# *ACSM's Exercise Mgmt for Persons with Chronic Diseases & Disabilities* *(Fourth ed, 2016)*

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# *LEARNING OBJECTIVES*

**After reading *ACSM's Exercise Management for Persons with Chronic Diseases and Disabilities*, the participant will be able to:**

## Part I

1. Identify the seven exercise test families
2. Explain the effects of medicine on exercise capacity.
3. Identify the two kinds of risks involved in exercise when working with persons with a chronic disease or disability.
4. Explain the physiological differences between children and adults in response to exercise.
5. Describe the recommended method used to regulate exercise intensity for young children.

## Part II

1. Describe the signs and symptoms used in diagnosis of a myocardial infarction.
2. Describe the positive results of exercise training on persons with previous MI.
3. Explain the possible effects of cardiovascular medication on exercise response.
4. Explain the effects of revascularization on exercise response.
5. Explain exercise program recommendations that should be considered for persons who have undergone CABGS or PTCA.
6. Identify the three forms of symptomatic angina.
7. Explain the effects ischemia can have on exercise response.
8. Identify the goal of exercise training for persons with angina.
9. Explain exercise program recommendations that should be considered for persons with angina.
10. Explain the effects of atrial fibrillation on exercise response.

11. Explain exercise program recommendations that should be considered for persons with atrial fibrillation.
12. Identify the basic types of pacemakers and how they function.
13. Identify the Valvular heart disease that is most often congenital.
14. Explain exercise program recommendations that should be considered for persons with Valvular heart disease.
15. Identify the hemodynamic or organ changes that are associated with chronic heart failure.
16. Describe the effects of exercise training on persons with chronic heart failure.
17. Explain exercise program recommendations that should be considered for persons with chronic heart failure.
18. Identify valid causes for exercise intolerance for persons who have undergone cardiac transplant surgery.
19. Explain exercise program recommendations that should be considered for persons who have undergone cardiac transplant.
20. Explain the effects of regular exercise on blood pressure.
21. Identify lifestyle changes recommended for control of high blood pressure.
22. Explain exercise program recommendations that should be considered for persons with high blood pressure.
23. Explain the technique used to assess peripheral circulation.
24. Explain the effects of exercise training on peripheral arterial disease.
25. Identify the recommended mode of exercise for persons with peripheral arterial disease.
26. Identify the primary cause of congenital aortic aneurysms.
27. Explain the effects of exercise on aneurismal disease.
28. Explain exercise program recommendations that should be considered for persons with aneurismal disease.

## PART III:

1. Explain what is meant by restrictive pulmonary disease and what is meant by obstructive pulmonary disease.
2. Explain the effects of COPD on exercise response.
3. Explain exercise program recommendations that should be considered for persons with COPD.
4. Explain exercise testing recommendations that should be considered for persons with chronic restrictive pulmonary disease.
5. Explain exercise program recommendations that should be considered for persons with chronic restrictive pulmonary disease.
6. Explain the effects of asthma on exercise response.

7. Explain exercise program recommendations that should be considered for persons with asthma.
8. Explain the effects of cystic fibrosis on exercise response.
9. Identify the preferred method for exercise testing for persons with cystic fibrosis.
10. Explain exercise program recommendations that should be considered for persons with cystic fibrosis.
11. Explain the effects of lung and heart lung transplantation on exercise response.
12. Explain exercise testing recommendations that should be considered for persons with lung or heart lung transplantation.

## PART IV

1. Identify the primary goal of exercise training for persons with renal failure.
2. Explain exercise program recommendations that should be considered for persons with ESRD and ESLD.
3. Identify a common disease risk for persons with long standing diabetes.
4. Explain the effects of diabetes on exercise response.
5. Identify the principal lipoprotein classes and identify which one transports cholesterol from peripheral tissues back to the liver.
6. Explain what effect lipid lowering medications can have on exercise.
7. Explain exercise program recommendations that should be considered for persons with hyperlipidemia.
8. Explain how obesity is associated with disease risk.
9. Explain exercise program recommendations that should be considered for obese adults.
10. Explain exercise testing recommendations that should be considered for frail adults.
11. Identify the goal of exercise training for frail, elderly adults.
12. Explain exercise program recommendations that should be considered for frail, elderly adults.

## PART V

1. Explain the effects of cancer on exercise response.
2. Explain exercise program recommendations that should be considered for persons with cancer.
3. Explain the effects exercise training can have on persons with AIDS.
4. Explain exercise program recommendations that should be considered for persons with AIDS.

5. Explain the effects of abdominal organ transplantation on exercise response.
6. Explain exercise program recommendations that should be considered for persons who have undergone organ transplant.
7. Explain exercise testing recommendations that should be considered for persons with chronic fatigue syndrome.
8. Explain exercise program recommendations that should be considered for persons with chronic fatigue syndrome.
9. Identify which exercise activities are not recommended for persons with fibromyalgia.
10. Explain exercise program recommendations that should be considered for persons with fibromyalgia.
11. Explain the effects of anemia on exercise response.
12. Explain exercise program recommendations that should be considered for persons with anemia.
13. Explain the risk association between platelet count and lifting heavy weights.
14. Explain exercise program recommendations that should be considered for persons with bleeding or clotting disorders.

## PART VI

1. Identify the two most common rheumatologic diseases.
2. Explain the effects of arthritis on exercise response.
3. Explain exercise program recommendations that should be considered for persons with rheumatologic disease.
4. Explain the different methods used to measure appropriate exercise activity for persons with chronic LBP and persons with acute LBP.
5. Explain exercise program recommendations that should be considered for persons with lower back pain.
6. Explain exercise testing recommendations that should be considered for persons with osteoporosis.
7. Identify the benefits of exercise training for persons with osteoporosis.
8. Explain exercise program recommendations that should be considered for persons with osteoporosis.
9. Explain the possible disadvantages of using walking or jogging as a long term exercise activity for LL amputees.
10. Explain exercise testing recommendations that should be considered for LL amputees.

## PART VII

1. Explain the association between the area of the brain involved in neurological impairment and exercise response.

2. Explain exercise program recommendations that should be considered for persons who have experienced a CVA or TBI.
3. Explain the difference between tetraplegia, paraplegia, and quadriplegia.
4. Explain exercise testing recommendations that should be considered for persons with spinal cord disabilities.
5. Explain exercise testing recommendations that should be considered for persons with muscular dystrophy.
6. Explain exercise program recommendations that should be considered for persons with muscular dystrophy.
7. Explain the different types of seizures that may affect a person with epilepsy.
8. Identify activities that are not recommended for persons with epilepsy.
9. Explain exercise testing recommendations that should be considered for persons with multiple sclerosis.
10. Explain exercise program recommendations that should be considered for a person with multiple sclerosis.
11. Explain exercise testing recommendations that should be considered for persons with polio and post polio syndrome.
12. Explain exercise program recommendations that should be considered for persons with polio or post polio syndrome.
13. Explain exercise program recommendations that should be considered for persons with ALS.
14. Identify the benefits and overall goal of exercise training for persons with ALS.
15. Explain the exercise abilities associated with the different CP ISRA groups.
16. Identify the effects of exercise training on persons with CP
17. Explain exercise program recommendations that should be considered for persons with CP.
18. Explain the motor symptoms of Parkinson's disease.
19. Explain the exercise program recommendations that should be considered for persons with Parkinson's disease.

