1. A patient reports to physical therapy with a diagnosis of idiopathic scoliosis. During the examination, the patient reports wearing a Milwaukee brace for the past two years. The most likely extent of the patient's spinal curvature is:
A. 5 - 15 degrees  
B. 10 - 25 degrees  
C. 20 - 45 degrees  
D. 40 - 60 degrees

Explanation:
A Milwaukee brace is a commonly used orthotic device used to treat children with progressive spinal curves between 20 and 45 degrees. The brace is worn almost constantly and is designed to improve alignment in the developing spine. (Robinson 182)

2. A physical therapist reviews the medical record of a patient with a spinal cord injury. A note recently entered by the physician indicates that the patient contracted a respiratory infection. Which patient would be most susceptible to a respiratory infection?
A. a patient with complete C4 tetraplegia  
B. a patient with a cauda equina lesion  
C. a patient with Brown-Sequard's syndrome  
D. a patient with posterior cord syndrome

Explanation:
A patient with complete C4 tetraplegia will have a reduced ventilatory capacity due to muscle paralysis. This patient will have limited ability to clear secretions, impaired chest mobility, and alveolar hypoventilation. Patients with complete tetraplegia are at the highest risk for respiratory infection. (Umphred 492)

3. A physically active 27 year old male receives preoperative instruction prior to anterior cruciate ligament reconstruction. The patient's past medical history includes a medial meniscectomy of the contralateral knee 8 months ago. The most likely functional level of the patient following rehabilitation is:
A. able to participate in light recreational activities  
B. able to participate in all recreational activities  
C. able to return to recreational and competitive athletic activities with a derotation brace  
D. able to return to previous functional level

Explanation:
A physically active, young patient should be expected to return to his previous functional level within 4-6 months following anterior cruciate ligament reconstruction. (Kisner 444)

4. A physical therapist adjusts the on/off time on an electrical stimulation unit prior to beginning treatment. When using the unit for muscle reeducation the most appropriate on:off time ratio is:
A. 5:1  
B. 12:1  
C. 1:5  
D. 1:12

Explanation:
A duty cycle of 1:5 prevents premature muscle fatigue and allows for adequate periods of muscle stimulation. "On" times are most commonly set at 10-15 seconds, while "off" times are approximately 60 seconds. (Robinson 142)

5. A physical therapist uses electrical stimulation to treat a patient rehabilitating from a tibial plateau fracture. The therapist adjusts the parameters of the electrical stimulation to utilize a 25 percent duty cycle. If the therapist sets the on time for 10 seconds, the off time should be set for:
A. 2.5 seconds  
B. 12.5 seconds  
C. 20 seconds  
D. 30 seconds

Explanation:
Duty cycle refers to the ratio of the on time to the total time (on+off time).  10 \ (10+30) = .25 (100)  
= 25%   (Nelson 29)

6. A patient in the physical therapy gym suddenly grasps his throat and begins to cough. The physical therapist, recognizing the signs of an airway obstruction should:
A. attempt to ventilate  
B. administer abdominal thrusts  
C. perform a quick finger sweep of the mouth  
D. continue to observe the patient, but do not interfere

Explanation:
Coughing indicates that the airway is not completely obstructed. As a result the physical therapist should continue to monitor the patient, however should not formally intervene. Usually a patient that is coughing will independently dislodge the object causing the obstruction. (Goold 18)

7. A physical therapist designs a research study that examines body composition as a function of aerobic exercise and diet. Which method of data collection would provide the therapist with the most accurate measurement of body composition?
A. anthropometric measurements  
B. bio-electrical impedance  
C. hydrostatic weighing  
D. skin fold measurements
Explanation:
Hydrostatic weighing is an underwater weighing technique designed to determine the specific gravity of an individual. The technique is considered the most valid measure of body composition. (Arnheim 107)

8. A physical therapist prepares for gait training with a patient diagnosed with L2 paraplegia. What type of equipment would be the most appropriate for the treatment session?
A. bilateral hip-knee-ankle-foot orthoses and crutches
B. bilateral knee-ankle-foot orthoses and crutches
C. bilateral ankle-foot orthoses and crutches
D. crutches

Explanation:
A patient with L2 paraplegia would require bilateral knee-ankle-foot orthoses in order to ambulate with crutches. This patient would possess trunk control, hip flexor innervation, and partial quadriceps innervation. Ankle-foot orthoses are indicated for patients with lesions below the level of L3. (Umphred 526)

9. A physical therapist completes a positional assessment of the sacrum with a patient lying in prone. Results of the examination reveal a deep sacral sulcus on the left and a posterior and caudal inferior lateral angle on the left when the patient moves into a prone on elbows position. This finding is most indicative of:
A. bilateral sacral flexion dysfunction
B. bilateral sacral extension dysfunction
C. unilateral left flexed sacrum
D. unilateral left extended sacrum

Explanation:
If the inferior lateral angles on the same side as the deep sacral sulcus becomes more caudal in prone on elbows, it may be indicative of a unilateral flexed sacrum. (Hertling 710)

10. A physical therapist instructs a patient that is partial weight bearing on the right lower extremity to ascend stairs using axillary crutches. The therapist's first command should be:
A. place your right leg on the first step
B. place your right leg and left crutch on the first step
C. place your left leg on the first step
D. place your left leg and right crutch on the first step

Explanation:
The physical therapist should instruct the patient to step up onto the stair with the uninvolved extremity since it will be used to propel the body upward. (Pierson 308)
11. A physical therapist examines a patient diagnosed with carpal tunnel syndrome. As part of the examination the therapist assesses end-feel. The therapist classifies the end-feel associated with wrist extension as firm. The most logical explanation is:
A. tension in the dorsal radiocarpal ligament and the dorsal joint capsule
B. contact between the ulna and the carpal bones
C. contact between the radius and the carpal bones
D. tension in the palmar radiocarpal ligament and the palmar joint capsule

Explanation:
A firm end-feel with wrist extension can result from tension in the palmar radiocarpal ligament and palmar joint capsule, while a hard end-feel results from contact between the radius and the carpal bones. (Norkin and White 86)

12. A physical therapist is scheduled to administer a whirlpool treatment to a patient that is HIV positive. The therapist is concerned about her ability to complete the treatment since she sustained a small paper cut on her fourth digit approximately three hours ago. The most appropriate therapist action is:
A. refuse to treat the patient and document the rationale in the medical record
B. treat the patient using appropriate medical asepsis
C. ask the patient to reschedule his/her appointment
D. select another appropriate treatment procedure

Explanation:
A physical therapist should always take precautions to prevent the possible transmission of blood or body fluids. By using appropriate medical asepsis the therapist does not place herself or the patient at any significant risk. (Pierson 274)

13. A primary care physician enters a capitated agreement with a managed care corporation. The physician is paid in this type of arrangement through:
A. a standard fee based on the diagnostic related group
B. a per member, per month fee
C. a designated fee per patient visit
D. a designated percentage of the actual billed charges

Explanation:
In a capitated arrangement a physician or group of physicians is paid a specific amount of money for each patient enrolled in a specified health care plan. The amount of money per patient is based on projections for utilization of services. (Sultz 256)

14. A physical therapist conducts a test for lower extremity muscle tightness by positioning a patient in supine with his knees bent over the edge of a treatment plinth. The patient is then asked
to flex one knee to the chest and hold it. Which clinical finding would be most indicative of shortness in both the one-joint and two-joint hip flexors when assessing the test leg?

