Title: Successful Virtual Interviews: Perspectives from Recent Surgical Fellowship Applicants and Advice for Both Applicants and Programs

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Mini-abstract:
The transition to web-based virtual interviews, driven in response to COVID-19, presents unique challenges. Applicants and institutions who are able to adapt to these changes will be at an advantage. Four recent surgical fellowship applicants draw on their virtual interview experiences to provide recommendations to candidates and training programs.

Background
The Coronavirus Disease 2019 (COVID-19) pandemic coincided with the interviewing period of multiple surgical subspecialty fellowships including cardiothoracic surgery, complex general surgical oncology, transplant surgery, plastic surgery, and vascular surgery, among others. Due to recommendations for social distancing as well as institutional travel bans, fellowship programs have been required to rapidly transition from the traditional, in-person interviews, to web-based, virtual interviews. The interview is a critical phase of trainee selection, and several programs have published their new fellowship interview structures, as virtual interviewing will likely remain the norm for the foreseeable future. This new structure will dramatically impact upcoming fellowship interviews and the medical student residency Match®, and programs with virtual interviewing experience are beginning to describe their virtual interviewing methods.1–4

Rather than describe one specific program’s approach, the purpose of this manuscript is to provide recommendations to both applicants and institutions for virtual interview processes based on the experiences and perspectives of recent surgical fellowship candidates. In total, the authors completed 40 virtual interviews in three surgical subspecialties for programs located across multiple geographic regions of the United States and Canada. The suggestions we present are not specialty specific, but are broadly applicable to virtual interviews across a range of trainee levels including medical school, residency, and fellowship.

Advice to Applicants
In addition to usual preparation advice for interviews, we recommend applicants prepare for virtual interviews in three domains: optimizing the physical space, conducting a technology trial run, and cultivating habits for effective virtual interviewing. The purpose of these preparations are threefold: 1) help applicants remain physically comfortable throughout the interview to optimize their interview performance, 2) minimize distractions or technological blunders that will detract the interviewer’s attention away from the candidate, and 3) allow the candidate to take full advantage of all interview activities, so they can gain the information necessary to optimally inform their career decisions such as making a rank order list.

Optimizing the physical environment
Applicants would ideally set up an interviewing environment that is both physically comfortable and also allows the applicant the strongest possible interview performance.

- Choose a physical space that is quiet and free of interruptions.
- Try to set up in front of a neutral, non-distracting background. Interviewers will notice the physical space around the applicant and may even inquire about any artwork, photographs, or books that are visible, so applicants should be intentional about what is in view.
Purchase or borrow a comfortable chair. Virtual interviews can require long days of sitting with upright posture, and an uncomfortable chair will quickly lead to backache and physical fatigue that could diminish interview performance.

Test the lighting at different times of day. Additional lighting may be necessary to adequately illuminate the applicant’s face and prevent unattractive facial shadowing. Ensure that the majority of the lighting is provided by a source behind the camera or computer. Minimize light behind the candidate, especially bright sunlight that can result in significant shadowing of the candidate’s face.

Ensure that the laptop camera or web camera is placed at eye level. This may require placing a laptop on a stand or books. Having the camera at eye level is more physically comfortable to maintain “eye contact” and also prevents distracting camera angles, such as up at the candidate’s chin and down onto the top of their head.

The interviewing space should have adequate electrical plugs, outlets, and chargers so that devices do not run out of battery power during the interview.

Restlessness of the candidate or multiple adjustments of the camera or computer because of discomfort throughout the interview can be noticeable distractions during an interview.

Between sessions and during breaks, stretching and movement can be helpful to ensure that the candidate is comfortable during the actual interviews.

If a candidate is unable to set up an adequate interviewing environment in their home, they may want to secure access to a faculty office or other workspace. Medical schools and residency programs may wish to create interviewing rooms for their trainees to ensure that individuals with fewer resources are not disadvantaged in the virtual interviewing process.