## PART VIII

1. Explain the classification levels of mental retardation.
2. Explain the effects of Down's syndrome on exercise response.
3. Explain exercise testing recommendations that should be considered for persons with mental retardation.
4. Identify exercise activities that are effective and increase motivation for persons with mental retardation.
5. Explain exercise program recommendations that should be considered for persons with Alzheimer's disease.

6. Identify the three most common mental illness diagnoses.
7. Explain exercise testing and programming recommendations that should be considered for persons with mental illness.
8. Explain exercise program recommendations that should be considered for persons with hearing loss.
9. Identify which type of visual impairment has the most effect on mobility.
10. Explain exercise program recommendations that should be considered for persons with visual impairment.

## *Course Examination for:*

### ***ACSM's Exercise Mgmt***

### ***For Persons with Chronic Diseases and Disabilities***

*Choose the most appropriate answer.*

1. **Why do researchers rarely study individuals with multiple chronic conditions?**
   a. Because so few people have multiple conditions
   b. Because the interaction of the pathophysiologies are complicated
   c. Because the death rate is so high it prevents the ability for long term studies
   d. Because so many studies have been done in the past

2. **Which of the following is not a reason researchers avoid the study of multiple chronic conditions?**
   a. Funding can be challenging to get
   b. Between-subject heterogeneity makes interventions challenging thus limiting publication quality
   c. Physical activity is hard to track among physical limitations of clients
   d. Studies are difficult to design

3. **The most important barrier our health care system needs to overcome according to the authors is:**
   a. Better insurance coverage for lower costs
   b. Better quality tests in order to correctly diagnose chronic diseases
   c. Better coordination between insurance companies and medical professionals
   d. Better interaction between medical and exercise professionals

4. **Barriers to the goal of helping physicians encourage exercise as much as they encourage the use of medications are all of the following EXCEPT:**
   a. Prescribing pills is easier
   b. It is challenging to counsel patients on lifestyle
   c. Many societies do not reimburse health care professionals for exercise management
   d. Many chronically ill patients cannot exercise

5. **What is the number one reason that prompted smokers to quit?**
   a. Encouragement from their physician
   b. Family support
   c. Reduction in cost of insurance
   d. Exercise professionals encouragement through health and fitness

6. **Which statement is false concerning Exercise is Medicine**
   a. It was not created for those with chronic diseases
   b. It was designed for health individuals to do activities such as walking
   c. It has been adopted on in the United States
   d. It is set up to promote weekly physical activity to improve health

7. **Which of the following is not considered an example of programs that can help someone with chronic disease transition from rehab to regular exercise?**
   a. Cardiac rehab
   b. Self-monitored home workout program
   c. Medically supervised exercise program
   d. Prescribed and monitored home programs for those with stabilized diseases

8. **Who would be "flagged" when using the Exercise Vital Sign Questionnaire?**
   a. Adults exercising for 100 minutes/week
   b. Adults exercising for 200 minutes/week
   c. An athlete who is training for a half marathon
   d. An adult who performs 45 minutes of exercise 5 days/week

**9. What population is at most risk for developing chronic disease or disabilities?**

a. Children
b. Seniors
c. Athletes
d. Teenagers

**10. Which of the following is not considered to be a useful resource for a healthy patient who is only looking to reduce risk factors?**

a. YMCA
b. Advice from an exercise professional
c. Buying a pedometer
d. Google

**11. How long should a physician spend discussing exercise with a patient who's MVPA score is greater than 150?**

a. 5 minutes
b. 3 minutes
c. 1 minute
d. 2 minutes

**12. Which of the following is not a part of the pharmacy style of exercise prescription?**

a. Adverse effects
b. Indication
c. Dosage measured by intensity
d. Medication

**13. The Chronic Care Model has been layered onto what other model?**

a. Medicare
b. Exercise is Medicine
c. Patient-centered medical home
d. American College of Sports Medicine

**14. Which of the following is not an external challenge of the chronic care model?**

a. Creating environments that promote activity
b. The use of electronic medical records
c. High quality produce
d. Inexpensive diets

**15. What percentage of the population is completely sedentary?**

a. 25%
b. 33%
c. 57%
d. 14%

**16. Which of the following is not considered to be an adverse effect of those who develop chronic conditions?**

a. Reduced gait speed
b. Increased weight gain
c. Increase in HDLs
d. Skeletal muscle insulin resistance

**17. If an individual is exercising at 3-6 METS, he is considered to be:**

a. Light intensity
b. Able to pass the Talk Test
c. At his 75% VO2
d. Exercising too hard

**18. Vigorous activity is defined as:**

a. Activity that can only be maintained for 10 minutes or less
b. A noticeable change in breathing at an RPE of 3-5 on the 1-10 scale
c. Requiring a sufficient demand of ventilation that can be maintained for only 20-30 minutes in an untrained person
d. Sports such as football, soccer, or basketball

**19. Which test is more commonly used in cardiovascular studies because it's inexpensive and sensitive for those who have low physical function?**

a. Sit and Reach
b. Graded Exercise Text (GXT)
c. Sit to stand
d. Six minute walk

**20. Which organization suggests that duration is dependent on the volume of exercise?**

a. Swedish NIPH
b. U.S. National Human and Health Services
c. World Health Organization
d. American College of Sports Medicine

**21. Which of the following is not a reason the authors feel that it is confusing and unnecessary to create disease-specific exercise recommendations?**

a. Exercise is too complicated
b. There are too many chronic conditions
c. Clinical judgment is more beneficial
d. Most recommendations are very similar regardless of the chronic condition

**22. Which is not considered to be a minimum recommendation for flexibility and strength exercises in the CDD4 book?**

a. At least 20 step-ups on each foot
b. At least 8 consecutive arm curls with a minimum of 2kg in each hand
c. At least 8 consecutive sit to stand exercises
d. Chair sit-and-reach stretches on each leg

**23. At what 1RM % intensity should strength training be performed?**

a. 50-70%
b. 80-90%
c. 30-40%
d. To momentary muscle fatigue

**24. Which statement is false concerning the two RPE scales?**

a. The 6-20 scale is based on a relationship between exertion and heart rate
b. The 0-10 scale is modeled on a linear scale based on exertion and heart rate
c. The 0-10 scale is based on the relationship between exertion and ventilation
d. The 0-10 scale is non-linear at high levels of exertion

**25. Which of the following is not a use for the graded exercise test according to the American Heart Association?**

a. Evaluate the functional severity of CAD
b. Determine cholesterol values and their role in the development of CAD
c. Evaluate exercise-related symptoms of CAD
d. Assessment of the response to medical interventions

**26. Which of the following is NOT considered to be a reason to avoid performing an exercise test according to ACSM?**

a. Recent unstable MI
b. Known coronary anatomy
c. Shortness of breath due to left ventricular dysfunction
d. Extreme deconditioning

**27. In order to evaluate the physical function of patients regardless of chronic conditions, they should be able to do all of the following EXCEPT:**

a. Ascend a flight of 10 steps in under 30 seconds
b. Eight sit to stand repetitions in 30 seconds
c. 10 successful squats with a barbell
d. 8 arm curls with a 4 kg mass