A. 25 degrees of hip flexion, 30 degrees of knee flexion
B. 15 degrees of hip flexion, 40 degrees of knee flexion
C. 20 degrees of hip flexion, 70 degrees of knee flexion
D. 10 degrees of hip flexion, 90 degrees of knee flexion

Explanation:
The amount of hip flexion correlates with tightness of the one-joint hip flexors, while limited knee flexion corresponds to tightness of the two-joint hip flexors. (Magee 482)

15. A group of patients with arthritis completes an established aquatic exercise program. Which member of the health care team would be the most appropriate to supervise the exercise session?
A. a physical therapist with six years of clinical experience
B. a physical therapy aide with continuing education in aquatic exercise
C. a recreational therapist with first aid and cardiopulmonary resuscitation training
D. a physical therapist assistant certified in water safety instruction

Explanation:
The fact that the exercise program is "established" makes supervision by the physical therapist assistant a viable option. In addition, the assistant is certified in water safety instruction. (Guide to Physical Therapist Practice 1-10)

16. A physical therapist asks a physical therapist assistant to complete an upper extremity isokinetic examination. The assistant is willing to complete the examination, however indicates it has been quite some time since she has set up the machine. The most appropriate physical therapist action is:
A. provide verbal cueing for the assistant prior to beginning the set up
B. instruct the assistant to refer to the owner's manual
C. observe the assistant complete the set up
D. ask another assistant to complete the set up

Explanation:
The most appropriate action would be to observe the assistant complete the set up. This option allows the physical therapist to help the physical therapist assistant as needed and at the same time ensure the set up is performed correctly. By having the physical therapist assistant perform the set up with supervision, it is likely he/she will be able to perform the activity independently in the future. (Haggard 19)

17. A physical therapist examines a patient referred to physical therapy diagnosed with anterior compartment syndrome. The patient presents with an inability to dorsiflex the foot and a mild sensory disturbance between the first and second toes. The nerve most likely involved is the:
A. deep peroneal nerve  
B. medial plantar nerve  
C. tibial nerve  
D. lateral plantar nerve  

Explanation:  
Anterior compartment syndrome often affects the deep peroneal nerve as it passes under the extensor retinaculum. The result of the nerve being compressed ranges from a mild sensory disturbance to an inability to dorsiflex the foot. (Magee 640)  

18. A physical therapist examines a patient three days following shoulder surgery. The patient complains of general malaise and reports a slightly elevated body temperature during the last twenty four hours. Physical examination reveals an edematous shoulder that is warm to the touch. A small amount of yellow fluid is observed seeping from the incision. The most appropriate therapist action is:  
A. send the patient to the emergency room  
B. communicate the information to the referring physician  
C. document the findings in the medical record  
D. ask the patient to make an appointment with the referring physician  

Explanation:  
Signs of infection include elevated body temperature, purulent exudate, swelling, edema, and redness. The possibility of infection in a patient three days status post surgery should be taken very seriously. (Trofino 71)  

19. A 35 year old female is admitted to the hospital following a recent illness. Laboratory testing reveals a markedly high platelet count. This finding is typical with:  
A. emphysema  
B. metabolic acidosis  
C. renal failure  
D. malignancy  

Explanation:  
Thrombocytosis refers to an increased number of blood platelets. The condition is usually temporary and can occur as a compensatory measure after severe hemorrhage, surgery, iron deficiency, and as a manifestation of an occult neoplasm. (Goodman 205)  

20. A 26 year old male diagnosed with pulmonary disease is examined in physical therapy. Prior to beginning a physical examination, the physical therapist measures the patient's blood pressure as 150/95 mm Hg. This value is best classified as:  
A. normal
B. mild hypertension  
C. moderate hypertension  
D. severe hypertension  

Explanation:  
Individuals with resting systolic pressure of more than 140 mm Hg and diastolic pressure of more than 90 mm Hg are considered to be hypertensive. Since 150/95 mm Hg is relatively close to the established baseline, the value is most representative of mild hypertension. (Pierson 53)  

21. A patient with cardiac pathology experiences chest pain during a treatment session. The patient is able to relieve the pain by taking two nitroglycerin tablets. Which cardiac condition is most consistent with this type of chest pain?  
A. angina pectoris  
B. mitral valve prolapse  
C. myocardial infarction  
D. pericarditis  

Explanation:  
Angina pectoris is a condition where a patient experiences chest pain and tightness due to myocardial ischemia. Nitroglycerin acts to decrease myocardial demand by producing a general vasodilation throughout the body. (Ciccone 310)  

22. A physical therapist discusses the importance of the cool-down period following an exercise session with a patient participating in a cardiac rehabilitation program. The patient is four week status post myocardial infarction and has had an uncomplicated recovery. Which of the following best describes the purpose of the cool-down period?  
A. prevent pooling of the blood in the extremities  
B. minimize ventricular arrhythmias  
C. diminish patient nausea and vertigo  
D. provide an opportunity to monitor vital signs following exercise termination  

Explanation:  
Cessation of exercise without an adequate cool-down period may result in pooling of blood in the extremities. This condition may lead to insufficient blood supply to the heart and brain, vertigo, arrhythmias, and syncope. (Brannon 347)  

23. A physical therapist employed by a home health care agency knocks on the door of a patient that has a scheduled therapy session. After waiting several minutes, the therapist concludes the patient is not at home. The most appropriate therapist action is:  
A. contact the patient and reschedule  
B. notify the patient’s insurance provider
C. notify the referring physician
D. discharge the patient from physical therapy

Explanation:
The question does not present enough information to determine why the patient was not at home. As a result, the physical therapist should document the missed appointment and contact the patient to reschedule. (Standards of Practice)

24. A physical therapist inspects the skin of a patient with a recent spinal cord injury. The therapist identifies several areas that appear to be susceptible to tissue breakdown. The most appropriate health care member to discuss this information with is:
A. physician
B. nurse
C. case manager
D. occupational therapist

Explanation:
Nursing has continual direct contact with the patient and is therefore the most appropriate health discipline to assist the patient with a proper positioning program. (Adkins 157)

25. A patient begins to cry in the middle of a treatment session. The physical therapist attempts to comfort the patient, however eventually has to discontinue treatment. Which section of a S.O.A.P. note would be the most appropriate to document the incident?
A. subjective
B. objective
C. assessment
D. plan

Explanation:
Inability to continue treatment due to a patient's emotional state should be documented in the assessment portion of the S.O.A.P. note. This type of entry serves to justify the decision to terminate treatment. (Kettenbach 110)

