Muscle Training

Physical Activity Recommendations

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Cardio-Respiratory Conditioning

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Types of Muscle Soreness

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Principle of Steady State

* Principles of Movement
* Anatomical Position
* Range of Curvatures of the Back
* Identification of Major Muscles

Bones and Joints

Sliding Filament Theory

Basic Anatomy

Body Mechanics Basics

Fitness Testing

Evaluating Muscular Strength

Exercise Risk Factors

10-15% of daily intake; .8 g/kg of body wt.; athletes may need 1.2 - 1.4 for endurance and 1.6-1.7 for strength; 4 cal/gram ✔

1. RICES
2. Veins
3. Protein - Given
4. Pronation

carry blood toward the heart ✔

1. Eversion
2. Veins - Given
3. Carbs
4. RICES

What is Static Stretching? ✔

1. breaks the duty owed to someone
2. Negligence by omission
3. Involves slow controlled sustained ROM - Given
4. ends at synaptic knob containing Ach

blood vessel that is composed of one cell layer and functions to exchange nutrients and waste materials between blood and tissues ✖

1. Capillaries - Given
2. Children
3. Capillary
4. Skull

Commonly found abnormal curves in the sagittal plane? ✖

1. hyperkyphosis (exaggerated posterior thoracic curvature) and hyperlordosis (exaggerated anterior lumbar curvature).
2. Lower stroke volume due to higher heart rate; resting HR and exercise HR are higher in children; are less efficient than adults at temperature regulation; poorer tolerance for exercise in heat
3. turning the sole of the foot toward the midline - Given
4. arms, legs, pectoral and pelvic girdles. most long bones are here.

Determining treadmill speed formula: ✔

1. Belt length (inches) x number of revolutions per minute 1,056 (the conversion of inches per minute to miles per hour) - Given
2. the benefit of exercise outweighs the risk of testing
3. The volume of blood pumped by the heart per minute (mL blood/min).
4. Q = HR x SV, the amount of blood ejected from the heart per minute

Originates in the sinoatrial (SA) node. ✔

1. Relative contraindications for exercise
2. Absolute contraindications for exercise
3. What is Restrictive Lung Disease?
4. Path of electrical depolarization originates where? - Given

Convert inches to meters by ✔

1. Negligence by omission
2. Medial rotation
3. Action
4. multiplying by 0.0254 - Given

Third-class ✔

1. Frontal plane makes a division into?
2. What is muscle fatigue?
3. What is Bruce Protocol?
4. Which type of musculoskeletal lever is most common? - Given

amount of air leaving or entering with each breath, ranges from .5 to 4L ✔

1. Tort
2. Axial Skeleton
3. Revenue
4. Tidal volume - Given

Force x Velocity ✔

1. Work Rate = ? - Given
2. Lordosis
3. Gross revenue
4. Tort

Tort ✖

1. a civil wrongdoing; negligence is failure to perform in a generally accepted standard
2. A federal agency that sets standards for staff and patient safety.
3. Dehydration, dizziness, syncope, heat exhaustion, or heat stroke
4. the amount of blood ejected from the heart per minute. - Given

Type I = slow twitch and high oxidativeType IIB = fast twitch with low oxidativeType IIA = intermediate, with twitch and oxidative property, bridge between I and IIType IIx to Type IIA = from endurance and resistance training ✔

1. Muscle fibers - Given
2. Eversion
3. Venules
4. Beta blockers

A QRS-complex represents: ✔

1. Force x Velocity
2. arteriosclerosis
3. destruction of the parenchyma
4. Ventricular muscle depolarization - Given

Neuromuscular junction ✔

1. The point of attachment of a tendon to bone
2. thick filament; part of contractile muscle
3. where communication between motor neuron and skeletal muscle occurs - Given
4. is contractile heart movement, blood is leaving the heart

What is ataxia? ✔

1. Involves slow controlled sustained ROM
2. does not provide legal immunity
3. The loss of full control of bodily movements - Given
4. are unchanged day to day, month to month

arteriosclerosis ✔

1. The loss of elasticity of the arteries is known as? - Given
2. Which type of musculoskeletal lever is most common?
3. Transverse plane makes a division into?
4. What is Restrictive Lung Disease?