**28. Which of the following is not a recommendation for initial intensity?**

a. RPE no higher than 11-14
b. Activities in the 4-6 MET range
c. Progress slowly and be alert for symptoms
d. Exercise HR = resting HR + 20 beats/minute

**29. Which of the following is not a variable for interval training?**

a. Duration and intensity
b. Volume
c. Frequency
d. Length of recovery

**30. Which of the following is the highest ACSM exercise professional certification?**

a. Certified Cancer Exercise Trainer
b. Certified Clinical Exercise Physiologist
c. Registered Clinical Exercise Physiologist
d. Certified Exercise Physiologist

**31. When assessing exertional symptoms that limit physical activity, it is important to measure:**

a. VO2 max
b. Recovery time
c. 1 RM
d. Angina scale

**32. What is the approximate aerobic capacity range for a client who is NYHA classification IV?**

a. 3-5 METS
b. 14-20 mL O2/kg/min
c. 4-5 METS
d. < 10 mL O2/kg/min

**33. Which statement is incorrect about the 6 minute walk test?**

a. Patients choose their own intensity of walking
b. It is a replacement for cardiorespiratory testing
c. Patients are allowed to stop and rest during the test
d. It can help to indentify clinically meaningful deterioration in cardiopulmonary populations

**34. Which of the following is incorrect procedure for the gait speed test?**

a. Researchers are advocating that this test become a vital sign for older adults
b. Gait speed of <0.6 m/sec is associated with improved outcomes
c. It is the best predictor of nursing home admissions
d. It is measured as the client's usual pace over short distances

**35. "Unassisted" during the chair-to-stand test means:**

a. The exercise professional cannot touch the client
b. The client walks without a walker or cane
c. The client's arms are across the chest so they cannot be used to push out of the chair
d. The chair itself cannot have arms on it

**36. How far does the client walk before turning around and returning to his chair in the times up-and-go test?**

a. 6 meters
b. 5 meters
c. 4 meters
d. 3 meters

**37. Which of the following is not one of the methods that can be used for the Short Physical Performance Battery test?**

a. 4 m gait speed
b. Balance testing in three different standing positions
c. 5 repetition chair stand
d. 4 arm curls with 2 kg weights in each hand

**38. When utilizing the low-level constant-increment protocol, how often does the grade increase?**

a. 3-5 minutes
b. 30-60 seconds
c. 1-2 minutes
d. As the client is comfortable

**39. Why is the Bruce protocol not considered a helpful method to assess patients with chronic disease?**

a. Fatigue would set in quickly due to the large increases in work rates
b. It does not diagnose chronic disease
c. Most chronic disease patients cannot walk on a treadmill
d. The speed starts off so fast that clients would not be able to keep up in the first stage

**40. What type of health care professional works with clients who need therapy to develop self care skills?**

a. Physical therapist
b. Occupational therapist
c. Exercise physiologist
d. Neurophysiologist

**41. Which of the following is a valid reason to reduce the intensity of exercise?**

a. Excessive fatigue after exercise
b. If your effort is “hard” or “very hard”
c. Muscle soreness that prevents exercise the next day
d. Slight increase in respiration from rest

**42. Which of the following is not a valid reason to stop exercise and ask for guidance?**

a. Blurry vision
b. Unexpected irregular heart rhythm
c. If blood pressure exceeds 140/90
d. Dizziness

**43. Which of the following is not considered an abnormal response to exercise?**

a. Nausea
b. HR below 100 bpm 30 minutes post-exercise
c. Headache
d. Excessive shortness of breath

**44. Which behavioral technique looks at how social situations affect the making of choices?**

a. Stages of Change
b. Self Efficacy
c. The 5A's
d. SMART principle

**45. Your client has gone out to buy workout clothes. What stage of change is she in?**

a. Contemplation
b. Action
c. Preparation
d. Maintenance

**46. Which of the following is not one of the 5A's in the Self-Determination Theory?**

a. Advise
b. Arrange
c. Address
d. Action

**47. The 5A's tool was originally designed for:**

a. Weight loss
b. Drug addiction
c. Smoking cessation
d. Diabetes control

**48. What is considered to be the most important benefit of motivation interviewing?**

a. Ensuring the counselor understands the patient's unique situation
b. Addressing the barriers to success from the patient's point of view
c. Discovery of potential risk factors that may affect the success of the program
d. Finding who is a part of the patient's support team (family members, friends, etc.)

**49. Which model views the failed attempt at a behavior change as a learning tool for subsequent attempts?**

a. Stages of change
b. Motivational interviewing
c. Self-theory
d. Motor learning theory

**50. Which theory postulates that family, friends, and environment strongly influence change?**

a. Motivation and grit
b. Fear avoidance
c. Socioecological
d. Stages of change

**51. When using the Bruce treadmill protocol, what is the most common reason the test is terminated in the chronically diseased or disabled populations?**

a. Peripheral limitations
b. High BP response
c. Unusual drop in blood glucose
d. Shortness of breath

**52. When incorporating a community-based musculoskeletal program, a key challenge is to:**

a. Individualize the program in a group setting
b. Qualifications of the fitness professional
c. Assess blood pressure response to exercise
d. Determine if limitations are acute or chronic

**53. For those clients who are frail, it is best to start with:**

a. Core stability
b. Muscular endurance exercises
c. Stair climbing
d. Seated weight training

**54. What percentage of Americans have dylipidemia?**

a. 29%
b. 33%
c. 42%
d. 17%

**55. Which of the following is considered to be high blood pressure?**

a. 142/86
b. 115/76
c. 139/62
d. 128/80

**56. Which of the following is not a term used for 95% of hypertension cases?**

a. Primary
b. Idiopathic
c. Essential
d. Secondary

**57. Which type of cholesterol carries 80% triglyceride?**

a. Lipoprotein
b. LDL
c. HDL
d. VLDL

**58. What term is used to describe elevated cholesterol?**

a. Hyperlipoproteinemia
b. Dyslipidemia
c. Hypercholesterolemia
d. Dyslipoproteinemia

**59. What does ESH/ESC recommend for "normal" BP ranges for older individuals up to 80 years of age?**

a. Systolic of 140-150 mmHg
b. Systolic <140 mmHg
c. Diastolic < 85 mmHg
d. Diastolic of 80-90 mmHg

**60. Which of the following medications is a beta blocker?**

a. Atenolol
b. Chlorthalidone
c. Diltiazem
d. Furosemide

**61. Which of the following is not a correct lifestyle recommendation for those with dyslipidemia?**

a. 25-35% of daily calories from fat
b. 10% of daily calories from saturated fats
c. <10% of daily calories from polyunsaturated fat
d. <20% of daily calories from monounsaturated fat

**62. What is the LDL-C recommendation for those with heart disease and diabetes?**

a. <100 mg/dl
b. <160 mg/dl
c. <70 mg/dl
d. <130 mg/dl

**63. Which of the following cholesterol medications increases HDL?**

a. Lovastatin
b. Niacin
c. Omega-3 fatty acids
d. Ezetimibe

**64. Aerobic exercise can typically lower LDL-C in people with hyperlipidemia by what percentage?**

a. 1-2%
b. 10-15%
c. 15-20%
d. 5-10%

**65. What is the recommendation for physical activity for someone who has hypertension or dyslipidemia along with other chronic conditions and a disability?**

a. 150-300 min/week of moderate activity
b. 150-300 min/week of low activity
c. 150 min/week of moderate activity
d. 150-300 min/week of self-paced activity