26. A physical therapist employs a neuromuscular electrical stimulation strengthening program for a patient with quadriceps atrophy. Which characteristic of a NMES strengthening program is not accurate?
A. frequency of stimulation: 30 - 75 bursts per second
B. on/off times: 10 - 15 seconds on, 50 - 120 seconds off
C. frequency of sessions: three times per week
D. number of contractions per session: 20 - 30
Explanation:
20-30 contractions per session is excessive using neuromuscular electrical stimulation. In addition to the session being extremely lengthy due to the necessary on:off time, the patient would experience severe fatigue. (Robinson 141)

27. A physical therapist makes a conscious effort to demonstrate particular kinds of behavior that are significant and attainable for an eight year old patient. This type of behavior therapy is termed:
A. flooding
B. operant conditioning
C. role playing
D. modeling

Explanation:
Modeling is a behavior modification technique in which the patient is taught to initiate the desired behavior of another. (O'Toole 1012)

28. A physical therapist designs a research study that examines patients' attitudes towards managed care. The therapist collects data by analyzing patient responses to a questionnaire that utilizes a Likert scale. This level of measurement is best termed:
A. nominal
B. ordinal
C. interval
D. ratio

Explanation:
A Likert scale most commonly requires respondents to rate agreement with items on a five point scale. Categories may include items such as strongly agree, agree, uncertain, disagree, and strongly disagree. Since the categories have a qualitative relationship regarding the order of rankings, this type of scale is best described as ordinal. (DePoy 197)

29. A physical therapist reviews an inpatient's medical information prior to initiating an exercise program. Which condition would not be considered a contraindication to the exercise program?
A. acute systemic illness
B. orthostatic blood pressure drop of 25 mm Hg
C. resting systolic blood pressure of 170 mm Hg
D. active pericarditis

Explanation:
Exercise is not contraindicated for a resting systolic blood pressure until it exceeds 200 mm Hg. (Rothstein 677)
30. A 26 year old female runner diagnosed with iliotibial band syndrome complains of pain along her right knee when she runs on a banked track or when she runs distances greater than three miles. Which of the following would be the most appropriate intervention?
A. initiate a lower extremity flexibility program
B. implement short-arc knee extension exercises
C. perform cycling for 20 minutes at 80 revolutions per minute or greater
D. wear a neoprene sleeve over the knee during all running activities

Explanation:
The iliotibial band drops posteriorly behind the lateral femoral condyle with knee flexion and then snaps forward under the epicondyle during extension. Improving the flexibility of the hip abductors, hip flexors, and lateral thigh muscles can be helpful when treating this condition. (Magee 483)

31. A physical therapist establishes goals for a patient following total hip replacement surgery. Which of the following goals is the most clearly defined?
A. patient will increase lower extremity strength through the use of ankle cuff weights within three weeks
B. patient will understand the importance of surgical precautions at all times
C. patient will perform an independent transfer
D. patient will demonstrate a three point gait pattern using axillary crutches within one week

Explanation:
A properly written goal should include an audience, behavior, condition, and degree. (Kettenbach 96)

32. A physical therapist attempts to identify a subjective means of monitoring exercise intensity for patients participating in a cardiac rehabilitation program. The most appropriate method to utilize is:
A. pulmonary function tests
B. perceived exertion scale
C. target heart rate range
D. metabolic equivalents

Explanation:
A perceived exertion scale is a type of subjective measure that classifies the intensity of exercise using specific numeric or verbal descriptors. (Brannon 316)

33. A physical therapist treats a patient with chronic back pain using TENS. When administering sensory level stimulation, which statement most accurately describes the desired amplitude?
A. non-perceptible
B. perceptible tingling
C. visible muscle contraction
D. noxious stimuli

Explanation:
Conventional TENS is characterized by high frequency and low amplitude. The amplitude should be perceptible, however should not induce muscle contraction. (Nelson 308)

34. A physical therapist designs an aerobic exercise program for a 54 year old male rehabilitating from a Colles' fracture. The patient is otherwise healthy and has previously participated in a formal exercise program. Which of the following values would fall within the patient's age adjusted target heart range?
A. 89 bpm
B. 127 bpm
C. 166 bpm
D. 187 bpm

Explanation:
The age adjusted maximal heart rate can be calculated by 220-54=166. The target heart rate range is often expressed as 60%-90% of the age adjusted maximal heart rate. In this case the range is 99.6 to 149.4 bpm. (Rothstein 675)

35. A physical therapist visits the work station of a patient with a cumulative trauma disorder. When seated at a video display terminal, how far should the screen be positioned from the patient?
A. 6 inches
B. 10 inches
C. 20 inches
D. 32 inches

Explanation:
The video display terminal should be 18-28 inches from the patient's head. (Hertfelder 138)

36. A physical therapist entering the hospital physical therapy clinic at 8:00 AM finds the waiting room bustling with activity. Which of the following items should be given the highest priority?
A. a patient 15 minutes early for a scheduled appointment
B. a durable medical equipment vendor promoting a new sales line
C. a young man scheduled to job shadow
D. a patient seated in a chair crying

Explanation:
The Code of Ethics indicates that therapists respect the rights and dignity of all individuals. (Code
37. A physical therapist is responsible for supervising a physical therapist assistant at an off site location. Which of the following would not necessitate a supervisory visit by the physical therapist?
A. a change in the patient's medical status
B. a modification in the treatment plan of care
C. a request by the physical therapist assistant
D. an alteration in the patient's level of motivation

Explanation:
Physical therapist assistants often deal with changes in a patient's level of motivation. If necessary the physical therapist assistant can modify a specific intervention procedure based on the observed change. (Guide to Physical Therapist Practice 1-10)

38. A physical therapist prepares the proximal radioulnar joint for mobilization by placing it in the loose packed position. This position is best described as:
A. 10 degrees flexion, 10 degrees pronation
B. 20 degrees flexion, 45 degrees supination
C. 45 degrees flexion, 20 degrees supination
D. 70 degrees flexion, 35 degrees supination

Explanation:
The loose packed position of the radioulnar joint is 70 degrees flexion and 35 degrees supination, while the close packed position is 5 degrees supination. (Magee 38)

39. A physical therapist designs a research study that examines selected elements of learning style as a predictor of performance on the Physical Therapist Examination. After identifying a correlation coefficient for each variable, the most appropriate statistical technique to utilize when predicting future examination scores is:
A. t test
B. analysis of variance
C. regression analysis
D. chi-square

Explanation:
A regression analysis is a statistical technique used to determine a single score of one variable when the corresponding score of the other is known. (Currier 270)

40. A physical therapist completes a ventral glide of the distal tibiofibular articulation. This type of mobilization technique would be most beneficial to improve:
A. ankle plantar flexion
B. ankle dorsiflexion
C. subtalar inversion
D. subtalar eversion

Explanation:
Ventral and dorsal glides of the distal tibiofibular articulation increase the mobility of the ankle mortise and therefore are used to improve ankle dorsiflexion. (Kisner 226)

41. A physician instructs a 26 year old male to utilize a knee derotation brace for all athletic activities. Which condition would most warrant the use of the derotation brace?
A. medial meniscus repair
B. anterior cruciate ligament reconstruction
C. anterior cruciate ligament insufficiency
D. posterior cruciate ligament reconstruction