What is OSHA? ✔

1. Originates in the sinoatrial (SA) node.
2. based on utilization like per diem, contract labor, etc.
3. Address agenda, assess, advise, assist, arrange follow up
4. A federal agency that sets standards for staff and patient safety. - Given

Axial Skeleton ✖

1. turning the sole of the foot away from the midline (outward)
2. includes the bones of the skull, vertebral column, ribs, and sternum. Protects organ systems
3. curves of the thoracic and sacral regions. Considered primary curves - Given
4. acetone odor on breath, confusion, slurred speech

1. Bench Press2. Push up3. Curl-up ✔

1. What is End Systolic Volume?
2. The PR-Interval represents:
3. Three assessments for muscular endurance - Given
4. What are Class 1C drugs?

Angina pectoris that occurs at rest without a precipitating event? ✖

1. Type I
2. 70 mL
3. Peak VO2 - Given
4. Variant

What is asthma? ✔

1. bones of the skull, vertebral column, ribs, and sternum
2. Common complex chronic disorder of the airways, characterized by variable and recurring symptoms, airflow obstruction, hyperresponsiveness of the bronchioles, and underlying inflammation - Given
3. curves of the cervical and lumbar regions. Considered secondary curves
4. When a motor unit is stimulated by a single nerve impulse

What is the most accurate measurement of functional capacity? ✔

1. Type I
2. Ischemia
3. Peak VO2 - Given
4. Action

Frontal plane makes a division into? ✔

1. Narrowing of the bronchial airways
2. Anterior (front) and posterior (back) - Given
3. Atrial depolarization
4. Upper (superior) and lower (inferior)

Involves performing rapid dynamic, bouncing, or jerking movements often done to simulate athletic movements. Not recommended for non-athletes. ✔

1. What is cardiac output?
2. What is axial skeleton?
3. What is Bruce Protocol?
4. What is Ballistic/Dynamic Stretching? - Given

Free Health Fitness Specialist Practice Test Questions [Section 2]

Carbs ✔

1. 45 - 65% of daily energy intake; 70% for athletes; 4 cal/gram - Given
2. Thin filament; part of contractile muscle
3. The loss of full control of bodily movements
4. Deficient oxygenation of the blood

What is Torsade de Pointes? ✔

1. that involves a breach of civil duty owed to someone else.
2. turning the sole of the foot away from the midline (outward)
3. The point of attachment of a tendon to bone
4. A type of ventricular tachycardia in which the appearance of the complexes are somewhat 'twisted' - thus the name 'torsade.' - Given

is relaxation or blood filling the heart ✔

1. Diastolic - Given
2. Skull
3. Tort
4. Systolic

tachycardia, excessive sweating (diaphoresis), light-headedness, visual disturbances ✖

1. What is Hypoxemia?
2. Symptoms of hypoglycemia
3. What is atrial flutter? - Given
4. What is Emphysema?

income minus commission, taxes, or other expenses related to income ✔

1. Negligence
2. Revenue
3. Net revenue - Given
4. Gross revenue

Hypertension exercise guides ✔

1. turning the sole of the foot away from the midline (outward)
2. Thin filament; part of contractile muscle
3. aerobic: 3-7 days/week; Intensity: 40 -70%; Time: 30-60 minutes; possible multiple bouts throughout the day. Avoid isometric, valsalva, and max efforts; high reps/low intensity is better; RPE = 13-15 - Given
4. 45 - 65% of daily energy intake; 70% for athletes; 4 cal/gram

Volume of blood ejected per beat (at rest is usually around 70 ml). SV + HR = Cardiac Output ✔

1. Stroke volume - Given
2. Arteries
3. Karvonen Formula
4. Tort

Results from a re-entrant circuit in the atria that generates flutter waves, usually at a rate of 250 - 350 per minute. ✔

1. What is atrial flutter? - Given
2. What is ataxia?
3. What is an insertion?
4. What is peripheral fatigue?

Attempt to forecast future profits for program based on potential revenue generation as well as predicted fixed and variable expenses ✔

1. Profitability analysis - Given
2. Pronation
3. Variable expense
4. Break-even analysis

multiplying by 26.8 ✔

1. Convert inches to centimeters by
2. Convert kg . m . min(-1) to Watts by
3. Convert mph to meters/minute by - Given
4. Net revenue

dividing by 6.0 ✔

1. tropomyosin and troponin
2. Convert mph to meters/minute by
3. Convert kg . m . min(-1) to Watts by - Given
4. Actin and Myosin

Address agenda, assess, advise, assist, arrange follow up ✔

1. What is syncope?
2. Informed Consent
3. What are class 1A drugs?
4. Five A's of counseling` - Given

Alveoli ✔

1. Angina pectoris that occurs at rest without a precipitating event?
2. Within the pulmonary system, the actual exchange of gasses with the blood occurs at the ? - Given
3. Rotation of the anterior surface of a bone toward the midline of the body is called?
4. The amount of blood ejected from the heart per minute is referred to as ?