**66. Which of the following is not a factor in the pathophysiology of type 2 diabetes?**

a. Decreased glycosylation of body tissues
b. Activation of proinflammatory pathways
c. Decreased insulin sensitivity
d. Nonalcoholic fatty liver disease

**67. Which of the following is not a criteria for diagnosing diabetes according to the American Diabetes Association?**

a. Fasting glucose > 125 mg/dl on two separate occasions
b. Glycosylated hemoglobin > 6.5% on two separate occasion
c. Two hour glucose tolerance test of 170 on two separate occasions
d. Two hour glucose tolerance test of >200 on two separate occasions

**68. Which diabetes medication is a very long-acting insulin?**

a. Linagliptin
b. Insulin pump
c. Levemir
d. Novolog

**69. A client with type 2 diabetes should not exercise if their blood glucose is below:**

a. 95
b. 85
c. 90
d. 80

**70. Which of the following statements is false concerning osteoarthritis?**

a. It affects weight-bearing joints
b. It is often symmetrical
c. It is more of a biomechanical failure of the articular cartilage
d. It can lead to complete joint damage

**71. Which statement below is false concerning rheumatoid arthritis?**

a. It affects only the weight-bearing joints
b. It can be fatal
c. It affects joints symmetrically
d. It is highly variable

**72. Which arthritis medication works by increasing pain threshold?**

a. Acetominophen
b. Oxycodone
c. Actemira
d. Enbrel

**73. Which is not a recommendation for exercise programming for the client with arthritis?**

a. Moderate intensity for walking
b. Strengthen hamstrings
c. Core strengthening
d. Balance training

**74. Which hormones affect the regulation of bone deposition and reabsorption?**

a. Testosterone
b. Pancreatic hormones
c. Progesterone
d. Parathyroid hormones

**75. What is the most common cause of osteoporosis?**

a. Long-term use of high-dose corticosteroids
b. Lack of strength training in their workout routine
c. Being sedentary for more than 10 years
d. Long-term use of soft drinks

**76. Chronic obstructive pulmonary disease is the ____ leading cause of death in the U.S.**

a. 4th
b. 2nd
c. 5th
d. 3rd

**77. COPD airflow obstruction is mainly compromised during:**

a. Inhalation
b. Exhalation
c. Force inhalation
d. Tidal volume

**78. All of the following are detrimental effects of COPD EXCEPT:**

a. Peripheral muscle wasting
b. Right atrial systolic dysfunction
c. Cardiovascular deconditioning
d. Increased accumulation of lactic ac id at low work rates

**79. Which of the following is not an adverse side effect of aminophylline?**

a. Cardiac dysrhythmias
b. CNS stimulation
c. Seizures
d. Bradycardia

**80. What is the main cause of impairment of gas exchange in emphysema?**

a. Loss of lung elasticity
b. Reduced function of the diaphragm
c. Destruction of the alveoli sacs
d. Restriction of the intercostals muscles

**81. Which exercise test offers the best means of controlling external work rates, measuring gas exchange, and blood samples?**

a. Bruce treadmill test
b. Cycle ergometer
c. 6 minute walk test
d. Upper body ergometer

**82. What is the best way to test the effects of inhaled bronchodilator therapies on exercise endurance?**

a. 6 minute walk test
b. Constant work rate treadmill testing
c. Bruce treadmill test
d. Cycle ergometer test

**83. What is the best method to measure intensity for a client who has COPD?**

a. Angina scale
b. Heart rate formula
c. Karvonen formula
d. Dyspnea scale

**84. What is the best time of day for a client with COPD to exercise?**

a. Late afternoon
b. Mid-to-late morning
c. Early-to-late morning
d. Mid-to-late afternoon

**85. Rigid fibrous caps in the arteries are:**

a. Vulnerable to breaking off
b. Prevents blood leakage in damaged arteries
c. Is stable and less likely to cause CAD related problems
d. Is normal in a healthy individual

**86. Insurance companies will typically cover cardiac rehabilitation if the diagnosis has been made within:**

a. 12 months
b. 16 months
c. No longer than 6 months
d. Within 1-2 months

**87. What fitness professional is best to work a client who needs cardiac rehab but is unable to pay out-of-pocket costs?**

a. ACSM Certified Clinical Exercise Physiologist
b. ACSM Registered Clinical Exercise Physiologist
c. ACSM Exercise Test Technologist
d. ACSM Certified Exercise Physiologist

**88. When a client is asymptomatic but still has cardiac ischemia, it is:**

a. Not a problem
b. A major cause of death for CAD clients
c. Called “silent ischemia”
d. Grounds for exercise to be contraindicated

**89. Which is not a symptom of atypical angina?**

a. Nausea
b. Heaviness behind the sternum
c. Shortness of breath
d. Toothache

**90. The best way to track improvements in the ischemic threshold is:**

a. Rate pressure product
b. Ankle-Brachial index
c. RPE
d. Angina scale

**91. Which of the following is not an absolute reason to stop an exercise test?**

a. ST elevation of +1.0 in leads without diagnostic Q-waves
b. Angina that is a 3 or higher on the scale
c. Nausea
d. Drip in SBP > 10 mmHg from baseline accompanied by other evidence of ischemia

**92. Which of the following is not part of the AHA/ACC guidelines for exercise programming for clients with CAD?**

a. Daily walking especially following an acute MI
b. Avoid resistance training until 3 weeks of stable cardio programming
c. Perform 30-60 min. of moderate-intensity aerobic activity for all with CAD
d. Supplement aerobic activity with an increase in daily lifestyle activities

**93. Which of the following is not a recommendation for inpatient clients with CAD for intensity?**

a. RPE <13
b. 50-70% HRR
c. HR < 120 bpm
d. HRrest + 20-30 bpm

**94. What is the main cause of peripheral arterial disease?**

a. Systolic pulse
b. Diastolic pulse
c. Clot formation in the aorta
d. The bending and kinking of arteries from movement

**95. What percentage of clients with PAD develop intermittent claudication?**

a. 10%
b. 40%
c. 15%
d. 30%

**96. What is the single most dominant risk factor for PAD?**

a. Alcohol
b. Tobacco smoking
c. Sedentary lifestyle
d. Fatty diets

**97. What can mimic claudication?**

a. Spinal stenosis
b. Calf cramps
c. Angina
d. Muscle soreness

**98. Those with intermittent claudication wanting to qualify for a walking program should fall within the following parameters EXCEPT:**

a. Full recovery between exercise intervals
b. Onset of claudication in about 5 minutes
c. The aim to cause pain score of 3 out of 4
d. Exercise at 40-50% of HRR

**99. For those CAD patients who do not have intermittent claudication, how should their intensity be measured?**

a. RPE of 3-5 on the 1-10 scale
b. 40-50% of HRR
c. 3 out of 4 on the claudication scale
d. 4 out of 4 on the dyspnea scale

**100. What two factors increase the risk of breast cancer in women by 50%?**

a. Tobacco and obesity
b. Obesity and physical inactivity
c. Fatty diet and obesity
d. Fatty diet and sun damage

