

# **NSCA-CPT - Quiz Questions with Answers**

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# Client Consultation & Assessment

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Client Consultation & Assessment

1.

Which of the following are consequences of **not** consuming enough dietary fat?

- I. Decreased testosterone production
- II. Decreased bone density
- III. Impaired fat-soluble vitamin absorption
- IV. Decreased energy production ability

**I and III only**

II and IV only

I and II only

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*Correct answer: I and III only*

*I and III only is correct because a decrease in testosterone production can occur in diets with less than 15% fat consumption, and impaired fat-soluble vitamin absorption can occur with very low-fat diets. These low-fat diets have been prescribed to patients with severe heart disease but are not recommended for healthy, active individuals. Health is improved with sufficient intake of omega-3 and omega-6 fatty acids.*

*II and IV only is incorrect because neither of these are consequences of low-fat diets. I and II only is incorrect because decreased bone density is associated with diets low in calcium and vitamin D, not fat.*

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**2.**

What should a personal trainer do during the initial interview before discussing goal setting with a client?

**Determine client-trainer compatibility**

Establish a client-trainer agreement

Ask the client to complete a Physical Activity Readiness Questionnaire (PAR-Q)

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*Correct answer: Determine client-trainer compatibility*

*It's important to determine whether a potential client and a personal trainer are compatible before moving forward with setting specific goals for a training program. Logistics, such as time and location of training services, should be considered and discussed in addition to determining factors such as client motivation and training readiness. This can help to ensure compliance with a training program.*

*The client-trainer agreement may also be included in the initial interview but is generally created after determining compatibility and setting specific goals. The PAR-Q and fitness assessment should be completed as part of the pre-participation health appraisal screening, which is separate from and generally follows, the initial interview.*

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**3.**

Approximately how much rest is appropriate for a client to take between their three to five repetition warm-up set and their first one-repetition near-maximal set during one-repetition maximum strength testing?

**2 minutes**

4 minutes

1 minute

*Correct answer: 2 minutes*

*2 minutes is correct because this should be enough rest for the energy systems to recover from a submaximal set. As the load increases closer to the one-repetition maximum, the rest periods will increase in length. The key is to use rest periods that allow full or nearly complete recovery without allowing the client to lose readiness.*

*4 minutes is incorrect because this is the recommended rest period between the maximal load sets. 1 minute is incorrect because this is the recommended rest period between the warm-up sets.*

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**4.**

A personal trainer is assessing an individual's ability to land with proper body position for plyometric training. Which of the following would indicate a movement fault?

**The feet are flat on the ground with the weight firmly in the heels.**

The shoulders are directly in line with the knees.

The knees are in line with the feet.

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*Correct answer: The feet are flat on the ground with the weight firmly in the heels.*

*Proper landing mechanics are important for decreasing injury risk when clients perform plyometric training. Therefore, personal trainers should assess their client's ability to land correctly. A proper landing position includes:*

- *The torso leaning slightly forward so that the shoulders are in line with the knees.*
  - *The knees bent and in line with the feet, and not drifting inward or outward.*
  - *The feet should be flat, but the body's weight should be placed more into the balls of the feet and not in the heels.*
  - *A soft landing.*
  - *The hips should be level and not dropping to either side.*
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**5.**

Which of the following is **not** required to determine maximal oxygen consumption during the 12-minute walk or run test?

**Heart rate monitor**

Flat course with measured distances

Visible distance markers

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*Correct answer: Heart rate monitor*

*Heart rate monitor is correct because this measurement is not a part of the equation ( $VO_{2max} = (0.0268 \times \text{Distance}) - 11.3$ ) used to determine  $VO_{2max}$ . The only variable that requires recording is the distance covered during the test duration. This test is considered a maximal test to determine cardiovascular fitness and, therefore, should only be applied to the appropriate population.*

*Flat course with measured distances and visible distance markers are incorrect because these are required to perform this test.*

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**6.**

Which of the following is the **most** common supplement that a client is likely to be taking?

**Vitamin and mineral supplement**

Protein supplement

Creatine supplement

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*Correct answer: Vitamin and mineral supplement*

*Vitamin and mineral supplement is correct because the purpose of this supplement is general health, which can be attributed as a goal across many populations. In addition, these are perceived to be without risk. However, excess intake of vitamins and minerals is not beneficial and, depending on the circumstances, potentially harmful.*

*Protein supplement is incorrect because these are typically taken only by those who don't get enough dietary protein or who are looking to increase muscle mass. Creatine supplement is incorrect because these are only used by those looking to improve strength, speed, or muscle mass.*

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7.

Which of the following is true of a client who doesn't smoke, but lives in the same house as someone who smokes cigarettes inside the home?

**This client is at risk for CVD**

This client is not at risk for CVD

This client may be at risk for CVD, depending on how long they've lived in the house with the smoker

There is no correlation between environmental tobacco smoke and CVD

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*Correct answer: This client is at risk for CVD*

*Environmental tobacco smoke exposure, smoking currently, and quitting smoking within 6 months of working with a trainer all put clients at risk for CVD. Because this person lives with a smoker and is exposed to smoke, they are at risk for CVD.*

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8.

When measuring the chest skin fold, which direction should the fold be to take an accurate measurement?

**Diagonal**

Horizontal

Vertical

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*Correct answer: Diagonal*

*Diagonal is correct because this will be the easiest, and therefore most reliable, way to pinch the skin fold in this area. For females, the diagonal fold is taken one-third between the anterior axillary line (imaginary line extending from the front of the armpit downward) and the nipple. For males, it is halfway between the anterior axillary line and the nipple.*

*Horizontal is incorrect because no skin folds are taken with a horizontal fold. Vertical is incorrect because this position would not allow for an accurate measurement.*

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**9.**

Carbohydrate requirements of an individual primarily depend on which of the following physical activity factors?

**Mode of exercise**

Intensity of exercise

Speed of exercise

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*Correct answer: Mode of exercise*

*Mode of exercise is correct because those training in aerobic endurance events, especially those lasting over an hour per day, require almost twice the amount of carbohydrate needed by strength, power, or speed athletes. The main reason for this is the need of aerobic endurance athletes to replenish stored glycogen levels. These athletes should consume 7 to 10 grams per kilogram of body weight, while strength and power athletes can get by on 5 to 6 g/kg.*

*Intensity of exercise is incorrect because duration of continuous activity is a more important factor. Speed of exercise is incorrect because speed, strength, and power athletes require less carbohydrate than aerobic endurance athletes.*

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10.

A client's blood pressure has been measured at 140mmHg/95 mmHg. How should the personal trainer proceed?

**Measure blood pressure again after two minutes**

Refer to a physician for possible hypertension

Diagnose the client with hypertension

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*Correct answer: Measure blood pressure again after two minutes*

*Measure blood pressure again after two minutes is correct because referral should only occur if two consecutive measurements indicate hypertension. If the two measurements differ by more than 5 mmHg for either the systolic or diastolic blood pressure, a third measurement should be taken. The average score of these two or three measurements is used to determine the final blood pressure.*

*Refer to a physician for possible hypertension is incorrect because hypertension should be shown in at least two consecutive measurements to eliminate the error. Diagnose the client with hypertension is incorrect because this action is outside the scope of practice for a personal trainer.*

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11.

Which of the following is considered a negative risk factor for cardiovascular disease?

**HDL > 60 mg/dl**

Blood pressure > 130/80 mmHg

Current cigarette smoking

Female age > 55 years

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*Correct answer: HDL > 60 mg/dl*

*Negative risk factors are those that reduce the likelihood of developing a disease. Having high HDL levels is a negative risk factor, while having high blood pressure, smoking cigarettes, and being older than 55 as a female are all positive risk factors for CVD.*

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12.

Which of the following is true regarding assumption of risk documents for children/minors?

**Neither children nor their parents can consent to assume risk during exercise**

Children can assume risk during exercise

Parents can assume risk for their children during exercise

Both parents and children share the assumption of risk during exercise

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*Correct answer: Neither children nor their parents can consent to assume risk during exercise*

*Training children presents a tricky legal conundrum for trainers. Children cannot assume risk during training, nor can their parents. Therefore, trainers need to be extra careful when working with children to ensure that they are not hurt during exercise sessions.*

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**13.**

A client is looking to gain five pounds of muscle in the next four weeks. If his current caloric intake is 2,750 calories per day, what must his new minimum caloric intake be to achieve this goal?

**3,197 calories**

3,125 calories

3,375 calories

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*Correct answer: 3,197 calories*

*3,197 calories is correct because this will allow for 12,500 extra calories to be consumed over the four weeks. 2,500 extra calories must be consumed for each one-pound increase in muscle or 12,500 calories for five pounds. These 12,500 extra calories will result in an extra 3,125 calories per week or 446.4 extra calories per day.*

*3,125 calories is incorrect because this is the number of extra calories required per week. 3,375 calories is incorrect because this would be the number if 3,500 extra calories were needed to gain one pound of muscle.*

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**14.**

Which of the following describes a method of gathering data about a client's nutritional habits that involves the client documenting everything consumed over a three-day period?

