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PART

1

CPT

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CPT Case Studies

DOMAIN I: INITIAL CLIENT CONSULTATION AND ASSESSMENT

CASE STUDY CPT.I

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You have been assigned a new client, Bill (62 yr old), by your health club manager. Bill would like to begin a guided exercise program focused on his goals of weight loss and becoming more active. During your initial appointment with Bill, you perform routine health assessment revealing the following information:

Height	6 ft 2 in
Weight	255 lb
Body mass index (BMI)	32.7 kg · m ⁻²
Resting blood pressure (BP)	136/86 mm Hg
Resting heart rate (HR _{rest})	82 bpm
Lipids	High-density lipoprotein (HDL): 47; low-density lipoprotein (LDL): 128; triglycerides: 132 (all mg · dL ⁻¹)
Fasting blood glucose	114 mg · dL ⁻¹
Family history	Bill informs you that his father had a coronary revascularization procedure at the age of 58 yr; this procedure is referred to as a coronary artery bypass graft, often referred to as a CABG. His mother died from cancer at 76 yr of age and his younger brother had a myocardial infarction (heart attack) at age 56 yr.
Smoking status	Never smoked
Current medications	Lipitor, a statin drug used to treat high cholesterol Zestril, an angiotensin-converting enzyme (ACE) inhibitor used to treat high BP and heart failure Prilosec, an antacid drug used to treat heartburn, stomach ulcers, and gastroesophageal reflux disease Advil, a nonsteroidal anti-inflammatory drug Bill occasionally takes to treat back and joint pain
Exercise history and/or sedentary lifestyle	Played golf, using a powered golf cart, two times per week until a back injury 5 yr ago; played baseball and football in high school
Surgeries	Bill had his gallbladder removed 2 yr ago. He also had an endoscopic outpatient procedure to treat his stomach ulcer 1 yr ago. He reports no orthopedic surgeries or active injuries other than occasional low back pain following activities like yard work.

Bill is interested in lower intensity exercise due to his concerns regarding joint pain in his lower back and extremities. His stated goal is to lose a minimum of 30 lb. At the conclusion of the initial appointment, you decide on a combination of resistance training using machines and body weight exercises and aerobic exercise on the treadmill and recumbent bicycle. He will also begin a stretching program with a focus on the lower back and extremities.

MULTIPLE-CHOICE QUESTIONS FOR CASE STUDY CPT.I

- Bill should be characterized as meeting all defining criteria for American College of Sports Medicine (ACSM) risk factors for atherosclerotic cardiovascular disease, *except*
 - Hypertension
 - Obesity
 - Sedentary lifestyle
 - Family history
- According to his history and goals, your next session would occur when?
 - Immediately, including high-intensity exercise
 - Immediately, only for resistance training
 - After meeting with the dietician
 - After medical clearance has been obtained
- Based on Bill's fasting glucose level, he would be classified as
 - Normal
 - Prediabetic
 - Hypoglycemic
 - Diabetic
- What would be Bill's estimated maximum HR (using the formula $220 - \text{age}$)?
 - 145 bpm
 - 158 bpm
 - 186 bpm
 - Cannot be determined
- Based on Bill's lipid profile, he would be classified as
 - Normal
 - Hyperlipidemic
 - Dyslipidemic
 - At risk for atherosclerosis

DISCUSSION QUESTIONS FOR CASE STUDY CPT.I

You have reviewed Bill's history and received his informed consent, and the medical clearance has been obtained for the possible inclusion of vigorous intensity exercise. You now decide to perform a fitness assessment.

- Identify appropriate fitness assessments and explain why these are appropriate protocols.
- Use the Karvonen heart rate reserve (HRR) formula to calculate the training HR range for Bill during his initial training phase for aerobic exercise. Discuss the reasoning for choosing this training range.

DOMAIN II: EXERCISE PROGRAMMING AND IMPLEMENTATION

CASE STUDY CPT.II(1)

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You are a CPT at a local fitness center and have acquired a new client, Marie, a fit young woman and expectant mother currently in her first trimester. She has recently joined your facility and feels that exercising in an environment with other people around would give her peace of mind. She informs you that she was a collegiate cross-country runner and prefers outdoor activity but would like an exercise prescription that includes aerobic, resistance, and balance activities modified for pregnancy. Marie expresses to you that although she hopes to maintain as much of her fitness as possible throughout her pregnancy, her main goals are to maintain her health and the health of her baby. She enjoys running in the morning with her husband for anywhere between 30 and 45 min (approximately $150\text{--}225 \text{ min} \cdot \text{wk}^{-1}$) $5 \text{ d} \cdot \text{wk}^{-1}$ and performs