

NPTE ®
PTA Preview
Exam Answers &
Rationales

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Answer Key Instructions

Each correct answer is highlighted in a purple color below.

A detailed rationale follows each question that describes the correct answer and reasons for the incorrect choices.

References pertaining to the particular question are listed below each rationale and can also be found in the index.

Finally, the NPTE® content category represented by the question is listed below the references. Each question comes from either a body system or a nonsystem. If the question pertains to a body system, it will also have a professional work activity description (PT Data Collection, Diseases/ Conditions that Impact Effective Treatment, and Interventions). If the question pertains to a nonsystem, the specific nonsystem is listed. This practice examination was designed to simulate the content of the NPTE® in a shortened version, but the percentage of questions from each category is the same as the NPTE®.

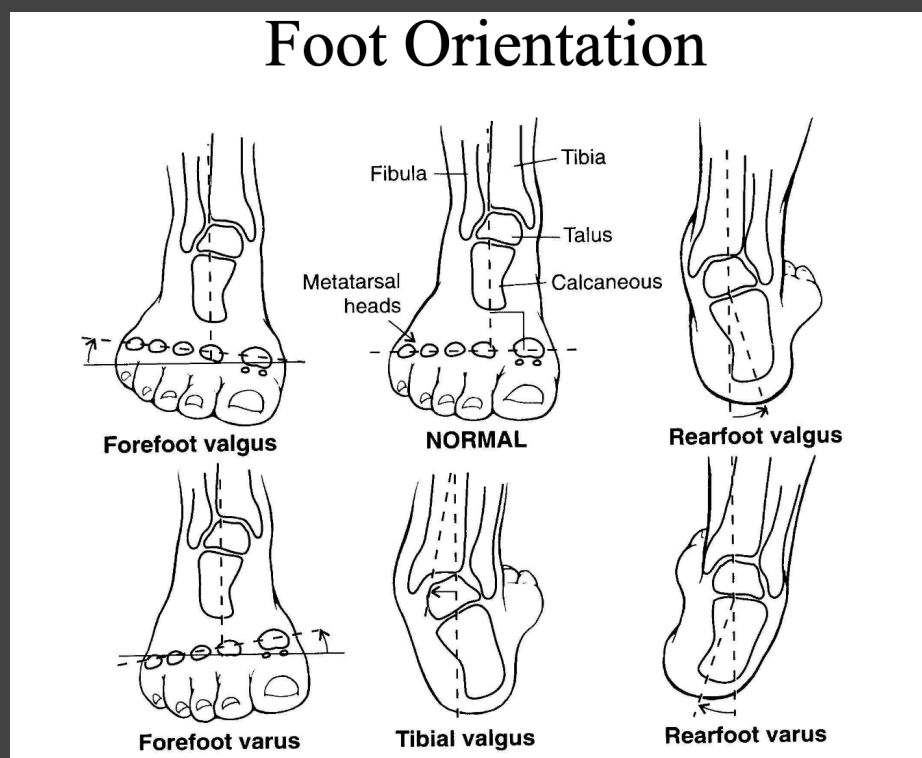
If you would like to calculate your score and see your performance in the professional work activity categories and the body systems categories, use this separate [Score Analysis](#) document. Input your incorrect answers and the document will auto-calculate for you.

If you have any comments, questions, or concerns, please send us an email at hello@elevatestrategiespt.com. Please put "Practice Exam" in the subject line. You should receive a response to your inquiry within 24-48 hours.

1. What is the MOST appropriate modification to make to the foot support of a patient who demonstrates a fixed rearfoot valgus?
- A) Insert a lateral wedge distal to the 5th metatarsal tuberosity
 - B) Insert a medial wedge distal to the 5th metatarsal tuberosity
 - C) Insert a lateral wedge proximal to the 5th metatarsal tuberosity
 - D) Insert a medial wedge proximal to the 5th metatarsal tuberosity

Rationale

Rearfoot valgus occurs when the calcaneus everts on the talus. It is best viewed from a posterior view. The most appropriate foot support is a medial wedge inserted proximal to the 5th metatarsal tuberosity.



It is not appropriate to insert any wedge distal to the 5th metatarsal tuberosity since this is a rearfoot problem, not a forefoot problem.