**Diet record**

Diet history

Dietary recall

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*Correct answer: Diet record*

*It's important to begin with gathering information about a client's current nutritional habits, tendencies, and preferences to assist a client with improving their diet. It is common practice to ask a client to document everything they eat or drink over a three-day period. This is known as a diet record and may commonly be referred to as a food log.*

*A dietary recall involves asking a client to detail what they've eaten in the last 24 hours. A diet history is a questionnaire that gathers information about things such as a client's preferences, eating habits and schedule, and medical and weight history.*

*All three can provide valuable information in starting to assist a client with their nutrition. This information can then be analyzed (diet analysis) to help evaluate their current state of nutrition.*

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**15.**

You are working with a new client. When you have him walk on the treadmill, he experiences intense, cramp-like pain in his calves. The pain resolves once he stops exercising, but reliably increases every time he starts walking again. Which of the following is the most likely cause of this pain?

**Intermittent claudication**

Muscle weakness

Decreased flexibility in the lower quarter

A lack of muscular strength

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*Correct answer: Intermittent claudication*

*Intermittent claudication, as described, is an indicator of potentially serious cardiovascular disease. This client should be referred to a medical professional for further testing.*

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**16.**

Developing goals from physical assessments is critical for which of the following?

- I. Program design
- II. Motivation
- III. Determining Client-Trainer Compatibility
- IV. Identifying Client's Health Status

**I and II only**

I and III only

II and IV only

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*Correct answer: I and II only*

*I and II only is correct because the results can aid in determining appropriate session frequency, length, intensity, and complexity that a client will continue to adhere to. Developing goals gives the client focus and a purpose while exercising. Whenever possible, tests should be chosen based on the client's initial goals and then these goals can be refined with the testing results.*

*I and III only is incorrect because client-trainer compatibility should have been determined during the initial client consultation. II and IV only is incorrect because a client's health status must be determined before the testing process to ensure their safety.*

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**17.**

Dan is a 180-pound football player, Ed is a 170-pound basketball player, and Tim is a 140-pound cross-country runner. Of these three athletes, who is **most** likely to consume the most carbohydrate on a daily basis?

**Tim**

Dan

They will all consume about the same amount.

*Correct answer: Tim*

*Tim is correct because his recommended carbohydrate intake is between 445 and 636 grams per day. Dan's recommended carbohydrate intake is between 409 and 491 grams per day, and Ed's recommended carbohydrate intake is between 386 and 464 grams per day. To calculate Dan's (or Ed's) carbohydrate intake, the recommendation of 5 to 6 g/kg (180 pounds/2.2 pounds per kilogram = 81.8 kg x 5 g/kg = 409 grams, 81.8 kg x 6 g/kg = 491 grams) is used for a strength and power athlete. To calculate Tim's carbohydrate intake, the recommendation of 7 to 10 g/kg (140 lb/2.2 lb/kg = 63.6 kg x 7 g/kg = 445 grams, 63.6 kg x 10 g/kg = 636 grams) for aerobic endurance athletes is used.*

*Dan is incorrect because his range of recommended carbohydrate intake is less than Tim's. They will consume about the same amount is incorrect because, although their ranges overlap to an extent, Tim's range is much higher than Dan's.*

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**18.**

How much protein should the following client consume on a daily basis in order to be at the **safe intake level**, as defined by the World Health Organization?

A 45-year-old male who weighs 180 pounds and exercises at a moderate intensity 3-4 times per week.

**65 grams**

98 grams

144 grams

*Correct answer: 65 grams*

*65 grams is correct because this is equivalent to 0.8 grams of protein per kilogram of body weight for this individual.*

*The first step in calculating the protein needs for this person is to convert his body weight in pounds to kilograms:  $180 \text{ pounds} / 2.2 \text{ pounds/kilogram} = 81.8 \text{ kilograms}$ .*

*Then calculate the protein requirement using the recommended 0.8 grams/kilogram:  $0.8 \text{ grams/kilogram} \times 81.8 \text{ kilograms} = 65 \text{ grams of protein}$ .*

*98 grams is incorrect because this is the lower end of the protein requirement range for an athlete. 144 grams is incorrect because this would be the result if body weight was not converted to kilograms.*

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**19.**

A client is looking over an informed consent form. Which of the following is likely to be included on this form?

**Information on the possible benefits of exercise**

Questions about the client's health history

A waiver that absolves the trainer of responsibility if the client is injured during exercise

Questions about the client's dietary choices

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*Correct answer: Information on the possible benefits of exercise*

*An informed consent document generally serves to give the client information about the possible benefits and risks associated with exercise.*

*Questions about the client's health history will usually show up on the PAR-Q+ and any other health history forms. The assumption of risk serves as a waiver that can reduce some liability on the trainer, should the client become injured during training. Questions about dietary choices will usually be included on a lifestyle questionnaire.*

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20.

Which of the following is not typically part of the initial interview?

**Testing the client's cardiovascular fitness**

Determination of compatibility

Discussion of goals

Development of a trainer-client agreement

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*Correct answer: Testing the client's cardiovascular fitness*

*Testing a client's cardiovascular fitness will happen later on.*

*The initial interview is an opportunity for the trainer and client to establish whether or not they are a good fit for one another. During this meeting, there is typically a discussion of goals, the development of an agreement, and a general discussion of what is expected from one another during training sessions.*

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21.

Which of the following makes the largest contribution to the body's daily energy expenditure?

**Resting metabolic rate**

Physical activity

Thermic effect of food

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*Correct answer: Resting metabolic rate*

*Resting metabolic rate is correct because this accounts for 60 to 75% of daily energy expenditure. It is a measure of the calories required for maintaining normal body functions. Factors that can affect resting metabolic rate are age, body composition, hormonal environment, and genetics.*

*Physical activity is incorrect because this is the second largest component of energy expenditure. Thermic effect of food is incorrect because this accounts for 7 to 10% of daily energy expenditure.*

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**22.**

A client's resting heart rate is measured at 110 beats per minute. Which of the following conditions is this client displaying?

**Tachycardia**

Bradycardia

Hypertension

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*Correct answer: Tachycardia*

*Tachycardia is correct because this condition occurs when the resting heart rate is greater than 100 beats per minute. Tachycardia occurs when an abnormality in the heart produces rapid electrical signals. This can seriously disrupt normal heart function, increase the risk of stroke, or cause sudden cardiac arrest or death.*

*Bradycardia is incorrect because this is a resting heart rate lower than 60 beats per minute. Hypertension is incorrect because this is high systolic or diastolic or both blood pressure.*

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**23.**

Which of the following is not part of the ACSM preparticipation screening algorithm?

**Exercise preferences**

Exercise status

Renal disease

Metabolic disease

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*Correct answer: Exercise preferences*

*When using the ACSM preparticipation screening algorithm, the trainer must consider cardiovascular disease risk, renal disease risk, metabolic disease risk, and personal signs and symptoms of disease.*

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**24.**

Contraction of the gluteus maximus, hamstrings, and rectus abdominus result in what postural change?

**Posterior pelvic tilt**

Anterior pelvic tilt

Rotation of the pelvis

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*Correct answer: Posterior pelvic tilt*

*The pelvic girdle can move in all three planes of motion, and direction of movement depends on which muscles contract. Contraction of the gluteus maximus, hamstrings, and rectus abdominus pulls the pelvis down in the back and up in the front, resulting in a posterior tilt.*

*Contraction of the hip flexors and lumbar extensors creates the opposite motion: The anterior side of the pelvis gets pulled down, and the posterior side of the pelvis gets pulled up, resulting in an anterior tilt.*

*A lateral tilt occurs due to contraction of the lateral lumbar muscles and the hip abductors and adductors. Rotation of the pelvis results from the contraction of the spinal rotators and the muscles of the hip.*

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**25.**

Which of the following should be completed before performing the sit-and-reach test?

- I. Warm up
- II. Perform a maximum strength test
- III. Measure leg length
- IV. Remove shoes

**I and IV only**

I, III and IV only

I and II only

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*Correct answer: I and IV only*

*I and IV only is correct because the warm-up with some moderate stretching will aid in test performance, increase validity and reliability, and reduce the likelihood of injury during the test. Removing one's shoes will ensure an accurate measurement and reliability since the distance from the starting position to the hips could differ if shoes were worn. The sit-and-reach test measures hip and low back flexibility and is believed to be predictive of low back pain.*

*I, III and IV only is incorrect because leg length is not a measured variable during the sit-and-reach. I and II only is incorrect because during a battery of tests, it is suggested that the sit-and-reach occurs before any maximal strength tests.*

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**26.**

A personal trainer is conducting a static postural assessment. Which of the following would indicate a significant issue with proper postural alignment?

**The back of the head is in line with the shoulder.**

The ear is in line with the shoulder.

The shoulders are in line with the hips.

