



ACSM-EP Crosswalk

2022 Outline

I. Health and Fitness Assessment

A. Administer and interpret preparticipation health screening procedures to maximize client safety and minimize risk.

1. Knowledge of:
 - a. the preparticipation screening algorithm and tools that provide accurate information about the client's health/medical history, current medical conditions, risk factors, sign/symptoms of disease, current physical activity habits and medications
 - b. the key components included in informed consent and health/medical history
 - c. the limitations of informed consent and health/medical history

B. Determine client's readiness to participate in a health-related physical fitness assessment and exercise program.

1. Knowledge of:
 - a. the preparticipation screening algorithm as delineated in the current edition of ACSM's Guidelines for Exercise Testing and Prescription
 - b. cardiovascular risk factors or conditions that may require consultation with medical personnel prior to exercise testing or training (e.g., inappropriate changes in resting heart rate and/or blood pressure; new onset discomfort in chest, neck, shoulder or arm; changes in the pattern of discomfort during rest or exercise; fainting, dizzy spells, claudication)

2024 Outline

I. Health and Fitness Assessment

A. Administer and apply preparticipation health screening procedures to maximize client safety and minimize risk.

NOTE: Text change (from "interpret" to "apply")

1. Knowledge of:
 - a. the current professional standards of practice, including the preparticipation screening algorithm, and tools that provide accurate information about the client's health/medical history, current medical conditions, risk factors, sign/symptoms of disease, current physical activity habits and medications
NOTE: Text change
 - b. the key components included in informed consent and health/medical history
 - c. the limitations of informed consent and health/medical history

2. Skill in:
 - a. communicating the screening process and results to clients
NOTE: New

B. Determine client's readiness to participate in a health-related physical fitness assessment and exercise program.

1. Knowledge of:
 - a. cardiovascular risk factors or conditions that may require consultation with medical personnel prior to exercise testing or training (for example, inappropriate changes in resting heart rate and/or blood pressure; new onset discomfort in chest, neck, shoulder or arm; changes in the pattern of discomfort during rest or exercise; fainting, dizzy spells, claudication)
 - b. pulmonary risk factors or conditions that may require consultation with medical personnel prior to exercise testing or training (for example, asthma, exercise-induced asthma/bronchospasm, extreme breathlessness at rest or during exercise, chronic bronchitis, emphysema)

2022 Outline (continued)

2024 Outline (continued)

c. pulmonary risk factors or conditions that may require consultation with medical personnel prior to exercise testing or training (e.g., asthma, exercise-induced asthma/bronchospasm, extreme breathlessness at rest or during exercise, chronic bronchitis, emphysema)

c. metabolic risk factors or conditions that may require consultation with medical personnel prior to exercise testing or training (for example, obesity, metabolic syndrome, diabetes or glucose intolerance, hypoglycemia)

d. metabolic risk factors or conditions that may require consultation with medical personnel prior to exercise testing or training (e.g., obesity, metabolic syndrome, diabetes or glucose intolerance, hypoglycemia)

d. musculoskeletal risk factors or conditions that may require consultation with medical personnel prior to exercise testing or training (for example, acute or chronic pain, osteoarthritis, rheumatoid arthritis, osteoporosis, inflammation/pain, low back pain)

e. musculoskeletal risk factors or conditions that may require consultation with medical personnel prior to exercise testing or training (e.g., acute or chronic pain, osteoarthritis, rheumatoid arthritis, osteoporosis, inflammation/pain, low back pain)

e. risk factors that may be favorably modified by physical activity habits

f. ACSM preparticipation screening algorithm and the implications for medical clearance before participation in an exercise program

f. the following terms: total cholesterol (TC), high-density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C), triglycerides, impaired fasting glucose, impaired glucose tolerance, hypertension, atherosclerosis, myocardial infarction, dyspnea, tachycardia, claudication, syncope, ischemia

g. risk factors that may be favorably modified by physical activity habits

g. recommended plasma cholesterol levels (for example, National Cholesterol Education Program/ATP Guidelines)

h. the following terminology: total cholesterol (TC), high-density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C), triglycerides, impaired fasting glucose, impaired glucose tolerance, hypertension, atherosclerosis, myocardial infarction, dyspnea, tachycardia, claudication, syncope, ischemia

h. current blood pressure guidelines

i. recommended plasma cholesterol levels (e.g., National Cholesterol Education Program/ATP Guidelines)

i. current blood glucose ranges
NOTE: New

j. current blood pressure guidelines

j. the components of a health-history questionnaire (for example, past and current medical history, family history of disease, orthopedic limitations, prescribed medications, activity patterns, nutritional habits, stress and anxiety levels, smoking, alcohol use)

k. the components of a health-history questionnaire (e.g., past and current medical history, family history of disease, orthopedic limitations, prescribed medications, activity patterns, nutritional habits, stress and anxiety levels, smoking, alcohol use)

2. Skill in:

- a. the administration of the preparticipation screening algorithm and recognition of major signs or symptoms suggestive of cardiovascular, pulmonary or metabolic disease, and/or the presence of known cardiovascular, pulmonary and metabolic disease status
- b. the administration of the preparticipation screening algorithm to determine the need for medical clearance prior to initiating an exercise program and to select appropriate physical fitness assessment protocols

C. Determine and select physical fitness assessments for apparently healthy clients and those with controlled disease.

1. Knowledge of:

- a. physiological basis of the components of health-related physical fitness (e.g., cardiorespiratory fitness, muscular strength, muscular endurance, range of motion, flexibility, body composition)
- b. selecting the most appropriate testing protocols for each client based on preliminary screening data and client goals
- c. proper use of fitness testing equipment
- d. the purpose and procedures of fitness testing protocols
- e. test termination criteria and best practice procedures to be followed after stopping an exercise test
- f. fitness assessment sequencing
- g. the effects of common medications and substances on exercise testing (e.g., antianginals, antihypertensives, antiarrhythmics, bronchodilators, hypoglycemics, psychotropics, alcohol, diet pills, cold tablets, caffeine, nicotine)

2. Skill in:

- a. administering the preparticipation screening algorithm and recognizing major signs or symptoms suggestive of cardiovascular, pulmonary or metabolic disease, and/or the presence of known cardiovascular, pulmonary and metabolic disease status
NOTE: Text change to make active voice
- b. administering the preparticipation screening algorithm to determine the need for medical clearance prior to initiating an exercise program and to select appropriate physical fitness assessment protocols
NOTE: Text change to make active voice

C. Determine and select physical fitness assessments for apparently healthy clients and those with controlled disease.

1. Knowledge of:

- a. physiological basis of the components of physical fitness (for example, cardiorespiratory fitness, muscular strength, muscular endurance, flexibility, balance, body composition)
NOTE: Text change in parenthetical reference
- b. the most appropriate testing protocols based on preliminary screening data and client goals
NOTE: Text change to remove “selecting” to make this a knowledge statement
- c. the limitations of different testing protocols
NOTE: New
- d. proper use of fitness testing equipment
- e. the purpose and procedures of fitness testing protocols
- f. test termination criteria and best practice procedures to be followed after stopping an exercise test
- g. fitness assessment sequencing