Inserting a lateral wedge proximal to the 5th metatarsal tuberosity will make the rear foot valgus worse.

Source

Lusardi, M.M., Jorge, M., Nielsen, C.C. (2013). *Orthotics and Prosthetics in Rehabilitation*. 3rd Ed. St. Louis, MO: Saunders. Pg. 170

NanoPDF Inc. (2018, May 6). *Ankle Structure*. Retrieved from https://nanopdf.com/download/ankle-structure_pdf#modals.

Category

Nonsystems

Equipment, Devices, & Technologies

2. Palpation of which muscle would elicit pain in a patient with acute lateral epicondylalgia?
 - A) Biceps brachii
 - B) Flexor carpi radialis
 - C) Pronator teres
 - D) Extensor carpi radialis brevis

Rationale

Acute lateral epicondylalgia (sometimes also referred to as lateral epicondylitis) is a common disorder affecting the elbow in which the lateral epicondyle and its muscular attachments are painful to palpation. The common extensor tendon attaches to the lateral epicondyle. Muscles forming this common tendon include extensor carpi radialis brevis (ECRB), extensor carpi radialis longus (ECRL), extensor digitorum, extensor digiti minimi, and extensor carpi ulnaris. In lateral epicondylopathy, the ECRB is the most often affected structure.

The biceps brachii is not involved in lateral epicondylitis.

The flexor carpi radialis and pronator teres are all muscles usually involved with painful flexion and/or pronation, and are likely to be painful in the condition of medial epicondylitis (golfer's elbow).

Source

Hertling, D., Kessler, R.M. (1996). *Management of common musculoskeletal disorders: Physical therapy principles and methods*. 3rd Ed. Philadelphia, PA: Lippincott Williams & Wilkins. Pg.288

Category

Musculoskeletal Systems

PT Data Collection

3. A physical therapy assistant is working with a patient who is demonstrating shallow breathing with excessive accessory muscle use, including the sternocleidomastoid, scalenes, and pectus minor. The BEST intervention to restore respiratory muscular coordination for this patient is:

- A) Pursed-lip breathing
- B) Diaphragmatic breathing
- C) Segmental breathing
- D) Sustained maximal inspiration

Rationale

The increased work of breathing plus the use of accessory muscles most likely indicates the patient is not using his or her diaphragm effectively. All muscles listed are inspiratory. Our diaphragm is our main inspiratory muscles and without diaphragmatic coordination, the patient will have to rely on the accessory muscles for tidal inspiration. Diaphragmatic breathing also facilitates relaxation, which will improve the patient's shallow breathing.

Pursed lip breathing is used to reduce respiratory rate, increase tidal volume, reduce dyspnea, and decrease mechanical disadvantages of impaired ventilatory pump action. This will probably help the shallow breathing and the use of accessory muscles to some extent, but it would not do anything for the rib flaring.

Segmental breathing is used to improve ventilation to hypoventilated lung segments. It is used for a specific region.

Sustained maximal inspiration is used to increase inhaled volume, often for alveolar inflation. It is used in acute situations (e.g. acute lobar collapse, atelectasis, postoperative pain).

Source

O'Sullivan S.B., Schmitz T.J., Fulk, G.D. (2014). *Physical Rehabilitation*. 6th Ed. Philadelphia, PA: F.A. Davis Company. Pg. 567

Category

Cardiopulmonary Systems
Interventions

4. A physical therapist passively flexes a patient's glenohumeral joint with the patient in supine. The patient has increased resistance to passive motion, but the therapist finds the increased resistance is NOT affected by the speed of motion. Which type of abnormal tone does the patient display?
- A) Flaccidity
 - B) Hyperreflexia
 - C) Spasticity
 - D) Rigidity

Rationale

Rigidity is a type of hypertonia in which there is an increase in resistance to passive range of motion that is NOT dependent on velocity. Rigidity is usually seen in basal ganglia disorders.

Flaccidity would not present as an increase in resistance as this is a type of hypotonia (not hypertonia).

Hyperreflexia is a term to describe an increase in reflex activity. Hyperreflexia is seen in upper motor neuron lesions, but it does not describe tone or how muscle acts through passive range of motion.