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*Correct answer: The back of the head is in line with the shoulder.*

*Proper postural alignment contributes to effectiveness and safety during exercise. Conducting a static postural assessment can help a personal trainer to identify significant flaws that might affect a client's ability to perform exercises correctly or safely.*

*Good posture includes aligning the ear, shoulder, and hip. This position helps to prevent kyphotic and lordotic positions, which can place increased stress on the spine. It also helps to improve the efficiency of movement, as it places the body in a biomechanically advantageous position to produce movement and force.*

*If the back of the head is in line with the shoulder, this indicates a forward head posture. This position has the potential to place increased stress on the body, including the neck, and can also lead to other postural deviations that may be associated with muscle imbalances and pain.*

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27.

When performing an assessment of a client's running posture, which of the following would indicate improper postural position?

**The torso is leaning forward.**

The torso is balanced over the hips.

The shoulders are relaxed.

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*Correct answer: The torso is leaning forward.*

*While a static postural assessment may provide some insight into potential muscular imbalances and postural changes, it's also important to assess a client's posture and ability to maintain good position during movement.*

*When an individual is running or walking, they should think about walking or running "tall," keeping the head upright and balancing the torso over the hips, not leaning forward or backward. The shoulders should be relaxed and not rounded forward. Maintaining a good posture position can help with efficiency of movement and can decrease the stress on the spine that can occur when good posture is not maintained.*

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28.

Which of the following is **not** a part of the client consultation interview?

**Fitness assessment**

Assessment of client-trainer compatibility

Discussion of goals

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*Correct answer: Fitness assessment*

*Fitness assessment is correct because this does not occur until the second appointment. A pre-participation health appraisal screening must occur first to ensure that it is safe for the client to participate in an assessment that involves exercise. The goal of the initial interview process is to obtain and share essential information that will relate to the program delivery process.*

*Assessment of client-trainer compatibility and discussion of goals are incorrect because these are parts of the client consultation interview.*

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**29.**

An avid cyclist who regularly competes in cycling races, and who is apparently healthy, would like their cardiovascular fitness assessed. Which of the following tests would be the **most** appropriate for this individual?

**1.5-mile run**

T-Test

Rockport walking test

*Correct answer: 1.5-mile run*

*1.5-mile run is correct because, when possible and appropriate, choosing specific tests that are congruent with a client's goals and preferred mode of exercise can give them a clearer picture of their progress. For this client, because they like to cycle at high intensity, participate often in cardiovascular exercise, and appear to be safe to perform a more intense test, this near-maximal running test is the most appropriate. However, this test may be inappropriate for another client.*

*T-Test is incorrect because the mode of exercise does not measure aerobic cardiovascular fitness. Rockport walking test is incorrect because the intensity may not be high enough to give the client an accurate score for their ability.*

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30.

Responsibility regarding any potential injuries incurred during training is outlined during which part of the client consultation?

**Client-trainer fitness facility agreement**

Client-trainer agreement

Compatibility discussion

Health appraisal screening

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*Correct answer: Client-trainer fitness facility agreement*

*Because exercise poses an inherent risk of injury, both trainers and clients must clearly establish what happens in the case of an injury during a training session. This occurs during the client-trainer fitness facility agreement, where it is established who is responsible when an injury takes place.*

*This usually occurs after compatibility discussions, client-trainer agreements, and before the health appraisal screening.*

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31.

Which of the following best describes an assumption of risk document?

**A form that may reduce some liability on a trainer if the client should become injured during exercise**

A form that explains the potential benefits and risks inherent in exercise

A form that examines a client's health history and relative risk based on this information

A form that defines goals for a client that are safe and specific based on their individual needs

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*Correct answer: A form that may reduce some liability on a trainer if the client should become injured during exercise*

*Assumption of risk documents allow for some limits on liability experienced by trainers when clients are injured during training. However, trainers still must practice safety and ensure that their clients are not exposed to unnecessary levels of harm.*

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**32.**

When a client completes a diet record for a nutritional assessment, how many days should they continue to complete their intake log?

**3 days**

1 day

One full week

*Correct answer: 3 days*

*There are a few methods a personal trainer might utilize to help analyze a client's current state of nutrition. These include:*

- 1. **Dietary recall.** This involves asking the individual to remember and report what they consumed over the past 24 hours.*
- 2. **Diet history.** This method asks the individual questions to identify individual preferences, typical eating schedule, history of body weight changes, etc.*
- 3. **Diet record.** This is also known as a food log and requires the individual to log everything they consume (including beverages and supplements) over the course of a 3-day period. This is considered to be the best representation of the three methods for assessing an individual's current diet.*

*When asking a client to complete a diet record, it's important to emphasize the need to follow their typical eating patterns, including the quality and timing of food. Many individuals will attempt to "eat more healthfully" during this period, which then prevents an accurate assessment.*

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**33.**

Which of the following best describes the standard error of measurement with regard to skinfold testing?

**Skinfold testing will provide an estimate of one's body fat within a few percentage points of that person's true body fat percentage.**

Skinfold testing seems like it measures what it's supposed to measure.

Skinfold testing is the test that is touted as the best estimate of body fat percentage as compared to all other body fat tests.

Skinfold testing has such a large error rate for estimating body fat percentage that it should not be used unless nothing else is available for body fat testing.

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*Correct answer: Skinfold testing will provide an estimate of one's body fat within a few percentage points of that person's true body fat percentage.*

*The standard error of measurement is a concept that describes how tests will differ within an acceptable and predictable range from the "true" score based on a gold standard.*

*Skinfold testing seeming like it measures what it's supposed to measure is an example of face validity. Skinfold testing as the testing that is touted as the best estimate of body fat percentage as compared to all other body fat tests is an example of a gold standard test, and is not true in this instance. Skinfold testing has a modest error rate.*

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**34.**

Which of the following is **not** a measurement of fat mass or mass distribution?

**Body mass index**

Bioelectrical impedance assessment

Skinfold measurement

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*Correct answer: Body mass index*

*Body mass index is correct because this is a measure of body mass related to stature. However, there is no distinction as to whether this mass is fat or lean mass or where this mass is distributed in the body. This can be an important body composition measurement for obese individuals for whom fat mass calculations can be inaccurate or uncomfortable.*

*Bioelectrical impedance assessment and skinfold measurement are incorrect because these are measurements of fat mass.*

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**35.**

Before incorporating low-intensity lower body plyometric drills into a client's program, it's important to perform an assessment of their ability to perform what two movements with proper form?

**Bodyweight squat and single-leg balance for 30 seconds**

Isometric partial squat and calf raise

Back squat with 2.5 times body weight and single-leg balance for 30 seconds

*Correct answer: Bodyweight squat and single-leg balance for 30 seconds*

*Evaluating a client's ability in foundational movements prior to beginning or advancing their training program is crucial to their safety, and these assessments can help ensure that the client is physically prepared for their training program. For plyometric training, the foundational movement patterns that should be assessed are different for each level of intensity.*

*Those interested in any plyometric training should be able to perform a bodyweight squat with good form, which includes keeping the heels flat, maintaining an anterior pelvic tilt and good trunk position while moving through the entire range of motion. As they progress toward more advanced plyometric training, clients should be capable of performing a back squat with 1.5 times their body weight.*

*In addition, those interested in performing low-intensity plyometrics should also be able to balance on each leg for 30 seconds on each leg.*

*To progress to an intermediate intensity level, individuals should be able to balance in a single-leg quarter squat position for 30 seconds on each leg.*

*Those interested in an advanced plyometric training program that might include single-leg plyometric exercises should be able to balance in a single-leg half-squat position for 30 seconds.*

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**36.**

Your client tells you that he just had a fasting blood glucose test performed. His results indicate that he had a reading of 120 mg/dl. Which of the following is true regarding this client's CVD risk based on this reading?

**This client is at risk for CVD.**

This client is not at risk for CVD.

It is impossible to know whether this client is at risk for CVD based on this reading.

As a man, this client is not at risk based on this reading, however, if a woman had the same reading, she would be at risk for CVD.

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*Correct answer: This client is at risk for CVD.*

*A fasting blood glucose greater than 100 mg/dl puts clients at risk for CVD.*

*This test does not discriminate between female and male clients.*

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**37.**

In general, which of the following foods is likely to provide the most amount of protein per calorie?

**Chicken breast**

Meat-lovers pizza

Ice cream

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*Correct answer: Chicken breast*

*Chicken breast is high in protein and contains some fat. However, it contains a negligible amount of calories from carbs.*

*Meat-lovers pizza provides a decent amount of protein, but it contains many calories from carbs and fats as well. Ice cream contains some protein, but it provides many more calories in the form of carbs and fats.*

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38.

Which of the following is the **most** valid measurement of maximum lower body strength in a client?

