

# Sample Occupational Medicine Questions & Critiques

The sample NCCPA items and item critiques are provided to help PAs better understand how exam questions are developed and should be answered for NCCPA's Occupational Medicine CAQ Exam.

# Question #1

A 25-year-old woman who is employed as a laboratory technician comes to the occupational medicine clinic because she has had pain in her right hand for the past 20 minutes. She says she was working in the laboratory when a coworker spilled hydrofluoric acid on her hand, and she immediately felt a burning sensation. She was not wearing gloves. She flushed the area with water for 15 minutes but says it is still painful. Physical examination shows a pale, blanched area on the thumb and index finger. Which of the following is the most appropriate next step in management?

## A. Apply calcium gluconate gel

- B. Apply ice
- C. Apply silver sulfadiazine cream
- D. Monitor for systemic effects
- E. Repeat irrigation

Content Area: Workplace Injuries and Illnesses (35%)

## <u>Critique</u>

This item tests the examinee's ability to identify the most appropriate management for an acute exposure to hydrofluoric acid. The correct answer is Option (A), apply calcium gluconate gel, because it is the recommended treatment for hydrofluoric acid burns. Calcium gluconate should be used if the hydrogen fluoride concentration is greater than 20% or for prolonged exposure at lower concentrations. The calcium in the gel deactivates the fluoride ions in the affected tissue.

Option (B), apply ice, is incorrect because ice can cause tissue damage and increase the risk of infection. Option (C), apply silver sulfadiazine cream, is incorrect because this cream is an antibiotic used for treating second- and third-degree burns. Option (D), monitor for systemic effects, is incorrect because hydrofluoric acid is highly corrosive, readily penetrating the skin and traveling to deep tissues. The fluoride ions may bind body calcium, resulting in life-threatening systemic hypocalcemia. Option (E), repeat irrigation, is incorrect because although irrigation is an appropriate initial step in decontamination when removing soiled clothing, re-irrigation is inadequate treatment for this chemical burn.



A 34-year-old man who is employed as a construction worker comes to the occupational medicine clinic because he has had pain in his right arm since he lifted a 1000-lb metal bar with the help of a coworker three hours ago. He heard a popping sound just before the onset of pain. He rates the pain as 9 on a 10-point scale. He is observed holding his right arm close to his body. Physical examination shows tenderness to palpation over the volar aspect of the right elbow. Ecchymosis with bulging deformity of the upper arm is noted. Range of motion of the right elbow in flexion is limited, especially with resistance. Supination of the elbow elicits more pain than pronation. Range of motion of the right elbowing is the most likely diagnosis?

- A. Cubital fossa syndrome
- B. Lateral epicondylitis
- C. Rotator cuff tear
- D. Rupture of distal biceps tendon
- E. Triceps tendinitis

Content Area: Workplace Injuries and Illnesses (35%)

## <u>Critique</u>

This question tests the examinee's ability to recognize the characteristic signs and symptoms of a musculoskeletal disorder in a worker who has sustained an on-the-job injury. The correct answer is Option (D), rupture of distal biceps tendon. The classic symptoms of biceps tendon injury include hearing a pop and feeling a tearing sensation in front of the elbow associated with pain. When the tendon attaching the biceps muscle to the elbow tears, the rupture results in bruising on the forearm and upper arm. Physical examination usually shows a bulging deformity of the upper arm caused by retraction of the biceps muscle known as the Popeye sign. Range of motion of the shoulder is typically normal, but weakness with elbow flexion and supination of the forearm is common.

Option (A), cubital fossa syndrome, is incorrect because this condition involves ulnar neuropathy causing numbness or tingling in the hand, ring finger, or little finger. It sometimes causes shooting pain in the hand, elbow, or forearm with muscle weakness. Option (B), lateral epicondylitis, is incorrect because this condition is commonly caused by overuse or repetitive motion activities involving wrist extension and/or supination that can stress the tendons attached at the lateral epicondyle. Option (C), rotator cuff tear, is incorrect because active range of motion seen in rotator cuff tears varies depending on the tendon involved, whereas the worker described in the scenario has normal range of motion of the shoulder. Additionally, rotator cuff tears are typically caused by injury or degeneration with repetitive overhead activities over time, not from a single instance of lifting a heavy object, as described in the scenario. Option (E), triceps tendinitis, is incorrect because this condition is commonly caused by overuse or repetitive motion activities are typically to a structure the scenario of a structure of a heavy object, as described in the scenario. Option (E), triceps a heavy object, as described in the scenario. Option activities are typical to activities over time, not from a single instance of lifting a heavy object as the triceps tendon, not from a single instance of lifting a heavy object.



