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Article - Feature

A Practical Guide to Etiquette in the Orthopaedic OR for the Rotating Medical Student

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The Operating Room, the operating theatre, the lair of the Orthopaedic surgeon, it goes by many names. It is a place most try to avoid, but this daunting windowless room is a classroom and training ground for many. And for the medical student interested in an orthopaedic surgery career, making an impression in the operating room is vital to matching into their desired orthopaedic residency.[1]

Unfortunately, making an impression in the operating room is difficult, or more precisely, making a good impression in the operating room is difficult. Furthermore, every operating room dynamic can be different, and the personalities of the surgeon, fellow, resident, and surgical team can vary widely. Stone et al, found that 72% of medical students felt unsure about the expectations in the surgical OR.[2] Thus, with the approach of orthopaedic rotations, students should undertake some training or at least consider how to act in such an environment.

The Totem Pole

It should go without saying, but medical students are the lowest on the metaphorical totem pole in the orthopaedic OR, and thus entitled to no special benefits or exceptions. While typically easy to understand in terms of the surgeon or the resident, the staff are included as well. Although medical students provide some help to the surgeon/fellow/resident, to the operating room staff, medical students are at best a neutral presence and, at worst, an extra level of stress and liability. That being said, Ji et al, has established that 49% of OR staff enjoy working with medical students but agree that students' OR etiquette needs improvement.[3] Recognizing this is important, not only for understanding the proper respect to pay everyone in the OR, but also in terms of establishing expectations for the medical student in the operating room. This will be different depending on the staff, case, and location, but some basic principles apply in all settings.

The student is in the OR to learn. However, the best medical students also work to make everyone else's lives easier, including the attending, fellow, resident, and most importantly, the staff. The most successful medical students look beyond learning and recognize becoming a vital member of the team improves their day in the OR or on a rotation. Tailoring one's questions, actions, and OR etiquette to match this goal goes a long way to setting one apart from other students.

Before the Operating Room

To begin with, well-timed communication is key to success and starts before arriving in the operating room. Upon starting rotations, ask for the schedule and come ready before the rest of the team. If the attending/resident is arriving in the OR by 5:45 am, be there at 5:30 am, in professional attire. While scrubs will eventually be worn, professional attire is essential and makes a good impression. Just make sure to bring a more practical change of shoes for the OR. More importantly, make sure to review all the day's cases before arriving, taking especially good notes on the relevant anatomy of each procedure. Dr. Krueger, a hip/knee orthopaedic surgeon at Rothman Orthopaedics, recommends students place the bulk of their review in understanding fundamental anatomy and less on the procedure, instruments, and other related topics.

Delving deeper into these more complex topics offers a great opportunity to have a conversation with a fellow or resident about tips or pertinent information to review. Everyone reviews for cases differently and incorporating specific recommendations shows you are taking initiative. Some residents bring a small index card with pertinent information while others carry a notepad. A small notepad is essential for jotting down notes. A student should never have their phone out in the OR, even if only using it for note taking, as the medical student comes across as disinterested in the case. Also, a relevant side benefit to case review is the ability to observe how busy the operating day is going to be; and might provide some preemptive indication of the stress levels of the OR. The average day of cases may vary widely depending on the surgeon and the subspecialty; five cases in a day may be roughly normal for a shoulder and elbow surgeon, but this same case number may be quite small for a hand surgeon.

In the Orthopaedic Operating Room

All ORs are different and vary widely in how they run. This fact is also compounded when considering a surgery center versus main hospital and laxity with certain rules. That being said, OR etiquette should not change depending on location. Upon arriving to the OR, immediately locate these five things: the fellow/resident, the attending, the bathroom/locker room, the procedure board, and the white boards. The first three are self-explanatory, but the procedure board is typically a TV/white board where all the cases are written for the day. The board displays both the order and

location of cases. It can be helpful for you personally as well as your attending/fellow/resident if you make note of and remember the rooms for each case.

In each of the numbered ORs there will also be a whiteboard. Write down your full name, medical school year, and glove sizes. This enables the OR nurse to easily document and enter your information into the system without asking. This is also a great time to introduce yourself, showing respect for a surgeon's entourage and acknowledging every surgery "takes a village." Likewise, do not ignore the reps from implant companies as they are often a good resource with advanced knowledge of procedures, instruments and technology as well as an extensive understanding of OR etiquette.

OR staff and reps are not only vital resources but helping them locate materials needed to scrub-in and demonstrating you know the best place to stand goes a long way. More importantly, avoid irritating or angering them, as they often communicate with your attending about your performance. When it comes to interacting with the non-surgeon staff in the OR, remember you are not an attending/fellow/resident and should not act as such. In general, following 'the three As' is an easy way to make a good impression with the staff members: Be affable with everyone who you interact with, be available to assist, and demonstrate the ability to assist when called upon.

Now let's fast forward to the procedure. Scrubbing-in should not change the student's goal to make the doctors' and staffs' lives easier. First, recognize scrubbing-in is a privilege. To earn this honor, make sure to be well-acquainted with the patient and the procedure. At minimum, you must demonstrate to surgeons and staff your ability to avoid contaminating the sterile field. Dr. Joseph Daniel, a Foot and Ankle surgeon at Rothman Orthopaedics, requires medical students show familiarity with every case before scrubbing in. It may also be worthwhile to ask the attending which cases they prefer you scrub into. If allowed to scrub, it is your responsibility to gather all resources needed, such as surgical gown, correctly sized gloves, and headgear. Additionally, Dr. Daniel also recommends when scrubbing next to your attending, always let them finish scrubbing first. While it is a bit "old school," it is also a sign of respect for both the surgeon and the sterile environment.