**101. Which type of cancer affects bone or connective tissue?**

a. Lymphoma
b. Carcinoma
c. Leukemia
d. Sarcoma

**102. What type of exercise has shown promise in the prevention of the recurrence and death from breast and colon cancers?**

a. Low intensity weight training
b. 10 minute HIIT programs
c. Moderate to vigorous progressive exercise
d. Low to moderate intensity aerobic exercise

**103. What is the primary challenge in working with clients who have cancer or survived cancer?**

a. Motivation
b. The side effects of the treatment(s)
c. Fear avoidance
d. Muscle soreness

**104. What are the first two words in the ACSM guideline for exercise for those affected by cancer?**

a. Avoid fear
b. Stay strong
c. Avoid inactivity
d. Balance life

**105. What is dysthymia?**

a. A disorder of the thymus gland
b. A disorder of the blood
c. An EKG abnormality
d. Persistent depressive disorder

**106. People who are depressed are ___ times more likely than others to avoid adhering to a practitioner's recommendations?**

a. 2
b. 3
c. 4
d. 5

**107. What is believed to be the central cause of depression?**

a. Family death
b. Drug addiction
c. Traumatic events
d. Imbalance of serotonin or endocrine pathways

**108. All of the following are risk factors for developing depression EXCEPT:**

a. Early childhood trauma
b. Substance abuse
c. Being male
d. Family history of depression

**109. Which antidepressant medication can affect or change blood sugar levels and thus be a concern for diabetics?**

a. Nortriptyline
b. Venlafaxine
c. Citalopram
d. Sertraline

**110. Which of the following is not one of the four main causes of lower-limb amputation?**

a. Benign tumor
b. Bone malignancy
c. Diabetes
d. Trauma

**111. What is the most common cause of amputation?**

a. CHF
b. Diabetes
c. Trauma
d. Cancer

**112. What is the major impact of amputation on exercise demand?**

a. Perceived exertion is decreased due to the asymmetry
b. Cardiovascular demands increase 20-50% higher due to asymmetry
c. Aerobic economy is higher especially if wearing a prosthetic
d. HR responses are lower than non-amputees due to the lack of a limb

**113. Which is not one of the five criteria Fried and colleagues came up with in 2001 for the syndrome of frailty?**

a. Exhaustion
b. Low physical activity
c. Tremors
d. Low grip strength

**114. Research supports the use of all of the following medications to treat frailty EXCEPT:**

a. Growth hormone
b. Growth hormone-releasing hormone
c. Estrogen
d. Testosterone

**115. What test has been suggested as a very important measurement for frailty in older adults?**

a. Gait speed
b. Sit and stand
c. Grip strength
d. Squat test

**116. Which statement is incorrect concerning the pathophysiology of congestive heart failure?**

a. It is not a disease, but a syndrome
b. It occurs when cardiac output is reduced at rest
c. In systolic dysfunction, the left ventricular ejection fraction is referred to as reduced
d. Reduced ventricular compliance occurs in systolic dysfunction

**117. The benefit of exercising for a client who has CHF is:**

a. It will completely reverse CHF
b. It will replace the need for medication
c. It can prevent remodeling of the muscles of the heart
d. It can increase abnormal remodeling

**118. Which statement is false concerning HIIT as a tool for CHF patients?**

a. It can stimulate skeletal muscle without undue stress on the heart
b. It can create vast VO2 improvements
c. It needs further research to prove benefits and safety for CHF patients
d. It is very safe for CHF patients and has shown promise with long term adherence

**119. Some studies have shown how much improvement in functional capacity through exercise for those with diastolic dysfunction CHF?**

a. 40-45%
b. 20-25%
c. 15-20%
d. 30-35%

**120. Which of the following is not an absolute contraindication to exercise for CHF?**

a. Pacemaker
b. Left ventricular outflow obstruction
c. Decompensated CHF
d. Unstable dysrthymias

**121. Which of the following is not a typical symptom of atrial fibrillation?**

a. Stroke
b. Fatigue
c. Diabetes
d. Syncope

**122. Individuals with atrial fibrillation are at high risk of developing:**

a. Emphysema
b. Diabetes
c. CHF
d. Stroke

**123. INR needs to be checked regularly for those on anticoagulants making sure to keep the range between ____ and ___:**

a. 1.0 and 2.0
b. 2.0 and 3.0
c. 1.5 and 2.5
d. 3.5 and 4.5

**124. Which statement is false concerning the effects of exercise on atrial fibrillation?**

a. Exercise tolerance is generally increased in AF
b. Maximal HR is higher in those with AF
c. Stroke volume is reduced in those with AF
d. AF is a rapid, irregular ventricular rate

**125. The most important consideration for those with AF when it comes to exercise programming is:**

a. Whether the client can reverse the AF
b. The existence of possible underlying heart disease
c. Whether the client has a defibrillator/pacemaker implanted
d. How long the client has been in AF

**126. When performing an exercise test, which dysrhthmia makes the determination of ischemia more difficult?**

a. Bundle branch block
b. Tachycardia
c. Bradycardia
d. Tachy-Brady syndrome

**127. Class I indications for a permanent pacemaker include all of the following EXCEPT:**

a. Symptomatic bradycardia
b. First degree AV block
c. Sinus node dysfunction
d. Third degree AV block

**128. In a biventricular pacemaker, which chamber of the heard does NOT have a lead in it?**

a. Right atrium
b. Left ventricle
c. Left atrium
d. Right ventricle

**129. Which statement is false concerning DDDR pacemakers?**

a. It results in a heart rate that is nearly normal
b. It uses the client's own sinus rhythm as a guide to ventricular stimulation
c. It results in a cardiac output that is nearly normal
d. It is widely used for those who have abnormal SA node function

**130. Pacemaker leads run through what blood vessel to reach the heart?**

a. Aorta
b. Subclavian vein
c. Vena cava
d. Pulmonary artery

**131. Which dysrhythmia(s) is/are the main concern for those with a pacemaker?**

a. V-Tach
b. Atrial Fibrillation
c. Bundle Branch Block
d. Bradycardia

**132. Which of the following devices provides both pacing and defibrillation?**

a. Pacemaker
b. CRT-D
c. CRT-P
d. VVIR

**133. All of the following are common medications prescribed to clients with pacemakers and ICDs EXCEPT:**

a. ACE inhibitors
b. Beta blockers
c. Vasoconstrictors
d. Calcium channel blockers

**134. Inappropriate shocks from ICD's occur in about what percentage of patients with defibrillators?**

a. 5%
b. 15%
c. 7%
d. 22%

**135. Special considerations for exercise testing a client with a pacemaker or ICD include all of the following EXCEPT:**

a. The test should be stopped before the heart rate is within 10 beats of the antitachycardia pacing of the device
b. Medications should not be taken in order to test the function of the device
c. Identify the device's upper limits before testing
d. Take medications at least 3 hours before testing

**136. Which of the following is an incorrect recommendation for exercise programming for a client with a pacemaker or ICD?**

a. Be aware of the device heart rate thresholds
b. Stay below the defibrillation threshold by 10 beats
c. Rigorous activities for the upper body can begin within 1-2 weeks of the implant
d. Target heart rates can be determined by max exercise tests

**137. Which of the following is not a symptom of heart valve disease?**

a. Palpitations
b. Dyspnea
c. Fatigue
d. Lower extremity swelling in low to mild cases