One repetition maximum leg press

Five repetition maximum leg press

Vertical jump

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*Correct answer: One repetition maximum leg press*

*One repetition maximum leg press is correct because a one repetition strength has very high face validity in that this test measures the exact ability it is designed to measure. No estimations are made by determining the results of this test. However, this test must also be reliable and have a standard operating procedure.*

*Five repetition maximum leg press is incorrect because this is an estimation of maximal strength. Vertical jump is incorrect because this is a measure of muscular power.*

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**39.**

Which of the following is **not** included in a physician referral form?

**An exercise training program**

Assessment of the client's functional capacity

A classification of the client's ability to participate

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*Correct answer: An exercise training program*

*An exercise training program is correct because the physician referral form will include recommendations and guidelines for the exercise program, but not the exercise program itself. The physician's referral form is used to obtain information about the client's health status, physical limitations, and exercise restrictions. This form and the physician's medical clearance should be obtained for any moderate or high-risk client.*

*Assessment of the client's functional capacity and a classification of the client's ability to participate are incorrect because these should be included within a physician's referral form.*

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**40.**

A 23-year-old male has a BMI of 31 but shows no signs of hypertension, dyslipidemia, or metabolic disease and has no family history of cardiovascular disease. Which of the following types of programs is he recommended to participate in?

**Unsupervised program**

Supervised program

Medically supervised program

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*Correct answer: Unsupervised program*

*Unsupervised program is correct because this client, with only one risk factor, could be considered low risk. Physical activity would greatly benefit this individual. A combination of one or two weekly training sessions with a personal trainer with prescribed or self-directed unsupervised sessions is recommended for this client.*

*Supervised program and medically supervised program are incorrect because this client is at low risk and does not require this level of intervention.*

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41.

Which of the following is the minimum requirement for an individual to be considered **not** leading a sedentary lifestyle?

**30 minutes of moderate intensity activity three days per week for three months**

60 minutes of moderate intensity activity three days per week for three months

30 minutes of light activity four days per week for four months

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*Correct answer: 30 minutes of moderate intensity activity three days per week for three months*

*30 minutes of moderate intensity activity three days per week for three months is correct because this fits within the guidelines of the U.S. Surgeon General. Not participating in this amount of physical activity would be considered a sedentary lifestyle and is a positive risk factor for coronary artery disease. This is a minimum recommendation, and a greater duration, intensity, or frequency would only benefit an individual.*

*60 minutes of moderate intensity activity three days per week for three months is incorrect because this duration is longer than the minimum. 30 minutes of light activity four days per week for four months is incorrect because the frequency and total duration are longer than the required minimum.*

---

42.

Which of the following is the best description of a test that is **valid**?

**A test that provides similar results to those obtained from a gold standard test**

A test that provides similar results no matter who is administering it

A test that provides similar results no matter who the client is

A test that provides similar results when the same administrator conducts the test multiple times in the same way

---

*Correct answer: A test that provides similar results to those obtained from a gold standard test*

*The validity of a test refers to its ability to accurately reflect the results as they relate to results obtained from a gold standard test for the metric in question.*

*All of the other options are better descriptions of different types of reliability, not necessarily validity.*

---

**43.**

Which of the following falls **outside** the scope of practice of a personal trainer?

**Prescribing specific diets for clients**

Prescribing exercise to a patient who was recently discharged from physical therapy for a shoulder surgery

Discussing diet and general components of nutrition with clients who want to lose weight

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*Correct answer: Prescribing specific diets for clients*

*Prescribing specific diets for clients is a practice reserved for nutritional specialists, such as dietitians and nutritionists. Trainers can, however, discuss general aspects of diet and nutrition, such as the calorie contents of foods, etc.*

*Prescribing exercises for patients who were recently discharged from PT is within the scope of a personal trainer.*

---

**44.**

Which population will likely give the **least** valid and reliable information as part of their lifestyle inventory?

**Those with existing, diagnosed health conditions**

Average, apparently healthy individuals

The elderly

---

*Correct answer: Those with existing, diagnosed health conditions*

*Those with existing, diagnosed health conditions is correct because their lifestyles have already been altered as a result of their diagnosis. Therefore, they may not be exhibiting the lifestyle that led to their diagnosis. These individuals should continue to rely on diagnostic lifestyle information from their physician for guidance.*

*Average, apparently healthy individuals is incorrect because this is the population that the inventories were designed for. The elderly is incorrect because this population may or may not have previously diagnosed health conditions.*

---

**45.**

It's common to see which of the following postural changes when conducting a postural assessment on an obese client?

**Lower spine lordosis**

Lower spine kyphosis

Posterior pelvic tilt

---

*Correct answer: Lower spine lordosis*

*The weight of abdominal fat in obese individuals can increase the stress placed on the spine. Coupled with a weak abdominal wall, this often leads to lordosis (arching) of the lower spine. This position may also be associated with lower back pain. Clients in pain should be referred to a medical professional such as an orthopedist to determine the cause of their pain.*

*A kyphotic position (kyphosis) is one in which the spine is rounded forward. This is typically seen in the thoracic (upper) spine and often occurs in individuals with lower spine lordosis. Lower spine lordosis may also be associated with an anterior pelvic tilt.*

*Individuals who have these postural changes should focus on building abdominal strength and increasing the flexibility of the hip flexors, which are often very strong in these individuals.*

---

**46.**

Which of the following fitness assessments is a measure of muscular endurance?

**YMCA bench press test**

1 repetition maximum bench press test

YMCA step test

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*Correct answer: YMCA bench press test*

*YMCA bench press test is correct because this test measures upper body muscular endurance by assessing how many times a given weight can be moved at a given cadence. The YMCA bench press test assigns resistance based on gender and is performed at a pace of 30 repetitions per minute. Other muscular endurance tests include the partial curl-up test and the prone double straight-leg-raise test.*

*1-repetition maximum bench press test is incorrect because this test measures muscular strength. YMCA step test is incorrect because this is a measure of cardiorespiratory fitness.*

---

**47.**

Which of the following would indicate a need for an individual to talk to their physician to obtain medical clearance before beginning an exercise program?

**Answering yes to one question on the PAR-Q**

High-density lipoprotein (HDL)  $\geq$  60 mg/dl

Body mass index (BMI)  $<$  30 kg/m<sup>2</sup>

*Correct answer: Answering yes to one question on the PAR-Q*

*The PAR-Q is a questionnaire designed to identify signs and symptoms and risk factors of Coronary Artery Disease (CAD), orthopedic issues, and previous diagnoses. Answering yes to any of the questions requires a physician's clearance for the individual to begin an exercise program.*

*An individual may need to obtain medical clearance if they are asymptomatic and have at least two risk factors for CAD or if they exhibit signs and symptoms of CAD.*

*The following are considered some of the risk factors for CAD:*

- *an HDL less than 40 mg/dL*
- *a BMI greater than 30 kg/m<sup>2</sup>*
- *a sedentary lifestyle (less than 30 min. of moderate intensity exercise 3x/week)*
- *smoking*
- *men over the age of 45 and women over the age of 55*

*Therefore, a BMI of less than 30 kg/m<sup>2</sup> is not considered a risk factor. An HDL greater than 60 mg/dL is a healthy test result and is what's known as a negative risk factor. This can actually help offset other risk factors.*

---



**48.**

Which of the following clients should be advised to avoid an excessively high-protein (greater than 4g/kg) diet?

- I. Those with iron deficiencies
- II. Those with impaired renal function
- III. Those with calcium deficiencies
- IV. Those who are sedentary
- V. Those with restricted fluid intake

**II, III, and V only**

I, III, and V only

III, IV, and V only

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*Correct answer: II, III, and V only*

*II, III, and V only is correct because these situations can be exacerbated by high protein intake. For the most part, concerns about the potential negative effects of high protein intakes are unfounded, especially in healthy individuals. Proteins consumed in excess of required amounts are used for energy or are stored.*

*I, III, and V only is incorrect because iron deficiency is not worsened with high protein intake. III, IV, and V only is incorrect because overall caloric intake, not protein-specific intake, is the concern with sedentary individuals.*

---

**49.**

How can a personal trainer evaluate the level of exercise readiness of a client?

**Assess the motivation and commitment of the individual**

Determine the goals of the client

Assess the suitability and appropriateness for training the client

---

*Correct answer: Assess the motivation and commitment of the individual*

*Assess the motivation and commitment of the individual is correct because this can predict the readiness and compliance of a client. Discussing past experiences, appreciation for exercise, availability of support, time management and organizational skills, and potential obstacles can aid in assessing motivation and commitment. There are also paper tests available that are sensitive to predicting levels of exercise readiness.*

*Determine the goals of the client is incorrect because this gives insight into the purpose of the client as opposed to their commitment. Assess the suitability and appropriateness for training the client is incorrect because this is more useful in determining the client-trainer compatibility.*

---

**50.**

Emily is a 21-year-old athlete who weighs 140 pounds. Which of the following **best** represents her recommended daily protein intake?