ESV ✖

1. Stroke volume is significantly increased during eccentric phase - Given
2. is volume of blood remaining in each ventricle after contraction
3. the amount of blood ejected from the heart per minute.
4. should remain unchanged

Excess carbon dioxide in the blood ✔

1. What is emphysema?
2. What is Hypercapnia? - Given
3. What is perfusion?
4. What is dyspnea?

Deficient oxygenation of the blood ✔

1. What is Hypoxemia? - Given
2. What is Polycythemia?
3. What is OSHA?
4. What is Hypercapnia?

has 29 bones ✔

1. EDV
2. Skull - Given
3. ESV
4. Actin

Coronary Angiography ✔

1. Convert inches to meters by
2. Convert inches to centimeters by
3. Considered to be the 'gold standard' diagnostic technique for CHD - Given
4. Convert mph to meters/minute by

rotational movement at the radioulnar joint in a transverse plane around a longitudinal axis that results in the palm facing upward. ✔

1. Eversion
2. Children
3. Twitch
4. Supination - Given

Calcium, phosphorus, magnesium, potassium, sulfur, sodium, and chloride are examples of? ✔

1. Third-class
2. Action
3. Alveoli
4. Macrominerals - Given

What is Polycythemia? ✔

1. The point of attachment of a tendon to bone
2. Excess carbon dioxide in the blood
3. Excess red blood cells often secondary to hypoxemia - Given
4. carry blood toward the heart

small veins, carry blood from capillaries to veins ✔

1. Skull
2. Lordosis
3. Venules - Given
4. Actin

The increase in blood flow to skeletal muscles during exercise is mediated by three factors: ✔

1. A federal agency that sets standards for staff and patient safety.
2. amount of blood in each ventricle at end of resting phase.
3. (1) an increase in cardiac output, (2) vasodilation of skeletal muscle arterioles, (3) vasoconstriction of arterioles in the viscera and skin. - Given
4. Rest, Ice, Compression, Elevation, Stabilization

Failure to spot or assist a client may be considered...? (legal term) ✔

1. Atrial depolarization
2. multiplying by 2.54
3. right and left portions
4. Negligence by omission - Given

A transient deficiency of blood flow to the myocardium resulting from an imbalance between oxygen demand and oxygen supply is known as? ✔

1. Ischemia - Given
2. 12 and 16
3. Variant
4. Action

curves of the thoracic and sacral regions. Considered primary curves ✔

1. Tort
2. Kyphosis - Given
3. Carbs
4. Inversion

ECG related

St segment depression ✖

1. What is PNF Stretching?
2. What is Ballistic/Dynamic Stretching?
3. Symptoms of hypoglycemia - Given
4. A classic sign of subendocardial ischemia is?

EDV ✔

1. The loss of full control of bodily movements
2. amount of blood in each ventricle at end of resting phase. - Given
3. Deficient oxygenation of the blood
4. regulate bridging of actin and myosin

Under resting conditions, stroke volume in a typical male (70 kg) is about ? ✔

1. Alveoli
2. 70 mL - Given
3. Type I
4. COPD

The progressive reduction in voluntary drive to motor neurons during exercise ✔

1. What is perfusion?
2. What is asthma?
3. What is central fatigue? - Given
4. What is atrial flutter?

Upper (superior) and lower (inferior) ✔

1. Frontal plane makes a division into?
2. What are Class 1B drugs?
3. What happens at the alveoli?
4. Transverse plane makes a division into? - Given

....standard densities for bone, muscle, and fat. ✔

1. Net revenue
2. Underwater testing assumes.... - Given
3. Sites of skinfolds test:
4. Actin and Myosin

ECG Related

The PR-Interval represents: ✖

1. destruction of the parenchyma - Given
2. terminates in Purkinje fibers
3. are unchanged day to day, month to month
4. Atrioventricular node, His bundle, Purkinje fibers

Fixed expense ✔

1. right and left portions
2. Motor unit has more than one stimulus
3. are unchanged day to day, month to month - Given
4. carry blood toward the heart

right and left portions ✔

1. What are class 1A drugs?
2. Sagittal plane makes a division into? - Given
3. Diabetes exercise guides
4. What are Class 1B drugs?

