



Immunology, keeping pace with change

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Training for medicine is becoming more and more complex. It is clear that there is a wide assortment of material that needs to be learned and to be mastered. This now includes not only the art of medicine but also the administrative and political aspects of the profession. In the end the majority of medical students want to maximize their learning experience by learning what is practical and what can be applied. For that reason, I would strongly argue that learning basic immunologic concepts is critically important, whether you plan to pursue a surgical or medical career. Let me give two major reasons. Medical and surgical concepts are changing dramatically. For medicine it is recognizing that many of the most common chronic disorders that the physician treats daily is in large part immunologically mediated. The New England Journal of Medicine not long ago declared in a review article that arteriosclerotic heart disease is immunologically mediated. If you are planning on a surgical career, transplantation medicine will loom big in almost all specialties and understanding immune mechanisms leading to rejection will be critical for you to render the best care you capable of giving. If you are planning to devote your career with developing world disorders, the key to our treating AIDS, newer infectious disorders, and not so new disorders such as Malaria will lie in understanding immune concepts of innate immunology, parasitology, and virology. The second argument is that if you wish to be part of the revolution that is taking place in biotechnology you will need to understand basic concepts of immunology. While gene therapy is one example, one very important immediate change has been the use of biologic products, monoclonal antibodies and soluble receptors, directed against various parts of the immune system. This focused approach to therapy is just beginning, will surely expand, and probably will change the paradigm of treatment for patients with many diseases. In short, learning immunology now is not a waste, nor impractical. It will position you so that you will be able to fully utilize the fantastic array of therapies that will be available to you and your patients in the future.

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