A 41-year-old man comes to the occupational health clinic two hours after he sustained a superficial laceration to the distal second phalanx of his right hand while handling a rusty metal pipe at his worksite. Which of the following medical treatments, if provided to this worker, would classify this injury as OSHA recordable?

- A. Administration of a tetanus vaccination
- B. Administration of ibuprofen 400 mg orally
- C. Application of buddy taping
- D. Application of topical skin adhesive to the laceration
- E. Removal of a metal splinter from the wound with forceps

Content Area: Occupational Health Practice (12%)

## <u>Critique</u>

This item tests the examinee's knowledge of the classification of a medical intervention as OSHArecordable medical treatment versus first aid. The correct answer is Option (D), application of topical skin adhesive to the laceration. According to OSHA regulations, the application of topical skin adhesive (ie, Dermabond) is considered recordable medical treatment.

Option (A), administration of a tetanus vaccination, is incorrect because any tetanus immunization is not recordable according to OSHA regulations. Option (B), administration of ibuprofen 400 mg orally, is incorrect because any recommendation of over-the-counter medication at an over-the-counter dose is not recordable according to OSHA regulations. Option (C) application of buddy taping, and Option (E), removal of a metal splinter from the wound with forceps, are incorrect because these interventions are not recordable and are considered first aid according to OSHA regulations.



A 67-year-old man comes to the occupational medicine clinic for a DOT physical examination. He currently has intermittent pain in the lower back and left knee, for which he takes no medication. Medical history includes hypertension and type 2 diabetes mellitus, which are managed with medication. Body mass index is 37.7 kg/m<sup>2</sup>. Heart rate is 80/min and blood pressure is 140/90 mmHg. On physical examination, the employee is unable to hear a whispered voice at a distance of five feet bilaterally. Audiometry shows a right ear average of 41 dB and left ear average of 43 dB. No functional limitations of the lower back or left knee are noted. On laboratory studies performed two weeks ago, hemoglobin A<sub>1c</sub> was 7.5%. Per DOT guidelines, which of the following certification decisions is most appropriate for this employee?

- A. Three months
- B. Six months
- C. One year
- D. Determination pending
- E. Does not meet standards

Content Area: Occupational Clearance Examinations (25%)

## <u>Critique</u>

This question tests the examinee's understanding of DOT guidelines in determining the appropriate certification decision for an employee during a DOT physical examination. The correct answer is Option (*E*), does not meet standards, because audiometry in the driver described demonstrates average hearing loss of greater than 40 dB in both ears. An individual meets the hearing qualification standard if 1) the individual first perceives a forced whisper voice in the better ear at not less than 5 ft with or without the of use of a hearing aid, or 2) the individual has an average hearing loss (average of test results for 500 Hz, 1,000 Hz, and 2,000 Hz) in one ear of less than or equal to 40 dB with or without the use of hearing aids. According to DOT guidelines, an individual who fails the hearing screening must not be placed in "determination pending" status while consultation with a specialist is obtained.

Option (A), three months, Option (B), six months, Option (C), one year, and Option (D), determination pending, are all incorrect on the basis of DOT requirements. The maximum certification for a person with diabetes is one year if controlled. The maximum certification for a person with hypertension varies.



A 20-year-old welder comes to the occupational medicine clinic because of a work-related eye injury that occurred three hours ago. He says he was welding when he felt something fall into his left eye. He was using an eye shield when the injury occurred and continued working. After 30 minutes, his condition had not improved, and he flushed his eye for two minutes. He still has a painful burning sensation when he blinks and says it feels like sand is in his eye, emphasizing that his symptoms have worsened. Physical examination of the left eye shows diffuse redness of the conjunctiva. Slit-lamp examination shows punctate depressions but no visible foreign object. Eyelid eversion and fluorescein uptake test results also show no foreign object or uptake. Which of the following is the most likely diagnosis?