When scrubbed-in, make sure to do everything the surgeon asks. This can range widely, but the classic example is holding the retractor and suction. Try to avoid getting "suction crazy" and pay attention to other surgeons, moving out of the way quickly if they continue to operate. You may be asked to hold a limb in a certain position or at an unnatural angle to improve a surgeon's visual field. Make sure to communicate if you are moving or losing grip and always listen to your team. Finally, maintain the sterile field. While everyone makes mistakes, remember never to catch a falling instrument, and make sure to communicate any loss of sterility.

When not scrubbed-in, your primary role is to be a student and engage with the attending. However, also take note of the OR layout and common patterns to help orient you in the case. "Is the surgeon performing arthroscopic surgery or using fluoroscopy? Does the surgical set-up require a mat under the surgeon's feet? Does the surgeon wear a helmet? How should the patient be positioned? These questions highlight small jobs that can be filled, such as keeping an eye on the saline for arthroscopy, moving the fluoroscopy cart for a fracture case, or helping the resident position the patient. For example, a good medical student will be quick to tie-up the surgeon's, resident's, or PA's sterile gowns. That being said, if a job requires cutting in front of others or is not easily completed, its best to let someone else do the job or wait until its more convenient. Most importantly, recognize where people move in the room and ensure you are not in the way or taking up space. Stay light on your feet and always ask how you can help.

One should also consider the rate that you enter and exit the OR. The more times the doors open, the less sterile the operating environment. Try to minimize the number of times you enter and exit, open the OR door as little as possible and/or utilize a sub-sterile connecting room if available. Following the procedure, a medical student can participate in a great number of tasks to help the fellow/resident including wound closure, removing drapes, and transferring the patient.

As a final note, the OR can be stressful for the surgeon and staff no matter their skill, and they can become frustrated from any number of situations. Remember, everyone's tone of voice may not always be polite but as long as it is not inappropriate or abusive, having thick skin goes a long way.[4*]

This concept is nicely summarized in a review article by Falk et al, who comments that in the orthopaedic OR there are two types of communication: routine and critical. Routine communication is a more conversational form of communication where courtesy, active listening, and emotion are major features. In contrast, critical communication stresses brevity, clarity, and frankness, with an assertive tone. Most junior residents and medical students are used to routine communication such as in the low stakes environment

[*]I should mention a new JAAOS article by Samir Mehta and others at Penn that talks about how the teaching tone of residents is different than that most students are used to. It is very direct - don't take it personally.

of their classrooms, but often require time to adjust to critical communication that permeates the OR. It is important to recognize critical communication is not meant to be demeaning or reflect negative attitudes but ensures a successful procedure by quickly and efficiently conveying and avoiding errors.

Pimping

Pimping is one of the most dreaded parts of the medical rotation and orthopaedic surgeons are known to pimp medical students vigorously. A number of studies have shown pimping to be one of the most anxiety inducing parts of rotations.[2,6] All medical students will inevitably look stupid at some point during their time in the OR. It is more important not to look stupid the same way twice. According to Dr. Krueger, remember you will continue to be asked questions until you get one wrong. The goal of pimping is not make students feel inadequate, but to determine the limits of their knowledge, with questions becoming progressively more challenging.

Dr. Krueger recommends students ensure they answer anatomy questions correctly by taking appropriate steps to prepare. Likewise, even if the answer to a question remains elusive, rather than saying "I don't know", show that you understand the concept and will research the answer. Getting the same question incorrectly twice shows you are not listening or engaging in the case. While pimping is generally perceived as a way to encourage recall of information, Dr. Luke Austin, a shoulder and elbow surgeon at Rothman Orthopaedics, shares a different perspective. He does not remember the student's response, but rather if they answered in a logical and cohesive manner. Medical students often rely on "verbal vomit" when they get nervous, which is annoying for the attending and makes a medical student look incompetent and underprepared. Medical students should recognize that pimping questions are not random and having short, professional responses, even if wrong, shows you are following along with the procedure and trying to think critically in a high stress environment.

Asking questions

Of all the skills to develop before entering the OR, learning when to ask questions is probably one of the most subjective and often highly situational. The major rule governing when to ask questions boils down to successfully "reading the room". This takes time and experience to learn. If there is a stressful case, wait until after the procedure to ask questions. Scrubbing in is often a good moment for a surgeon to answer questions. It is also helpful to save your thoughts until prompted by an attending. Every situation and surgeon are different. In general, err on the side of caution until you have a good grasp of the OR dynamics.

Additionally, consider the type of question you are asking. Too many or too simple questions may be interpreted as annoying. Certain questions might be better suited for the fellow/resident or even the nurses and reps. Developing the ability to internally analyze questions and target them at a particular question takes time. A good rule of thumb is that all questions for the attending should be based on a technique or surgical decision. For example, asking how long cement takes to dry in hip arthroplasty is a better question for the resident or surgical rep while asking at what point did the surgeon know they were going to have to cement the patient in the prior operation is more appropriate for the attending. Generating questions is a good technique to add when preparing for cases as literature often offers thought provoking conversation starters. Students should also be prepared to answer follow-up questions posed by the attending.

Conclusion

While this is not an all-encompassing review, a main takeaway is to "read the room." Not only is this an important skill for any future surgeon to possess, but becoming a successful orthopaedic surgeon means learning to balance strong personalities in a high-pressure environment. Dr. Krueger points out it is ok to be stressed in the OR as even attendings share this feeling. But if you are nervous, it is important to persevere. Overall, the orthopaedic OR can be an incredibly fruitful learning environment. Taking the time to develop your OR etiquette can help set you apart from other residency prospects.

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