**138. In advanced cases of mitral valve disease, what usually develops?**

a. Pulmonary hypertension with left heart dilation
b. Aortic stenosis
c. Pulmonary embolism
d. Bundle branch block

**139. What is the most common cause of mitral valve disease?**

a. Sedentary lifestyle
b. Smoking
c. Pulmonary disease
d. Rheumatic heart disease

**140. Which valves are affected in right-sided heart valve disease?**

a. Tricuspid and aortic valve
b. Mitral valve and tricuspid valve
c. Tricuspid and pulmonary valves
d. Mitral valve and pulmonary valves

**141. Pulmonic stenosis leads to increased pressure in which heart chamber?**

a. Right ventricle
b. Left ventricle
c. Right atrium
d. Left atrium

**142. Which statement below is false concerning artificial valves?**

a. Bioprosthetic valves are limited in durability in the body
b. Metallic valves can last a lifetime
c. Bioprosthetic valves do not require the use of anticoagulants at all
d. Those with Bioprosthetic valves can still participate in contact sports

**143. Who is cycling, running, and swimming contraindicated for?**

a. Severe mitral stenosis
b. Severe mitral regurgitation
c. Aortic regurgitation
d. Aortic stenosis

**144. What type of exercise test should be performed on those with mitral valve disease?**

a. Bruce submax
b. Cycle ergometer
c. Balke test
d. Exercise echocardiography

**145. Which of the following is a significant sign during exercise test for those with aortic stenosis?**

a. An increase in BP during exertion
b. Irregular HR during exertion
c. A drop in BP during exertion
d. Pulmonary congestion

**146. All of the following are examples of high dynamic exercises EXCEPT:**

a. Wrestling
b. Running
c. Racquetball
d. Swimming

**147. The survival rate for heart transplant patients is a median of:**

a. 20 years
b. 10 years
c. 15 years
d. 5 years

**148. The classic differences in the chronotropic responses include all of the following EXCEPT:**

a. Return to resting levels is delayed
b. Peak HR is typically higher than normal
c. Resting HR is increased
d. HR increases are more gradual than normal

**149. Transplant effects on the systemic circulation include all of the following EXCEPT:**

a. Cardiac output is lower than normal at peak exercise
b. Stroke volume is elevated at maximal exercise
c. BP at rest is often mildly elevated
d. Systolic BP is lower than normal at peak exercise

**150. Which medication for heart transplant recipients can increase peripheral edema?**

a. Prednisone
b. Cyclosporine
c. Tacrolimus
d. Everolimus

**151. Those clients who have taken high dosage corticosteroids for a long time have a high probability of developing:**

a. Type II diabetes
b. High cholesterol
c. High blood pressure
d. Osteoporosis

**152. Which of the following is recommended for strength training programs for those with a heart transplant?**

a. 1-2 sets, 8-12 reps, low-moderate intensity
b. 1 set, 8-12 reps, moderate intensity
c. 1-2 sets, 10-15 reps, low-moderate intensity
d. 1-3 sets, 10-15 reps, moderate to high intensity

**153. How long should a client wait to perform upper body stretches after a sternotomy?**

a. 6-8 weeks
b. 2-3 weeks
c. 5-6 weeks
d. 3-4 weeks

**154. What is the preferred method of measuring intensity for monitoring exercise for those who have had a heart transplant?**

a. Talk test
b. RPE scale
c. Dyspnea
d. Karvonen formula

**155. Which of the following is not a symptom of an aortic aneurysm?**

a. Syncope
b. Pulsing in abdomen
c. Shortness of breath
d. Sudden, severe, constant low back pain

**156. Which of the following aneurysms has the lowest survival rate after rupture?**

a. Thoracic aortic
b. Abdominal aortic
c. Cerebral
d. All are equal in survival rates

**157. Which of the following is not a risk factor for aneurysms?**

a. Obesity
b. Inflammation markers
c. Female
d. Smoking

**158. Which of the following is not an effect on exercise due to aneurysms?**

a. There is no risk of a rupture or dissection associated with exercise
b. Heart rate response is similar to those who do not have an aneurysm
c. There is a slight increased risk of developing claudication
d. There is a chance of a hyper-and hypotensive response

**159. Why is it thought that exercise may reduce aneurysm incidence or the potential growth rate if one exists?**

a. Because it reduces HDLs
b. Because it builds endurance which can help in the survival of a rupture
c. Because regular exercise helps lower the systemic inflammation response
d. Because it strengthens the heart which can reduce heart damage

**160. Which of the following is not an issue related to Marfan's syndrome?**

a. They have a greater risk of joint dislocation
b. They have a greater risk of skeletal muscular damage
c. They have a risk of contractures
d. They should consider stopping competitive sports

**161. Which of the following is not considered to be a neuromuscular-related CRPD?**

a. Muscular dystrophy
b. Fibrosis
c. Gillain-Barre' syndrome
d. Eaton-Lambert syndrome

**162. The most common symptom of CRPD?**

a. Pleuritic chest pain
b. Shortness of breath on exertion
c. Dry cough
d. hyperventilation

**163. When the pulmonary vascular bed is restricted in CRPD, all of the following occur EXCEPT:**

a. Lower heart rate
b. Secondary pulmonary hypertension
c. Right ventricular strain
d. Lower stroke volume

**164. What is the most common clinical exercise assessment used on those clients with CRPD?**

a. Bruce treadmill protocol to measure VO2max
b. Cycle ergometer with 0.5-1.0 workload increases
c. 6-minute walk test with a pulse oxygen saturation measurement
d. Sit-to-stand with a pulse oxygen saturation measurement

**165. What should be monitored during cycle or treadmill protocols for CRPD clients where this endurance testing is appropriate?**

a. Transcutaneous oxygen saturation
b. RPE
c. Workload
d. Duration

**166. What type of asthma is the most common among non-athletes?**

a. Neurtophilic
b. Exercise-induced
c. Eosinophilic
d. Chronic

**167. Asthma symptoms are often worse at what time of day?**

a. Early morning
b. Night
c. Early afternoon
d. All during the day

**168. Which of the following is not a beneficial recommendation for those who have mild exercise-induced bronchospasm?**

a. Eat smaller portions
b. Eat a low sodium diet
c. Supplement with fish oil
d. Avoid foods that exacerbate the symptoms

**169. What is the typical exercise-induced bronchospasm scenario during a 6-8 minute bout of exercise?**

a. Bronchodilation after exercise
b. Bronchoconstriction during exercise
c. Bronchoconstriction before exercise
d. Bronchoconstriction after exercise

**170. All of the following are contraindications to exercise testing for those with asthma EXCEPT:**

a. History of cardiovascular problems
b. Known aneurysm
c. Hyperglycemia
d. History of severe hypertension

**171. Malnutrition of which nutrient is common in those with cystic fibrosis?**

a. Carbohydrates
b. Protein
c. Fats
d. Vitamins

**172. What is considered to be an early clinical feature of lung disease?**

a. Protein deficiency
b. Dehydration
c. Nausea
d. Hyperinflation

**173. Which of the following is not a contraindication to exercise for children with cystic fibrosis?**

a. Exercise-induced desaturation (<90% SpO2)
b. Scuba diving
c. Avoidance of moderate endurance activities
d. Fever > 38 degrees C

