

## FINAL EXAM LEARNING OBJECTIVES

### Chapter 14 PNI, AIDS, cancer, & arthritis

- 1) Describe the nature and function of the immune system. First, identify and describe the primary organs of the immune system. Then compare and contrast innate (natural) and specific (acquired) immunity as well as humoral and cell-mediated immunity. Finally, describe two approaches to assessing immunocompetence and distinguish between quantitative and functional measures.
- 2) Summarize the results relating physical, psychological, interpersonal stress, negative affect, and academic stress to the immune functioning. Explain how coping and coping resources moderate the stress-immune functioning relationship.
- 3) Describe stress management interventions designed to enhance immunocompetence and evaluate their effectiveness for cancer, and HIV patients. Do they affect immune function and health outcomes?
- 4) Describe the potential pathways by which stress contributes to immunocompromise. Discuss evidence for the bidirectional communication between the immune system and central nervous system. Also discuss how do cytokines induce sickness behaviors?
- 5) Trace the development of the AIDS epidemic and describe the nature and course of HIV infection. Also describe the demographic risk groups for AIDS and routes of HIV transmission. Describe the nature of interventions designed to reduce risk behaviors or AIDS and evaluate their effectiveness.
- 6) Summarize the results of studies on psychological adjustment and coping with HIV/AIDS. Explain how psychosocial factors may influence the course of AIDS. What factors promote long-term survival among people with HIV?
- 7) Describe the nature of cancer and discuss the demographic, psychosocial, genetic and environmental risk factors that affect the initiation and course of cancer. Discuss the immune surveillance theory of cancer. Summarize the results of studies of the relationship between stress and cancer, as well as the role of psychosocial interventions to improve the quality of life and longevity of cancer patients.
- 8) Describe pharmacological, behavioral, and psychotherapeutic rehabilitative interventions for cancer patients and evaluate their effectiveness.

### Chapter 10 Pain and Its Management

- 1) What is the IAPS definition of pain? Explain the medical and psychological significance of pain. What is congenital insensitivity to pain? When is pain adaptive and when is it maladaptive?
- 2) Explain the role of the psychosocial context in the experience of pain. To what extent is pain subjective and influenced by expectations and modulated by emotional states?
- 3) Describe the techniques of pain measurement and pain research. How has animal research contributed to our understanding of pain mechanisms and pain management?

- 4) Explain the physiological aspects of pain from the peripheral nociceptors into the spinal cord and brain: Ascending pain transmission pathway and descending pain modulatory pathway; c-fibers, a-delta fibers; dorsal horn, pain transmission neurons, thalamic nuclei, somatosensory cortex, limbic area, PAG, etc.
- 5) Describe the neurochemical bases of the sensitization of the ascending pain transmission pathways and phenomena associated with sensitization (allodynia, hyperalgesia, secondary hyperalgesia, spontaneous pain; phantom limb pain). How psychological processes can influence pain through descending pain inhibition/facilitation pathways. Describe the gate control theory of pain, stimulation produced analgesia, and evidence for both opioid and non-opioid endogenous pain control systems (norepinephrine, serotonin)
- 6) Compare and contrast acute and chronic pain. Define the different kinds of chronic pain (i.e., chronic benign pain, recurrent acute pain, and chronic progressive pain).
- 7) Describe the psychological and social consequences of chronic pain. Describe the relationship between individual differences in personality and the experience of chronic and acute pain.
- 8) Describe the following techniques to control pain and their effectiveness: pharmacological, surgical. counterirritation as a sensory method, biofeedback vs. relaxation techniques, hypnosis, acupuncture, distraction, coping techniques to control pain, guided imagery, cognitive techniques to control pain and their effectiveness. Describe the nature of pain management programs.

### **Chapter 13 Heart disease, Hypertension, Stroke, and Diabetes**

- 1) Describe the prevalence of CHD in the United States. Describe the nature of CHD, and outline the risk factors that are implicated in its development. Discuss the nature of gender differences in medical research and risk factors for CHD
- 2) Discuss the role of psychological, behavioral and lifestyle factors in CHD, including stress, hostility, diet, exercise, cardiovascular reactivity, depression, and other factors.
- 3) Describe the techniques used to modify CHD risk-related behavior and evaluate their effectiveness. Explain the process of cardiac rehabilitation and the typical MI treatment regimens. Describe the issues surrounding the implementation of lifestyle changes and problems with social support following MI.
- 4) Describe the nature and prevalence of hypertension in the United States. Explain the relationship between stress and hypertension. Summarize the results of research investigating the relationship between personality factors and hypertension. What treatment regimens are prescribed for hypertension, including drug and cognitive-behavioral treatments. Discuss the problems in treating hypertension.
- 5) Describe the nature and prevalence of stroke in the United States. Discuss the physical, psychological, social, and emotional consequences of stroke. Explain the types of rehabilitative interventions for stroke.

- 6) Describe the nature and prevalence of diabetes in the United States. Compare and contrast Type I and Type II diabetes. Describe the implications of diabetes. Explain the causes of diabetes. Describe the problems in self-management of diabetes. Discuss the problems in adherence to treatment regimens and the factors that predict adherence. Describe behaviorally oriented interventions with diabetics, and evaluate their effectiveness.

### **Chapter 11 Management of Chronic Illness (READING ONLY)**

- 1) Describe the prevalence of chronic illness in the United States. Describe how quality of life is assessed.
- 2) Describe the emotional responses to chronic illness. Explain the role of denial, anxiety, and depression in coping with chronic illness, and explain whether these emotional reactions occur in stages.
- 3) Explain the psychological issues affecting the different aspects of the self (i.e., physical, achieving, social, and private self) associated with chronic illness.
- 4) Explain the relationship of coping strategies to chronic illness. Explain the role of patients' beliefs about the nature, cause, and controllability of their illness in their adjustment to chronic illness.
- 5) Describe the physical problems associated with chronic illness. Explain the nature and extent of nonadherence to rehabilitation regimens.
- 6) Describe the vocational issues, social interaction problems and the positive changes associated with chronic illness.
- 7) Describe the unique issues faced by children coping with chronic illness.
- 8) Describe the use and effectiveness of pharmacological interventions, individual therapy, brief psychotherapeutic interventions, relaxation and exercise, patient education and social support interventions in helping patients coping with chronic illness.