Spasticity is another type of hypertonia but this is affected by how fast the passive range of motion is being performed. In general, the faster a spastic limb is moved, the more resistance will be encountered.

Source

Lomaglio, M. *Neuromuscular I Concepts and Examination*. [Course Notes - PDF].

O'Sullivan, S, Siegelman, R. (2015). *2016 National Physical Therapy Examination Review & Study Guide*. 19th Ed. TherapyEd.

Category

Neuromuscular Systems
PT Data Collection

5. A 29-year-old male patient sustained a recent ASIA A spinal cord injury at the C6 level. The patient's impairments include upper extremity spasticity, bladder spasticity, and orthostatic hypotension. Which of the following is the best INITIAL intervention for this patient?
- A) Stretch the patient's finger flexors to prepare for teaching and training wheelchair to bed transitions
 - B) Give the patient a warm bath to relax muscles
 - C) Teach the patient how to perform pressure reliefs in a manual wheelchair
 - D) Teach the patient to sit up and loosen clothing when he is experiencing an orthostatic hypotension episode

Rationale

It is most important to teach this patient how to perform pressure reliefs, since pressure relief should be performed every 15 minutes in a wheelchair.

Since this patient has a C6 level injury, we do NOT want to stretch out the finger flexors and lose the tenodesis grip, which facilitates several ADL functions.

A warm bath might be an appropriate intervention as it can help reduce spasticity. However, this is not the most appropriate INITIAL intervention since teaching pressure relief is a greater priority.

It is not appropriate to have the patient sit up during an orthostatic hypotension episode. The patient should instead lay down. Sitting up and loosening clothing is the treatment for autonomic dysreflexia.

Source

O'Sullivan S.B., Schmitz T.J., Fulk, G.D. (2014). *Physical Rehabilitation*. 6th Ed. Philadelphia, PA: F.A. Davis Company.

Category

Neuromuscular Systems
Interventions

6. A patient with left-sided congestive heart failure is likely to demonstrate which of the following cardiopulmonary parameter changes?
- A) Increased blood pressure, decreased stroke volume
 - B) Decreased blood pressure, increased stroke volume
 - C) Increased blood pressure, increased pulmonary edema
 - D) Decreased blood pressure, increased heart rate

Rationale

Left-sided heart failure is a failure of the heart to effectively pump blood, causing the blood to back up into the lungs. If blood is not pumping well, we will see decreased blood pressure throughout the entire cardiac system. Then, heart rate will compensate by attempting to increase to continue to push any blood through the system.

We would not see an increase in blood pressure if the heart is not pumping effectively (instead we would see a decrease).

We would also see decreased stroke volume in heart failure since the blood is not pumping effectively.

Left-sided heart failure often produces pulmonary problems, including increased pulmonary edema. However, answer C is incorrect because heart failure would not increase blood pressure.

Source

Hillegass, E.A., Sadowsky, H.S. (2001). *Essentials of Cardiopulmonary Physical Therapy*. 2nd Ed. Philadelphia, PA: W.B. Saunders Co.

Category
 Cardiopulmonary Systems
 Diseases/Conditions that Impact Effective Treatment

7. For a patient with a third-degree burn to the right anterior inguinal area, what is the BEST positioning for the physical therapy assistant to place the patient in?
- A) Supine with a large towel roll underneath the patient's knees and pillows to prevent external rotation of the femurs
 - B) Sidelying with hips flexed to 90 degrees and a pillow under the patient's head
 - C) Seated with femurs in neutral rotation
 - D) Supine with legs extended, hips slightly abducted, and femurs in neutral rotation

Rationale

Since the patient has a burn on the anterior inguinal area, we want to avoid hip flexion to avoid hip flexion contractures. The best position for the patient will be in supine with the legs extended, hips abducted, and thigh in neutral rotation.

Supine with a towel roll beneath the knees would not be appropriate since it would place the hip in flexion.

Sidelying with the hips flexed is not appropriate because it places the hip in extreme flexion.

Seated is not appropriate because it places the hip in flexion.

Source

O'Sullivan, S, Siegelman, R. (2015). *2016 National Physical Therapy Examination Review & Study Guide*. 19th Ed. TherapyEd.