**174. Individuals with CF benefit from the building of all of the following skeletal muscle function EXCEPT:**

a. Endurance
b. Strength
c. Mass
d. Power

**175. What is "euvolemia"?**

a. Volume overload in exercise
b. Insufficient load to strengthen the lungs
c. Volume overload in the lungs
d. Insufficient red blood cells in the blood stream

**176. Which of the following is not considered to be a disease-specific factor to consider for exercise programming for those with pulmonary hyertension**

a. Optimizing oxygen prescription is beneficial
b. Exertional hypoxia is a contraindication
c. Day-to-day exercise capacity may vary
d. The underlying cause of PH often has a significant impact on response to exercise training

**177. Which of the following is not considered to be a common etiology for renal disease?**

a. Long term use of prednisone
b. Uncontrolled hypertension
c. Diabetes
d. Genetic risk factors

**178. At what percentage of kidney function loss to people usually begin to feel symptoms of deterioration?**

a. 30%
b. 80%
c. 50%
d. 15%

**179. Those with chronic kidney disease are at the highest risk category of developing:**

a. Liver disease
b. Atherosclerotic cardiovascular disease
c. Autoimmune system disorders
d. Kidney stones

**180. The kidneys play a critical role in the metabolism of:**

a. Vitamin D
b. Iron
c. Bile
d. Fats

**181. Chronic liver disease often results in all of the following EXCEPT:**

a. Gallstones
b. Bile obstruction
c. Alcohol
d. Chronic viral hepatitis

**182. How much of the liver must be damaged before a decrease in overall function becomes apparent?**

a. 30%
b. 75%
c. 50%
d. 90%

**183. All of the following are typical symptoms associated with liver disease EXCEPT:**

a. Muscle wasting
b. Abdominal pain
c. Hypertension
d. Jaundice

**184. The early stages of managing chronic kidney disease should focus on controlling:**

a. Pain
b. Blood pressure
c. Cholesterol
d. Fat intake

**185. Which renal replacement therapy uses the abdominal cavity as a reservoir for dialysis fluid?**

a. Peritoneal dialysis
b. Hemodialysis
c. Transplant
d. Stent resectioning

**186. What percentage of those diagnosed with progressive kidney dysfunction die before reaching end-stage renal disease?**

a. 50%
b. 90%
c. 70%
d. 30%

**187. Which of the following is not a suggestion for exercise testing in those with chronic kidney disease or chronic liver disease?**

a. A treadmill or cycle ergometer can be used
b. Measureing respiratory gases is not typically helpful
c. Those with CKD have to have their test terminated due to diastolic BP rising too high
d. Many clients stop due to leg fatigue

**188. Who should avoid maximal strength testing?**

a. Kidney transplant recipients
b. Those in end-stage renal disease
c. Chronic liver disease clients
d. Liver transplant recipients

**189. What is the currently accepted definition of AIDS?**

a. CD4+ T-lymphocyte count >500
b. T-lymphocyte count of 200-499
c. CD4+ T-cell count below 200
d. CD4+ T-lymphocyte percentage of total lymphocytes 14-28

**190. Which of the following is not a common immunologic abnormality that is observed in HIV?**

a. Marked decrease in total T-cells
b. A normal or slight decrease in effector CD8+ T-cells
c. Reduced response to infectious agents
d. A decrease in natural killer cell activity

**191. Which medication for HIV/AIDS can cause dyslipidemia?**

a. Enfuvirtide
b. Emtricitabine
c. Etravirine
d. Saquinavir

**192. The most common drug-related side effect for HIV/AIDs medication is:**

a. Dizziness
b. Gastrointestinal problems
c. Headache
d. Depression

**193. Which of the following is not a recommendation for exercise programming for those diagnosed with HIV/AIDs?**

a. For those older than 50, a combination of endurance and resistance exercises 4-5 days per week is recommended
b. Aerobic exercise programs should begin with lower volume
c. Err on the side of undertraining initially
d. High intensity exercise programs have not been studied thoroughly and should be encouraged with caution

**194. Chronic fatigue is characterized by persistent fatigue lasting a minimum of:**

a. 1 week
b. 1 month
c. 3 months
d. 6 months

**195. Which statement is false concerning chronic fatigue syndrome?**

a. It is four times more common among women
b. It is more common in Caucasian women age 50-59 years old
c. Among those with CFS, only 16% have been diagnosed
d. A blood test can assist in the diagnosis

**196. The most important thing to know when designing exercise programs for clients with chronic fatigue syndrome is:**

a. To progress slowly
b. Challenge themselves on days they feel good
c. Avoid flexibility due to hypermobile joints
d. Avoid strength training due to the risk of overexertion

**197. What should be the first progression made to an exercise program for someone with chronic fatigue syndrome?**

a. Frequency
b. Duration
c. Intensity
d. Mode

**198. What percentage of the population are diagnosed with fibromyalgia?**

a. 2-4
b. 5-7
c. 9-10
d. 20-23

**199. What population tends to be most affected by fibromyalgia?**

a. Males between 20-55 years of age
b. Post-menopausal women
c. Teenage males
d. Females between 20-55 years of age

**200. Which of the following is not a consideration when designing exercise programming for those with fibromyalgia?**

a. Difficulty with the use of the legs
b. Eccentric contractions are poorly tolerated
c. Morning stiffness
d. Poor recovery from exercise

**201. The main goal of exercise programs for those with fibromyalgia?**

a. Improve cardiopulmonary fitness
b. To lower cardiometabolic risk
c. To maintain physical function
d. To improve flexibility

**202. Which of the following is not a recommendation for exercise for those clients with fibromyalgia?**

a. Water exercises
b. Shoulder press
c. Body weight squats
d. Tai Chi

**203. What cardio may need to be avoided due to trigger points with fibromyalgia?**

a. Walking outdoors
b. Elliptical
c. Treadmill
d. Cycling

**204. What time of day should be avoided for exercise if your client has fibromyalgia?**

a. Early afternoon
b. Morning
c. Evenings
d. Late afternoon

**205. What is the most common platelet bleeding disorder?**

a. Thrombocytopenia
b. Von Willebrand disease
c. Hemophilia
d. Medical anticoagulation

**206. What is the most common disorders associated with platelet aggregation?**

a. Petechie and stroke
b. Aortic dissection and stroke
c. Bruising and MI
d. Stroke and MI

**207. Which of the following is not an appropriate exercise recommendation for someone who has a bleeding disorder?**

a. Tai Chi
b. High resistance training
c. Flexibility testing
d. Stationary bike

**208. Those with severe neurological conditions most commonly die from:**

a. Stroke
b. Cancer
c. Cardiovascular disease
d. Kidney failure

**209. Strokes are anticipated to double by 2050 in all of the following countries EXCEPT:**

a. Africa
b. Germany
c. United States
d. China

**210. What percentage of spinal cord injuries are due to sports injuries?**

a. 15%
b. 25%
c. 37%
d. 6%

**211. What percent chance is there of a stroke reoccurrence in the first year after the initial stroke?**

a. 33%
b. 66%
c. 10%
d. 27%

**212. What is the main cause of seizure disorders?**

a. Alcoholism
b. Family history
c. Genetics
d. Traumatic brain injury

**213. What is the most common type of spinal cord injury?**

a. Incomplete tetraplegia
b. Complete tetraplegia
c. Complete paraplegia
d. Incomplete paraplegia