2022 Outline (continued)

h. the physiologic and metabolic responses to exercise testing associated with chronic diseases and conditions (e.g., heart disease, hypertension, diabetes mellitus, obesity, pulmonary disease)

2. Skill in:

a. modifying protocols and procedures for testing children, adolescents, older adults and clients with special considerations

D. Conduct and interpret cardiorespiratory fitness assessments.

1. Knowledge of:

a. common submaximal and maximal cardiorespiratory fitness assessment protocols

b. blood pressure measurement techniques

c. Korotkoff sounds for determining systolic and diastolic blood pressure

d. the blood pressure response to exercise

e. techniques of measuring heart rate and heart rate response to exercise.

f. the rating of perceived exertion (RPE)

g. heart rate, blood pressure and RPE monitoring techniques before, during and after cardiorespiratory fitness testing

h. the anatomy and physiology of the cardiovascular and pulmonary systems

i. cardiorespiratory terminology (e.g., angina pectoris, tachycardia, bradycardia, arrhythmia, hyperventilation)

j. the pathophysiology of myocardial ischemia, myocardial infarction, stroke, hypertension and hyperlipidemia

k. the effects of myocardial ischemia, myocardial infarction, hypertension, claudication and dyspnea on cardiorespiratory responses during exercise

2024 Outline (continued)

h. the effects of common medications and substances on exercise testing (for example, antianginals, antihypertensives, antiarrhythmics, bronchodilators, hypoglycemics, psychotropics, alcohol, diet pills, cold tablets, caffeine, nicotine)

i. the physiologic and metabolic responses to exercise testing associated with chronic diseases and conditions (for example, heart disease, hypertension, diabetes mellitus, obesity, pulmonary disease)

2. Skill in:

a. modifying protocols and procedures for testing children, adolescents, older adults and clients who have special considerations

D. Conduct and interpret cardiorespiratory fitness assessments.

1. Knowledge of:

a. common submaximal and maximal cardiorespiratory fitness assessment protocols

b. blood pressure measurement techniques

c. Korotkoff sounds for determining systolic and diastolic blood pressure

d. the blood pressure response to exercise

e. techniques to measure heart rate and heart rate response to exercise and exercise recovery

NOTE: Text change

f. ratings of perceived exertion (RPE)

g. heart rate, blood pressure and RPE monitoring techniques before, during and after cardiorespiratory fitness testing

h. the anatomy and physiology of the cardiovascular and pulmonary systems

i. cardiorespiratory terminology (for example, angina pectoris, tachycardia, bradycardia, arrhythmia, hyperventilation)

j. basic pathophysiology of myocardial ischemia, myocardial infarction, stroke, hypertension and hyperlipidemia

k. the effects of myocardial ischemia, myocardial infarction, hypertension, claudication and dyspnea on cardiorespiratory responses during exercise

2022 Outline (continued)

2024 Outline (continued)

l. oxygen consumption dynamics during exercise (e.g., heart rate, stroke volume, cardiac output, ventilation, ventilatory threshold)

l. oxygen consumption dynamics during exercise (for example, heart rate, stroke volume, cardiac output, cardiac drift, ventilation, ventilatory threshold, heart rate reserve)

NOTE: Text change to add elements to parentheses

m. methods of calculating VO₂max

m. methods of calculating VO₂max

n. cardiorespiratory responses to acute graded exercise of conditioned and unconditioned clients

n. cardiorespiratory responses to acute graded exercise of conditioned and unconditioned clients

2. Skill in:

2. Skill in:

a. analyzing and documenting cardiorespiratory fitness test results

a. analyzing and documenting cardiorespiratory fitness test results

b. locating anatomic landmarks for palpation of peripheral pulses and blood pressure

b. locating anatomic landmarks for palpation of peripheral pulses and blood pressure

c. measuring heart rate, blood pressure and RPE at rest and during exercise

c. measuring heart rate, blood pressure and RPE at rest and during exercise

d. conducting submaximal exercise tests (e.g., cycle ergometer, treadmill, field testing, step test)

d. conducting submaximal exercise tests (for example, cycle ergometer, treadmill, field testing, step test)

e. determining cardiorespiratory fitness based on submaximal exercise test results

e. determining cardiorespiratory fitness based on submaximal exercise test results

E. Conduct and interpret assessments of flexibility, muscular fitness (i.e., strength, endurance, power) and neuromotor skills (i.e., balance, agility, proprioception).

E. Conduct and interpret assessments of flexibility, muscular fitness (including strength, endurance, power) and neuromotor skills (including balance, agility, proprioception).

1. Knowledge of:

1. Knowledge of:

a. common flexibility, muscular fitness and neuromotor skill assessment protocols

a. common flexibility, muscular fitness and neuromotor skill assessment protocols

b. relative strength, absolute strength and repetition maximum (1-RM) estimation

b. relative strength, absolute strength, repetition maximum (1-RM) estimation, and velocity-based training methods

NOTE: Text change to add velocity based training methods

c. the anatomy of bone, skeletal muscle and connective tissues

c. the anatomy of bone, skeletal muscle and connective tissues

d. the following terms: anterior, posterior, proximal, distal, inferior, superior, medial, lateral, supination, pronation, flexion, extension, adduction, abduction, hyperextension, rotation, circumduction, agonist, antagonist and stabilizer

d. the following terms: anterior, posterior, proximal, distal, inferior, superior, medial, lateral, supination, pronation, flexion, extension, adduction, abduction, hyperextension, rotation, circumduction, agonist, antagonist and stabilizer

e. the planes and axes in which each movement action occurs

e. the planes and axes in which each movement action occurs

f. the interrelationships among center of gravity, base of support, balance, stability, posture and spinal alignment and how they impact mobility

f. the interrelationships among center of gravity, levers, base of support, balance, stability, posture and spinal alignment and how they impact mobility

2022 Outline (continued)

2024 Outline (continued)

g. the location and function of muscles (e.g., pectoralis major, trapezius, internal and external obliques, gastrocnemius)

g. the location and function of muscles (for example, pectoralis major, trapezius, internal and external obliques, gastrocnemius)

h. joints and their associated movement

h. joints and their associated movement

2. Skill in:

2. Skill in:

a. conducting flexibility, muscular fitness and neuromotor skills assessments based on client goals

a. conducting flexibility, muscular fitness and neuromotor skills assessments based on client goals

b. estimating 1-RM using lower resistance (2-10 RM)

b. estimating 1-RM using lower resistance (2-10 RM)

c. analyzing information obtained from assessment of the components of health related physical fitness

c. analyzing information obtained from assessment of the components of health-related physical fitness