Category
 Integumentary Systems
 Interventions

8. Ankle dorsiflexion and inversion is MOST associated with which type of synergy pattern?
- A) Upper extremity flexion synergy
 - B) Upper extremity extension synergy
 - C) Lower extremity flexion synergy
 - D) Lower extremity extension synergy

Rationale

Ankle dorsiflexion and inversion is characteristic of a lower extremity flexion synergy. A lower extremity flexion synergy is characterized by hip flexion, hip abduction, hip external rotation, knee flexion, ankle dorsiflexion, ankle inversion, and toe dorsiflexion.

An upper extremity flexion synergy is characterized by scapular retraction, scapular elevation, shoulder abduction, shoulder external rotation, elbow flexion, forearm supination, wrist flexion, and finger flexion.

An upper extremity extension synergy is characterized by scapular protraction, shoulder adduction, shoulder internal rotation, elbow extension, forearm pronation, wrist extension, and finger flexion.

A lower extremity extension synergy is characterized by hip extension, hip adduction, hip internal rotation, knee extension, ankle plantarflexion, ankle inversion, and toe flexion.

Source

O'Sullivan S.B., Schmitz T.J., Fulk, G.D. (2014). *Physical Rehabilitation*. 6th Ed. Philadelphia, PA: F.A. Davis Company.

Category

Neuromuscular Systems
PT Data Collection

9. A patient with a recent cerebrovascular accident has a slapping noise in the early stages of stance during initial contact. When asked to perform dorsiflexion active range of motion, the patient can lift her right foot 3 degrees from the ground. The MOST LIKELY stance gait abnormality the patient displays is:
- A) Foot drop
 - B) Circumduction
 - C) Foot slap
 - D) Insufficient knee extension

Rationale

This patient has problems with dorsiflexion, which can affect both stance phase and swing phase. However, based on the description in the question, it is describing foot *slap* because it is discussing the stance phase of gait.

With a lack of dorsiflexion, foot drop would be seen in the swing phase of gait, not the stance phase.

Circumduction is a swing phase problem.

Insufficient knee extension would not be caused due to a lack of dorsiflexion.

Source

O'Sullivan, S, Siegelman, R. (2015). *2016 National Physical Therapy Examination Review & Study Guide*. 19th Ed. TherapyEd.

Category

Neuromuscular Systems

Diseases/Conditions that Impact Effective Treatment

10. What is the PRIMARY purpose for performing Neer's test?

- A) To rule out a diagnosis of impingement syndrome
- B) To rule out a diagnosis of rotator cuff impairment
- C) To rule out a diagnosis of lateral epicondylitis
- D) To rule out a diagnosis of medial collateral ligament impairment

Rationale

Neer's test is a test for impingement. The specificity is 30.5% and sensitivity 88.7%.

Tests for rotator cuff impairment include Drop Arm Test, Empty Can Test (Supraspinatus Test), and Lift Off Sign (Subscapularis Test).

Tests for lateral epicondylitis include Maudsley's Test and Cozen's Test.

Tests for the medial collateral ligament of the elbow includes the Valgus Stress Test.

Source

Magee, D.A. (2014). *Orthopedic Physical Assessment*. 6th Ed. St. Louis, MO: Saunders. Pg. 290.e12.

Category

Musculoskeletal Systems

PT Data Collection

11. Per the Health Insurance Portability and Accountability Act (HIPPA), written consent must be obtained prior to disclosing health information EXCEPT:

- A) If the patient verbally requests his or her records in person
- B) If language barrier preclude signed consent in emergency situations

- C) If a patient has given verbal permission for a family member to access information
- D) If the patient has dementia

Rationale

Under the HIPPA ruling, written consent must be obtained before health information is disclosed. The exception is in emergency situations if it will delay timely care or if a language barrier exists in an emergency, then implied consent is given.

The rules of HIPPA do not change if a patient provides any verbal requests or acknowledgements.

A patient with dementia may not be able to advocate for themselves, therefore there is usually someone assigned as that person's legal aide, however this still does not preclude the need for written consent prior to disclosing information.