Explanation:
Derotation braces are most effective in patients with ligamentous instability, usually involving the anterior and posterior cruciate ligaments. The braces have demonstrated little practical application for patients following ligamentous reconstruction. (Arnheim 509)

42. A physical therapist obtains a gross measurement of hamstrings length by passively extending the lower extremity of a patient in short sitting. The most common substitution to exaggerate hamstring length is:
A. weight shift to the contralateral side
B. anterior rotation of the pelvis
C. posterior rotation of the pelvis
D. hike the contralateral hip

Explanation:
Posterior rotation of the pelvis or extension of the spine can create the illusion of excessive hamstrings length in short sitting. The tripod sign is the term often associated with this type of substitution. (Magee 484)

43. A physical therapist positions a patient in sidelying in preparation for postural drainage activities. Which lung segment would be indicated based on the patient's position?
A. posterior basal segment of the lower lobes
B. apical segment of the upper lobes
C. lateral basal segment of the lower lobes
D. anterior segment of the upper lobes
Explanation:
The lateral basal segment of the lower lobes requires positioning in sidelying with an inclination of 18 inches to the foot of the bed if tolerated. (Irwin 366)

44. A patient with acute back pain is given a TENS unit to use at home. The physical therapist provides detailed instructions on the care and use of the unit. Which of the following activities is not the responsibility of the patient?  
A. modulate current intensity  
B. application of new electrodes  
C. change battery  
D. alter pulse rate and width

Explanation:  
It is necessary for patients to adjust current intensity, however they should not be permitted to modify any of the internal parameters that regulate the characteristics and pattern of electrical stimulation. (Robinson 60)

45. A patient with chronic pulmonary dysfunction is placed on a corticosteroid medication to reduce mucosal edema and inflammation. The most common side effect of corticosteroids is:  
A. palpitations  
B. arrhythmias  
C. increased blood pressure  
D. tachycardia

Explanation:  
Hypertension is a side effect that is associated with heavy or prolonged use of corticosteroids. Other side effects include osteoporosis, muscle atrophy, cataracts, and hyperglycemia. (Ciccone 380)

46. A physician suspects a patient diagnosed with pulmonary disease is suffering from hypercapnia. Which laboratory test would be most appropriate to confirm the physician's suspicions?  
A. pulmonary function tests  
B. arterial blood gas analysis  
C. pulmonary exercise stress test  
D. bronchoscopy

Explanation:  
Imbalances in arterial blood gas will occur as a result of COPD. Hypoventilation causes a subsequent increase in PaCO2 and a decrease in PaO2. (Brannon 116)
47. A patient ambulating in the physical therapy gym suddenly grabs his therapist's arm and indicates that he feels faint. The most appropriate immediate action is:
A. assess the patient's pulse rate
B. ask the patient if he has ever previously fainted
C. loosen tight clothing
D. assist the patient to a sitting position

Explanation:
The physical therapist's primary responsibility is to preserve patient safety. By assisting the patient to a chair, the therapist can adequately assess the patient without compromising patient safety. (Code of Ethics)

48. A male physical therapist provides exercise instructions to a female of Portuguese descent. During the treatment session, the patient does not make eye contact with the therapist. The most appropriate action is to:
A. tell the patient to pay attention
B. ask the patient if she would prefer a female therapist
C. continue with the exercise instructions
D. discontinue the exercise instructions

Explanation:
It is important for physical therapists to recognize potential cultural differences associated with various patient populations. Therapists should not attempt to impose their cultural views, attitudes, or practices on others. (Haggard 39)

49. A physical therapist employed in a rehabilitation hospital creates a professional development plan as part of his annual performance appraisal. Which of the following would be the most appropriate plan to facilitate the therapist's development?
A. attend continuing education courses approved by the American Physical Therapy Association
B. attend continuing education courses featuring nationally recognized experts
C. attend a minimum of two continuing education courses annually
D. attend continuing education courses related to primary patient care responsibilities

Explanation:
Physical therapists should attend continuing education courses that will directly benefit the patient population they are serving. Although in some cases this is not practical or desirable, it is always an important factor to consider. (Guide for Professional Conduct)

50. A patient has difficulty accepting the reality of his condition following lower extremity amputation. Which physical therapist action would not be helpful to promote acceptance?
A. refer the patient to a peer support group
B. avoid treating the patient in a busy area such as the physical therapy gym
C. allow the patient to observe sports programs for the physically challenged
D. offer the patient the opportunity to express feelings of grief and anxiety

Explanation:
Treating a patient with a lower extremity amputation in the physical therapy gym will assist the patient with the adjustment process and allow for support from staff and other patients that have also had amputations. (O'Sullivan 416)

51. A physical therapist reviews the results of an arterial blood gas analysis for a 28 year old male. Which value would be considered within normal limits for oxygen saturation?
A. 84 %
B. 88 %
C. 92 %
D. 97 %

Explanation:
Oxygen saturation measures the percentage of hemoglobin saturated with oxygen. Normal ranges for oxygen saturation correspond to 95-100%. (Goodman 151)

52. A physical therapist conducts an upper quarter screening examination on a patient diagnosed with rotator cuff tendonitis. With the patient in sitting, the most appropriate action to facilitate palpation of the rotator cuff is:
A. passive abduction of the humerus
B. active medial and lateral rotation of the humerus
C. passive extension of the humerus
D. active extension and flexion of the elbow

Explanation:
Passive extension of the humerus makes it possible to palpate a portion of the rotator cuff by moving it out from under the acromion process. (Hoppenfeld 13)

53. A patient sustains a burst fracture of a thoracic vertebra secondary to a hyperflexion injury. The physician's note indicates the fracture is stable. Which of the following would not be considered appropriate immediate physical therapy management?
A. bed mobility exercises
B. active spinal range of motion exercises
C. postural education
D. instruction in donning and doffing a spinal brace

Explanation:
There is not enough information presented to determine if active spinal range of motion exercises
are appropriate for the patient. The remaining options offer valuable treatment alternatives that are considerably less aggressive. (Hertling 577)

54. A physical therapist assesses a patient's heart rate by measuring the time necessary for 30 beats. Assuming the therapist measures this value as 22 seconds, the patient's heart rate should be recorded as:
   A. 82 beats per minute
   B. 86 beats per minute
   C. 90 beats per minute
   D. 95 beats per minute

Explanation:
The easiest method to determine the beats per minute is to establish an equation using the supplied information and solve for beats per minute. The question tells you that 22 seconds = 30 beats, therefore it can be concluded that the number of beats in one second = 1.36 (30/22=1.36). By multiplying 1.36 beats per second by 60 seconds, it becomes possible to obtain a value in beats per minute (1.36*60=81.6). (Pierson 47)

55. A physical therapist treats a patient following a lower extremity amputation. The patient is currently one week post-op and has a postoperative rigid dressing. Which of the following is not a benefit of the rigid dressing?
   A. limits the development of postoperative edema in the residual limb
   B. allows for earlier ambulation with the attachment of a pylon and foot
   C. allows for earlier fitting of a definitive prosthesis
   D. allows for daily wound inspection and dressing changes

