IMMUNOLOGY, 
PHARMACOLOGY, AND 
THERAPEUTICS (IPT)

IPT 0100 - Principles of Immunology, Pharmacology, and Therapeutics
Credit(s): 2-20 Credits (Repeatable for credit)
The immune system is essential to human health; without it we quickly
develop overwhelming microbial infections and even partial immune
compromise leads to telltale types of infection. Even with a properly
functioning immune system, it is difficult to consistently maintain health
without the physician’s arsenal of anti-microbial therapies. You will learn
about the ontogeny and normal functions of the immune system and,
as with any bodily system, its dysfunctions. Drug therapies cannot be
discussed without the underpinning principles of pharmacology. You will
learn how drugs act on their target receptors, how drugs are absorbed
and metabolized once administered to a patient, and how factors
such as diet, age or disease can affect drug action. The autonomic
nervous system is vital to the control of all internal organs and the
vasculature and is affected, directly and indirectly, by a wide range of
therapeutics. You will learn how drugs interact with the autonomic
nervous system and the therapeutic uses of these drugs, as well as
predict their adverse effects. Returning to the immune system and its role
in antimicrobial defenses, we will introduce you to classes of microbes
and their surprising contributions to human health. We will discuss
microbial characteristics that facilitate disease causation and that also
offer therapeutic opportunities. Then, of course, those therapies will be
covered (bugs and drugs). Lastly, after a brief introduction to cancer
pathology, we will discuss cancer immunology, immunotherapy and
chemotherapy. You will find small group computerized cases, a Sim
lab experience, problem-solving opportunities and numerous clinical
correlations to stimulate and deepen learning, allowing you to explore
how information conveyed in class applies to the practice of medicine.
We hope you enjoy the course.