Consequences of low temperature ✖

1. Deficient oxygenation of the blood
2. Motor unit has more than one stimulus - Given
3. dehydration, reduced coordination, chills, hypothermia, potentially frost-bite
4. Dehydration, dizziness, syncope, heat exhaustion, or heat stroke

Cardiac Output ✔

1. The amount of blood ejected from the heart per minute is referred to as ? - Given
2. Path of electrical depolarization originates where?
3. Commonly found abnormal curve in the frontal plane?
4. The loss of elasticity of the arteries is known as?

Karvonen Formula ✔

1. the amount of blood ejected from the heart per minute.
2. the benefit of exercise outweighs the risk of testing
3. carry blood away from heart, decrease to arterioles
4. Target Heart Rate = ((max HR - resting HR) x %Intensity) + resting HR - Given

Tort ✔

1. The point of attachment of a tendon to bone
2. that involves a breach of civil duty owed to someone else. - Given
3. turning the sole of the foot toward the midline
4. Thin filament; part of contractile muscle

regulate bridging of actin and myosin ✔

1. tropomyosin and troponin - Given
2. Gross revenue
3. Break-even analysis
4. Children and sweat

When do Premature Ventricular Complexes occur?` ✔

1. The amount of blood left in the ventricle right after ventricular contraction.
2. Initiating depolarization of the myocardium.
3. Progressive increase in SBP, no change or slight decrease in DBP, and a widening of the pulse pressure.
4. When a site in the ventricle fires before the next wave of depolarization from the sinus node reaches the ventricle - Given

turning the sole of the foot away from the midline (outward) ✔

1. Eversion - Given
2. Obesity
3. Pronation
4. Veins

multiplying by 2.54 ✖

1. The PR-Interval represents:
2. Consequences of high temperature
3. Convert mph to meters/minute by - Given
4. Convert inches to centimeters by

Gross revenue ✔

1. Motor unit has more than one stimulus
2. total revenue received before any deductions - Given
3. Ventricular muscle repolarization
4. Negligence by omission

Lidocaine, Mexiletine, Phenytoin, Tocainide ✔

1. What is Polycythemia?
2. What are Class 1B drugs? - Given
3. What are class 1A drugs?
4. What is axial skeleton?

1. consciousness raising2. dramatic relief3. environmental re-evaluation4. self-revolution5. social liberation ✖

1. Systolic Blood Pressure
2. Diastolic Blood Pressure
3. Transtheoretical Model - Behavioral processes - Given
4. Transtheoretical Model - Cognitive processes (5)

should remain unchanged ✖

1. Diagonal skinfolds
2. Fixed expense - Given
3. Diastolic during exercise
4. Non-capital expense

At what stage are people at most risk of relapse? ✖

1. Medial rotation
2. Peak VO2 - Given
3. Third-class
4. Action

Proprioceptive Neuromuscular Facilitation: Tense/Relax method, often referred to as partner stretching. ✔

1. What is PNF Stretching? - Given
2. What is an insertion?
3. What is asthma?
4. What is Hypoxemia?

Partial or complete loss of consciousness with interruption of awareness of oneself and ones surroundings. ✖

1. What is perfusion? - Given
2. What is asthma?
3. What is syncope?
4. What is ataxia?

ACSM Health Fitness Specialist Practice Test Questions [Section 2]

contraindicated if fasting glucose is greater than 250 mg/dL with ketones or greater than 300 mg/dL w/o ketones ✔

1. Diabetes exercise guides - Given
2. Variable expense
3. Beta blockers
4. Capital expense

Obesity ✔

1. setting a series of intermediate goals that lead to a long-term goal
2. where the exchange of nutrients occurs between blood and tissue
3. 45 - 65% of daily energy intake; 70% for athletes; 4 cal/gram
4. BMI greater than 30; waist circumference (m) > 102 cm; (f) > 88 cm; body fat: (m) >25%; (f) > 32% - Given

The loss of force or power output in response to voluntary effort leading to reduced performance. ✖

1. What is muscle fatigue?
2. What is OSHA?
3. What is emphysema?
4. What is central fatigue? - Given

Stroke volume is NOT significantly elevated to more than resting during the concentric phase of resistance training. ✖

1. Systolic during exercise
2. What is an insertion? - Given
3. Variable expense
4. Stroke Volume and concentric phase

Dehydration, dizziness, syncope, heat exhaustion, or heat stroke ✔

1. Diastolic during exercise
2. Diastolic Blood Pressure
3. Convert inches to meters by
4. Consequences of high temperature - Given

1 to 6 years ✔

1. In terms of chronological age, early childhood is usually described as ? - Given
2. Which type of musculoskeletal lever is most common?
3. The loss of elasticity of the arteries is known as?
4. At what stage are people at most risk of relapse?

