeframe via which programs accept rotators, you should strongly consider applying to “back-up” programs in case the primary program(s) of interest do not offer you a rotation. However, beware that cancellation of a previously accepted rotation will likely result in not receiving an interview invitation at the program where the accepted rotation was cancelled.

How to be a Good Subintern



Your performance during an away rotation is critical to your success as an applicant. Presumably, your away rotation is scheduled at an institution that you would like to match at, and it is one of the only opportunities for all programs to get a more objective opinion on your performance as a “resident” away from your own program. Unfortunately, performing poorly on sub-Is is also a fantastic way to get yourself blacklisted from a program!

Your tasks during a subinternship consist of rounding with the team, going to cases, taking call, and going to clinic. Programs vary greatly in how resident workdays are structured, and finding out as much as you can about how the day works before your rotation starts can be helpful. However, the following general pieces of advice apply to most programs:

- Sometime between 5-6am, the team will gather to round on two sets of patients: those on the general floor (usually patients recovering from surgery or those with less serious issues) and those in the intensive care unit (ICU). Depending on the program, sub-I roles are on the spectrum from shadowing rounds only to coming early, prerounding or getting overnight numbers for a group of patients, and presenting them to the chief resident or attending. Minor procedures such as dressing changes, suture removal, or drain removal are common on rounds, so you should carry the relevant supplies with you (or at least know how to access supply closets on each floor where your team has patients) so you can perform these tasks as the team moves to the next patient. *Never remove sutures or drains in an effort to be helpful and proactive without checking with a resident first.*
- After rounds, the team will disburse to the OR or the team room for call responsibilities. As a subintern, most of your time will be spent in the OR observing cases. Most of the time, your chief resident will assign a case or at least give you and other subinterns the list of cases for the day so you can choose which to attend. Try to obtain the schedule beforehand so you can get to know the patient and his or her story, and also so you can read about anatomy and techniques relevant to the case. In general, try not to go to the same case as another subintern. Your role in the OR will be to introduce yourself to the staff; to help with preparatory tasks such as loading Mayfield clamp pins, balancing the microscope, bringing up relevant patient imaging on the OR PACS (Picture Archiving and Communication Systems) screens, helping anesthesia position and prepare the patient, participating in the actual case itself; and helping clean up, staying with the patient until he or she wakes up,

and assisting with transfer of the patient to a the PACU/ICU bed.

- Your roles during surgery are usually assigned on a graded responsibility basis, meaning that you will watch before you do anything, and you will start by tying a knot or two before you are allowed to do anything else. Expect that your level of involvement will range from watching the case at a safe distance without scrubbing, to tying knots, helping to open or close, drilling bur holes, all the way to removing parts of tumors or placing pedicle screws (with hefty supervision). *Never ask to be allowed to do anything in surgery.* [Basic etiquette](#) learned during your MS3 surgery rotation applies: ask questions only when safe to do so, expect to be pimped on anatomy, steps of the procedure, and 80's adult contemporary musicians, and stay out of the way during a crisis. *Maintain sterility at all costs.*
- Stay in the OR until the last case of the day is finished. After cases are over, you will either stay until afternoon/evening rounds or help out with any last tasks that need to be completed. If you are on call, or you will take call with the residents. Call is generally divided evenly between the number of rotating sub-I's, but if you are rotating alone, don't be surprised if you end up spending every other night in the hospital. After all, if someone asks if you're on call, the answer is never no. On call, you should expect to see new patients in the ED or elsewhere in the hospital with the on-call resident, write H&Ps if allowed, assist in any necessary procedures, and go to the OR if emergent cases occur. Don't plan on sleeping, but identify places you can safely (and discreetly) do so in case it's quiet. Make sure to give the on-call resident your phone number so they can contact you if something does happen while you sleep, or so you can find each other if you get separated.
- Depending on the program, you may also go to clinic with one or more attendings during your sub-I. If possible, attend the clinic of the chairman and/or the program director. Find out what the appropriate attire is, but plan to wear a business suit or white coat with professional attire. Expect that you will be interviewed by the

attending (either formally or informally) during downtime or before/after clinic, so bring a hard copy of your CV and have questions about the program prepared. During the actual clinic day, you may only shadow, or you may be expected to see patients independently and present them to your attending/resident.

The same qualities that make someone a good third year medical student are vital to being a good subintern: reading up on patients and procedures, having a sound knowledge base, and being a helpful team player.

However, the dedication expected of a subintern far exceeds that of any other rotation. *Many subinterns have been known to work longer hours than the residents they work with; it is not unheard of to have a 120-hour week!*

Turning down a task assignment, saying no to an invitation to watch or assist in a case or a procedure, or declining to stay on call when asked should never cross the mind of a subintern. Sub-Is are opportunities to show programs that you are willing to do whatever it takes to help the team, so no work should be thought of as “scut”, and no task is below you. In fact, in many hospitals with highly organized nursing corps, obtaining stat labs or EKGs, or getting outside films uploaded onto PACS are tasks that usually are done by residents, unless there are sub-Is around who know how to draw blood or place EKG leads and can take these tasks off the residents’ hands.