**95 grams**

51 grams

168 grams

*Correct answer: 95 grams*

*95 grams is correct because this falls within the recommendation for athletes of 1.2 to 2 grams of protein per kilogram of body weight. The first step in calculating the protein needs of this individual is to convert her body weight in pounds to kilograms:  $140 \text{ pounds} / 2.2 \text{ pounds/kilogram} = 63.6 \text{ kilograms}$ . Then calculate the range of protein requirement using the recommendations  $1.2 \text{ g/kg} \times 63.6 \text{ kg} = 76 \text{ grams of protein}$  and  $2 \text{ g/kg} \times 63.6 \text{ kg} = 127 \text{ grams of protein}$ .*

*51 grams is incorrect because this is the recommendation if this person was not an athlete. 168 grams is incorrect because this is the product if body weight was not converted to kilograms.*

---

**51.**

A client has been shown to be at risk for chronic cardiovascular disease as a result of their consultation and health appraisal. What must be obtained before a supervised exercise program can begin with a personal trainer?

**Medical clearance and program recommendations**

Diagnosis of disease by a medical professional

Referral to a health care professional

---

*Correct answer: Medical clearance and program recommendations*

*Medical clearance and program recommendations is correct because this indicates that a health care professional has deemed it safe for this client to exercise. The personal trainer must pay strict attention to the program recommendations and obtain further clearance to progress beyond the recommendations. Following this plan will ensure the safety of the client and prevent litigation against the personal trainer.*

*Diagnosis of disease by a medical professional is incorrect because a diagnosis does not indicate that it is safe to exercise. Referral to a health care professional is incorrect because this should occur after discovering the risk factors, not as an indication to progress to exercise participation.*

---

**52.**

You identify a client who has a diagnosed metabolic disease, however, she is asymptomatic. Which of the following is recommended before initiating exercise with this client?

**Obtaining medical clearance**

Starting with light to moderate-intensity exercise

There are no restrictions on clients who are asymptomatic

Start with high-intensity intervals as tolerated

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*Correct answer: Obtaining medical clearance*

*Clients with known diseases should be cleared by a physician prior to starting exercise, regardless of whether they are symptomatic or not. Once clearance is obtained, these clients should start with low to moderate-intensity exercise.*

---

**53.**

Which of the following protocols outlines the rules for keeping information that identifies patients and their protected health information?

**Health Insurance Portability and Accountability Act**

Health Privacy Act

Medical Records Privacy Law

Health Information Secrecy Legal Act

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*Correct answer: Health Insurance Portability and Accountability Act*

*The Health Insurance Portability and Accountability Act (HIPAA) is a set of rules and regulations outlining how medical professionals should protect confidential client and patient health information.*

---

**54.**

To determine client-trainer compatibility, it's important to discuss which of the following?

**The client's level of motivation and commitment**

Results of the client's PAR-Q

Results of the client's fitness assessment

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*Correct answer: The client's level of motivation and commitment*

*Client-trainer compatibility is an important factor in determining a client's potential for success in reaching their training goals. Their level of motivation and commitment to training can help determine the likelihood of success in achieving those goals—and can rely on things such as their past experiences, support system, and identification of potential obstacles.*

*In addition, trainer knowledge, experience, program offerings, expectations, and availability should also match the client's interests, expectations, and availability.*

*After compatibility is established:*

- *The client-trainer agreement should be created.*
  - *Health appraisal forms such as the PAR-Q should be completed.*
  - *A fitness assessment should be conducted.*
-

**55.**

Goals that include which of the following characteristics are **most** likely to provide and define the direction of the exercise program?

- I. Specific
- II. Action Oriented
- III. Extremely Challenging
- IV. Time Sensitive
- V. Based on Objective Data

**I, II, and IV only**

II, III, and IV only

I, III, and V only

---

*Correct answer: I, II, and IV only*

*I, II, and IV only is correct because goals should be defined both in direction (specific) and time (time sensitive) and be based on a process or behavior (action oriented), not a result. In addition, these goals should be measurable and realistic. Goals provide purpose and motivation for a client.*

*II, III, and IV only is incorrect because goals should be realistic, not overly difficult or nearly impossible to reach. I, III, and V only is incorrect because measurement is an important characteristic of a goal, and when possible, subjective (not objective) measurement should be used.*

---



**56.**

A client approaches you in the gym before his session. He states that whenever he is lying down, he feels short of breath. He finds that if he sits up, he is able to breathe more easily. Which of the following best describes this phenomenon?

**Orthopnea**

Nocturnal dyspnea

Dyspnea

Syncope

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*Correct answer: Orthopnea*

*Orthopnea refers to shortness of breath that is relieved upon changing positions, usually in a seated position.*

*Nocturnal dyspnea is shortness of breath at night. Dyspnea is generally shortness of breath. Syncope is fainting.*

---

57.

Which of the following is true regarding the use of health screening forms?

**The PAR-Q+ and health/medical questionnaire should be used together to get the best picture of a client's health profile.**

Either the PAR-Q+ or the health/medical questionnaire should be used to screen a client; using both is unnecessary.

The PAR-Q+ should be used to screen clients, the health/medical questionnaire is outdated.

The health/medical questionnaire should be used to screen clients, the health/medical questionnaire is outdated.

---

*Correct answer: The PAR-Q+ and health/medical questionnaire should be used together to get the best picture of a client's health profile.*

*The PAR-Q+ and health/medical questionnaire are useful tools, but they are inadequate as standalone health screening tools. Both should be used to get the best picture of a client's health status.*

---

**58.**

Which of the following should be established during the health appraisal screening?

**Whether or not the client has high blood pressure**

Whether or not the client is familiar with the available gym equipment

Whether or not the trainer or the facility is liable should an injury occur during training

Whether or not the client and trainer are a good match in terms of compatibility

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*Correct answer: Whether or not the client has high blood pressure*

*The health appraisal screening generally consists of a discussion and examination of the client's health history and risk factors. Usually, these relate to cardiovascular disease, but other factors should be considered too, such as lifestyle and risk factors for other diseases.*

*The legal aspects of training should be discussed during the discussion of the client-trainer contract. Compatibility should be established before conducting the health screen. Facility and equipment orientation can occur at different times, depending on a variety of factors.*

---

**59.**

Which of the following is the minimum amount of carbohydrate that can prevent ketosis?

**60 grams**

45 grams

75 grams

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*Correct answer: 60 grams*

*60 grams is correct because roughly 50 to 100 grams of carbohydrate is needed to prevent ketosis. Carbohydrate is required to completely metabolize fatty acids, and ketosis results from incomplete breakdown of these fatty acids. 50 to 100 grams of carbohydrate can be consumed with three to five pieces of bread.*

*45 grams is incorrect because at least 50 grams of carbohydrate is needed to prevent ketosis. 75 grams is incorrect because 60 grams of carbohydrate can prevent ketosis.*

---

**60.**

A 350-pound client's goal is to lose weight. Which of the following weight loss goals is considered safe and effective?

**3.5 pounds per week**

1 pound per week

5 pounds per week

---

*Correct answer: 3.5 pounds per week*

*3.5 pounds per week is correct because losing weight at a rate of 1% per week is a common guideline that is effective and does not place the client at risk. In addition to physical activity, nutrition will play a large role in weight loss. The diet should be nutritionally balanced and provide a variety of low-energy-dense foods.*

*1 pound per week is incorrect because this rate may be too conservative for this client. Five pounds per week is incorrect because this rate is greater than 1% per week and may be unrealistic.*

---

**61.**

Which of the following is **not** an advantage of using a physical activity readiness questionnaire (PAR-Q) as part of the pre-participation health appraisal screening?

**Determines risk of coronary artery disease**

Cost-effective

Easy to administer

---

*Correct answer: Determines risk of coronary artery disease*

*Determines risk of coronary artery disease is correct because rather than this, the PAR-Q determines the safety of exercise. As a result, further screening is needed to determine disease risk. Despite the need for additional screening to determine disease risk factors and contraindications to exercise, the benefits of using the PAR-Q outweigh its limitations.*

*Cost-effective and easy to administer are incorrect because these are benefits of the PAR-Q.*

---

62.

Which of the following is **not** a factor that can affect blood pressure measurement?

**Food intake**

Caffeine intake or tobacco use

Body position

---

*Correct answer: Food intake*

*Food intake is correct because this has no affect on blood pressure readings. Stress will tend to increase blood pressure, and medications can increase or decrease blood pressure depending on the medication. Control of outside factors, when possible, is important to ensure accurate blood pressure readings.*

*Caffeine intake or tobacco use is incorrect because tobacco use will increase blood pressure, and the effects of caffeine depend on the individual. Body position is incorrect because blood pressure will decrease when supine and increase when moving from supine to seated or standing.*

---

**63.**

When first inflating the air bladder of the cuff to measure blood pressure, which of the following air pressures should be reached?