**214. What percentage of stroke survivors have a fall within the first year?**

a. 50%
b. 70%
c. 25%
d. 85%

**215. What type of dysfunction can lead to dangerously raised blood pressure triggered by pain or bowel-bladder dysfunction?**

a. Pressor-chronotropic response
b. Reflex sympathetic dystrophy
c. Sleep disorders
d. Autonomic dysreflexia

**216. Peak aerobic performance following a stroke is reduced by:**

a. 30%
b. 50%
c. 70%
d. 80%

**217. How many steps per day do stroke survivors tend to take?**

a. 5000-6000
b. 1200-2000
c. 1500-3000
d. 4000-6500

**218. What should be the primary focus for the exercise program for clients who have had a CNS injury?**

a. Agility
b. Strength
c. Flexibility
d. Balance

**219. Which position should some physical activity be in for a client with a CNS injury to help improve bowel function?**

a. Prone
b. Upright
c. Standing
d. Supine

**220. What is a good ratio of carbohydrates to proteins for someone with a spinal cord injury in order to enhance muscle injury?**

a. 1:3
b. 4:2
c. 3:1
d. 2:4

**221. Besides diabetes, what other endocrine disorder can cause peripheral neuropathy?**

a. Thyroid
b. Adrenal
c. Kidney
d. Thymus

**222. Which of the following medications should be used carefully in order to avoid addiction issues and rebound pain for those with peripheral neuropathy?**

a. Acetaminophen
b. Opiod
c. Antiepileptic
d. Antidepressants

**223. Symptoms of myasthenia may be reduced by surgical removal of the:**

a. Adrenals
b. Adenoids
c. Thymus
d. Thyroid

**224. All of the following are appropriate special considerations for exercise programming with clients who have peripheral neuropathies, myopathy, or myasthenia gravis EXCEPT:**

a. Exercising in the heat may help with blood circulation and help reduce muscle soreness
b. Orthotics may help reduce the risk of injury
c. Assuming a wider stance may help balance issues
d. Some exercises may need to be modified if joint position cannot be maintained

**225. Because autonomic dysfunction can affect BP and HR response, all of the following are suggested EXCEPT:**

a. Compression stockings
b. Proper hydration
c. Maintenance of electrolytes
d. Hot packs after exercise

**226. What type of exercise is particularly important for those with myopathies?**

a. Core strength and endurance
b. Upper body strength
c. Back strength and leg strength
d. Upper body and lower body endurance

**227. Common areas of pain in those with neuropathy, myopathy, and myasthenia gravis are all of the following EXCEPT:**

a. Knee
b. Back
c. Neck
d. Hip

**228. Individuals with severe neuromuscular disorders are recommended to increase their walking by:**

a. 2 minutes every 5 weeks
b. 10 minutes every 5 weeks
c. 5 minutes every 10 weeks
d. 5 minutes every 2 weeks

**229. What is the main symptom of myoglobinuria?**

a. Tea-colored urine
b. Pain in the back below the ribs
c. Abdominal pain
d. Yellowing skin

**230. What is the most common muscle tone abnormality for those with cerebral palsy?**

a. Flaccidity
b. Spasticity
c. Myopathy
d. Paralysis

**231. How many children with cerebral palsy are able to walk?**

a. 20%
b. 50%
c. 70%
d. 30%

**232. Children with cerebral palsy can perform functional activities how often?**

a. 3-5x/week for 30-45 minutes 70-85% peak HR
b. 2-4x/week for 30-45 minutes 50-85% peak HR
c. No set guidelines currently exist
d. 2-4x/week for at least 30 minutes, 60-70% peak HR

**233. CP-specific shuttle run tests have been developed for children with GMFCS levels of all of the following EXCEPT:**

a. I
b. II
c. III
d. IV

**234. Which statement is false concerning MS?**

a. The cause is still unknown
b. It is more commonly diagnosed in women age 20-40
c. High levels of vitamin D has been thought to contribute to the development of MS
d. It is unpredictable in is disease course

**235. Which course of MS typically never goes into remission and continues to gradually get worse?**

a. Secondary progressive
b. Progressive-relapsing
c. Primary progressive
d. Tertiary progressive

**236. What environmental issue can exacerbate the symptoms of MS?**

a. Humidity
b. Cold
c. Heat
d. Altitude

**237. A very important consideration for designing exercise programs for those with MS is:**

a. Strength training exercises are considered to be the most beneficial
b. Exercise has been shown to be a possible cure for MS
c. Respiratory distress has been found to be a problem for those with MS during aerobic exercise
d. Symptoms can be exacerbated for up to 30 minutes after exercise and then resolve themselves

**238. Maximal testing on those with MS should be avoided because:**

a. It can lead to secondary progressive MS
b. The high dosages of corticosteroids increases the risk of osteoporosis
c. Most MS clients are sedentary
d. It can increase core temperature and exacerbate symptoms

**239. Which statement is false concerning Parkinson's Disease?**

a. It usually occurs after the age of 50
b. It is less prevalent in African Americans and Asians
c. It is more commonly diagnosed in females
d. There is no known cause

**240. The ability to rapidly move fingers, hands, arms, or legs is called:**

a. Start hesitation
b. Bradykinesia
c. Festinating
d. Kinetic malmovement

**241. Antiparkinson medication can have all of the following side effects EXCEPT:**

a. Delusional states
b. Confusion
c. Insomnia
d. Tachycardia

**242. Which of the following are considered to be direct effects of Parkinson's Disease?**

a. Changes in axial mobility
b. Tremors and rigidity
c. Aerobic deconditioning
d. Balance issues

**243. Which statement below is false concerning Becker muscular dystrophy?**

a. It is usually a milder variant than Duchenne
b. Those with Becker show better functional prognosis
c. Cardiomyopathy is a less common cause of death than it s for Duchenne muscular dystrophy
d. Becker muscular dystrophy many not be diagnosed until adolescence

**244. Which of the following is not an appropriate recommendation for exercise for those with muscular dystrophy?**

a. The doctor treating the client needs to approve him for exercise
b. Monitor the client for cardiac events
c. Keep equipment and activity
d. Rule out rhabdomyolysis prior to beginning exercise

**245. Which medication for Alzheimer's can increase the risk of falls?**

a. May help Memantine
b. Donepezil
c. Tacrine
d. Galantamine

**246. Which nutrient may help slow down the progression of Alzheimer's disease in some individuals?**

a. Iron
b. Vitamin E
c. Vitamin C
d. Glucosamine

**247. Which depressive mood disorder diagnoses is typically used for those under the age of 18?**

a. Major depressive disorder
b. Bipolar disorder
c. Disruptive mood dysregulation disorder
d. Persistent depressive disorder

**248. Anxiety disorders affect what percentage of adults?**

a. 12%
b. 18%
c. 7%
d. 23%

**249. What is the most common side effect of electroconvulsive therapy?**

a. Short-term confusion
b. Long-term memory loss
c. Short-term aphasia
d. Long-term upper body flaccidity

**250. There is a direct relationship between what type of exercise regimen and a reduction in depressive symptoms?**

a. Strength
b. Flexibility
c. Aerobic
d. Yoga/Pilates