

Knowledge Objectives - Vitamins

- 1. Distinguish between vitamins and antioxidants. Define what are antioxidants and provide examples of at least five types of endogenous antioxidant compounds that are present in the human body.**
- 2. List the major types of water-soluble and lipid-soluble vitamins.**
- 3. Describe the physiological and biochemical role of vitamins A, D, E, K.**
- 4. List the principal causes of vitamin deficiencies and some associated disease processes.**
- 5. Describe the major deficiency syndromes associated with certain types of water-soluble (ascorbic acid, nicotinamide, nicotinic acid, folic acid, cyanocobalamin) and lipid-soluble (vitamins A, D, E, K) vitamins and the therapeutic uses of each vitamin.**
- 6. Identify what are some of the populations (e.g. elderly, alcoholics, pregnant women) that have the highest risk of having some form of vitamin deficiency. Understand the vitamin deficiency related problems that accompany chronic ethanol abuse.**
- 7. Discuss the toxic effects associated with excess tissue levels of the fat-soluble vitamins.**
- 8. List potential side effects and toxicities of the water-soluble vitamins when administered in overdose.**
- 9. Describe therapeutic uses of the fat-soluble vitamins, including that of tretinoin (a vitamin A analogue).**
- 10. Discuss current concepts underlying the role of free radicals in the pathogenesis of human disease and the potentially protective effects of antioxidants.**
- 11. Know some general guidelines for the use of vitamins and dietary supplements. Define what is meant by Recommended Dietary Allowances (RDA) in relation to vitamin use.**
- 12. Be able to counsel patients about the use of vitamin supplements.**
- 13. Identify at least three reliable sources (CD-ROM, Internet databases) that provide information on vitamins and antioxidants.**