- A. Abrasion
- B. Foreign body
- C. Globe injury
- D. Photokeratitis
- E. Subconjunctival hemorrhage

Content Area: Workplace Illnesses and Injuries (35%)

#### <u>Critique</u>

This question tests the examinee's ability to review a detailed clinical scenario, including history, signs and symptoms, and findings on physical examination, and determine the suspected diagnosis of a workplace injury. The correct answer is Option (D), photokeratitis. Photokeratitis, also known as welder flash, is a common injury in welders who do not use protective goggles as recommended. Symptoms of this injury include burning pain or a feeling of grit in the eye. Characteristic findings on physical examination include conjunctival injection, and slit-lamp examination typically shows punctate depression over the cornea with no evidence of foreign body.

Option (A), abrasion, is incorrect because the characteristic symptoms of corneal abrasion are blurred vision, tearing, and light sensitivity, not painful burning and a sensation of grit in the eye, as described in the scenario. Additionally, slit-lamp examination of patients with corneal abrasion typically shows superficial scratching of the corneal epithelium, not punctate depression with no evidence of foreign object, as described in the scenario. Option (B), foreign body, is incorrect because no foreign object or uptake is noted on slit-lamp examination. Option (C), globe injury, is incorrect because although globe injuries cause pain, as described in the scenario, these injuries are caused by blunt force or penetrating trauma to the eye, and no evidence of trauma is noted on examination of the worker described. Additionally, other signs and symptoms of globe injury include eye deformity and vision loss, which are not mentioned in the scenario. Option (E), subconjunctival hemorrhage, is incorrect because this condition occurs when a tiny blood vessel breaks underneath the conjunctiva. The classic finding on physical examination of the eye is a red spot, which is not described in the scenario. Additionally, subconjunctival hemorrhage is a painless, benign disorder that occurs from straining on coughing, sneezing, vomiting, or using the toilet, which details are not mentioned in the scenario.



According to FMCSA guidelines and expert panel recommendations, which of the following is the required minimum continuous positive airway pressure machine usage in commercial motor vehicle drivers who have moderate or severe obstructive sleep apnea to be eligible for a Medical Examiner's Certificate?

- A. At least 40% of the nights for four or more hours
- B. At least 50% of the nights for four or more hours
- C. At least 60% of the nights for four or more hours
- D. At least 70% of the nights for four or more hours
- E. At least 80% of the nights for four or more hours

Content Area: Occupational Clearance Examinations (25%)

## <u>Critique</u>

This question tests the examinee's knowledge of the DOT physical examination and ability to determine clearance from FMSCA medical requirements for sleep apnea. The correct answer is Option (D), at least 70% of the nights for four or more hours. A driver's records for use of a positive airway pressure machine must demonstrate at least four hours per night use on 70% of nights (minimum compliance standard).

Option (A), at least 40% of the nights for four or more hours, Option (B), at least 50% of the nights for four or more hours, Option (C), at least 60% of the nights for four or more hours, and Option (E), at least 80% of the nights for four or more hours, are incorrect because they are not in compliance with DOT guidelines.



A 44-year-old man who works as a commercial motor vehicle driver comes to the occupational medicine clinic for an initial DOT physical examination. The man has no medical history and takes no medications. Heart rate is 98/min, respirations are 18/min, and blood pressure is 186/110 mmHg. Repeat blood pressure is 182/102 mmHg. On physical examination, uncorrected visual acuity is 20/30 in the right eye and 20/25 in the left eye. The horizontal field of vision is 80 degrees bilaterally. On whisper test, the man is unable to repeat three of six words or numbers. Audiometry show 20 dB in the right ear and 45 dB in the left ear. Remaining physical findings are within normal limits. Results of urinalysis are negative for blood and glucose; specific gravity is 1.030 and protein is 30 mg/dL. Which of the following is the most appropriate determination regarding this employee's Medical Examiner's Certificate?

- A. Certify for six months because of blood pressure and hearing
- B. Certify for one year because of blood pressure
- C. Certify for two years
- D. Disqualify because of blood pressure and hearing
- E. Disqualify because of blood pressure

Content Area: Occupational Clearance Examinations (25%)

## <u>Critique</u>

This question tests the examinee's understanding of DOT guidelines in determining the appropriate certification decision for an employee with various medical conditions. The correct answer is Option (E), disqualified because of blood pressure. Drivers with blood pressure of less than 140/90 mmHg can be certified for up to two years. Drivers with Stage 1 hypertension (blood pressure of 140–159/90–99 mmHg) can be certified for one year. Drivers with Stage 2 hypertension (blood pressure of 160–179/100–109 mmHg) can be certified for a three-month period. Drivers with Stage 3 hypertension (blood pressure of 180/110 mmHg or higher) are disqualified from certification.