Explanation:
A rigid dressing, usually made from plaster of paris, does not allow for wound inspection or dressing changes. The rigid dressing is applied within a few days after surgery and remains on the residual limb until proper shaping occurs. (O'Sullivan 379)

56. A patient placed on bed rest is examined in physical therapy. Which effect would not typically be associated with extended bed rest?
   A. a decrease in physical work capacity
   B. an increase in lung volume and vital capacity
   C. an increase in the heart rate response to activity
   D. a negative nitrogen and calcium balance

Explanation:
Effects associated with extended bed rest include a measurable decrease in strength, cardiovascular function, total blood volume, orthostatic tolerance, exercise tolerance, and bone mineral density. (Kisner 115)
57. A physical therapist performs cardiopulmonary resuscitation on an infant that became unresponsive during a treatment session. When performing chest compressions, what is the minimum acceptable rate?
A. 60 per minute
B. 80 per minute
C. 100 per minute
D. 120 per minute

Explanation:
The rate of chest compressions per minute for an infant should be approximately 100. (American Red Cross 205)

58. A physical therapist positions a patient in the recommended position for bronchial drainage to the posterior basal segments of the lower lobes. The most appropriate location for the therapist to direct force is:
A. middle of the back at the tip of the scapula
B. between the clavicle and nipple
C. lower ribs close to the spine
D. upper back

Explanation:
Postural drainage to the posterior basal segments of the lower lobes should be performed with the patient in prone with a pillow under the hips. Percussion should be directed over the lower ribs close to the spine. (Brannon 425)

59. A physical therapist measures the blood pressure of a one month old infant. Which of the following measurements would be the most typical based on the infant's chronological age?
A. 60 systolic, 45 diastolic
B. 75 systolic, 50 diastolic
C. 90 systolic, 60 diastolic
D. 120 systolic, 80 diastolic

Explanation:
A newborn's blood pressure typically ranges from 85-100 mm Hg systolic and 50-65 mm Hg diastolic. (Minor 42)

60. A physical therapist obtains a history from a patient diagnosed with a patellar dislocation. The most probable mechanism of injury is:
A. noncontact, quickly turning one direction with the tibia rotated in the opposite direction
B. blow to the patellofemoral joint
C. noncontact, rotation with varus or valgus loading
D. anterior blow to the tibia, resulting in knee hyperextension

Explanation:
The action of the quadriceps pulling forcefully in a straight line with the knee in a forced valgus position may result in lateral displacement of the patella and possible subluxation. (Arnheim 501)

61. A physical therapist attempts to assess developmental gross and fine motor skills in a pediatric population ranging from six to ten years of age. The most appropriate pediatric assessment tool is:
A. Peabody Developmental Motor Scales
B. Bruininks-Oseretsky Motor Development Scale
C. Erhardt Developmental Prehension Assessment
D. Gross Motor Function Measure

Explanation:
The Bruininks-Oseretsky Motor Development Scale is a standardized test of developmental gross and fine motor skills. The test is designed to be administered to children 4.5 - 14.5 years of age who appear to have motor problems not related to obvious dysfunction. The test takes approximately 45 minutes to administer. (Van Deusen 381)

62. A physician examines a 36 year old male with shoulder pain. As part of the examination the physician orders x-rays. Which medical condition could be confirmed using this type of diagnostic imaging?
A. bicipital tendonitis
B. calcific tendonitis
C. supraspinatus impingement
D. subacromial bursitis

Explanation:
Calcific tendonitis is often visible on x-ray due to the relative density of calcium. The greater the density of the tissue, the more visible it will appear on x-ray. The supraspinatus and infraspinatus tendons are common sites for calcific tendonitis at the shoulder. (Magee 230)

63. A physical therapist designs a research study that will examine the effect of high voltage galvanic electrical stimulation on edema following arthroscopic knee surgery. The most appropriate method to collect data is:
A. anthropometric measurements
B. circumferential measurements
C. goniometric measurements
D. volumetric measurements
Explanation:
Circumferential measurements using a flexible tape measure allow physical therapists to obtain a gross estimate of edema in the knee. Pretest and posttest measurements provide information on the effect of the electrical stimulation on the edema. Special tests designed to identify the presence of edema in the knee include the patellar tap test, the indentation test, and the fluctuation test. (Magee 565)

64. A physical therapist employed in an outpatient orthopedic clinic examines a patient diagnosed with cerebral palsy. The therapist has limited experience with cerebral palsy and is concerned about his ability to provide appropriate treatment. The most appropriate therapist action is:
A. inform the patient of your area of expertise
B. co-treat the patient with another more experienced therapist
C. treat the patient
D. refuse to treat the patient

Explanation:
Physical therapists must make decisions that are consistent with their professional training. Since the therapist is concerned about his ability to provide appropriate treatment, he is in need of some form of external assistance. By co-treating the patient, the therapist receives external assistance and at the same time improves his/her skills with a particular patient population. (Guide for Professional Conduct)

65. A patient with a 40 degree limitation in right shoulder flexion and a 35 degree limitation in lateral rotation is unable to perform a number of activities of daily living. Which activity would be the most difficult for the patient using the right upper extremity?
A. tucking in shirt
B. combing hair
C. eating
D. washing the left shoulder

Explanation:
A patient requires 30-70 degrees of horizontal adduction, 105-120 degrees of abduction, and 90 degrees of lateral rotation to independently comb his/her hair. (Magee 196)

66. A patient status post Achilles tendon repair is examined in physical therapy. The physician referral includes a very specific postoperative protocol. If the therapist plans on deviating from the established protocol, the most appropriate action is to:
A. secure the patient's surgical report
B. complete a thorough examination
C. carefully document any modification
D. contact the referring physician

Explanation:
In order to deviate from an established protocol it is necessary to receive approval from the referring physician. (Guide to Professional Practice)

67. A physical therapist attempts to obtain a general assessment of a patient's cognitive status. The patient is a 62 year old female three days status post total hip replacement. The most appropriate action is:
A. review the patient's medical record
B. conduct a patient interview
C. conduct a physical examination
D. consult with family members

Explanation:
A patient interview provides a physical therapist with an opportunity to assess patient cognition. This approach is often more appropriate than relying on a previous entry in the medical record, particularly with a patient status post surgery. (Bickley 107)

68. As a component of a cognitive assessment, a physical therapist asks a patient to count from one to twenty five by increments of three. Which cognitive function does this task most accurately assess?
A. attention
B. constructional ability
C. abstract ability
D. judgment

Explanation:
Counting from one to twenty five by increments of three assesses the patient's ability to concentrate. The task is quite basic and as a result deals more with attention than any higher level cognitive ability. (Bickley 116)

69. A physical therapist using ultraviolet light determines a patient's minimal erythemal dose using a four-windowed shield. If measured appropriately, reddening of the skin caused by ultraviolet exposure for the minimal erythemal dose should disappear within:
A. 12 hours
B. 24 hours
C. 48 hours
D. 96 hours