Conducting a technology trial run
All applicants should conduct a technology trial run in advance of their first virtual interview to identify any necessary modifications in their physical space or technology upgrades that will allow for optimal interview performance. A trial run will also ensure that the applicant will become facile with the technology platform in order to avoid technical mishaps on the actual interview day.

We suggest applicants test their technology with a colleague or mentor who will provide candid feedback about the applicant’s interview environment, audiovisual quality, appearance, and mock interview performance including behavioral tics and eye contact.

Applicants should create free accounts on virtual interviewing platforms such as Zoom or Google Meet to ensure their devices support interviewing software.

When possible, trial the specific interviewing software in advance to view how the physical environment will appear to interviewers. Slight changes in lighting, camera angle, and chair height can result in dramatic changes to candidate appearance.

Be sure to test attire/suiting, jewelry, makeup, and/or glasses. Glasses in particular may reflect the images from a computer monitor or lighting source, which may be distracting to interviewers.

Use the speakers and microphone repeatedly to assess sound quality, sound volume, background noise, and/or feedback.

Use the technology trial run to practice taking notes. Where is the ideal place for pen and paper?
● Ensure that the default name that is listed on the software platform when the applicant logs in is correct and not an informal or joke nickname.
● Consider the internet usage at the time of the actual interviews. If multiple individuals will be using the same network for virtual interviews, then interview quality may be diminished with an unstable or overloaded connection.
● Avoid using guest or public wireless networks for the virtual interview, as these may have bandwidth limits or specific time restrictions that will not allow for full day high quality video transmission.

In addition to testing the technical aspects of virtual interviewing, we suggest applicants create a high-fidelity interview simulation that includes wearing a suit and practicing answering common interview questions regarding their career direction and motivation, professional accomplishments, clinical/research interests, and leadership style. Surgical educators may want to offer simulated interviews and dedicated time for feedback and reflection to help prepare their trainees to succeed on the virtual interview trail, just as they have offered mock interviews in the past.

Cultivating habits of effective virtual interviewing
Applicants should consider cultivating virtual interviewing habits that will allow them to participate in the interview experience in a way that will permit them to efficiently glean desired information and perform well without diminishing the interview experiences of other applicants.

● In large group settings, use the “mute” function to limit feedback and background noise that detracts from the speaker. Learn how to temporarily unmute using keyboard shortcuts to facilitate asking questions or interacting during the large group sessions.
● Be sure to suspend one’s video feed prior to engaging in visually distracting behaviors such as getting up from one’s chair, answering a phone call, or speaking to another person in the background.
● Use of virtual backgrounds should be limited or avoided. They often present an overly informal environment and can have distracting technological glitches that render the participant partially unseen.
● Be wary of the private chat function, as it is easy to inadvertently send a message intended for a single individual to the entire group.
● Plan snack, meal, and other breaks in advance based on the provided interview schedule.
● Learn how to take screenshots during presentations in order to take notes on programs without having to turn to pen and paper. Set audio so that screenshot taking does not produce a distracting ‘shutter’ sound.
● Consider shrinking and dragging the interview software window to just below the laptop camera or web camera in order to facilitate making “eye contact” by looking into the camera rather than watching oneself speak.
● Minimize distracting behaviors such as gesticulation, touching face/hair/glasses/jewelry, etc...
● Shut off cell phone and pagers.

All of the standard interviewing advice for face-to-face interviews continue to be applicable to virtual interviews. Smiling, speaking clearly, maintaining eye contact, good posture, and active listening behaviors are all relevant interviewing habits to a digital interviewing platform.
Advice to Programs

Just as we recommend that applicants thoughtfully and intentionally prepare for virtual interviews, we encourage programs to reflect on their planned interviewing practices to ensure that the goals of the interviewing process are met for all participants. While the interview process is inherently a competitive selection and evaluation process in which programs discern between applicants, programs are simultaneously obligated to provide an informative interview experience that accurately depicts its formal and informal training characteristics so that applicants can make informed career decisions.