Source

O'Sullivan, S, Siegelman, R. (2015). *2016 National Physical Therapy Examination Review & Study Guide*. 19th Ed. TherapyEd.

Category

Nonsystems
Professional Responsibilities

12. Contraindications for iontophoresis include:

- A) Over a cemented hip prosthetic
- B) Hypersensitivity to the medication being used
- C) Children with current epiphyseal growth plates that are not fused
- D) Patients with insulin pumps

Rationale

Iontophoresis uses a direct current to push topical medications through the skin. If a patient is hypersensitive or allergic to the medication, this modality is contraindicated for that particular medication.

It is not a contraindication to use iontophoresis over a hip replacement.

It is not a contraindication to use iontophoresis with children and is often used to treat hyperhidrosis in children and adolescents.

It is not a contraindication to use iontophoresis for patients that have insulin pumps, however it is contraindicated to use iontophoresis *over* an insulin pump.

Source

O'Sullivan, S, Siegelman, R. (2015). *2016 National Physical Therapy Examination Review & Study Guide*. 19th Ed. TherapyEd.

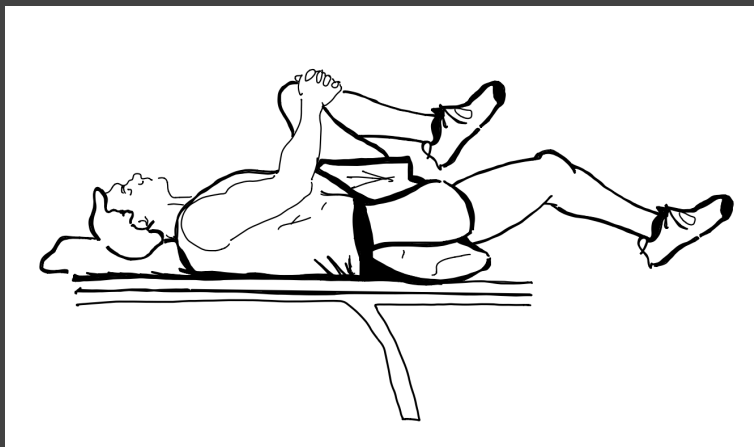
Prentice, W.E. (2002). *Therapeutic Modalities for Physical Therapists*. 2nd Ed. [E-book]. McGraw-Hill Companies, Inc.

Category

Nonsystems

Therapeutic Modalities

13. When performing the Thomas Test, a physical therapy assistant observes the result in the photograph (located at the bottom of this page). Which of the following interpretations is correct for this test?



- A) The patient demonstrates shortness of the iliopsoas
- B) The patient demonstrates shortness of the rectus femoris
- C) The patient demonstrates shortness of the iliopsoas and the rectus femoris
- D) The test is normal

Rationale

In order for the Thomas Test to be considered normal, we should see the low back and sacrum flat on the table, the posterior thigh touching the table, and the knee flexed to 80 degrees. In the picture, the patient has his low back and sacrum on the table. His posterior thigh does NOT touch the table and his knee does not look close to 80 degrees. Therefore, it is most likely that both the 1-joint and 2-joint muscles are tight.

Source

Kendall, FP, McCreary, EK, Provance PG, Rodgers MM, Romani, WA. (2005). *Testing and Function with Postural and Pain*. 5th Ed. Baltimore, MD: Lippincott Williams & Wilkins. Pg. 378.

Category

Musculoskeletal Systems

PT Data Collection

14. Which of the following is a risk factor for osteoporosis?

- A) Prolonged use of glucocorticoids
- B) Increasing running mileage by 2 miles per week
- C) Performing repetitive jump squats
- D) Chronic back pain

Rationale

Glucocorticoids is a class of steroid drugs primarily used to treat autoimmune diseases and as an anti-inflammatory drug. Prolonged use of any steroid drug can have effects on the body including risk of osteoporosis and tissue breakdown (catabolic effects).

Increasing running mileage by 2 miles per week would not be a risk factor for osteoporosis. The potential exception is if the patient already had an underlying condition, but we are not provided any information except increasing running mileage, which is not a risk factor.

Performing repetitive jump squats throughout life can cause problems such as increased rate of degeneration or osteoarthritis, but this is not considered a risk factor for osteoporosis.