Explanation:
A minimal erythemal dose is the time required for mild reddening of the skin that appears within
eight hours of treatment and disappears within 24 hours. (Michlovitz 271)

70. A physical therapist completes an accessibility analysis at a local business. In order to meet minimum accessibility standards, the bathroom sink should have a knee clearance height of at least:
A. 23 inches  
B. 29 inches  
C. 35 inches  
D. 39 inches

Explanation:
There should be a minimum of 29 inches between floor level and the lowest portion the sink apron. (Minor 485)

71. A physical therapy manager randomly selects patient medical records and examines the physical therapy notes. The therapist concludes that several of the notes are incomplete and use unacceptable medical abbreviations. The most appropriate action is to:
A. schedule an inservice on documentation standards  
B. continue to randomly monitor physical therapy notes  
C. reprimand therapists whose notes were identified as unsatisfactory  
D. implement a peer review system

Explanation:
A peer review system can be an extremely effective method to improve the quality of documentation. This type of system offers physical therapists the opportunity to assess selected documentation in relation to established documentation standards. (Walter 244)

72. A physical therapist observes a patient with a lower extremity orthosis ambulating in the physical therapy gym. The patient exhibits excessive knee flexion during stance phase. The probable anatomic cause is inadequate:
A. dorsiflexion stop  
B. contralateral shoe lift  
C. quadriceps strength  
D. knee lock

Explanation:
Although all options listed may produce knee flexion during stance, inadequate quadriceps strength is the only anatomic cause for this deviation. (Rothstein 853)

73. A patient refuses physical therapy services after being transported to the gym. The physical therapist explains the potential consequences of refusing treatment, however the patient does not reconsider. The most appropriate initial therapist action is:
A. treat the patient
B. convince the patient to have therapy
C. contact the referring physician
D. document the incident in the medical record

Explanation:
It is necessary not only to document that the patient refused physical therapy services, but also to inform the patient of the potential consequences of his/her action. (Scott - Professional Ethics 56)

74. A patient with a suspected scaphoid fracture is referred to physical therapy. Which clinical sign is most indicative of a scaphoid fracture?
A. localized edema along the dorsum of the hand
B. crepitus with active range of motion
C. localized bony tenderness in the anatomic snuff box
D. pain with resisted wrist extension

Explanation:
A scaphoid fracture can occur as a result of a fall on an outstretched hand. Localized tenderness in the anatomic snuff box is the most typical presentation. This injury can be potentially serious due to the potential for avascular necrosis. The fracture is usually treated with prolonged immobilization of the wrist and thumb. (Hertling 271)

75. A patient in traction for 6 weeks following a femur fracture is referred to physical therapy. The patient presents with limited range of motion and diminished lower extremity strength. The most appropriate treatment option is:
A. hot packs and proprioceptive neuromuscular facilitation
B. cryotherapy and continuous passive motion
C. electrical stimulation and isometric exercises
D. ultrasound and isokinetic exercises

Explanation:
Hot packs and proprioceptive neuromuscular facilitation allow the physical therapist to address both the range of motion and strength deficits. The therapist can select from a variety of PNF techniques in order to identify an appropriate treatment option. Treatment will be based on the patient's current stage of healing and the results of the objective examination. (Hall 234)

76. A patient on prolonged bed rest attempts to get out of bed. Upon attaining a standing position the patient complains of lightheadedness and blurred vision. The most appropriate explanation is:
A. decrease in blood pressure
B. decrease in respiratory rate
C. increase in pulse rate
D. adverse reaction to medication

Explanation:
A patient on prolonged bed rest is extremely susceptible to postural hypotension when assuming a standing position. Lightheadedness and blurred vision result from diminished cardiac output due to reduced venous return from the lower extremities. (Pierson 328)

77. A patient's job requires him to move boxes weighing 35 pounds from a transport cart to an elevated conveyor belt. The patient can complete the activity, however is unable to prevent hyperextension of the spine. The most appropriate physical therapist action is:
A. implement a pelvic stabilization program
B. design an abdominal strengthening program
C. review proper body mechanics
D. use an elevated platform when placing boxes on the belt

Explanation:
In order to eliminate hyperextension of the spine it may be necessary to modify the work station. The most reasonable modification would be to utilize an elevated platform in order to minimize the height of the conveyor belt. (Kisner 571)

78. A physical therapist completes an examination on a 36 year old female diagnosed with multiple sclerosis. After completing the examination, the therapist should first:
A. develop long term goals
B. develop short term goals
C. develop a problem list
D. justify the need for physical therapy services

Explanation:
A physical therapist needs to develop a problem list for all patients as part of the initial examination. The justification of services as well as the short and long term goals will come from this problem list. (O'Sullivan 459)

79. A 21 year old male patient informs a physical therapist that additional therapy visits will not be covered by his medical insurance provider. The patient is twelve weeks status post anterior cruciate ligament reconstruction and has had an unremarkable postoperative progression. The most appropriate therapist action is:
A. offer to treat the patient pro bono
B. devise an affordable payment plan
C. request additional visits from the third party payer
D. discharge the patient with a home exercise program
A patient 12 weeks status post anterior cruciate ligament reconstruction who has had an unremarkable recovery should be able to function independently using a well designed home exercise program. The program should incorporate activities such as jogging, strengthening, and agility drills. (Kisner 447)

80. A physical therapist prepares to examine a patient status post stroke with resultant right hemiplegia. Which behavior is not characteristic of a patient with right hemiplegia?
A. difficulty sequencing movements
B. difficulty producing language
C. difficulty with mathematical reasoning and judgement
D. difficulty processing information in a sequential, linear manner

Explanation:
A patient with a right hemisphere infarct and resultant left hemiplegia would be more likely to have difficulty with mathematical reasoning and the actual alignment of numerals when calculating math problems. (O'Sullivan 337)

81. A physical therapist administers rescue breathing to an unconscious child. When performing rescue breathing, what is the recommended interval between breaths?
A. 3 seconds
B. 4 seconds
C. 5 seconds
D. 6 seconds

Explanation:
Rescue breathing for an infant or child should occur at a rate of once every three seconds. The rate for adults is once every five seconds. (American Red Cross 140)

82. A physical therapist provides preoperative instructions to a 21 year old college student scheduled for knee surgery. During the session, the patient expresses concern about his ability to balance the demands of rehabilitation and his school work. The most appropriate therapist response is:
A. ask the patient if he has considered taking a leave of absence
B. inform the patient that rehabilitation must take priority over school work
C. reinforce to the patient the importance of rehabilitation
D. encourage the patient to pursue university resources to assist him with the transition following surgery

Explanation:
Physical therapists should encourage patients to utilize available resources. Many academic institutions offer assistance in the form of tutors or other academic support that can assist the
83. A physical therapist performs a manual muscle test on a patient's shoulder lateral rotators. Which muscle would not be involved in this specific test?
A. teres minor
B. infraspinatus
C. supraspinatus
D. teres major

Explanation:
The teres major acts to medially rotate, adduct, and extend the shoulder. The muscle is innervated by the lower subscapular nerve. (Magee 276)