**160 mmHg or 20 mmHg above anticipated systolic blood pressure**

120 mmHg or 20 mmHg above anticipated diastolic blood pressure

200 mmHg or 20 mmHg above anticipated systolic blood pressure

---

*Correct answer: 160 mmHg or 20 mmHg above anticipated systolic blood pressure*

*160 mmHg or 20 mmHg above anticipated systolic blood pressure is correct because this allows the tester to begin listening for the Korotkoff sounds before reaching the systolic blood pressure. Not reaching a pressure above the systolic pressure will result in an inaccurate reading or lack of a reading. 160 mmHg is higher than most of the population's systolic blood pressure, but not all individuals.*

*120 mmHg or 20 mmHg above anticipated diastolic blood pressure is incorrect because this pressure may be too low to allow the tester to hear the beginning of the Korotkoff sounds. 200 mmHg or 20 mmHg above anticipated systolic blood pressure is incorrect because this is a very high pressure and may cause unnecessary discomfort for the client.*

---



**64.**

All the following factors are considered when determining if an individual needs medical clearance before participating in a fitness assessment or exercise program **except**:

**Attitudinal assessment**

Age

Family medical history

---

*Correct answer: Attitudinal assessment*

*It's important to identify an individual's risk factors for Coronary Artery Disease (CAD) prior to participating in a fitness assessment or exercise program to refer them to a physician to obtain a medical clearance. This clearance should also provide recommendations for the individual as to whether they can participate in an unsupervised, supervised, or medically-supervised program.*

*An individual's age and family medical history are risk factor categories that are considered when determining their risk level for CAD and the need for medical clearance. Men over 45 and women over 55 and individuals with a family history of cardiovascular disease have an elevated risk.*

*A client's goals are also considered, especially for clients classified with a moderate risk for CAD — meaning they have two or more risk factors but don't exhibit signs or symptoms. If they are interested in moderate-intensity exercise, they may not need medical clearance, but if they are interested in vigorous-intensity exercise, it is recommended they see a physician for clearance before doing so.*

*An attitudinal assessment can help predict a client's likelihood of adhering to an exercise program but does not provide information that helps to determine the need for medical clearance.*

---

65.

Which of the following foods is **not** considered a "reference protein"?

Pea protein isolate

Milk

Beef liver

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*Correct answer: Pea protein isolate*

*Pea protein isolate is not considered a reference protein because it is not an animal product. A high-quality protein—or a reference protein—is one that contains all the essential amino acids, which can be converted into any non-essential amino acids. This is why protein requirements for vegetarians or vegans are higher, to ensure that adequate consumption of every amino acid occurs.*

*Beef liver and milk are incorrect because they are animal products that contain all the essential amino acids.*

---

66.

Which of the following is **not** a component of the SMART goal model?

Motivation-based

Realistic

Time-bound

Specific

---

*Correct answer: Motivation-based*

*SMART goals are those that are specific, measurable, action-based, realistic, and time-bound. If any of these components are missing, a goal is not considered SMART. This is a great way to set goals that a client can easily stick to.*

---

**67.**

A group of clients had their waist-to-hip circumferences measured. Which of the following individuals is at the greatest risk?

**A 50-year-old female with a score of 0.87**

A 65-year-old male with a score of 0.97

A 30-year-old female with a score of 0.78

---

*Correct answer: A 50-year-old female with a score of 0.87*

*A 50-year-old female with a score of 0.87 is correct because this measurement places this client in the high-risk category. In general, risk is higher in females with the same scores as males, and risk increases with age in those with the same score. This measurement is a valuable tool for assessing relative fat distribution and risk of disease.*

*A 65-year-old male with a score of 0.97 and a 30-year-old female with a score of 0.78 are incorrect because they are only at moderate risk.*

---

**68.**

Which of the following anthropometric measurements would indicate that an individual is obese?

**An individual who is 1.5 meters tall and weighs 74 kilograms**

An individual who is 1.4 meters tall and weighs 50 kilograms

An individual who is 1.9 meters tall and weighs 104 kilograms

---

*Correct answer: An individual who is 1.5 meters tall and weighs 74 kilograms*

*An individual who is 1.5 meters tall and weighs 74 kilograms is correct because those with a body mass index (BMI) of 30 or greater are considered obese. This individual has a BMI of 32.9. Body mass index is a slightly more accurate indicator of body fat than estimates based simply on height and weight.*

*An individual who is 1.4 meters tall and weighs 50 kilograms is incorrect because their BMI is 25.5. An individual who is 1.9 meters tall and weighs 104 kilograms is incorrect because their BMI is 28.8.*

---

**69.**

A client with excessive lumbar lordosis often displays what position of the pelvis?

**Anterior tilt**

Posterior tilt

Rotation

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*Correct answer: Anterior tilt*

*It's important to be aware of the alignment of the major joints of the body when working with clients in a personal training setting. This includes the position of the pelvic girdle.*

*When in a neutral position, the pelvis is neither tipped forward (anterior tilt) or backward (posterior tilt). The position of the pelvis affects the position of the hips and spine. When the pelvis is in anterior tilt, the hips are in flexion, and the lumbar spine is in extension. This is an important consideration when performing complex movements, especially under load (with resistance).*

*Personal trainers should help their clients understand basic body alignment as it relates to the proper performance of exercises used during training.*

---

**70.**

What is the minimum BMI for an individual to have a positive risk factor coronary artery disease?

**30 kg/m<sup>2</sup>**

35 kg/m<sup>2</sup>

20 kg/m<sup>2</sup>

---

*Correct answer: 30 kg/m<sup>2</sup>*

*30 kg/m<sup>2</sup> is correct because this is the body mass index at which an individual is considered obese. Obesity is the accumulation and storage of excess body fat. In addition to being an independent risk factor for coronary artery disease, it is also related to physical inactivity, hypertension, hypercholesterolemia, and diabetes.*

*35 kg/m<sup>2</sup> is incorrect because an individual is considered extremely obese with this BMI. 20 kg/m<sup>2</sup> is incorrect because this BMI is considered normal.*

---

**71.**

In addition to being a risk factor for coronary artery disease, which of the following diseases should a personal trainer refer out for diagnosis if an individual has impaired fasting glucose levels?

**Metabolic disease**

Sudden cardiac death

Chronic obstructive pulmonary disease

---

*Correct answer: Metabolic disease*

*Metabolic disease is correct because impaired fasting glucose levels are a potential predictor for the development of diabetes mellitus. This disease is characterized by hyperglycemia resulting from defects in insulin secretion, insulin action or both. Diagnosis of this disease should only occur in a clinical setting with a health care professional.*

*Sudden cardiac death is incorrect because hypertension and family history are the risk factors for this event. Chronic obstructive pulmonary disease is incorrect because this is a respiratory dysfunction.*

---



**72.**

Which of the following is considered a negative coronary risk factor?

**HDL  $\geq$  60 mg/dL**

HDL  $\leq$  60 mg/dL

BMI > 30

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*Correct answer: HDL  $\geq$  60 mg/dL*

*It's important to evaluate an individual's risk factors for Coronary Artery Disease (CAD) when determining the safety of beginning an exercise program or increasing their activity level. Positive risk factors are those that indicate an individual is at greater risk of CAD and include, for example:*

- *hypertension (for example, systolic blood pressure  $\geq$ 140 mm Hg)*
- *BMI > 30 kg*
- *family history of disease*

*A negative risk factor indicates something that has a beneficial effect and has the potential to actually decrease an individual's risk of CAD. These factors can be subtracted from the total number of positive risk factors in determining their overall risk level.*

*An HDL  $\geq$  60 mg/dL is considered a negative risk factor.*

---

**73.**

Which of the following individuals is **not** at risk for cardiovascular disease due to obesity?

**A woman who has a waist circumference of 30 inches**

A man who has a BMI of 35 kg/m<sup>2</sup>

A woman who has a BMI of 35 kg/m<sup>2</sup>

A man who has a waist circumference of 105 cm

---

*Correct answer: A woman who has a waist circumference of 30 inches*

*Women are at risk for cardiovascular disease with a waist circumference greater than 88 cm (35 inches).*

*Both women and men are at risk for cardiovascular disease based on obesity if they maintain a BMI greater than 30 kg/m<sup>2</sup>. However, men are also at risk for CVD if they have a waist circumference greater than 102 cm (40 inches).*

---

74.

Which of the following is **not** typically considered to be a component of the client-trainer agreement?

**Goal-setting**

Cost structure

Services to be rendered

Parties involved in the process

---

*Correct answer: Goal-setting*

*Goal-setting is a separate part of the client consultation.*

*The trainer-client agreement consists of establishing a legal agreement in which the trainer, client, and any other parties are made aware of one another's responsibilities, the cost of sessions, and what services will be rendered, to name a few.*

---

75.

At which point does a client-trainer agreement become valid?

**When signed by both the client and trainer**

Once it has been reviewed and approved by the fitness director

When signed by the client

---

*Correct answer: When signed by both the client and trainer*

*A client-trainer agreement becomes a legally-binding document when signed by both the client and trainer, as long as the client is of appropriate legal age and competency. Entering into this agreement under elements of contract law is a formal process that is legally driven. A personal trainer should consult with an attorney to ensure their agreement is in accordance with local, city, and state laws.*

*Even if a supervisor or director doesn't approve the agreement, it is still valid once signed by both trainer and client. Written acknowledgment of acceptance is required by both parties to the contract.*

---

**76.**

Which of the following is **most** likely to be included in a lifestyle inventory?