F. Conduct and interpret anthropometric and body composition assessments.

F. Conduct and interpret anthropometric and body composition assessments.

1. Knowledge of:

1. Knowledge of:

a. the advantages, disadvantages and limitations of body composition techniques (e.g., air displacement plethysmography (BOD POD®), dual-energy x-ray absorptiometry (DEXA), hydrostatic weighing, skinfolds, bioelectrical impedance, BMI)

a. the advantages, disadvantages and limitations of body composition techniques (for example, air displacement plethysmography (BOD POD®), dual-energy x-ray absorptiometry (DEXA), hydrostatic weighing, skinfolds, bioelectrical impedance, BMI, A-mode ultrasound, MRI)

NOTE: Text change to add A-mode ultrasound and MRI to parenthetical reference

b. the standardized descriptions of circumference and skinfold sites

b. the standardized descriptions of circumference and skinfold sites

c. the health implications of variation in body fat distribution patterns and the significance of BMI, waist circumference and waist-to-hip ratio

c. the health implications of variation in body fat distribution patterns and the significance of BMI, waist circumference and waist-to-hip ratio

2. Skill in:

2. Skill in:

a. locating anatomic landmarks for skinfold and circumference measurements

a. locating anatomic landmarks for skinfold and circumference measurements

b. analyzing and documenting the results of anthropometric and body composition assessments

b. communicating, analyzing, and documenting the results of anthropometric and body composition assessments

NOTE: Text change to add "communicating"

II. Exercise Prescription and Implementation

A. Determine safe and effective exercise programs to achieve desired outcomes and goals for apparently healthy individuals and those with controlled disease.

1. Knowledge of:

- a. strength-, aerobic- and flexibility-based exercise
- b. the benefits and precautions associated with exercise training in apparently healthy clients and those with controlled disease and/or those with brain-related disorders
- c. program development for specific client needs (e.g., sport-specific training, performance, health, lifestyle, functional ability, balance, agility, aerobic, anaerobic)
- d. the components of physical fitness (flexibility, muscular fitness [strength, endurance, power] and neuromotor skills [balance, agility, proprioception])
- e. the physiologic changes associated with an acute bout of exercise
- f. the physiologic adaptations following chronic exercise training
- g. the FITT principle (frequency, intensity, time, type) for apparently healthy clients, clients with increased risk and clients with controlled disease
- h. the components and sequencing incorporated into an exercise session (e.g., warm-up, conditioning, cool-down)
- i. the physiological principles related to warm-up and cool-down
- j. the principles of reversibility, progressive overload, individual differences and specificity of training, and how they relate to exercise prescription
- k. the role of aerobic and anaerobic energy systems in the performance of various physical activities
- l. the basic biomechanical principles of human movement

II. Exercise Prescription and Implementation

A. Determine safe and effective exercise programs to achieve desired outcomes and goals for apparently healthy individuals and those with controlled disease.

1. Knowledge of:

- a. strength-, aerobic- and flexibility-based exercise
- b. the benefits and precautions associated with exercise training in apparently healthy clients and those with controlled disease and/or those with brain-related disorders
- c. program development for specific client needs (for example, sport-specific training, performance, health, lifestyle, functional ability, balance, agility, aerobic, anaerobic)
- d. the components of physical fitness (including flexibility, muscular fitness [strength, endurance, power] and neuromotor skills [balance, agility, proprioception])
- e. integration of prescribed concurrent training programs (aerobic and resistance exercise sessions programmed within at least the same week)
NOTE: New
- f. the physiologic changes associated with an acute bout of exercise
- g. the physiologic adaptations following chronic exercise training
- h. the FITT principle (frequency, intensity, time, type) for apparently healthy clients, clients with increased risk and clients with controlled disease
- i. the components and sequencing incorporated into an exercise session (for example, warm-up, conditioning, cool-down)
- j. the physiological principles related to warm-up and cool-down
- k. the effectiveness of various recovery techniques (for example, cold water immersion, myofascial release, external compression)
NOTE: New
- l. the principles of reversibility, progressive overload, individual differences and specificity of training, and how they relate to exercise prescription

2022 Outline (continued)

2024 Outline (continued)

m. the psychological and physiological signs and symptoms of overtraining

m. the role of aerobic and anaerobic energy systems in the performance of various physical activities

n. the signs and symptoms of common musculoskeletal injuries associated with exercise (e.g., sprain, strain, bursitis, tendonitis)

n. the basic biomechanical principles of human movement

o. the advantages and disadvantages of exercise equipment (e.g., free weights, selectorized machines, aerobic equipment) and body weight training

o. the psychological and physiological signs and symptoms of overtraining

p. the signs and symptoms of common musculoskeletal injuries associated with exercise (for example, sprain, strain, bursitis, tendonitis, overuse)

NOTE: Text change to add overuse to parenthetical reference

q. the advantages and disadvantages of exercise equipment (for example, free weights, weight machines, aerobic equipment, resistance bands) and body weight training

NOTE: Text change to the parenthetical reference

2. Skill in:

2. Skill in:

a. teaching and demonstrating exercises

a. teaching and demonstrating exercises using a variety of modalities (for example, bodyweight, dumbbells, barbells, machines)

NOTE: Text change

b. designing safe and effective training programs

b. identifying improper or unsafe exercise form and providing cues for correction

NOTE: New

c. implementing the FITT principle for apparently healthy clients, clients with increased risk and clients with controlled disease

c. designing safe and effective training programs

d. implementing the FITT principle for apparently healthy clients, clients with moderate risk and clients with controlled disease

NOTE: Text change

B. Implement cardiorespiratory exercise prescriptions for apparently healthy clients and those with controlled disease based on current health status, fitness goals and availability of time.

B. Implement cardiorespiratory exercise prescriptions based on current health status, fitness goals and accessibility.

1. Knowledge of:

1. Knowledge of:

a. the recommended FITT principle for the development of cardiorespiratory fitness

a. the recommended FITT principle for the development of cardiorespiratory fitness

b. the benefits, risks and contraindications of a wide variety of cardiovascular training exercises based on client experience, skill level, current fitness level and goals

b. the benefits, risks and contraindications of a wide variety of cardiovascular training exercises based on client experience, skill level, current fitness level and goals

c. the minimal threshold of physical activity required for health benefits and/or fitness development

c. the minimal threshold of physical activity required for health benefits and/or fitness development

2022 Outline (continued)

2024 Outline (continued)

d. determining exercise intensity using HRR, VO₂R, peak HR method, peak VO₂ method, peak METs method and the RPE Scale

d. exercise intensity using HRR, VO₂R, HR max, peak VO₂ method, peak METs method and the RPE scale

NOTE: Text change to add HR max and peak HR method

e. the accuracy of HRR, VO₂R, peak HR method, peak VO₂ method, peak METs method and the RPE Scale

e. the accuracy of HRR, VO₂R, HR max, peak VO₂ method, peak METs method and the RPE scale

NOTE: Text change to use HR max instead of peak HR method

f. abnormal responses to exercise (e.g., hemodynamic, cardiac, ventilatory)

f. abnormal responses to exercise (for example, hemodynamic, cardiac, ventilatory)

g. metabolic calculations (e.g., unit conversions, deriving energy cost of exercise, caloric expenditure)

g. interpret metabolic calculations (for example, unit conversions, deriving energy cost of exercise, caloric expenditure)