The advice provided above regarding the physical setting of the interview and performing interview trial runs are also applicable to interviewing programs. Professionalism and technological familiarity can enhance the interview day and improve the applicant’s perception of the program. Additionally, we suggest programs adopt interviewing “best practices” that grant applicants an equitable opportunity to showcase their strengths and accomplishments and that do not further disadvantage historically underrepresented and marginalized groups.

Before the interview day

Program impressions begin to be established long before the actual interview events. Pre-interview communication can both pique and diminish applicant interest in a program, therefore programs will want to carefully consider the content and tone of all engagement with applicants from the beginning of the application process. Because applicants will be unable to visit programs in person, they will seek collateral sources of information about the program and may extrapolate details of the pre-interview process to inform their initial assessment and level of interest in the program.

- Programs may want to update their website, increasing the quantity of available information, and enhancing its visual appeal. Pre-recorded videos and welcome messages may help candidates learn about programs and hone their questions for the program in advance of the interview day.
- Social media accounts will also be additional sources of information as applicants form initial impressions of each training program.
- All interview-related events should be scheduled well in advance with generous notice so that applicants can adequately plan childcare, clinical coverage, acquire physical interviewing space etc...
- When possible, send the applicant’s personal interview schedule in advance so the candidate can plan for meal breaks and read about faculty interviewers. Including a directory of faculty and current trainees with their photos and research/clinical interests will also help applicants prepare for their interviews.
- Interview schedules should be clear and easily interpretable. Ideally, applicants would just have to click a link to access interview events instead of having to manually type in long meeting IDs and passwords.
- Programs should use operating system agnostic meeting software and utilize a single platform for all of the interview activities, when possible.
- Applicants should be provided clear instruction on multiple backup methods of interviewing, including who to contact for technical assistance, and how. Programs may want to collect
applicant cell phone numbers and whether they have alternative video call programs such as Facetime and Duo.

- To increase the fairness of the virtual interview process, programs may wish to send materials including virtual interviewing tips and advice to all applicants in advance of the interviews. Savvy applicants will notice details that demonstrate program caring.
- Programs should provide email addresses for participating interviewers. Applicants often like to express their gratitude for the interviewers’ time spent throughout the day, and tracking their contact information down can be difficult and time-consuming.

Email friendliness and apparent competence of administrative staff will also likely influence applicant perspectives of a program. Disorganized and unempathetic communication may cause applicant concern that administrative support at a program is lacking. Programs may want to coach applicant-facing staff on how to project the program’s best characteristics over this new, unfamiliar virtual interviewing process.

Social events
One of the greatest sources of anxiety for applicants engaging in the virtual interviewing process is concern over diminished ability to assess program “fit”. Applicants typically gain insight into a program’s culture and camaraderie at the informal portions of the interview experience such as the pre-interview cocktail reception and during meals. These events also serve as opportunities for applicants to ask questions to current trainees in less formal and scrutinized settings. Watching how current trainees/faculty interact with each other outside the context of a formal interview can affect how applicants assess a program’s desirability. To limit the impact that virtual interviews have on these important aspects of the interview day, we suggest that programs design virtual social events in a way that enables applicants to learn about informal program elements. Training programs that create inviting and informative virtual social events will garner more applicant interest than programs that do not invest in recreating these informal interview experiences.

- Communicate in advance regarding social event attire, purpose and attendance. Applicants should be notified if the event will have faculty and current trainees, or trainees only. Additionally, applicants should receive advance notice if there will be any informational presentations as part of the social event.
- If the social event occurs during a meal or in the evening, programs should clarify for applicants if they are welcome to bring adult beverages, food, significant others, or children to the event.
- Programs may wish to solicit questions from applicants in advance so that faculty or current trainees have time to prepare answers or address topics of concern during the social event. Applicants may also submit questions using the real-time chat function of digital platforms.
- Effective social events have both large group and small group components. At the beginning of the social events, all applicants can receive a warm welcome and explanation of the mechanics of the social event, including how to obtain technical assistance.
- It is important to recognize that as opposed to an in-person interview season, a virtual one means that applicants aren’t able to meet and get to know each other, and this unfamiliarity makes applicants less likely to engage in large group settings. We suggest incorporating a small group phase of the social event. Applicants may find it easier to ask questions and engage in conversation in smaller groups, and creating multiple rooms permits parallel conversations that can be tailored to the involved individuals. Creating room “themes” to cater to specific program
characteristics such as research opportunities, clinical training pathways, or lifestyle concerns also permits applicants to seek and gain the information that is most pertinent to them. Applicants should have the opportunity to engage in multiple small groups across the course of the event to gain varied perspectives on the program.