- I. Dietary intake
- II. Age
- III. Gender
- IV. Tobacco and alcohol consumption
- V. Level of physical activity

**I, IV, and V only**

I, II, and V only

II, IV, and V only

---

*Correct answer: I, IV, and V only*

*I, IV, and V only is correct because all of these provide an insight into the individual's personal choices and patterns. Assessing these behaviors can have an impact on facilitating change in a person's health and fitness. It can also be used to clarify and confirm personal issues perceived as assets or obstacles to the client's success.*

*I, II, and V only is incorrect because age is not a lifestyle choice. II, IV, and V only is incorrect because one's gender does not fall into the category of individual choice and patterns.*

---

**77.**

Which of the following are signs and symptoms of coronary artery or pulmonary disease?

- I. Dizziness
- II. Pain or discomfort in the chest and neck area
- III. Over 55 years of age
- IV. Family history of coronary artery or pulmonary disease
- V. Heart murmur

**I, II, and V only**

II, III, and V only

I, IV, and V only

---

*Correct answer: I, II, and V only*

*I, II, and V only is correct because these, along with shortness of breath at rest or mild exertion, orthopnea or nocturnal dyspnea, ankle edema, palpitations, calf cramping, or unusual fatigue are major signs and symptoms of cardiovascular and pulmonary disease. An individual with any of these should be referred to a medical professional for medical clearance before exercise participation. It is important to differentiate between the signs and symptoms and the risk factors of various diseases.*

*II, III, and V only is incorrect because age is a risk factor, not a sign or symptom. I, IV, and V only is incorrect because family history is a risk factor, not a sign or symptom.*

---

**78.**

All the following might be seen when assessing movement patterns in a client who has a weakness in their gluteus medius **except**:

**Drop in the ipsilateral (same side) pelvis**

Drop in the contralateral (opposite side) pelvis

Ipsilateral (same side) internal femoral rotation

---

*Correct answer: Drop in the ipsilateral (same side) pelvis*

*The gluteus medius helps to provide stability in the hip and pelvis and helps reinforce good alignment through the leg and foot, particularly when in a single-leg stance. When the gluteus medius is weak or underactive, the pelvis may drop on the opposite (contralateral) side. The ipsilateral (same side) foot may hyperpronate, and the ipsilateral femur may internally rotate.*

*For example, if the left gluteus medius is weak, the right side of the pelvis may drop. When this occurs, the left side femur and tibia are forced into internal rotation. In addition, this can also cause the left foot to hyperpronate.*

*This faulty movement pattern may also be associated with ipsilateral knee pain. If the left gluteus medius is weak, the left knee might also be painful, in part due to the poor alignment through the pelvis, leg, and foot.*

---

**79.**

Which of the following would be the **most** appropriate method for estimating maximal oxygen capacity for an obese, sedentary 60-year-old male who had a stroke two years ago and also has hypertension, diabetes, dyslipidemia, and exercise-induced asthma?

**Non-exercise-based estimation**

Rockport walking test

YMCA cycle ergometer test

---

*Correct answer: Non-exercise-based estimation*

*Non-exercise-based estimation is correct because the risk of conducting an exercise-based VO<sub>2</sub>max assessment is too high for this client. Any exercise testing, and possibly any exercise, should be medically supervised for this client. An important aspect of being a personal trainer is knowing when to refer to a medical professional, and this may be one of those cases.*

*Rockport walking test is incorrect because this may place too much stress on this individual. YMCA cycle ergometer test is incorrect because this test should be medically supervised if performed at all.*

---



**80.**

Which of the following clients is in the highest risk stratification for coronary artery disease?

**A 50-year-old female with fainting events**

A 60-year-old male with family history of coronary artery disease

A 30-year-old female with a BMI of 30

---

*Correct answer: A 50-year-old female with fainting events*

*A 50-year-old female with fainting events is correct because this individual has a sign or symptom of coronary artery disease. This places her in the high-risk category, which is those with a known disease or one or more signs or symptoms. The ability to stratify risk allows a personal trainer to decide whether a referral for medical clearance is needed.*

*A 60-year-old male with family history of coronary artery disease is incorrect because this individual would be placed in the moderate risk category. A 30-year-old female with a BMI of 30 is incorrect because, unless other risk factors are discovered, she would be placed in the low-risk category.*

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**81.**

Which of the following ailments can be identified in a potential client when an effective health and medical questionnaire is administered?

**Risk of sudden cardiac death**

Risk of developing a neurodegenerative disease

Risk of developing plantar fasciitis

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*Correct answer: Risk of sudden cardiac death*

*A health and medical questionnaire can provide insight into a potential client's appropriateness for moderate to intense exercise—including the risk of sudden cardiac death—based on a comprehensive list of factors. Coronary risk factors; existing diagnosed pathologies; recent operations; and a personal history of signs, symptoms, medications, and lifestyle can be identified. Information from this questionnaire is instrumental in maintaining client safety.*

*The risk of developing neurodegenerative diseases or plantar fasciitis cannot be effectively identified using a standard health questionnaire administered by a personal trainer.*

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**82.**

Which of the following are characteristics of a fad diet that may lead to the compromised health of a client?

- I. Excludes one or more groups of foods
- II. Encourages physical activity in conjunction with diet
- III. Promotes weight loss
- IV. Is very low in calories
- V. Overemphasizes one food or type of food

**I, IV, and V only**

I, II, and IV only

III, IV, and V only

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*Correct answer: I, IV, and V only*

*Excluding or overemphasizing particular foods, food groups, or types of foods may lead to a deficiency in certain nutrients, and very low-calorie diets may not provide enough nutrients and can decrease compliance. Personal trainers should act as nutrition experts who can filter out nutrition misinformation and prevent harm to their clients. Weight loss can occur by promoting a negative caloric balance that still meets all the client's nutrition needs.*

*Fad diets often discourage physical activity, partially because they may expose a nutrient deficiency. Many fad diets promote rapid weight loss.*

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**83.**

Which of the following is **not** considered a client factor with regard to exercise assessments?

**Temperature**

Health status

Age

Sex

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*Correct answer: Temperature*

*Temperature is considered an environmental factor that can affect a client's testing results.*

*All of the other choices are client-specific factors.*

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84.

Which of the following best defines a positive risk factor for cardiovascular disease?

**Something that will likely lead to an increased probability of developing heart or vascular issues**

Something that reduces the probability of developing heart or vascular issues

Something that positively influences one's heart health

Something that leads directly to worse heart health

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*Correct answer: Something that will likely lead to an increased probability of developing heart or vascular issues*

*A risk factor is not a direct issue that causes a positive or negative outcome. Rather, a positive risk factor increases the possibility of an outcome occurring, while a negative risk factor decreases the chances of the outcome occurring.*

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**85.**

Which of the following is a recommended sequence of tests that promotes the **most** accurate results when assessing general fitness?

- I. Waist circumference
- II. Rockport walking test
- III. YMCA bench press test
- IV. Sit-and-reach

**I, IV, III, II**

II, I, VI, III

III, I, II, IV

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*Correct answer: I, IV, III, II*

*I, IV, III, II is correct because for general fitness, resting tests should be performed first, followed by other non-fatiguing tests, muscular strength tests, local muscular endurance tests and then submaximal aerobic capacity tests. This order ensures optimum performance and adequate recovery to yield accurate results. Test order is influenced by the number of clients being tested, components that are being evaluated, the amount of skill involved, the energy system demand, the time available, and the goal of the client.*

*II, I, VI, III is incorrect because submaximal aerobic capacity tests should be completed last. III, I, II, IV is incorrect because local muscular endurance tests should occur after non-fatiguing tests.*

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**86.**

What is the **first** step you should take as a personal trainer when considering offering a client nutritional assistance?

**Verify the restrictions and guidelines for where you work with the appropriate dietetic licensing or regulatory board**

Ask the client to complete a medical history form

Ask the client to complete a diet record for three days

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*Correct answer: Verify the restrictions and guidelines for where you work with the appropriate dietetic licensing or regulatory board*

*The rules and restrictions governing the provision of nutritional advice vary depending on where you live. Different states and different countries have different rules. In some areas, a professional license is required to legally provide nutritional counseling and advice. In these areas, only a licensed nutritional professional, such as a registered dietitian, can provide specific individual advice and guidance. Personal trainers must refer clients to these professionals for specific dietary assistance.*

*Other areas are less restrictive, and personal trainers in these areas may legally be able to provide this service for their clients. It's important to know the restrictions in the area in which you work.*

*It's always acceptable to provide general nutrition information, but individual assessments or guidance must follow the guidelines for your area.*

*If a personal trainer is allowed to provide this assistance, then the client completing a medical history form and a diet record (log) and the personal trainer discussing a client's goals would all be appropriate as part of that offering.*

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87.