Chronic back pain is not directly related to osteoporosis.

Source

Briot, K., & Roux, C. (2015). Glucocorticoid-induced osteoporosis. *RMD open*, 1(1), e000014. <https://doi.org/10.1136/rmdopen-2014-000014>.

Kisner, C., Colby, L.A. (2007). *Therapeutic Exercise: Foundations and Techniques*. 5th Ed. Philadelphia, PA: F.A. Davis Company.

Category

Musculoskeletal Systems

Diseases/Conditions that Impact Effective Treatment

15. Which of the following would indicate a need to TERMINATE an exercise tolerance stress test?

- A) 2+ on the angina scale
- B) RPE of 13 on the Borg Scale
- C) ST segment depression of 0.8 mm
- D) An increase in systolic blood pressure of 10 mmHg

Rationale

Absolute indications for terminating exercise for a cardiac patient include:

- Drop in systolic pressure >10mmHg
- Moderate to severe angina (2+ to 4+ on scale)
- Ataxia, dizziness, or syncope (increasing nervous system symptoms)
- Technical difficulties with EKG monitoring
- If the patient wants to stop
- ST elevation >1.0mm
- Second degree AV block

An RPE of 13 on the Borg Scale is appropriate for an exercise stress test. An RPE rating of 12-13 corresponds to approximately 60-70% of functional capacity. A submaximal exercise tolerance test for cardiac patients is set to terminate at 85% heart rate, therefore an RPE of 13 is appropriate for an exercise stress test.

ST segment depressions over 1.0mm is a significant change and therefore requires attention to the situation. However, 0.8mm is below our concerning threshold of 1.0mm.

Blood pressure should go up during exercise and it is not problematic to show an increase in systolic pressure of 10 mmHg. A *decrease* in systolic blood pressure of more than 10 mmHg is an indication to terminate exercise.

Source

Thompson WR, Gordon NF, Pescatello LS. (2009). *ACSM's Guidelines for Exercise Testing and Prescription*. 8th Ed. Philadelphia, PA: Lippincott Williams & William. Pg. 119.

Category

Cardiopulmonary Systems
PT Data Collection

16. A 81-year-old patient comes to physical therapy for an evaluation of his left hip due to a recent fall onto his side. The plan of care includes interventions to improve balance that require the use of different colored tapes on the ground. When working with this patient, it is MOST IMPORTANT for the physical therapy assistant to take into consideration which of the following factors?

- A) Impairments in short-term memory

- B) Loss of muscular power due to decreases in speed of contraction
- C) Age-related increases in blood pressure
- D) Age-related loss of accommodation and visual acuity

Rationale

It is important to take several factors into account on the basis of the patient's age. Geriatric patients have different factors the clinician should be aware of. The question tells us there will be different colors of tape used, therefore the PTA should be aware that age produces decreased visual acuity and accommodation reflexes. The PTA will want to use a brightly lit space for the interventions and ensure the patient is able to see appropriately for the intervention before proceeding.

It is important to assess memory in a geriatric patient, however not all geriatric patients will show memory impairments and memory is not as much of a factor with the balance intervention as visual acuity in this case.

While it is true that geriatric patients show a decline in muscular power, the question does not address strength or power. This is not the most important factor to consider in this case.

Usually blood pressure increases with age. Again, it is important and imperative to check patient vitals before proceeding with exercise, however in this case, we need to address the probably visual deficits that could cause problems with the specific balance interventions we want to perform.

Source

O'Sullivan, S, Siegelman, R. (2015). *2016 National Physical Therapy Examination Review & Study Guide*. 19th Ed. TherapyEd.

Category

System Interactions

Diseases/Conditions that Impact Effective Treatment

17. A physical therapy assistant is treating a 35-year-old patient with low back pain. The PTA decides to begin the session with electrical stimulation to decrease the patient's current pain level (8 on NPRS). When choosing an electrical stimulation modality, which factor should the physical therapy assistant consider to BEST modulate the patient's pain?
- A) Time of day
 - B) Time since initial injury
 - C) Frequency of pain
 - D) The patient's weight

Rationale

The most helpful factor to allow the PTA choose the best type of electrical stimulation is the time since initial injury. This tells us if the injury is in the acute, subacute, or chronic phase, and we can set our electrical stimulation parameters using this knowledge. If we consider which electrical stimulation we would use, our modality options are TENS (high-rate, low-rate, etc) or IFC because other types are used more for muscle-strengthening, muscle-relaxation, or wound-healing protocols (e.g. HVPC, Russian, NMES, FES).