84. A patient requiring numerous intravenous medications has a catheter inserted into a vein. The device which is left in place has a sterile plug through which medication can be given. This device is commonly termed:
A. intramedullary line
B. infusion pump
C. heparin lock
D. Hickman catheter

Explanation:
A heparin lock is an indwelling device that allows for fluid or medication infusion as needed. (Thomas 883)

85. A patient informs her physical therapist that she noticed a small lump on her right breast while dressing. The patient was referred to physical therapy with lateral epicondylitis and has no significant past medical history. The most appropriate therapist action is:
A. inspect the lump
B. instruct the patient to make an immediate appointment with her physician
C. inform the patient she may have cancer
D. document the patient's comment in the medical record

Explanation:
90% of breast cancer is discovered through self identification. Research has demonstrated that in the United States one in nine women may be affected by breast cancer over the course of their life. As a result, it is imperative that the physical therapist impress upon the patient the importance of consulting with her physician. (Goodman 408)

86. A physical therapist attempts to confirm the fit of a wheelchair for a patient recently admitted to a skilled nursing facility. After completing the assessment, the therapist determines the wheelchair has excessive seat width. Which adverse effect results from excessive seat width?
A. difficulty changing position within the wheelchair
B. insufficient trunk support
**C. difficulty propelling the wheelchair**
D. increased pressure to the distal posterior thigh

Explanation:
A patient will have difficulty propelling a wheelchair if the seat width is excessive. The patient will have to stabilize at the shoulders and excessively abduct the upper extremities to reach the wheels. This produces a less functional push. (O'Sullivan 695)

87. A patient uses a self administered assessment tool as a method to record daily progress. What type of reliability would be the most essential using this tool?
A. reliability of parallel forms
B. internal consistency
**C. intratester**
D. intertester

Explanation:
Since the self administered tool is being used to record daily progress, the tool will have to be completed on numerous occasions. As a result it is particularly important for the patient to be reliable with repeated measurements over time. Intratester refers to one tester, while intertester refers to two or more testers. (Payton 68)

88. A physical therapist observes a patient status post transfemoral amputation lying in supine with a pillow positioned under the residual limb. This position results in the patient being most susceptible to a:
A. knee flexion contracture
B. knee extension contracture
**C. hip flexion contracture**
D. hip extension contracture

Explanation:
Elevation of a transfemoral residual limb can lead to the development of a hip flexion contracture. Contractures greater than 15 degrees can hinder prosthetic fit and mobility. (O'Sullivan 387)

89. A patient with a long standing history of cardiopulmonary disease is scheduled to have a portion of a lung removed. This procedure is best termed:
A. pneumectomy
B. lobectomy
C. lumpectomy
D. pleurectomy
Explanation:
The procedure in which there is a removal of a segment or all of a lung is termed a pneumectomy. (Thomas 1499)

90. A physical therapist examines a patient with cervical pain of unknown etiology. The therapist identifies shortening of the cervical spine extensors, upper trapezius, and levator scapulae. The most probable postural deviation is:
A. forward shoulders
B. lordosis
C. forward head
D. kyphosis

Explanation:
A forward head posture results from cervical spine hyperextension. (Kendall 106)

91. A physical therapist prepares to instruct a patient to descend a flight of stairs using axillary crutches. The patient is rehabilitating from a tibial fracture and is currently partial weight bearing on the involved extremity. The most important action prior to initiating the training session is:
A. apply a gait belt
B. maintain proper body mechanics for yourself and the patient
C. assess vital signs
D. examine the patient's limitations and capabilities

Explanation:
It is essential to determine the patient's limitations and capabilities prior to initiating an activity such as descending the stairs. Items such as the patient's strength in the uninvolved lower extremity, upper extremity strength, and ability to follow instructions are critical to assess in order to maintain patient safety. (Pierson 208)

92. A physical therapist orders a wheelchair for a patient with C4 tetraplegia. Which wheelchair would be the most appropriate for the patient?
A. manual wheelchair with friction surface hand rims
B. manual wheelchair with hand rim projections
C. electrical wheelchair with sip-and-puff controls
D. electric wheelchair with joystick controls

Explanation:
A patient with C4 tetraplegia has innervation to the diaphragm and is therefore capable of using a sip-and-puff control for wheelchair locomotion. (O'Sullivan 554)
93. A physical therapist employed in an inpatient rehabilitation center examines a patient rehabilitating from a total knee replacement. Which treatment activity would be the most appropriate to delegate to a physical therapy aide?

A. monitoring vital signs  
B. measuring knee range of motion with a goniometer  
C. observing a patient complete a mat exercise program  
D. recording modality parameters in the medical record

Explanation: 
A physical therapy aide is a nonlicensed worker trained under the direction and supervision of a physical therapist. Aides provide support services that do not require clinical decision making. Aides may function only with continuous on-site supervision by the physical therapist or in some states the physical therapist assistant. (Guide to Physical Therapist Practice 1-10)

94. A physical therapist develops a plan of care for a patient status post unilateral transtibial amputation. Assuming an uncomplicated recovery, what is the most appropriate number of weeks for prosthetic training?

A. 2 weeks  
B. 4 weeks  
C. 6 weeks  
D. 8 weeks

Explanation: 
A patient that presents with a unilateral transtibial amputation should require approximately two weeks for prosthetic training. This training may include donning and doffing, prosthetic management, transfers, ambulation, and stair training. (O'Sullivan 416)

95. An electrical equipment safety committee develops a policy to limit electrical hazards arising from ground faults. Which action would be the most appropriate to meet the committee's objective?

A. report all equipment defects or failures  
B. manually test each ground fault circuit interrupter on a monthly basis  
C. follow manufacturer recommendations for electrical equipment care and service  
D. mandate an introductory inservice on all new electrical equipment

Explanation: 
Policies are used to guide or in some instances standardize certain behaviors within an organization. It is important to recognize that the question asks specifically about a policy related to electrical hazards arising from ground faults. (Walter 160)

96. A 50 year old male diagnosed with Parkinson's disease is referred to physical therapy. The patient presents with rigidity, postural tremors, and bradykinesia. He is unable to perform basic
activities of daily living without assistance from family members. The most appropriate treatment objective is:
A. improve lower extremity strength
B. improve respiratory capacity
**C. improve initiation of movement**
D. improve sensory awareness

Explanation:
A common goal in the treatment of Parkinson's disease is to improve initiation and quality of movement. During the early stages of the disease physical therapy intervention should emphasize movement in order to maximize functional independence. (Umphred 621)

97. A 21 year old female is examined in physical therapy after sustaining a grade I ankle sprain two days ago in a marching band competition. The patient's description of the mechanism of injury is consistent with inversion and plantar flexion. Which of the following ligaments would most likely be affected?
A. anterior talofibular ligament
B. calcaneofibular ligament
C. tibiofibular ligament
D. deltoid ligament

Explanation:
The anterior talofibular ligament is the first ligament of the lateral ankle complex to stretch during plantar flexion and inversion. The calcaneofibular ligament and the posterior talofibular ligament are not typically involved in a grade I sprain. (Magee 602)