One quality that is unique to subinternships is the fact that residents and faculty are not only evaluating you on your clinical performance, but also on your overall attitude and “fit” within the program. Therefore, be finely attuned to your demeanor and behavior during the month. Do your best to become part of the team, but recognize that you are still outside of it, so understand that it is not yet your place to laugh too hard at resident in-jokes about their lifestyle or become too close with them. Likewise, aim to be constantly around and ready to work, but never in the way; always enthusiastic and never tired, but not too chipper; and trustworthy and knowledgeable.

Understand that the extreme fatigue you will experience is associated

with frontal lobe disinhibition and emotional volatility, which will make you more irritable, more likely to snap at residents and others, make rude or inappropriate comments, inappropriately laugh at the occasional absurdity of hospital life, and take unsuitable shortcuts in your work.

Recognize how your body and mind perform under fatigue and resist the urge to engage in these behaviors at all costs. Above all, be honest and never lie. It will be easier than you think to “harmlessly” make up a lab value you don’t actually know when asked by a chief resident; it is much better to say “I’m sorry, I don’t know” than to fabricate a value, which can be extremely dangerous for patient care.

As tempting as it may be to eliminate all risk of inappropriate behavior by putting on a rigid, cookie-cutter persona devoid of all personality, most residents would still prefer a subintern to be a real human being with an interesting personality and a friendly, engaged demeanor. Students who have other interests and hobbies are more likely to be remembered by residents during the ranking meeting; after all, residents are looking for fun colleagues to spend several years in the trenches with, not just neurosurgical robots who can get the work done and not much else. You also want them to see your true personality and self so everyone can assess your fitness for the program effectively.

Grand Rounds Presentations

Most programs expect subinterns (sub-Is) to give a presentation at some point during their rotation, usually during Grand Rounds (in lieu of an invited speaker or resident or faculty at the institution).

Choosing a Topic

Ideally, sub-Is choose to give presentations on their own research endeavors. This is usually encouraged because it gives the program a chance to see what you have accomplished during your time as a student. Additionally, this presentation can be used several times at different institutions, saving you the trouble of making a new presentation for each program.

Alternatively, sub-Is can give a presentation on a case or topic they have come across during their time at the institution. This is a less common approach since it usually means they have to create a new presentation for each sub-I experience. However, certain programs are known to require sub-Is to present a case from the rotation in an effort to “level the playing field” for students with a wide variety of research quality and output.

Obtaining Letters from Away Rotations

Applicants are typically expected to submit a letter of recommendation from each sub-I, generally from the chair of the department or the program director. A clinic day or a short meeting with either of these attendings at some point during your rotation is a great time to ask for this letter.

When scheduling sub-Is, you need to allow time for the chair to write your letter of recommendation. In general, this means that your away rotation should be completed at least 1-2 weeks before the ERAS deadline. If you are planning to complete an away rotation in September, you must make sure that you will have secured at least three letters of recommendation by the time of the ERAS submission.

The fourth letter from the final away rotation can then be added later. If it is getting close to the ERAS deadline and the chairman has not yet uploaded the letter of recommendation, you can send a polite email to the chairman’s administrative assistant to serve as a reminder that the deadline is approaching and that your letter has not yet been uploaded. For more, see Section on [Letters of Recommendation](#).

Core Rotations

Most medical schools have fourth year “core” rotations that all students must complete prior to graduation. In general, these cores will not allow for extended absences. The neurosurgical interview period runs from mid-October through early February, but the busiest interview months are November, December, and January. You should leave at least two months

open for interviews as neurosurgery residency programs are spread across the country and it is quite difficult to line up interviews with geographical proximity. Some people choose to use “blocked periods” allowed by their schools or vacation months during this time while others take online courses or courses that allow for extended absences.

Regardless of how you schedule this time, you must have a flexible schedule that allows for extensive traveling. As such, many applicants schedule their core rotations either before or after the interview season. Scheduling a core rotation during the interview season may result in having to decline invitations to interviews that you would have otherwise been interested in attending.

Electives that Can Prepare you for the Intern Year

There are specific electives that help ease the transition into the intern year. These electives usually provide students with increasing responsibility and occur in intensive care environments. Though not required, many program directors like to see matched students rotate through a critical care rotation during their fourth year and gain experience in caring for complex, high-acuity patients.

This rotation can be either in the medical or in the surgical intensive care unit. Emergency medicine rotations with shock/trauma experience also help to provide relevant exposure to the applicant. Neuroradiology rotations may also be a worthwhile experience. A busy level 1 trauma center will provide a rich learning environment relevant to neurosurgical training.

USMLE Step 2

Applicants frequently wonder when they should take USMLE Step 2. This exam is an afterthought for many residency programs and admission committees, but has been trending towards becoming a solid requirement in recent years. Although traditionally not used as a screening tool, there are several programs that state that they require a passing score on USMLE Step 2 before they rank an applicant (though in the authors’

experience, this “requirement” is not set in stone). Very few programs will not grant you an interview without Step 2, but these programs do exist.

A great score may be somewhat helpful but will not greatly increase your chances to match. Similarly, a poor score might be asked about during interviews but is rarely a reason that prevents an applicant from matching. If you did not do well on USMLE Step 1, you should view Step 2 as an opportunity to do well and partially compensate. Keep in mind, however, that unless extreme circumstances were to blame for your Step 1 performance, students generally score within the range of their Step 1 score. If an applicant did well on Step 1, Step 2 simply needs to be completed prior to graduation and matriculation into residency.

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