Option (A), certify for six months because of blood pressure and hearing, is incorrect because the driver's blood pressure is not less than 140/90 mmHg, making him ineligible for certification at six-month intervals. Also, the audiometry findings do not demonstrate hearing loss greater than 40 dB in both ears, which is the cutoff for certification. Option (B), certify for one year because of blood pressure, is incorrect because the blood pressure in the driver described is not in the range that permits certification for one year. Option (C), certify for two years, is incorrect because DOT guidelines state that blood pressure of less than 140/90 mmHg can be certified for two years, but the driver described has blood pressure in excess of this cutoff. Option (D), disqualify because of blood pressure and hearing, is incorrect because hearing loss in the right ear of less than 40 dB is not disqualifying, per DOT guidelines.



A 32-year-old firefighter who is a special operations diver comes to the clinic because he had sudden onset of dizziness as well as pain, pressure, and muffled hearing in his left ear two hours ago, following completion of his annual diving qualification test. The employee has had no such incidents in the past. He has had mild seasonal allergies in the past few months but has no history of chronic ear infections or hearing loss. Which of the following findings on physical examination, if present, would best support the suspected diagnosis of middle ear barotrauma?

- A. Purulent effusion of the middle ear
- B. Tympanic membrane rupture
- C. Tympanic membrane with sclerotic lesions
- D. Tympanic membrane with positive insufflation
- E. Tympanic membrane without retraction

Content Area: Workplace Illnesses and Injuries (35%)

#### <u>Critique</u>

This question tests the examinee's ability to identity the finding on physical examination that best supports the suspected diagnosis of middle ear barotrauma. The correct answer is Option (B), tympanic membrane rupture, because barotrauma can cause a perforation of the tympanic membrane. This can happen with air travel, scuba diving, or any activities that cause sudden changes in pressure. A blocked eustachian tube can also increase the risk of barotrauma.

Option (A), purulent effusion of the middle ear, is incorrect because this finding is usually caused by otitis media from an infection when inflammation of the middle ear prevents drainage of fluid by the eustachian tube, resulting in purulent effusion, but the diver described has no history of infection. Option (C), tympanic membrane with sclerotic lesions, is incorrect because this finding is a progressive process characteristically seen after an injury or surgery to the tympanic membrane, but the diver described has no history of injury or surgery. Option (D), tympanic membrane with positive insufflation, is incorrect because when examining the ear with a pneumatic otoscope, there is movement of the tympanic membrane if perforation or rupture has occurred. A positive insufflation occurs when there is no movement because of high pressure or fluid behind the tympanic membrane. Option (E), tympanic membrane without retraction, is incorrect because although the symptoms are similar to tympanic membrane rupture, on examination of patients with this condition, the tympanic membrane bulges away from the middle ear, causing pain and inflammation of the eustachian tube as a result of trauma or infection.



Which of the following criteria supports the use of interferon-gamma release assay testing?

- A. Age younger than 5 years
- B. Findings on chest x-ray study consistent with active infection
- C. Confirmatory testing following a positive result of acid-fast bacillus smear
- D. Confirmatory testing following a second positive result on tuberculin skin test
- E. History of bacille Calmette-Guérin vaccine

Content Area: Health Screening, Surveillance, and Exposures (20%)

#### <u>Critique</u>

This question tests the examinee's knowledge of the criteria for use of interferon-gamma release assay testing. The correct answer is Option (E), history of bacille Calmette-Guérin vaccine. The interferon-gamma release assay is recommended by the CDC for individuals who have received the bacille Calmette-Guérin vaccine in the past because the tuberculin skin test can produce a false-positive test result in such patients.

Option (A), age younger than 5 years, is incorrect because interferon-gamma release assay is recommended for children 5 years of age or older. The collection of a sufficient blood sample can be a practical barrier to testing very young children with a tuberculosis blood test. Option (B), findings on chest x-ray study consistent with active infection, is incorrect because chest x-ray studies are used for diagnostic testing in the workup of patients with active tuberculosis infection to determine if treatment is indicated. Option (C), confirmatory testing following a second positive result of acid-fast bacillus smear, is incorrect because a cid-fast bacillus smear is used for diagnosing an active pulmonary tuberculosis infection. Option (D), confirmatory testing following a second positive result on tuberculin skin test, is incorrect because a second positive tuberculin skin test does not require interferon-gamma release assay testing unless there is a history of bacille Calmette-Guérin vaccination.