Oxidative - Aerobic ✔

1. A federal agency that sets standards for staff and patient safety.
2. arms, legs, pectoral and pelvic girdles. most long bones are here.
3. ends at synaptic knob containing Ach
4. carbs and fats used to synthesize ATP; for activities lasting longer than 3 minutes - Given

The Frank Starling mechanism plays a vital role in determining ? ✔

1. Motor unit
2. Stroke volume - Given
3. scoliosis
4. Alveoli

What is cardiac output? ✔

1. carry blood toward the heart
2. The volume of blood pumped by the heart per minute (mL blood/min). - Given
3. The loss of force and power that is independent of neural drive.
4. regulate bridging of actin and myosin

Informed Consent ✔

1. is volume of blood remaining in each ventricle after contraction
2. The point of attachment of a tendon to bone
3. The loss of force and power that is independent of neural drive.
4. Enables clients to make informed decisions. Not a legal document. Provides detailed explanation of exercise program. Does not provide legal immunity. Negligence is not covered by informed consent. - Given

Diastolic Blood Pressure ✖

1. The loss of force and power that is independent of neural drive.
2. is volume of blood remaining in each ventricle after contraction - Given
3. the pressure exerted during resting phase; healthy is <80; over 90 is hypertension
4. regulate bridging of actin and myosin

Rotation of the anterior surface of a bone toward the midline of the body is called? ✔

1. Motor unit
2. Bronchiole
3. Medial rotation - Given
4. Variant

carry blood away from heart, decrease to arterioles ✔

1. Venules
2. Arteries - Given
3. RICES
4. Lordosis

Abduction, eversion, and dorsiflexion ✔

1. Path of electrical depolarization ends where?
2. Convert inches to meters by
3. What is cardiac output?
4. The rear foot motion called pronation results from: - Given

Fash-twitch glycolytic ✔

1. Under resting conditions, stroke volume in a typical male (70 kg) is about ?
2. Angina pectoris that occurs at rest without a precipitating event?
3. At what stage are people at most risk of relapse?
4. Muscle fibers that can produce a large amount of tension in a very short period of time but fatigue quickly are referred to as - Given

pumping a liquid into an organ or tissue (especially by way of blood vessels). ✖

1. What is Hypercapnia? - Given
2. What is ataxia?
3. What is perfusion?
4. What is an insertion?

Inversion ✔

1. terminates in Purkinje fibers
2. thick filament; part of contractile muscle
3. Deficient oxygenation of the blood
4. turning the sole of the foot toward the midline - Given

testing should NOT be performed until situation or condition is stable ✖

1. Systolic during exercise
2. Non-capital expense
3. Stroke Volume and concentric phase - Given
4. Absolute contraindications for exercise

Capital expense ✔

1. where the exchange of nutrients occurs between blood and tissue
2. exchange of gasses with the blood occurs.
3. amount of blood in each ventricle at end of resting phase.
4. Large and extraordinary purches of durable items with an extended useful life, like exercise equipment - Given

Lordosis ✖

1. arms, legs, pectoral and pelvic girdles. most long bones are here. - Given
2. curves of the cervical and lumbar regions. Considered secondary curves
3. based on utilization like per diem, contract labor, etc.
4. curves of the thoracic and sacral regions. Considered primary curves

day-to-day operational expenses (i.e., medical and exercise supplies, stationary) ✔

1. A T-Wave represents:
2. Tidal volume
3. Non-capital expense - Given
4. Gross revenue

What is an insertion? ✔

1. The loss of full control of bodily movements
2. are unchanged day to day, month to month
3. Narrowing of the bronchial airways
4. The point of attachment of a tendon to bone - Given

The loss of force and power that is independent of neural drive. ✔

1. What is peripheral fatigue? - Given
2. What is perfusion?
3. What is Torsade de Pointes?
4. What is atrial flutter?

Waist-to-hip ratio ✔

1. where the exchange of nutrients occurs between blood and tissue
2. acetone odor on breath, confusion, slurred speech
3. curves of the cervical and lumbar regions. Considered secondary curves
4. Index of upper versus lower body fat dristribution. Waist circumference and hip circumference are measured then WHR is calculated using a standard nomogram. - Given

Children and sweat ✔

1. When a site in the ventricle fires before the next wave of depolarization from the sinus node reaches the ventricle
2. Children sweat less because sweat rate and rate of sweat production for each gland are lower in children. They have same number of glands. - Given
3. that involves a breach of civil duty owed to someone else.
4. Partial or complete loss of consciousness with interruption of awareness of oneself and ones surroundings.