- Many software programs have announcement or timer features that can warn participants that they will be switched to a new small group. These features can make transitions less awkward and sudden.
- The closing portion of a social event is also amenable to the large group format, with applicants receiving a final opportunity to ask questions and receive well wishes for the following interview as well as information on how to follow-up with social event participants if they have additional questions.
- If faculty are present at social events, it is essential that at some point they leave or that applicants have an additional opportunity to interact with current trainees without faculty presence.
- Applicants should feel free to exit social events freely, or the meeting should have a hard end time so that no applicant feels pressured to remain present in social events longer than they wish.

Faculty and trainee participants may require coaching on how to cultivate a warm and inviting digital atmosphere. Ensuring that program representatives also have food and drink in view, wear corresponding attire, and use applicant names fosters a welcoming environment that can more closely match a face to face social event and provide applicants with a meaningful glimpse into the intangible aspects into a training program.

Ensuring an informative interview day

Applicants will desire as much concrete information as possible during the interviewing process in order to help them vividly imagine themselves moving to and training in a new place. Programs that give more information, rather than less, will create more robust mental impressions of life in that program. As programs consider the informational content of their interview day, they should consider all the different types of questions that applicants ask during the social events, meals, and interview themselves. Addressing questions in a systematic and structured way involving both faculty and current trainees will help ease applicant anxiety that they will remain inadequately informed at the end of the virtual interview process. Different information will require different delivery methods. While detailed, concrete information regarding program characteristics may be best delivered on a program such as Powerpoint, communicating a program's spirit and defining culture may require more advanced audiovisual mediums.

- Programs that plan to send applicants copies of informational slides immediately after the interview should inform applicants of this plan so that candidates do not feel compelled to take prolific notes.
- Be up front about program characteristics including rotation schedules, salary, vacation time, number of trainees, presence of other learners, case volumes, location of rotation sites including maps/transportation details, research/education stipends, average number of trainee publications, formal mentorship and leadership training, job/fellowship destinations of recent trainees etc…
● Directly address perceived program weaknesses. This prevents applicants from having to ask potentially uncomfortable questions and demonstrates that the program has insight into the applicant perspective. Programs may need to directly address small/large number of trainees, patient population, operative volume, clinical weaknesses, and/or reputation.

● Voluntarily address sensitive topics such as call requirements, ACGME accreditation status, maternity/paternity leave, and access to mental health services without applicant solicitation.

● Commitment to diversity and inclusion and how a program ensures the success of women, minorities, LGBTQ individuals, and parents are additional topics that should be routinely communicated to all applicants.

● Involve many faculty and trainees to create representative audiovisual materials and videos that demonstrate the culture and spirit of the program. Show, don’t tell.

● Accurately educate applicants about physical spaces through use of virtual video tours that include trainee lounge/workspaces, cafeteria, wards, clinics etc...

● Applicants will also be keen to understand what their lives outside the hospital would be like at a given training program. Share information regarding housing location and costs, childcare resources, and common means of transportation. Videos and images of trainee commutes, homes, and neighborhoods will all help applicants envision themselves in a new place. Highlighting a location’s culture, food, and sports scenes will also assist applicants in discerning which programs fit their needs.

While it takes significant effort to create a complete, informative virtual interview day, the effort will likely be worthwhile as applicants compare the variable efforts programs make to provide comprehensive interview experiences. Finally, programs should freely provide contact information for faculty and residents so that applicants are able to seek additional information.

