EDITORIAL

Keeping the science in the art and science of dentistry

As is the case with all healthcare professions, there has always been a pursuit of excellence and quest to improve diagnostic and treatment skills. Paramount to these objectives is the welfare of the patient. Patients have trust that we will aid them with a problem and anticipate that they will not be made worse by misdiagnosis or inappropriate treatment. The question is whether the current methods of dental education achieve these goals.

As dental students begin their undergraduate careers, they are first introduced to basic health care sciences. They are taught how to think analytically and review literature, as well as about the fundamentals of normal and abnormal anatomy and function of the body, especially that concerning the oral cavity.

As dental students continue their education, these evolving physician dentists are soon introduced to the sciences beyond tooth anatomy, ie, dental materials, radiology, tooth preparation, and prosthetics. Slowly, healthcare sciences and analytical thinking take a second place to the need to learn and master clinical skills.

Once at the level of novice clinicians, dental students are introduced to the requirements of good dentistry and continue to sharpen their clinical skills. They also become keenly aware of the requirements necessary for graduation. As they strive to hone their clinical skills and complete their graduation requirements, the sciences are left even further behind.

In the final year of study, the dental student, now a full-fledged procedurist with improving technical skills, typically leaves the basic sciences almost completely behind and has only an eye on the goal of completing procedures to graduate. The basic sciences become only a faint and distant memory.

Upon graduation, new dentists are prepared to proficiently perform many dental procedures, but one must wonder whether they have been dealt a disservice by not coaching them on how to maintain the ability to think. By this I do not mean how to determine the best preparation or restoration—for that, they are more than well prepared through the efforts of the faculty of the departments dedicated to the dental skills and sciences— but have they been nurtured in their skills as true physicians of the oral cavity?

As a first-year dental student, I recall the admonition of the chairman of the oral surgery department when he cautioned us to never forget that at the end of every tooth is the rest of the patient. Simply stated, but true, and with a profound message.

In these days of rapid advances and exploding science, dentists who cannot adequately think or assess the entire patient will be at a loss, but not those who continue to incorporate all of the thinking sciences in their approach to the patient. Unfortunately, new graduates, often the best of procedurists, frequently lack diagnostic skills in the areas of oral medicine, orofacial pain, and systemic diseases.

The lesson we learned when crossing a street was to stop, look, and listen. Our approach toward a patient with a diagnostic dilemma should be the same. Dentists graduate with an orientation toward performing procedures, but it is equally important to observe and listen, and more importantly, to think before acting. Not every condition is cured by a dental procedure; some are worsened. Accordingly, dental schools and universities have the responsibility to constantly incorporate the basic sciences and teach students how to think a case through, arrive at a correct diagnosis, and formulate an effective treatment plan. This also requires teaching when referrals, appropriate diagnostic testing, and consultations are necessary.

To understand dental or orofacial pain, one must have a basic understanding of pain physiology. To understand oral manifestations of systemic diseases, one must have an understanding of basic medical concepts and oral medicine. To understand the patient's needs beyond a technical procedure, we must be prepared to listen to the patient and assess their physical and emotional status. These lessons must not be abandoned.

The early emphasis on science and analytical thinking should not be a first-year requirement for dental students; rather, it should be a lifetime requirement for all healthcare providers, including dental practitioners. Dental schools and universities have a unique opportunity to ensure that graduates and future colleagues are not only competent clinicians, but also competent thinkers able to assess, diagnose, and treat patients with care, wisdom, and science.

Sir William Osler once said, "The best preparation for tomorrow is to do today's work superbly well." Dental schools and universities must provide learning opportunities for students that prepare them to be superb clinicians; teaching students the basics of dentistry will make them good dentists. Teaching them how to think today will make them exceptional healthcare providers and clinicians tomorrow.

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