NOTE: Text change to add "interpret"

h. calculating the caloric expenditure of an exercise session (kcal·session⁻¹)

h. evaluate the caloric expenditure of an exercise session (kcal·session⁻¹)

NOTE: Text change to "evaluate" instead of "calculate"

i. methods for establishing and monitoring levels of exercise intensity, including heart rate, RPE and METs

i. methods for establishing and monitoring levels of exercise intensity, including heart rate, RPE and METs

j. the applications of anaerobic training principles

j. the applications of anaerobic training principles

k. the anatomy and physiology of the cardiovascular and pulmonary systems including the basic properties of cardiac muscle

k. the anatomy and physiology of the cardiovascular and pulmonary systems

NOTE: Text change

l. the basic principles of gas exchange

2. Skill in:

2. Skill in:

a. determining appropriate FITT principle for clients with various fitness levels

a. determining appropriate FITT principle for clients with various fitness levels

b. determining the energy cost, absolute and relative oxygen costs (VO₂) and MET levels of various activities and applying the information to an exercise prescription

b. evaluate the energy cost, absolute and relative oxygen costs (VO₂) and MET levels of various activities and applying the information to an exercise prescription

NOTE: Text change from "determine" to "evaluate"

c. teaching and demonstrating the use of a variety of cardiovascular exercise equipment and identifying and correcting improper exercise technique

c. teaching and demonstrating the use of a variety of cardiovascular exercise equipment and identifying and correcting improper exercise technique

C. Implement exercise prescriptions for components of physical fitness (i.e., flexibility, muscular fitness and neuromotor skills) for apparently healthy clients and those with controlled disease based on current health status, fitness goals and availability of time.

1. Knowledge of:

- a. the recommended FITT principle for the development of flexibility, muscular fitness (strength, endurance, power) and neuromotor skills (balance, agility, proprioception)
- b. the minimal threshold of physical activity required for health benefits and/or fitness development
- c. safe and effective exercises designed to enhance muscular strength and/or endurance of muscle groups
- d. safe and effective stretches that enhance flexibility
- e. indications for water-based exercise (e.g., arthritis, obesity)
- f. the types of resistance training programs (e.g., total body, split routine) and modalities (e.g., free weights, variable resistance equipment, pneumatic machines, bands)
- g. acute (e.g., load, volume, sets, repetitions, rest periods, order of exercises) and chronic training variables (e.g., periodization)
- h. types of muscle actions (e.g., eccentric, concentric, isometric)
- i. joint movements (e.g., flexion, extension, adduction, abduction) and the muscles responsible for them
- j. acute and delayed onset muscle soreness (DOMS)
- k. the anatomy and physiology of skeletal muscle fiber, the characteristics of fast- and slow-twitch muscle fibers, and the sliding filament theory of muscle contraction
- l. the stretch reflex, proprioceptors, golgi tendon organ (GTO), muscle spindles and how they relate to flexibility
- m. muscle-related terminology including atrophy, hyperplasia, hypertrophy

C. Implement exercise prescriptions for components of physical fitness (including flexibility, muscular fitness and neuromotor skills) based on current health status, fitness goals and availability.

1. Knowledge of:

- a. the recommended FITT principle for the development of flexibility, muscular fitness (strength, endurance, power) and neuromotor skills (balance, agility, proprioception)
- b. the minimal threshold of physical activity required for health benefits and/or fitness
NOTE: Text change to remove “development”
- c. safe and effective exercises designed to enhance muscular strength and/or endurance of muscle groups
- d. safe and effective stretches that enhance flexibility
- e. safe and effective techniques that enhance joint mobility
NOTE: New
- f. indications for water-based exercise (for example, arthritis, obesity)
- g. types of resistance training programs (for example, total body, split routine) and modalities (for example, free weights, variable resistance equipment, pneumatic machines, bands)
NOTE: Text change
- h. acute (for example, load, volume, sets, repetitions, rest periods, order of exercises), and chronic training variables (for example, periodization)
- i. types of muscle actions (for example, eccentric, concentric, isometric)
- j. joint movements (for example, flexion, extension, adduction, abduction) and the muscles responsible for them
- k. acute and delayed onset muscle soreness (DOMS)
- l. the anatomy and physiology of skeletal muscle fiber, the characteristics of fast- and slow-twitch muscle fibers, and the sliding filament theory of muscle contraction
- m. the stretch reflex, proprioceptors, Golgi tendon organ (GTO), muscle spindles and how they relate to flexibility

2022 Outline (continued)

- n. the Valsalva maneuver and its implications during exercise
- o. the physiology underlying plyometric training and common plyometric exercises (e.g., box jumps, leaps, bounds)
- p. the contraindications and potential risks associated with muscular conditioning activities (e.g., straight-leg sit-ups, double leg raises, squats, hurdler's stretch, yoga plough, forceful back hyperextension, standing bent-over toe touch, behind neck press/lat pull-down)
- q. spotting positions and techniques for injury prevention and exercise assistance
- r. periodization (e.g., macro, micro, mesocycles) and associated theories

2024 Outline (continued)

- n. muscle-related terminology including atrophy, hyperplasia, hypertrophy
- o. the Valsalva maneuver and its implications during exercise
- p. the physiology underlying plyometric training and common plyometric exercises (for example, box jumps, leaps, bounds)
- q. the contraindications and potential risks associated with muscular conditioning activities (for example, straight-leg sit-ups, double leg raises, squats, hurdler's stretch, yoga plough, forceful back hyperextension, standing bent-over toe touch, behind neck press/lat pull-down)
- r. spotting positions and techniques for injury prevention and exercise assistance
- s. periodization (for example, macro, micro, mesocycles) and associated theories
- t. programming intensity using RPE, RIR (reps in reserve), and %1 RM, including the advantages/disadvantages/limitations with each method
NOTE: New

2. Skill in:

- a. identifying and correcting improper technique in the use of resistive equipment (e.g., stability balls, weights, bands, resistance bars, water exercise equipment)
- b. teaching and demonstrating appropriate exercises for enhancing musculoskeletal flexibility
- c. teaching and demonstrating safe and effective muscular strength and endurance exercises (e.g., free weights, weight machines, resistive bands, Swiss balls, body weight and all other major fitness equipment)
- d. prescribing exercise using the calculated %1-RM

2. Skill in:

- a. identifying and correcting improper technique in the use of resistive equipment (for example, stability balls, weights, bands, resistance bars, water exercise equipment)
- b. teaching and demonstrating appropriate exercises for enhancing musculoskeletal flexibility
- c. teaching and demonstrating safe and effective muscular strength and endurance exercises (for example, free weights, weight machines, resistive bands, Swiss balls, body weight and all other major fitness equipment)
- d. prescribing exercise using the calculated %1-RM

D. Establish exercise progression and modification guidelines for cardiorespiratory fitness, flexibility, muscular fitness (strength, endurance, power) and neuromotor skills (balance, agility, reaction time) for apparently healthy clients and those with controlled disease based on current health status, fitness goals and availability of time.

