Imagine that you, as a third or fourth-year medical student, finally discover the specialty of your dreams. Imagine your enthusiasm as you announce it to your classmates. Now, imagine their response: “You’re doing WHAT? Pathology? Don’t you want to be a REAL doctor? Don’t you want to take care of patients? Do you really like dead bodies that much?”

For many of us who chose a career in pathology, such responses are familiar. Some of the common misperceptions regarding our field is that it is the same as the medical school course of the same name; that pathologists have no contact with living patients; and that pathologists spend most of their time performing autopsies.

Pathology, which literally means the study of disease, is unique because it is a basic science as well as a medical specialty. As an introduction to concepts of disease processes, tissue reaction and injury, it is indeed a fundamental discipline necessary in the education of all medical doctors. However, pathology is not simply one of the courses standing between medical students and “real” medicine.

Within our specialty, the principles of the basic sciences are artfully applied to very real, often complex, patient problems. Pathologists are not “locked-up” in the lab. They are constantly communicating with each other, other health workers, patients, laboratory personnel and individuals in the community as they work to solve diagnostic problems. Whether it be an unusual laboratory finding, a lump in a patient’s neck or a chronically draining leg wound, clinicians look to the pathologist for answers. The pathologist is truly the “physicians’ physician.”

Pathologists are generally concerned with both “anatomic pathology” and “clinical pathology” although some choose to specialize in one or the other or in a more defined clinical or anatomic subspecialty. Anatomic pathology (AP) is made up of three major areas: surgical pathology, cytology and autopsy. Most pathologists spend a large proportion of their time in the area of surgical pathology. Surgical pathologists are responsible for examining the biopsied tissue and rendering diagnoses. They provide many answers to their fellow physicians: Is it an infection? Is it cancer? Should we perform a more extensive surgical excision? Are any lymph nodes involved? Is the malignancy totally excised? What is the prognosis?

Another area within the realm of AP is cytology. Whereas surgical specimens maintain their architectural relation to surrounding cells, cytologic samples consist of cells scraped off or aspirated from the tissue being examined. Careful attention to cellular cohesion, or the lack thereof, as well as detailed observation of nuclear and cytoplasmic features, allows the pathologist to render diagnoses. In this way, the pathologist as cytologist is able to answer many of the same questions answered by surgical pathologists. Cytologic examinations are routinely performed on a variety of specimens, including cervical scrapings (pap smears) and various bodily fluids (peritoneal, pleural, etc.).
College of American Pathologists

The pathologist is frequently called upon to perform percutaneous fine needle aspiration (FNA) biopsies for lesions that are superficial and palpable (breast, thyroid, salivary glands, lymph nodes, etc.). Perhaps nothing within the field is so satisfying to pathologists as the role they play as FNA cytologists, in which they visit the patient, conduct a pertinent history and physical examination, perform the FNA and often within a matter of minutes, provide patients and their physicians with a diagnosis.

Autopsy pathology is considered the third branch of AP. Despite the fact that most people associate pathologists with autopsies, the truth is that a majority of pathologists spend very little of their time performing them. This is not to say that autopsies are not important. Autopsies, in the proper setting, are one of the most useful and beneficial procedures in all of medicine. Therefore, it is essential that all pathologists be able to perform them with skill and precision.

Autopsies are divided into routine/hospital cases and medicolegal/forensic cases. Hospital autopsies determine the extent of disease, the effectiveness of therapy or answer a specific question the clinician might have. In forensic cases, determination of the manner of death (natural, accident, homicide or suicide) and documentation of all findings are also important.

In all autopsies, there is a parallel to the classic clinical approach to living patients. Good diagnosticians obtain a complete history and perform a complete physical examination on their patients, and then, if need be, order pertinent tests. In the same way, autopsy pathologists obtain a history (via medical records, communication with clinicians, scene investigation, etc.) and perform a complete external and internal exam, including microscopic examination. Ancillary procedures, such as X-rays, photographs and laboratory tests are often warranted.

Utilizing careful observation and investigation skills, thorough and precise dissection techniques, and an understanding of the fundamentals of disease and injury processes, autopsy pathologists are able to answer a majority of the questions that arise when an individual dies. The answers to these questions are often quite pertinent to the health and well-being of living relatives and/or society as a whole.

Clinical pathologists (CP) are often consulted by other physicians seeking to best serve their patients' needs: deciding which particular test should be ordered; determining how a specific body site should be cultured; or recommending guidelines to avoid future complications, for example. On occasion, pathologists find themselves on the wards visiting patients, reading charts and discussing cases with clinicians and other health care professionals. And besides diagnosing leukemias and other marrow disorders, many pathologists actually perform bone marrow aspirations and biopsies themselves. This allows for yet another opportunity for direct patient contact by pathologists.

The rapidly growing field of molecular diagnostics, meanwhile, has a natural home within pathology. Already, nucleic acid technology is considered the routine, state-of-the-art method for many tests within the CP laboratory. Other DNA technology, such as in situ hybridization, is being incorporated into AP disciplines. As this exciting area of medicine continues to expand, pathologists will continue to lead the way.

Since pathology deals directly or indirectly with virtually all other medical specialties, opportunities within pathology essentially parallel those available within medicine as a whole. Pathologists may choose to cover the entire spectrum and practice AP and CP, or they may limit themselves to AP or CP. Some specialize in a limited area within AP or CP. The typical academic pathologist, while often trained in both AP and CP tends to concentrate on one or the other and usually has some type of subspecialty training or interest.
Like their colleagues in clinical academic medicine, academic pathologists have three basic responsibilities: service work, teaching and research. The typical community based pathologist may have subspecialty training, but usually performs both AP and CP duties. Service work is the major responsibility of these pathologists, but many maintain an interest in teaching as well. A small percentage of pathologists work for the government, private laboratories or other health related agencies, such as the American Red Cross.

When compared to other physicians, a pathologist’s lifestyle is excellent. A common misconception, however, is that pathologists have a decent lifestyle because they have a less than challenging career. Clearly, a pathologist’s job is anything but boring, and it certainly can be very difficult and stressful. Whether or not a patient will or will not have extensive, life changing surgery followed by weeks to months of chemotherapy and/or radiation therapy, for example, is based solely on what the pathologist says.

The major reason that pathologists enjoy a good lifestyle, with time available for family and other interests, is that much of a pathologist’s time at work is controllable. Seldom do pathologists need to be called into work at night, and most nighttime calls can be handled over the telephone.

The American Board of Pathology requires that individuals desiring board certification in both AP and CP complete a four-year pathology residency. The AP/CP board examination is given twice annually to individuals who have completed their residency training. Post residency subspecialty training is available in a number of AP and CP disciplines. Common AP fellowships include surgical pathology, cytopathology, pediatric pathology, forensic pathology, neuropathology and dermatopathology. CP fellowships include hematopathology chemistry, microbiology and blood bank/transfusion medicine. Most fellowships are one year long, but some may be longer. Board certification can be attained in most of the subspecialties listed above.

By no means is pathology ideal for everyone. Medicine is wonderful in that a niche exists for all physicians. For medical students searching for theirs, it is important to explore all options. Students owe it to themselves to explore the opportunities available in pathology as they contemplate their future roles within the health care team.