A 55-year-old man who works as a highway maintenance worker comes to the occupational medicine clinic because he has had pain, numbness, and intermittent white discoloration of his hands that began suddenly two weeks ago. The employee's duties require him to use a jackhammer for about four hours each day. He says he does not wear gloves while operating the jackhammer because his grip is better without them. He smokes 10 cigarettes daily. The answer to which of the following questions is most likely to support the diagnosis of hand-arm vibration syndrome?

- A. Do you have cardiovascular disease?
- B. Do you have diabetes mellitus?
- C. Do you have Raynaud disease?
- D. Have you ever had carpal tunnel syndrome?
- E. Have you ever had trigger finger?

Content Area: Health Screening, Surveillance, and Exposures (20%)

## <u>Critique</u>

This question tests the examinee's ability to review a clinical scenario and determine the appropriate question to ask to establish a diagnosis of hand-arm vibration syndrome. The correct answer is Option (C), do you have Raynaud disease? The classic presentation of hand-arm vibration syndrome is blanching of the fingers on cold exposure and is commonly known as vibration white fingers (VWF) or occupational Raynaud phenomenon. It often occurs in workers who use vibrating tools. The exposure to vibration or cold causes patients to experience blanching, numbness, and pain in the fingers because of excessive vasoconstriction.

Option (A), do you have cardiovascular disease?, is incorrect because although exposure to vibration can increase the risk for cardiovascular disease, this underlying condition is not associated with hand-arm vibration syndrome. Option (B), do you have diabetes mellitus?, is incorrect because diabetes is not associated with hand-arm vibration syndrome. Option (D), have you ever had carpal tunnels syndrome?, is incorrect because although the mechanism that causes carpal tunnel syndrome is still unclear, it is believed to be a combination of both vibrational and ergonomic factors. Option (E), have you ever had trigger finger?, is incorrect because the cause of trigger finger is unknown but is believed to be caused by repetitive gripping that causes the tendons of the affected fingers to become inflamed, preventing the tendons from gliding.



A 60-year-old woman comes to the occupational medicine clinic for a pre-employment history and physical examination for a position as a certified nursing assistant. Her self-assessment questionnaire includes the following details: a fall at her previous employment that required knee surgery and short-term disability; ongoing chronic knee pain managed with narcotic pain medications prescribed by her primary care provider; a history of depression with suicidality, including treatment at a mental health facility for several weeks; and a family history of sudden cardiac arrest. On the basis of these findings, which of the following histories is unlawful to discuss with her?

- A. Mental health disease
- B. Previous work-related injuries
- C. Short-term disability
- D. Sudden cardiac arrest in her family
- E. Use of narcotic pain medication

Content Area: Occupational Clearance Examinations (25%)

## <u>Critique</u>

This question tests the examinee's knowledge of the Americans with Disabilities Act and the restrictions it places on pre-employment questions and medical examinations. The correct answer is Option (D), sudden cardiac arrest in her family. It is illegal for a medical provider to ask a patient about family medical history because this violates the Genetic Information Nondiscrimination Act (GINA), which includes family history.

Option (A), mental health disease, Option (B), previous work-related injuries, Option (C), short-term disability, and Option (E), use of narcotic pain medication, are incorrect because an employer may make disabilityrelated inquiries and conduct medical examinations after an applicant is offered and accepts a conditional job, but before the applicant starts working. Therefore, during pre-employment examination, the medical provider can ask about details of the worker's medical history including information about past illnesses, injuries, surgeries, medications, and any chronic conditions.



A 50-year-old man comes to the occupational medicine clinic two hours after he was exposed to a chemical at work. He was turning off an alarm system in a confined space when a pipe with fire suppression dust released unexpectedly, filling the room with the chemical. The man says that he could not see through the haze and ran to the door to get outside as quickly as possible. He was wearing glasses but no other PPE. He showered following the event. No Safety Data Sheet was available from the company. He still has some throat irritation but is otherwise healthy. Vital signs are within normal limits. Oxygen saturation is 98% on room air. Chest x-ray study shows no abnormalities. Observance of which of the following OSHA protocols by the company is most appropriate to reduce the risk of exposure incidents in the future?

