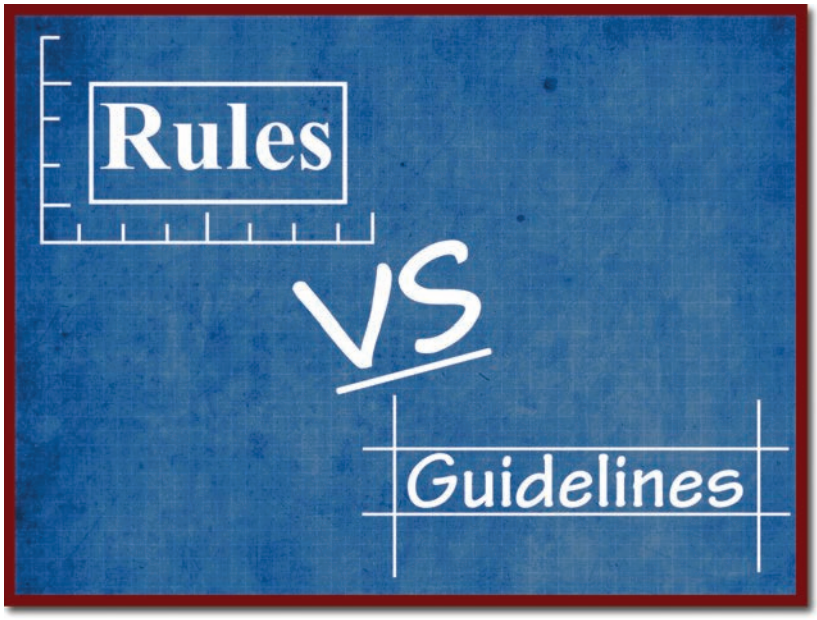
BY JARROD SHAPIRO, DPM

Operating Room Traffic Confrontations

Personality conflicts can be rectified.

Practice Perfect is a continuing every-issue column in which Dr. Shapiro offers his unique personal perspective on the ins and outs of running a podiatric practice.

There are two kinds of people in the world. The first adheres to rules rigidly and spends much of their time maintaining the status quo, dotting the "i's" and crossing the "t's." This kind of person feels most comfortable as a result of the rules. The other enjoys working more outside the bounds. This person feels the rules are more of a suggestion, and getting the job done is more important. Essentially, the ends justify the means. Although these two perspectives seem diametrically opposed, there may be a way for the two to meet, and that is through the use of logic and science.



Laws and rules are important or chaos will ensue. However, a very task-oriented person always wants to get the job done. Sometimes, a person in the latter group will come into direct opposition to those individuals who are in the first group, which can cause friction. For example: Perhaps a year and a half ago, a surgeon was about to start a surgical procedure with one of his residents and a third-year podiatry student. The podiatry resident and residency director had already scrubbed in, had the surgical field draped, and were about to make the incision when they noticed the student was nowhere to be found. The podiatry resident glanced up and saw the student near the scrub sink looking in through a window into the operating room. Annoyed, the residency director waived the student into the room.

"Why haven't you scrubbed in yet?" he asked.

"The nurse in charge told me I couldn't scrub because there were too many people in the room," he answered.

When the residency director heard this, his blood pressure immediately elevated. He is one of those surgeons who feels the operating room belongs to him during his time. He wanted maximal control over the environment to create an effective team and maintain good patient outcomes. Remember, it's his medical license on the line, so he wanted some control.

With this running through the residency director's mind, he asked for the nurse to come into the room. It should be mentioned here that this was not one of the operating room nurses but rather a mid-level nurse administrator. They proceeded to argue over having his student scrub in. Her argument was principally that there were too many people in the room, and it was not safe for the patient due to an increased infection risk. The fact was that there were exactly six people in the operating room at the time, including the anesthesiologist, scrub tech, circulating nurse, one student, one resident, and the residency director.

This is not an excessive number of people in the room, but the hospital had an informal policy about not having "too many people in the operating room." There was no actual stated number indicating what "too many" meant. Then the residency

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director realized that he was dealing with a robot who was incapable of understanding anything outside of the "rules." Keep in mind that they had not even started the procedure yet, and here he was getting angrier by the second. This is not a good situation for patient safety. Realizing this, he immediately ended the conversation, demanding the nurse leave and that his student scrub in, which is exactly what happened.

The procedure went well and, of course, there were no complications as a result of the six people in the room. Afterward, the residency director spoke to the chief OR nurse to complain. He again became frustrated when the nurse told him that it was "hospital policy." Being a member of the surgery committee for the hospital, he knew there was no actual policy regarding the number of people in the operating room.

"Can you show me where it states this in any of the hospital policies or bylaws?" he asked.

"Well…it's an unstated rule," she answered, "and our evidence shows that more people in the operating room increases infections."

"Really," he said. "Supply me with the evidence that proves your statement."

"We have some internal research," she responded lamely.

When asked to supply that research, she of course couldn't because it didn't exist. The hospital had never done this kind of study and had created some kind of random rule based on no legitimate information. These two administrators live in a world of rules with a complete lack of evidence. Since this encounter, no one has challenged the surgeon on the number of people in the operating room. Score one for him.

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Meeting in the Middle

These two groups, the rule followers and the task completers, can meet in the middle. And that middle is the research evidence. Make rules based on scientific evidence, and any logical person will happily follow those rules.

The research is rather sparse. It turns out there are only a couple of clinical studies that directly examined operating room traffic and post-operative skin and skin structure infections (SSIs)—the only outcome that really matters in our discussion. Pryor and Messmer in 1995 did a retrospective review of 2,284 clean surgical procedures and resulting SSIs. They found a trend of increased infections with the increased number of people in the operating room, though the trend was not statistically significant.[1] This study had methodological problems, including no control group and a poor statistical analysis with only descriptive statistics. Additionally, they did not isolate other potential causes of post-op SSIs.

The second study is more recent and is of much higher research quality. Wanta and colleagues in 2016 did a retrospective, matched case-control study in patients undergoing clean surgery at the Mayo Clinic in Rochester, Minnesota. They had 474 patients and 803 control subjects. In a much more methodologically rigorous fashion, they looked at various operating room personnel, including those who were scrubbed and not scrubbed as well as patient characteristics. They also performed a conditional logistic regression analysis that allowed them to look at specific characteristics individually.

Basically, after adjusting for the individual factors, they found the number of people in the operating room did not significantly affect the post-operative infection rate. Interestingly, they did find that specific patient characteristics such as diabetes as well as long operating room times did increase post-op SSIs.[2] "The highest quality study shows the number of people in the operating room did not significantly affect the post-operative infection rate. A large prospective randomized controlled trial is underway but yet to be published."

Unfortunately, there is yet to be published a prospective randomized controlled trial to fully answer this question. For those of you in training institutions with a relatively greater number of people in the room, you can rest reasonably assured that your patients will be okay. Now you have the best available evidence to fight back with your administrations. **PM**

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References

[1] Pryor F, Messmer P. The Effect of Traffic Patterns in the OR on Surgical Site Infections. AORN. 1998;68(4):649-660.

[2] Wanta B, Glasgow A, Habermann E, et al. Operating Room Traffic as a Modifiable Risk Factor for Surgical Site Infection. Surgical Infections. 2016;17(6):1-6.

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