1. Knowledge of:

- a. the basic principles of exercise progression
- b. adjusting the FITT principle in response to individual changes in conditioning
- c. the importance of performing periodic reevaluations to assess changes in fitness status
- d. the training principles that promote improvements in muscular fitness (strength, endurance, power), cardiorespiratory fitness, flexibility and neuromotor skills (balance, agility, reaction time)

2. Skill in:

- a. recognizing the need for progression or modification and communicating exercise prescription updates to clients

E. Implement a general weight management program as indicated by personal goals and health needs, as needed.

1. Knowledge of:

- a. exercise prescriptions for achieving weight-related goals, including weight gain, weight loss and weight maintenance
- b. energy balance and basic nutritional guidelines (e.g., MyPlate, USDA Dietary Guidelines for Americans)
- c. weight management terminology (e.g., obesity, overweight, percent fat, BMI, lean body mass, anorexia nervosa, bulimia nervosa, binge eating, metabolic syndrome, body fat distribution, adipocyte, bariatrics, ergogenic aid, fat-free mass (FFM), resting metabolic rate (RMR) and thermogenesis)
- d. the relationship between body composition and health
- e. the unique dietary needs of client populations (e.g., women, children, older adults, pregnant women)

D. Establish exercise progression and modification guidelines for cardiorespiratory fitness (strength, endurance, power) and neuromotor skills (balance, agility, reaction time) for apparently healthy clients and those with controlled disease based on current health status, fitness goals and accessibility.

1. Knowledge of:

- a. the basic principles of exercise progression
- b. adjusting the FITT principle in response to individual changes in conditioning
- c. the importance of performing periodic reevaluations to assess changes in fitness status
- d. the training principles that promote improvements in muscular fitness (strength, endurance, power), cardiorespiratory fitness, flexibility and neuromotor skills (balance, agility, reaction time)

2. Skill in:

- a. recognizing the need for progression or modification and communicating exercise prescription updates to clients

E. Implement a general weight management program for apparently healthy clients and those with controlled disease as indicated by client goals and health needs.

1. Knowledge of:

- a. exercise prescriptions for achieving weight-related goals, including weight gain, weight loss and weight maintenance
- b. energy balance and basic nutritional guidelines (for example, MyPlate, USDA Dietary Guidelines for Americans)
- c. weight management terminology (for example, obesity, overweight, percent fat, BMI, lean body mass, anorexia nervosa, bulimia nervosa, binge eating, metabolic syndrome, body fat distribution, adipocyte, bariatrics, ergogenic aid, fat-free mass (FFM), resting metabolic rate (RMR) and adaptive thermogenesis)
- d. the relationship between body composition and health
- e. the basic dietary needs of client populations (for example, women, children, older adults, pregnant clients)

NOTE: Text change to "basic"

2022 Outline (continued)

- f. common nutritional ergogenic aids, their purported mechanisms of action and associated risks and benefits (e.g., protein/amino acids, vitamins, minerals, herbal products, creatine, steroids, caffeine)
- g. methods for modifying body composition including dietary pattern, exercise and behavior modification
- h. fuel sources for aerobic and anaerobic metabolism (e.g., carbohydrates, fats, proteins)
- i. the effects of overall dietary composition on healthy weight management
- j. the importance of maintaining normal hydration before, during and after exercise
- k. the consequences of inappropriate weight loss methods (e.g., saunas, dietary supplements, vibrating belts, body wraps, over-exercising, very low-calorie diets, electric stimulators, sweat suits, fad diets)
- l. the kilocalorie levels of carbohydrate, fat, protein and alcohol
- m. the relationship between kilocalorie expenditures and weight loss
- n. published position statements on weight classification (e.g., underweight, overweight, obese) and the risks associated with each (e.g., National Institutes of Health, American Dietetic Association, American College of Sports Medicine)
- o. the relationship between body fat distribution patterns and health
- p. the physiology and pathophysiology of overweight and obese clients
- q. comorbidities and musculoskeletal conditions associated with weight classification (e.g., underweight, overweight, obese) that may require medical clearance and/or modifications to exercise testing and prescription

2. Skill in:

- a. applying behavioral strategies (e.g., exercise, dietary pattern, behavioral modification strategies) for weight management
- b. modifying exercises for clients limited by body size
- c. calculating the volume of exercise in terms of kcal·session⁻¹

2024 Outline (continued)

- f. common ergogenic aids and the associated risks and benefits (for example, protein/amino acids, vitamins, minerals, herbal products, creatine, steroids, caffeine)
NOTE: Text change (remove “nutritional”)
- g. methods for modifying body composition including dietary pattern, exercise and behavior modification
- h. fuel sources for aerobic and anaerobic metabolism (for example, carbohydrates, fats, proteins) and how they relate to exercise intensity
NOTE: Text change to include “exercise intensity”
- i. the effects of overall dietary composition on healthy weight management
- j. the importance of maintaining normal hydration before, during and after exercise
- k. potentially risky or ineffective weight loss aids (for example, saunas, vibrating belts, body wraps, electric stimulators, sweat suits, dietary supplements, medications) or behaviors (for example, fad diets, over-exercising, very low-calorie diets, rapid weight loss)
NOTE: Text change to “risky”
- l. the kilocalorie levels of carbohydrate, fat, protein and alcohol
- m. the relationship between kilocalorie expenditures and weight loss
- n. published position statements on weight classification (for example, underweight, overweight, obese) and the risks associated with each (including National Institutes of Health, American Dietetic Association, American College of Sports Medicine)
- o. the relationship between body fat distribution patterns and health
- p. the physiology and pathophysiology of overweight and obese clients
- q. comorbidities and musculoskeletal conditions associated with weight classification (for example, underweight, overweight, obese) that may require medical clearance and/or modifications to exercise testing and prescription

2. Skill in:

- a. applying behavioral strategies (for example, exercise, dietary pattern, behavioral modification strategies) for weight management
- b. modifying exercises for clients limited by body size
- c. calculating the volume and energy cost of exercise
NOTE: Text change to make it broader

F. Implement exercise programs for clients with controlled disease and work closely with clients' health care providers, as needed.

