

Chapter 10: Medicine

Chapter Learning Outcomes

After completing this module, you will be able to:

- A. Have a good working knowledge of the history of medicine.
- B. Explain Koch's postulates concerning infectious disease.
- C. Have a good working knowledge of major infectious diseases, causes, and treatments.
- D. Explain antibiotic resistance.
- E. Explain types of vaccines and acquired immunity.
- F. Explain why vaccinations are required, and safety misconceptions.
- G. Describe HIV infection, prevention, and treatment.
- H. Describe prion diseases, and the prion hypothesis.
- I. Have a good working knowledge of bioterrorism, infective agents, and treatment.
- J. Describe the types of viral hemorrhagic diseases.
- K. Describe the major chronic diseases, prevention, and therapies.
- L. Explain the lifestyle changes crucial to reducing the incidence of coronary heart disease (CHD).
- M. Have a good working knowledge of carcinogenesis, including epigenetic factors.
- N. Explain some of the major treatments and preventions concerning cancers.
- O. Explain the difference between type 1 and type 2 diabetes mellitus, treatments, and prevention.
- P. Describe seizure disorders.
- Q. Explain how obesity leads to a number of chronic diseases.
- R. Describe oral health problems, treatments, and prevention.



Chapter 11

Chapter 11: Medical Technologies

Chapter Learning Outcomes

After completing this module, you will be able to:

- A. Have a good working knowledge of reproduction, and reproductive technologies.
- B. Describe the different forms of contraceptives, and how they work.
- C. Explain the steps involved in In Vitro Fertilization (IVF).
- D. Explain fertility testing methods used for women and men.
- E. Have a good working knowledge of molecular biology including genomics, systems biology, personalized genetic-based medicine, and pharmacogenomics.
- F. Explain RNA metabolic mechanisms used in medical therapies.
- G. Explain how DNA sequence understanding is used in genetic therapies.
- H. Explain the different types of cloning, and their uses.
- I. Explain what nanomedicine is, and its uses.
- J. Describe the use of different types of stem cells in research, and potential therapeutic uses.
- K. Name the NSAIDs, and how they work.
- L. Have a good working knowledge of current unconventional medical therapies.

Pharmacokinetics