

What is an ideal surgical clerkship?

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In North America, most third-year medical students undergo a 2-month surgical rotation during clerkship. During this rotation, students become familiar with surgery through direct involvement in the care of patients admitted to hospital, in clinics and in the operating room (OR). Learning occurs through mentorship, observation and hands-on practice. Over the last 2 decades, improvements in the content of surgical clerkships occurred owing to research in the field.¹⁻³ Our objective is to describe what can constitute an ideal surgical clerkship for medical students and faculty members.

Teaching is interactive in that it requires the interplay of several processes to be effective and efficient. Environment plays a major role in this process and, when optimized, can have an important impact, improving teaching and learning.

An essential part of the surgical clerkship is spent in the OR. The OR is the place where the medical student has the chance to observe human anatomy and pathology in real time during the course of a live operation and where surgeons conduct a substantial portion of teaching to medical students. Members of the staff (i.e., surgeons, nurses) should put substantial effort in creating a warm and welcoming environment for medical students by assigning them tasks, giving them information about the case and making them feel like they are part of the team. In addition, the surgeon should interact with medical students by asking them questions, describing the anatomy and allowing them to participate in the surgery. This attitude can improve the environment and, hence, be more conducive to learning. Our opinion is supported by Schwind and colleagues,⁴ who found strong correlations between the attitude of the surgeon and the environment being an adequate place for learning. Important factors included the surgeon maintaining a supportive and friendly attitude, the surgeon acting as a positive role model and the surgeon interacting with the student. It is imperative to inform surgical faculty about those important factors influencing the learning of students in the OR so they can adapt accordingly.^{5,6}

Student preparation is another aspect of central importance in the teaching process during the surgical clerkship. Surgery is a completely new world for medical students, who are experiencing the OR for the first time. Medical students can be prepared for their first exposure through a 2-part orientation session in which they can acquire basic OR skills and, hence, feel more prepared to face their surgical clerkship. In the first part of the orientation, the techniques of scrubbing and gowning and the principles of sterility would be taught by an OR nurse. In the second part, the teaching of some basic surgical techniques (e.g., stapling, suturing, tissue handling) could be practised on inanimate models or animals under the supervision of a surgeon who could give interactive advice and feedback to the students. In a study evaluating strategies for medical student development in the OR, Lyon⁶ showed that students who demonstrated competencies, including scrubbing, proper positioning around the operating table and knowledge of basic surgical skills, were more likely to be invited to participate in the operation and be included in the surgical team.

Experience and studies have shown that students who have not undergone this type of orientation are unprepared for the OR. They feel like a burden in the OR and are unable to concentrate on the surgery (rather, they are focusing on what to do and not do); hence, they miss out on the learning potential in the OR.^{7,8} The proposed 2-part orientation session is critical to the pursuit of the ideal clerkship.

Finally, the content of the surgical clerkship (which represents the core of the clerkship) constitutes a point that can be optimized for the medical students. The content should meet the needs of medical students who are not going to continue on to a surgical career and, at the same time, demonstrate the different aspects of the specialty for students interested in a surgical career. In several studies, family physicians (about 50% of medical students specialize in family medicine each year) ranked general surgery as one of the areas most relevant to their daily practice.⁹⁻¹¹ In 1 study, authors identified abdominal pain, gastrointestinal bleeding, gastroesophageal reflux disease, biliary/tract gallbladder disorders, breast disease, suturing, administration of local anesthesia, wound dressing changes and wound debridement, as the most important problems and techniques that family physicians use in daily practice.¹¹ The management of these problems and the acquisition of these techniques must therefore be widely covered during the surgery clerkship to satisfy the needs of a large portion of students.

Surgical clerkship content must also be designed to confirm or inform the interest of some medical students in a surgical career. In a study evaluating the factors influencing a medical student's decision to pursue a surgical career, early exposure to research and exposure to academic and career opportunities in surgery were identified as influential and decision-making factors.¹² Students interested in surgery should therefore be paired with mentors who are involved in surgical research to help influence those interested in a surgical career in a positive manner.

An optimized environment surrounding the clerkship, combined with adequate student preparation, pertinent clerkship content and appropriate mentorship, may be the best recipe for an ideal surgical clerkship.

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