Conducting equitable interviews

The highest stakes portion of the virtual interview experience is the interviews themselves. Programs will likely have to shorten and adapt their in-person interviewing processes for the virtual setting. When doing so, we suggest adopting practices that limit bias and create opportunities for all applicants to interview at their best.

● Applicants should have clear guidance on when their interviews will be, with whom, and how to access the virtual interview room. How to obtain technical assistance and backup methods of interviewing should also be communicated to applicants in advance.

● Applicants may also benefit from a standardized orientation to the interview, such as their format, time limits, and number of interviewers.

● Programs should take advantage of software features that prevent applicants from inadvertently interrupting another candidate’s interview. Using the “waiting room” feature, small group rooms, or unique interview links are all methods to ensure applicants receive their fair share of interviewer attention.

● Incorporate interviewing practices that limit bias such as standardized questions and/or interview scripts, clear time limits, and multiple interviewers per session.

● Interviewers should be familiar with applicant materials such as CV and personal statement in advance of the interview.

● Candidates should be afforded an opportunity to ask questions at the end of the interview or provide clarity on their answers.
● Faculty should be educated regarding invasive, “illegal” questions regarding marital and parental status or future personal plans. Even if well-intended, these types of questions should not be included in the interview process as they can be perceived by applicants as red flags that signal an unwelcoming learning environment, especially for women and other marginalized groups.

● Small behaviors such as welcoming the applicant by name, thanking them for taking the time to interview, and congratulating them on their accomplishments can put applicants at ease and foster an environment in which they can accurately demonstrate their strengths.

Throughout all phases of the interview process, programs should be cognizant that applicants will be logging on from multiple time zones and may want to consider how to adjust the interview schedule to minimize the burden to applicants across geographic regions. For example, programs may want to schedule applicants from the East Coast during morning interview sessions so that applicants in Hawaii and the West Coast do not have to interview during what is locally very early morning. It is critical that all communication about interview times and events include the time zone. Again, many of the tips for applicants are relevant to the faculty interviewers. Institutions and programs may want to require that interviewers simulate the virtual interview process to ensure that faculty are capable of using the digital interview software in an optimal physical space.

**Conclusion**

The COVID-19 pandemic has dramatically altered the residency and fellowship interview process. It is likely that web-based, virtual interviews will be the standard for the foreseeable future and likely to impact all interviews going forward. The recommendations provided herein are based on recent experience with this new format and may serve as a guide for applicants and surgical programs. This perspective is not intended to be a comprehensive list as each applicant and program will need to adapt in their own unique way, and future research may establish an evidence base for the best practices of virtual interviewing. In the meantime, both applicants and programs can take several pragmatic steps to optimize the virtual interview day in a way that permits applicants to meet their dual objectives of presenting themselves well while obtaining relevant program information.

**References**


5. McKinley SK, Mullen J, Phitayakorn R. Prepare Students for their Surgical Residency Interviews with a Residency Workshop. *American College of Surgeons Resources in Surgical Education*. Available
### Table 1. Applicant checklist and reminders for virtual interviews

**Before interview season starts**
- ☐ Select a reliably available and quiet physical space
- ☐ Invest in a comfortable chair
- ☐ Consider purchasing additional lighting
- ☐ Technology trial run

**Before start of interview**
- ☐ Plan snacks and meals throughout the day
- ☐ Check items in view of background
- ☐ Electronic (laptop, phone) chargers plugged in
- ☐ Mute electronics (phone, pager) and browser tabs
- ☐ Ensure camera is at eye level
- ☐ Shrink and drag the interview software window to just below the laptop camera or web camera

**Reminders throughout interview**
- ● Maintain an upright posture
- ● Mute mics when not speaking
- ● Suspend video when engaging in visually distracting behavior
- ● Double check the intended recipient for any message you’re sending (“Everyone” vs private messages to intended individuals)