- A. Require posting of Safety Data Sheets
- B. Require proper ventilation for chemical release systems
- C. Require use of a dust mask
- D. Require use of PPE with fit testing
- E. Restrict employees from confined spaces

Content Area: Occupational Health Practice (12%)

## <u>Critique</u>

This question tests the examinee's knowledge of OSHA regulations and protocols to reduce the risk of workplace exposure incidents. The correct answer is Option (D), require use of PPE with fit testing. OSHA standard 1910.132 advises employers to determine if workplace hazards are present and to necessitate the use of PPE. OSHA standard 1910.134 requires fit testing to ensure that tight-fitting respirators fit properly to protect employees from many types of airborne contaminants.

Option (A), require posting of Safety Data Sheets, is incorrect because although this precaution helps reduce the risk of exposure incidents, it is not the best option for the scenario described. OSHA standard 1910.1200 advises that Safety Data Sheets are required and used when working with hazardous chemicals to inform employees about the product's identity, hazard, and safe handling and storage procedures. Option (B) require proper ventilation for chemical release systems, is incorrect because, while OSHA standard 1910.94 requires ventilation in some scenarios, the presence of a chemical fire suppression system does not subject the workplace to these requirements. Option (C), require use of a dust mask, is incorrect because although OSHA standard 1910.134 requires employers to provide dust masks for employees with exposure to harmful dusts and other airborne contaminants, the masks may not provide enough protection in the scenario described. Option (E), restrict employees from confined spaces, is incorrect because although OSHA standard 1910.146 does outline procedures for employees who enter confined spaces, it does not prohibit them from doing so.



A 25-year-old medical student who plans to travel to Rio de Janeiro for a work-sponsored missionary trip comes to the university-based occupational medicine clinic for pre-travel requirements. She received the MMR booster vaccine six weeks ago, and all other childhood vaccinations are up to date. Which of the following is the most appropriate management for this medical student?

- A. Administer a second MMR booster
- B. Administer the yellow fever vaccine
- C. Order a baseline chest x-ray study
- D. Order a baseline complete blood cell count

Content Area: Immunization and Travel Medicine (8%)

## <u>Critique</u>

This question tests the examinee's ability to identify the appropriate recommendation for a traveler seeking advice about pre-travel immunization and travel medicine. The correct answer is Option (B), administer the yellow fever vaccine, because the student is traveling to Rio de Janeiro. Vaccination against yellow fever may be required when entering a country or region where the disease is known to be present, such as tropical areas of Africa, South America, and Panama.

Option (A), administer a second MMR booster, is incorrect because the CDC recommends at least two doses of MMR vaccine, but the student described has already received a booster. Option (C), order a baseline chest x-ray study, is incorrect because although chest x-ray study is commonly used for diagnostic testing in patients with active tuberculosis infection, the student described is not ill. Chest x-ray is not required for asymptomatic persons with no risk factors for latent tuberculosis infection. Option (D), order a baseline complete blood cell count, is incorrect because although this test is commonly used to work up patients with possible tropical fever, the student described in the scenario is not ill, and compete blood cell count is therefore not indicated.



A 49-year-old man who is a facilities management worker comes to the occupational medicine clinic because he has had headache, dizziness, tinnitus, irritability, and inability to concentrate for the past three months, since he fell from a ladder at work and hit his head on the floor. He briefly lost consciousness. Medical history includes hypertension, peripheral artery disease, transient ischemic attack, anxiety, and depression. Current medications include an anticoagulant daily. Which of the following details of this man's history best supports a diagnosis of post-concussion syndrome?

- A. Anxiety and depression
- B. Anticoagulant therapy
- C. Previous transient ischemia attack
- D. Refractory symptoms for three months

Content Area: Workplace Injuries and Illnesses (35%)

#### <u>Critique</u>

This question test the examinee's ability to recognize the detail in a worker's history that best supports a diagnosis of post-concussion syndrome. The correct answer is Option (D), refractory symptoms for three months. Post-concussion syndrome is diagnosed when symptoms of mild traumatic brain injury persist for three months or more after head injury.

Option (A), anxiety and depression, is incorrect because although concussion can cause anxiety and depression because of a combination of physical and emotional factors, the worker in the scenario had a history of these conditions prior to the injury. Option (B), anticoagulant therapy, is incorrect because this treatment would not affect the diagnosis of post-concussion syndrome. Option (C), previous transient ischemic attack, is incorrect because although transient ischemic attack may cause brain trauma resulting in post-concussion syndrome, this condition was pre-existing in the worker described in the scenario.