1. Knowledge of:

- a. ACSM preparticipation screening algorithm and the FITT principle for clients with cardiovascular, pulmonary and metabolic diseases and other clinical populations
- b. relative and absolute contraindications for initiating exercise sessions or exercise testing, and indications for terminating exercise sessions and exercise testing
- c. physiology and pathophysiology of diseases and conditions (e.g., cardiac disease, arthritis, diabetes mellitus, dyslipidemia, hypertension, metabolic syndrome, musculoskeletal injuries, overweight and obesity, osteoporosis, peripheral artery disease, pulmonary disease)
- d. the effects of diet and exercise on blood glucose levels in diabetics
- e. the recommended FITT principle for the development of cardiorespiratory fitness, muscular fitness and flexibility for clients with diseases and conditions (e.g., cardiac disease, arthritis, diabetes mellitus, dyslipidemia, hypertension, metabolic syndrome, musculoskeletal injuries, overweight and obesity, osteoporosis, peripheral artery disease, pulmonary disease)

2. Skill in:

- a. progressing exercise programs, according to the FITT principle, in a safe and effective manner
- b. modifying the exercise prescription and/or exercise choice for clients with diseases and conditions (e.g., cardiac disease, arthritis, diabetes mellitus, dyslipidemia, hypertension, metabolic syndrome, musculoskeletal injuries, overweight and obesity, osteoporosis, peripheral artery disease, pulmonary disease)
- c. identifying improper exercise techniques and modifying exercise programs for clients with low back, neck, shoulder, elbow, wrist, hip, knee and/or ankle pain

F. Implement and monitor exercise programs for clients with controlled disease and work closely with clients' health care providers, as needed.

NOTE: Text change to add "and monitor"

1. Knowledge of:

- a. ACSM preparticipation screening algorithm and the FITT principle for clients with cardiovascular, pulmonary and metabolic diseases and other clinical populations
- b. relative and absolute contraindications for initiating exercise sessions or exercise testing, and indications for terminating exercise sessions and exercise testing
- c. physiology and pathophysiology of diseases and conditions (for example, cardiac disease, arthritis, diabetes mellitus, dyslipidemia, hypertension, metabolic syndrome, musculoskeletal injuries, overweight and obesity, osteoporosis, peripheral artery disease, pulmonary disease)
- d. the effects of diet and exercise on blood glucose levels in diabetics
- e. the recommended FITT principle for the development of cardiorespiratory fitness, muscular fitness and flexibility for clients with diseases and conditions (for example, cardiac disease, arthritis, diabetes mellitus, dyslipidemia, hypertension, metabolic syndrome, musculoskeletal injuries, overweight and obesity, osteoporosis, peripheral artery disease, pulmonary disease)

2. Skill in:

- a. progressing exercise programs, according to the FITT principle, in a safe and effective manner
- b. modifying the exercise prescription and/or exercise choice for clients with diseases and conditions (for example, cardiac disease, arthritis, diabetes mellitus, dyslipidemia, hypertension, metabolic syndrome, musculoskeletal injuries, overweight and obesity, osteoporosis, peripheral artery disease, pulmonary disease)
- c. identifying improper exercise techniques and modifying exercise programs for clients with low back, neck, shoulder, elbow, wrist, hip, knee and/or ankle pain

G. Prescribe and implement exercise programs for healthy special populations (e.g., older adults, children, adolescents, pregnant women).

1. Knowledge of:

- a. normal maturational changes across the lifespan and their effects (e.g., skeletal muscle, bone, reaction time, coordination, posture, heat and cold tolerance, maximal oxygen consumption, strength, flexibility, body composition, resting and maximal heart rate, resting and maximal blood pressure)
- b. techniques for the modification of cardiovascular, flexibility and resistance exercises based on functional capacity and physical condition
- c. techniques for the development of exercise prescriptions for children, adolescents and older adults with regard to strength, functional capacity and motor skills
- d. the unique adaptations to exercise training in children, adolescents and older adults with regard to strength, functional capacity and motor skills
- e. the benefits and precautions associated with exercise training across the lifespan
- f. the recommended FITT principle for the development of cardiorespiratory fitness, muscular fitness, balance and flexibility in apparently healthy children and adolescents
- g. the effects of the aging process on the musculoskeletal and cardiovascular structures and functions during rest, exercise and recovery
- h. the recommended FITT principle necessary for the development of cardiorespiratory fitness, muscular fitness, balance and flexibility in apparently healthy older adults
- i. common orthopedic and cardiovascular exercise considerations for older adults
- j. the relationship between regular physical activity and the successful performance of activities of daily living (ADLs) for older adults
- k. recommendations for the development of cardiorespiratory fitness, muscular fitness, balance and flexibility in apparently healthy pregnant women

G. Prescribe and implement exercise programs for healthy special populations (for example, older adults, children, adolescents, pregnant clients).

1. Knowledge of:

- a. normal maturational changes across the lifespan and their effects (for example, skeletal muscle, bone, reaction time, coordination, posture, heat and cold tolerance, maximal oxygen consumption, strength, flexibility, body composition, resting and maximal heart rate, resting and maximal blood pressure)
- b. techniques for the modification of cardiovascular, flexibility and resistance exercises based on functional capacity and physical condition
- c. techniques for the development of exercise prescriptions for children, adolescents and older adults with regard to strength, functional capacity and motor skills
- d. the unique adaptations to exercise training in children, adolescents and older adults with regard to strength, functional capacity and motor skills
- e. the benefits and precautions associated with exercise training across the lifespan
- f. the recommended FITT principle for the development of cardiorespiratory fitness, muscular fitness, balance and flexibility in apparently healthy children and adolescents
- g. the effects of the aging process on the musculoskeletal and cardiovascular structures and functions during rest, exercise and recovery
- h. the recommended FITT principle necessary for the development of cardiorespiratory fitness, muscular fitness, balance and flexibility in apparently healthy older adults
- i. common orthopedic and cardiovascular exercise considerations for older adults
- j. the relationship between regular physical activity and the successful performance of activities of daily living (ADLs) for older adults
- k. recommendations for the development of cardiorespiratory fitness, muscular fitness, balance and flexibility in apparently healthy pregnant clients

2. Skill in:

- a. teaching and demonstrating appropriate exercises for healthy populations with special considerations
- b. modifying exercises based on functional capacity and current health status

H. Modify exercise prescriptions based on various environmental conditions (e.g., altitude, variable ambient temperatures, humidity, air quality).

1. Knowledge of:

- a. the effects of various environmental conditions on the physiologic response to exercise
- b. special precautions and program modifications for exercise in various environmental conditions
- c. the role of acclimatization when exercising in various environmental conditions
- d. appropriate fluid intake during exercise in various environmental conditions

III. Exercise Counseling and Behavior Modification

A. Optimize adoption and adherence of exercise and other healthy behaviors by applying effective communication techniques.

1. Knowledge of:

- a. verbal and nonverbal behaviors that communicate positive reinforcement and encouragement (e.g., eye contact, targeted praise, empathy)
- b. group leadership techniques for working with clients of all ages
- c. learning preferences (auditory, visual, kinesthetic) and how to apply teaching and training techniques to optimize training session
- d. various cueing techniques to guide intrinsic and extrinsic focus

2. Skill in:

- a. applying active listening techniques
- b. using feedback to optimize a client's training sessions
- c. effective use of a variety of communication channels (e.g., email, social media)

2. Skill in:

- a. teaching and demonstrating appropriate exercises for healthy populations with special considerations
- b. modifying exercises based on functional capacity and current health status

H. Modify exercise prescriptions based on various environmental conditions (for example, altitude, variable ambient temperatures, humidity, air quality).