Which of the following is **not** a warning sign of anorexia?

Diarrhea

Amenorrhea

Hair loss

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*Correct answer: Diarrhea*

*Diarrhea is correct because the opposite, constipation, is the warning sign. This is typically due to the lack of fiber in the diet because of low caloric intake. It is not the responsibility of the personal trainer to treat a client with anorexia but rather to educate the client and aid in their seeking help from a licensed professional.*

*Amenorrhea and hair loss are incorrect because these are warning signs for anorexia.*

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88.

Which of the following is **not** a factor in determining individual water requirements?

Gender

Amount of lean muscle tissue

Body size

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*Correct answer: Gender*

*Gender is correct because this is not the issue; body size and composition as well as sweating rate are much larger factors. In general, males will require more water than females, but this difference is due to body size and composition, not gender. The environment in terms of heat and humidity is another major factor in water needs for a client.*

*The amount of lean muscle tissue and body size are incorrect because these are factors in individual differences in water needs.*

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**89.**

A client who has a history of heart attacks, but has been increasingly improving his health over the past few years has received a recommendation from his doctor for supervised exercise. Which of the following best describes supervised exercise?

**Working out alongside a personal trainer**

Exercising in a medical facility with trained emergency staff

Running outside with a cell phone in case of emergencies

Lifting weights in a gym with staff members present at the welcome desk

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*Correct answer: Working out alongside a personal trainer*

*After referring a client out for physician clearance, the physician will typically recommend either unsupervised exercise, which allows the client to work out in whatever way they like, supervised exercise, in which the client can workout with a personal trainer or fitness professional, or medically supervised exercise, in which the client works out in a medical facility with emergency personnel available.*

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90.

Which of the following is **not** a valid reason for administering assessments to clients to gather baseline data?

To evaluate goal achievement

To identify current weaknesses

To identify areas of potential injury

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*Correct answer: To evaluate goal achievement*

*To evaluate goal achievement is correct because this is a function of subsequent testing, not baseline testing. Baseline testing will set the standard for future comparisons of improvement and rate of progress. In addition, it can aid in clarifying the client's short-, immediate-, and long-term goals.*

*Identifying current weaknesses and identifying areas of potential injury are incorrect because these are functions of collecting baseline data.*

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**91.**

Which of the following is the **most** important factor in promoting weight loss with a client?

**Achieve a negative energy balance**

Perform regular physical activity

Eat lower energy-dense foods

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*Correct answer: Achieve a negative energy balance*

*Achieve a negative energy balance is correct because when a client is in a negative energy balance, they must use stored energy (hopefully fat) to meet energy needs. Achieving this negative energy balance can occur through a combination of increasing caloric expenditure through physical activity and decreasing caloric intake by altering the diet. The best weight loss programs achieve this negative energy balance within a lifestyle that the client can sustain for the long term.*

*Perform regular physical activity is incorrect because this factor in itself may not lead to a negative energy balance. Eat lower energy-dense foods is incorrect; despite this practice, a negative energy balance may still not be achieved.*

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92.

Which of the following is the best description of asthma?

**Spasmodic contractions of smooth muscle tissue in the small branches of the pulmonary system.**

An inflammatory condition caused by the regular accumulation of sputum.

A lung disorder that causes a breakdown of the alveoli.

A blockage of the airway due to the presence of a clot.

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*Correct answer: Spasmodic contractions of smooth muscle tissue in the small branches of the pulmonary system.*

*Asthma is typically defined as spasmodic contractions of smooth muscle tissue in the small branches of the pulmonary system.*

*An inflammatory condition caused by the regular accumulation of sputum is a description of chronic bronchitis. A lung disorder that causes the breakdown of the alveoli is a description of emphysema. A blockage of the airway due to the presence of a clot is known as a pulmonary embolism.*

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**93.**

How can a personal trainer know that a client has reached a steady state heart rate during a submaximal exercise test?

**Two consecutive heart rate measurements within five beats per minute of each other**

Client has performed the same workload for at least five minutes.

The activity being performed during the test is similar to daily activities.

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*Correct answer: Two consecutive heart rate measurements within five beats per minute of each other*

*Two consecutive heart rate measurements within five beats per minute of each other is correct because this is the definition of steady state heart rate. Typically, these two heart rate measurements are taken two to three minutes apart when exercising at a constant work rate. Although submaximal tests may not be as accurate as maximal tests for measuring aerobic capacity, they have less risk and may be more appropriate for many clients.*

*Client has performed the same workload for at least five minutes is incorrect because this in itself does not give insight into the effort of the client to maintain this workload. The activity being performed during the test is similar to daily activities is incorrect because though this may be mechanically efficient for the client, it does not guarantee a steady internal work load.*

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**94.**

If a personal trainer is working in a location where they are legally allowed to provide nutritional guidance, under what circumstance should they refer a client to a nutritional professional such as a licensed nutritionist or registered dietician? (*Answer based solely on the information provided*)

**For a client with osteoporosis**

For an overweight client interested in weight loss

For an athletic client interested in weight gain

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*Correct answer: For a client with osteoporosis*

*Any individual with a diagnosed disease should always be referred to a nutritional professional. This is known as medical nutrition therapy and should be used for individuals with conditions such as:*

- *osteoporosis*
- *gastrointestinal disorders*
- *eating disorders*
- *heart disease*
- *elevated cholesterol*

*Regardless of the licensure requirements that exist where a personal trainer conducts business, individuals with diseases such as those in the above list require greater assistance in determining their nutritional needs and to provide guidance for their goals.*

*It's helpful for a personal trainer to establish a professional connection with licensed nutritional professionals who can provide these services and to whom they can refer clients as needed.*

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**95.**

Weakness in the scapular retractors might lead to what postural deviation?

**Kyphosis**

Lordosis

Lumbar flexion

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*Correct answer: Kyphosis*

*Postural changes are often related to muscular imbalances. Weakness in the scapular retractors can lead to a kyphotic posture (rounded upper back and shoulders), and this weakness can also be associated with tightness in the anterior shoulder, including the protractors and medial rotators.*

*Because of this, an individual with kyphosis may also have protracted shoulders and an upper arm that is internally rotated. This position is common and can affect their ability to elevate the arms and can even lead to injuries in the shoulder, particularly in the rotator cuff.*

*It's not necessary to determine the cause or identify all the imbalances and posture changes that can be related to postural changes, but it's important to understand how these changes might affect an individual's ability to perform exercises with proper form. And, it's crucial to refer clients who have major postural deviations or any associated pain to an appropriate medical professional for further evaluation.*

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**96.**

Which of the following tests would be **inappropriate** for a teenage athlete with no previous exercise experience?

**One repetition bench press**

Sit-and-reach

1.5 mile run

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*Correct answer: One repetition bench press*

*One repetition bench press is correct because this test requires skill to perform correctly. In addition, the loads being used to determine a one repetition maximum would far exceed what the client is accustomed to. Maintaining the safety of the client during the physical assessment process is the most important responsibility of a personal trainer.*

*Sit-and-reach is incorrect because this measure of flexibility would have little risk for this client. 1.5-mile run is incorrect because this is a valid test for this population.*

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97.

What should the personal trainer do if they observe a client slide fingers 8 centimeters past the masking tape designated at the starting position?

**Do not count the repetition and instruct the client to curl up further.**

Count the repetition but instruct the client to curl up further.

Count the repetition and inform the client that they do not have to reach so far.

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*Correct answer: Do not count the repetition and instruct the client to curl up further.*

*Do not count the repetition and instruct the client to curl up further is correct because the proper distance to curl up is 10 centimeters. Not reaching the designated pieces of masking tape in time with the metronome indicates that the repetition should not count. The partial curl-up test measures the muscular endurance of the abdominal muscles.*

*Count the repetition but instruct the client to curl up further is incorrect because the repetition should not count, as they did not curl up the correct distance. Count the repetition and inform the client that they do not have to reach so far is incorrect because they did not reach far enough.*

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98.

Which of the following is included within an informed consent document?

**The risks and benefits associated with participation**

An evaluation of current physical activity

Payment processes

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*Correct answer: The risks and benefits associated with participation*

*The risks and benefits associated with participation is correct because the informed consent gives clients information about the content and process of the program delivery system. Also included is a detailed description of the program, a confidentiality clause, and responsibilities of the participant. It is recommended that the information within the informed consent is conveyed both verbally and in writing to ensure client understanding.*

*An evaluation of current physical activity is incorrect because this is part of the lifestyle inventory. Payment processes is incorrect because this is part of the client-trainer agreement.*

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99.

Which of the following is **not** an advantage of the PAR-Q+?

**Provides in-depth health information**

Cost-effective

Easy to administer

Statistically sensitive

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*Correct answer: Provides in-depth health information*

*The PAR-Q+ is a quick, cheap option for screening clients who may be at risk for adverse events during exercise. However, it does not provide specific, in-depth information on its own. This requires further investigation after the PAR-Q+ has been completed.*

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