Frequency of pain would not change our parameters.

Time of day and pain frequency do not have an effect on choosing the right electrical stimulation modality for pain.

Source

O'Sullivan, S, Siegelman, R. (2015). *2016 National Physical Therapy Examination Review & Study Guide*. 19th Ed. TherapyEd.

Category

Nonsystems
Therapeutic Modalities

18. The following values are recorded for a patient undergoing arterial blood gas testing:

- pH = 7.47
- PaCO₂ = 30 mmHg
- O₂ saturation = 93%
- HCO₃ = 23 mmol/L

What is the MOST LIKELY diagnosis based on the patient's lab values?

- A) Respiratory alkalosis
- B) Respiratory acidosis
- C) Metabolic alkalosis
- D) Metabolic acidosis

Rationale

The pH is too high (normal range is 7.35-7.45) and is therefore on the alkalosis side. The answer is respiratory alkalosis because PaCO₂ is also abnormal (normal values are between 35-45 mmHg). Too low PaCO₂ correlates with alkalosis and tells us this is a respiratory problem. Since PaCO₂ is abnormal, the most likely diagnosis is respiratory alkalosis.

Acidosis would show an irregular pH *below* 7.35.

Metabolic problems usually show an irregular HCO_3 value.

Source

Goodman, C.C., Snyder, T.E. (2013). *Differential Diagnosis for Physical Therapists: Screening for Referral*. 5th Ed. St. Louis, MO: Saunders. Pg. 293-294

Category

Cardiopulmonary Systems
Physical Therapy Data Collection

19. A patient is positioned supine with the elbow flexed to 90° and the palm facing the patient's head (supinated). A physical therapy assistant attempts to turn the patient's palm down toward the patient's feet. During this motion, the physical therapy assistant asks the patient to "slow her down". What type of contraction is being performed in this case?
- A) Concentric contraction of the forearm pronator muscles
 - B) Eccentric contraction of the forearm pronator muscles
 - C) Concentric contraction of the forearm supinator muscles
 - D) Eccentric contraction of the forearm supinator muscles

Rationale

A concentric contraction is a shortening contraction of the muscle. An eccentric contraction is a lengthening contraction of the muscle. The key words are "slow her down". If a therapist is applying resistance in the *same* direction as the muscular motion, this would be considered resisting an eccentric contraction because the muscle has to lengthen during the contraction, but the patient is still performing a contraction because the patient was asked to "slow her down", which requires muscle force. Since the physical therapy assistant is moving the forearm into pronation and asking the patient to resist her (slow her down), we are doing an eccentric contraction of the forearm pronator muscles.

If a therapist applies resistance in the *opposite* direction as a muscle motion, this is considered resisting a concentric contraction. In this case the therapist is applying resistance in the same direction as motion, therefore it cannot be a concentric contraction.

Source

Kisner, C., Colby, L.A. (2007). *Therapeutic Exercise: Foundations and Techniques*. 5th Ed. Philadelphia, PA: F.A. Davis Company. Pg. 181.

Category

Musculoskeletal Systems

Interventions

20. A patient diagnosed with Crohn's Disease may have referred pain to:

- A) The middle right quadrant
- B) The low back
- C) The left inner thigh
- D) The right shoulder

Rationale

Crohn's disease is an inflammatory disease of the small intestine and colon. It is a specific kind of inflammatory bowel disease. Though it can occur anywhere along the alimentary canal, it most often produces pain in the peri-umbilical and low back regions and can be intermittent in the lower right quadrant.

Source

Goodman, C.C., Snyder, T.E. (2013). *Differential Diagnosis for Physical Therapists: Screening for Referral*. 5th Ed. St. Louis, MO: Saunders. Pg. 344.

Category

Gastrointestinal Systems

Diseases/Conditions that Impact Effective Treatment

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