1. Knowledge of:

- a. the effects of various environmental conditions on the physiologic response to exercise
- b. special precautions, program modifications, and recovery for exercise in various environmental conditions
NOTE: Text change to add recovery
- c. the role of acclimatization when exercising in various environmental conditions
- d. appropriate fluid intake during exercise in various environmental conditions

III. Exercise Counseling and Behavior Modification

A. Optimize adoption and adherence of exercise and other healthy behaviors by applying effective communication techniques.

1. Knowledge of:

- a. verbal and nonverbal behaviors that communicate positive reinforcement and encouragement (for example, eye contact, targeted praise, empathy)
- b. group leadership techniques for working with clients of all ages
- c. learning preferences (auditory, visual, kinesthetic) and how to apply teaching and training techniques to optimize training session
- d. various cueing techniques to guide intrinsic and extrinsic focus

2. Skill in:

- a. applying active listening techniques
- b. using feedback to optimize a client's training sessions
- c. effective use of a variety of communication channels (for example, email, social media)

B. Optimize adoption and adherence of exercise and other healthy behaviors by applying effective behavioral strategies and motivational techniques.

1. Knowledge of:

- a. behavior change models and theories (e.g., Transtheoretical Model, Social Cognitive Theory, Social Ecological Model, Health Belief Model, Theory of Planned Behavior, Self-Determination Theory, Cognitive Evaluation Theory)
- b. the basic principles involved in motivational interviewing (e.g., open-ended questioning, affirmations, reflection, summary)
- c. intervention strategies and stress management techniques
- d. behavioral strategies to enhance exercise and health behavior change (e.g., reinforcement, S.M.A.R.T. goal setting, social support)
- e. behavior modification terminology (e.g., self-esteem, self-efficacy, antecedents, cues to action, behavioral beliefs, behavioral intentions, reinforcing factors)
- f. behavioral strategies (e.g., exercise, dietary pattern, behavioral modification strategies) for weight management
- g. the role that affect, mood and emotion play in exercise adherence
- h. barriers to exercise adherence and compliance (e.g., time management, injury, fear, lack of knowledge, weather)
- i. techniques that facilitate intrinsic and extrinsic motivation (e.g., goal setting, incentive programs, achievement recognition, social support)
- j. the role extrinsic and intrinsic motivation plays in the adoption and maintenance of behavior change
- k. health coaching principles and lifestyle management techniques related to behavior change
- l. strategies to increase non-structured physical activity (e.g., stair walking, parking farther away, biking to work)

2. Skill in:

- a. explaining the purpose and value of understanding perceived exertion
- b. using imagery as a motivational tool
- c. evaluating behavioral readiness to optimize exercise adherence

B. Optimize adoption and adherence of exercise and other healthy behaviors by applying effective behavioral strategies and motivational techniques.

1. Knowledge of:

- a. behavior change models and theories (for example, Transtheoretical Model, Social Cognitive Theory, Social Ecological Model, Health Belief Model, Theory of Planned Behavior, Self-Determination Theory, Cognitive Evaluation Theory)
- b. the basic principles involved in motivational interviewing (for example, open-ended questioning, affirmations, reflection, summary)
- c. intervention strategies and stress management techniques
- d. behavioral strategies to enhance exercise and health behavior change (for example, reinforcement, S.M.A.R.T.S. goal setting, social support)
NOTE: Text change to add "S" to "S.M.A.R.T." goals
- e. behavior modification terminology (for example, self-esteem, self-efficacy, antecedents, cues to action, behavioral beliefs, behavioral intentions, reinforcing factors)
- f. behavioral strategies (for example, exercise, dietary pattern, behavioral modification strategies) for weight management
- g. the role that affect, mood and emotion play in exercise adherence
- h. barriers to exercise adherence and compliance (for example, time management, injury, fear, lack of knowledge, weather)
- i. techniques that facilitate intrinsic and extrinsic motivation (for example, goal setting, incentive programs, achievement recognition, social support)
- j. the role extrinsic and intrinsic motivation plays in the adoption and maintenance of behavior change
- k. health coaching principles and lifestyle management techniques related to behavior change
- l. strategies to increase non-structured physical activity (for example, stair walking, parking farther away, biking to work)

2. Skill in:

- a. asking open-ended questions to facilitate dialogue
- b. explaining the purpose and value of understanding perceived exertion
- c. using imagery as a motivational tool

2022 Outline (continued)

2024 Outline (continued)

- d. applying the theories related to behavior change to diverse populations
- e. developing intervention strategies to increase self-efficacy and self-confidence
- f. developing reward systems that support and maintain program adherence
- g. setting effective behavioral goals

- d. evaluating behavioral readiness to optimize exercise adherence
- e. applying the theories related to behavior change to diverse populations
- f. developing intervention strategies to increase self-efficacy and self-confidence
- g. developing reward systems that support and maintain program adherence
- h. setting effective behavioral goals

C. Provide educational resources to support clients in the adoption and maintenance of healthy lifestyle behaviors.

C. Provide educational resources to support clients in the adoption and maintenance of healthy lifestyle behaviors and improve health literacy.

NOTE: Text change to add “and improve health literacy”

1. Knowledge of:

1. Knowledge of:

- a. the relationship between physical inactivity and common chronic diseases and conditions (e.g., diabetes mellitus, obesity, stroke, dyslipidemia, arthritis, low back pain, hypertension)
- b. the dynamic inter-relationship between fitness level, body composition, stress and overall health
- c. modifications necessary to promote healthy lifestyle behaviors for diverse populations
- d. stress management techniques and relaxation techniques (e.g., progressive relaxation, guided imagery, massage therapy)
- e. activities of daily living (ADLs) and how they relate to overall health
- f. specific, age-appropriate leadership techniques and educational methods to increase client engagement
- g. community-based exercise programs that provide social support and structured activities (e.g., walking clubs, intramural sports, golf leagues, cycling clubs)

- a. the relationship between physical inactivity and common chronic diseases and conditions (for example, diabetes mellitus, obesity, stroke, dyslipidemia, arthritis, low back pain, hypertension)
- b. the dynamic inter-relationship between fitness level, body composition, stress and overall health
- c. modifications necessary to promote healthy lifestyle behaviors for diverse populations
- d. stress management techniques and relaxation techniques (for example, progressive relaxation, guided imagery, massage therapy)
- e. activities of daily living (ADLs) and how they relate to overall health
- f. specific, age-appropriate leadership techniques and educational methods to increase client engagement
- g. community-based exercise programs that provide social support and structured activities (for example, walking clubs, intramural sports, golf leagues, cycling clubs)

2. Skill in:

2. Skill in:

- a. accessing and disseminating scientifically-based, relevant fitness-, nutrition- and wellness-related resources and information
- b. educating clients about benefits and risks of exercise and the risks of sedentary behavior

- a. accessing and disseminating evidence-based, relevant fitness-, nutrition- and wellness-related resources and information
- b. educating clients about benefits and risks of exercise and the risks of sedentary behavior

NOTE: Text change from “scientifically-based” to “evidenced based”

D. Provide support within the scope of practice of an ACSM Certified Exercise Physiologist and refer to other health professionals as indicated.

1. Knowledge of:

- a. the side effects of common over-the-counter and prescription drugs that may impact a client's ability to exercise
- b. signs and symptoms of mental health states (e.g., anxiety, depression, eating disorders) that may necessitate referral to a medical or mental health professional
- c. symptoms and causal factors of test anxiety (i.e., performance, appraisal threat during exercise testing) and how they may affect physiological responses to testing
- d. client needs and learning styles that may impact exercise sessions and exercise testing procedures
- e. conflict resolution techniques that facilitate communication among exercise cohorts

2. Skill in:

- a. communicating the need for medical, nutritional or mental health intervention

IV. Risk Management and Professional Responsibilities**A. Understand and enforce risk management guidelines for a health fitness facility to reduce member, employee and business risk.**

1. Knowledge of:

- a. safe handling and disposal of body fluids and employee safety (OSHA guidelines)
- b. insurance coverage common to the health fitness industry including general liability, professional liability, workers' compensation, property and business interruption
- c. sexual harassment policies and procedures
- d. precautions taken in an exercise setting to ensure client safety
- e. preparticipation screening algorithm, medical release and waiver of liability for normal and at-risk clients

- f. emergency action plan (EAP); response systems and procedures

D. Provide support within the current industry and professional standards of practice and refer to other health professionals, as indicated.*NOTE: Text change*

1. Knowledge of:

- a. the side effects of common over-the-counter and prescription drugs that may impact a client's ability to exercise
- b. signs and symptoms of mental health states (for example, anxiety, depression, eating disorders) that may necessitate referral to a medical or mental health professional
- c. symptoms and causal factors of test anxiety (including performance, appraisal threat during exercise testing) and how they may affect physiological responses to testing
- d. client needs and learning styles that may impact exercise sessions and exercise testing procedures
- e. conflict resolution techniques that facilitate communication among exercise cohorts

2. Skill in:

- a. communicating the need for medical, nutritional or mental health intervention

IV. Risk Management and Professional Responsibilities**A. Understand and enforce risk management guidelines for a health fitness facility to reduce member, employee and business risk.**

1. Knowledge of:

- a. safe handling and disposal of body fluids and employee safety (OSHA guidelines)
- b. insurance coverage common to the health fitness industry including general liability, professional liability, workers' compensation, property and business interruption
- c. sexual harassment policies and procedures
- d. precautions taken in an exercise setting to ensure client safety
- e. preparticipation screening algorithm, medical release and waiver of liability for healthy clients and those with health risk factors.

NOTE: Text change

- f. emergency action plan (EAP); response systems and procedures

2022 Outline (continued)

2024 Outline (continued)

- g. the legal implications of documented safety procedures, the use of incident report documents, and ongoing safety training documentation
- h. maintaining employee records/documents (CPR/AED certification, certifications for maintaining job position)
- i. the components of the ACSM Code of Ethics and the ACSM Certified Exercise Physiologist scope of practice

- g. the legal implications of documented safety procedures, the use of incident report documents, and ongoing safety training documentation
- h. maintaining employee records/documents (CPR/AED certification, certifications for maintaining job position)
- i. the components of general standards of professional conduct and ethical practice

NOTE: Text change

2. Skill in:

2. Skill in:

- a. enforcing confidentiality policies
- b. maintaining a safe exercise environment (e.g., equipment operation and regular maintenance schedules, safety and scheduled maintenance of exercise areas, overall facility maintenance, proper sanitation, proper signage)
- c. communicating human resource risk management policies and procedures
- d. identifying and limiting/reducing high-risk situations

- a. enforcing confidentiality policies
- b. maintaining a safe exercise environment (for example, equipment operation and regular maintenance schedules, safety and scheduled maintenance of exercise areas, overall facility maintenance, proper sanitation, proper signage)
- c. communicating human resource risk management policies and procedures
- d. identifying and limiting/reducing high-risk situations

B. Implement emergency policies and procedures.

B. Implement emergency policies and procedures.

1. Knowledge of:

1. Knowledge of:

- a. emergency procedures (i.e., telephone procedures, written emergency action plan and procedures, personnel responsibilities) in a health fitness setting
- b. the initial management and first-aid procedures for exercise-related injuries (e.g., bleeding, strains/sprains, fractures, shortness of breath, palpitations, hypoglycemia, allergic reactions, fainting/syncope)
- c. the responsibilities, limitations and legal implications for the Certified Exercise Physiologist of carrying out emergency procedures
- d. safety plans, emergency procedures and first-aid techniques needed during fitness evaluations, exercise testing and exercise training
- e. potential musculoskeletal injuries (e.g., contusions, sprains, strains, fractures), cardiovascular/pulmonary complications (e.g., chest pain, palpitations/arrhythmias, tachycardia, bradycardia, hypotension/hypertension, hyperventilation) and metabolic abnormalities (e.g., fainting/syncope, hypoglycemia/hyperglycemia, hypothermia/hyperthermia)
- f. appropriate documentation of emergencies

- a. emergency procedures (including telephone procedures, written emergency action plan and procedures, personnel responsibilities) in a health fitness setting
- b. the initial management and first-aid procedures for exercise-related injuries (for example, bleeding, strains/sprains, fractures, shortness of breath, palpitations, hypoglycemia, allergic reactions, fainting/syncope)
- c. the responsibilities, limitations and legal implications for the ACSM Certified Exercise Physiologist carrying out emergency procedures
- NOTE: Text change to include "ACSM"**
- d. safety plans, emergency procedures and first-aid techniques needed during fitness evaluations, exercise testing and exercise training
- e. potential musculoskeletal injuries (for example, contusions, sprains, strains, fractures), cardiovascular/pulmonary complications (for example, chest pain, palpitations/arrhythmias, tachycardia, bradycardia, hypotension/hypertension, hyperventilation) and metabolic abnormalities (for example, fainting/syncope, hypoglycemia/hyperglycemia, hypothermia/hyperthermia)
- f. appropriate documentation of emergencies

2022 Outline (continued)

2. Skill in:

- a. applying first-aid procedures for exercise-related injuries (e.g., bleeding, strains/sprains, fractures, shortness of breath, palpitations, hypoglycemia, allergic reactions, fainting/syncope)
- b. applying basic life support, first aid, cardiopulmonary resuscitation and automated external defibrillator techniques
- c. following an evacuation plan
- d. demonstrating emergency procedures during exercise testing and/or training

2024 Outline (continued)

2. Skill in:

- a. applying first-aid procedures for exercise-related injuries (for example, bleeding, strains/ sprains, fractures, shortness of breath, palpitations, hypoglycemia, allergic reactions, fainting/syncope)
- b. applying basic life support, first aid, cardiopulmonary resuscitation and automated external defibrillator techniques
- c. following an evacuation plan
- d. demonstrating emergency procedures during exercise testing and/or training