98. A physical therapist discusses common cognitive and behavioral changes associated with stroke to the family members of a patient with right hemisphere damage and resultant left hemiplegia. Which term does not accurately describe the most typical patient presentation?
A. indifferent
B. impulsive
C. quick
**D. negative**

Explanation:
Patients with left hemisphere damage are often described as negative, anxious, depressed, and uncertain. (O'Sullivan 336)

99. A physical therapist examines a 62 year old female diagnosed with peripheral vascular disease. The patient has intermittent claudication and frequently complains of feeling tired. The therapist's primary treatment objective is:
A. increase collateral circulation
B. increase lower extremity strength
C. increase mobility
D. increase range of motion

Explanation:
Intermittent claudication is caused by ischemia that usually occurs in the calf and feet due to an imbalance between oxygen supply and demand. An increase in collateral circulation can occur with regular exercise and will allow for improved perfusion of blood to the tissues. This improves cardiac output efficiency, oxygen to the muscles, and decreases the symptoms of claudication. (Irwin 192)

100. A physician orders an electrocardiogram for a patient diagnosed with congestive heart failure. The medical record indicates the patient is currently taking digitalis. What effect would you expect digitalis to have on the patient's ECG?
A. lengthened ventricular activation time
B. increased AV conduction time
C. lengthened QT interval
D. elevated ST segment

Explanation:
Digitalis is used to alleviate symptoms of congestive heart failure. The drug increases the force of myocardial contraction and increases the refractory period of the atrioventricular node. Digitalis slows down the rate of ventricular contraction and allow for increased filling time and better cardiac output. (Boissonnault 336)

101. A physical therapist completing daily documentation at a charting station is asked by a nurse to transfer a patient recently admitted to the intensive care unit. The most appropriate method to confirm the patient's identity prior to completing the transfer is:
A. contact the attending physician
B. check the patient's medical record
C. ask the patient his/her name
D. examine the patient's identification bracelet

Explanation:
An identification bracelet serves as the most appropriate method to confirm a patient's identity. The bracelet is typically applied at the beginning of a hospital stay and is not removed until discharge. (Pierson 105)

102. A patient classifies the intensity of exercise as a 16 using Borg's (20-point) Rate of Perceived Exertion Scale. This classification best corresponds to:
A. 40 percent of the maximum heart rate range  
B. 55 percent of the maximum heart rate range  
C. 70 percent of the maximum heart rate range  
D. 85 percent of the maximum heart rate range

Explanation:  
Exercise graded as a 16 using Borg’s (20 point) Rate of Perceived Exertion Scale is classified as heavy in intensity. This corresponds to exercising at a maximum heart rate range of 80% to 89%. (Brannon 254)

103. A male patient rehabilitating from a lower extremity injury is referred to physical therapy for gait analysis. The physical therapist begins the session by observing the patient at free speed walking. The normal degree of toe out at this speed is:  
A. 3 degrees  
B. 7 degrees  
C. 10 degrees  
D. 12 degrees

Explanation:  
The degree of toe out is measured by determining the angle formed by each foot's line of progression and a line intersecting the center of the heel and the second toe. The degree of toe out decreases as the speed of walking increases. (Norkin and Levangie 458)

104. A physical therapist completes an upper quarter screening examination on a patient with a suspected cervical spine lesion. Which objective finding is not consistent with C5 involvement?  
A. muscle weakness in the supinator and wrist extensors  
B. diminished sensation in the deltoid area  
C. muscle weakness in the deltoid and biceps  
D. diminished biceps and brachioradialis reflex

Explanation:  
Muscle weakness of the supinator and wrist extensors is associated with C6 involvement. (Magee 12)

105. A physical therapist completes a dorsal glide of the humeroradial articulation with a patient in supine. When performing this mobilization technique, the therapist should stabilize the:  
A. distal humerus from the lateral side of the patient's arm  
B. distal humerus from the medial side of the patient's arm  
C. proximal humerus from the lateral side of the patient's arm  
D. proximal humerus from the medial side of the patient's arm
The humeroradial articulation is formed by the convex capitulum articulating with the concave radial head. A dorsal glide is used to increase elbow extension. (Edmond 60)

106. A physical therapist performs a variety of special tests on a patient with a suspected anterior cruciate ligament injury. Which special test is not indicative of a one-plane anterior instability ligamentous test?
A. Lachman test
B. drawer test
C. active drawer test
D. Losee test

Explanation:
The Losee test attempts to replicate anterolateral rotary instability. The test is performed with the patient in supine. (Magee 551)

107. A physical therapist uses vibration in conjunction with percussion as part of a postural drainage program. When should vibration occur?
A. during expiration
B. during inspiration
C. after a maximal expiration
D. before a maximal inspiration

Explanation:
Vibration is a technique used to aid in the clearance of secretions from the lungs. Vibration is performed during expiration only, whereas percussion is performed during both inspiration and expiration. (Irwin 380)

108. A physical therapist observes a patient's breathing pattern prior to initiating an exercise session. The therapist concludes the rate and rhythm are within normal limits. This type of breathing is best termed:
A. apnea
B. dyspnea
C. eupnea
D. orthopnea

Explanation:
Eupnea is the term to describe a normal breathing pattern. The prefix "eu" is defined as good, well, or normal. (Anderson 430)

109. A physical therapist discusses risk factors associated with coronary artery disease with a patient in a cardiac rehabilitation program. Which risk factor would be the most relevant for the
patient?
A. age
B. elevated serum cholesterol
C. family history
D. gender

Explanation:
The most relevant risk factor for a patient in a cardiac rehabilitation program would be an elevation in serum cholesterol. This is a modifiable risk whereas age, family history, and gender are all non-modifiable risk factors. (Brannon 387)

110. A patient rehabilitating from a spinal cord injury has significant lower extremity spasticity which often results in the patient’s feet becoming dislodged from the wheelchair footrests. The most appropriate modification to address this problem is:
A. hydraulic reclining unit
B. elevating footrests
C. heel loops and/or toe loops
D. detachable swing-away legrests

Explanation:
A patient with significant lower extremity spasticity would require toe loops if the tone was in an extensor pattern and heel loops if the tone was in a flexor pattern. The loops assist to stabilize the lower extremities on the foot plates of the wheelchair. (O'Sullivan 564)

111. A physical therapist utilizes a manual assisted cough technique on a patient with a mid-thoracic spinal cord injury. When completing this technique with the patient in supine, the most appropriate location for the therapist's hand placement is:
A. diaphragm
B. epigastric area
C. xiphoid process
D. umbilicus region

Explanation:
A physical therapist should provide manual contact over the epigastric area and apply pressure inwards and upwards in order to assist the patient to perform a cough. (O'Sullivan 552)

112. A patient 72 hours status post stroke is referred to physical therapy. As part of the patient care program, the physical therapist makes positioning recommendations to the nursing staff. How often should turning occur?
A. every 30 minutes
B. every two hours
C. every four hours  
D. every six hours  

Explanation:  
During the initial stages of rehabilitation a patient status post stroke should be repositioned in bed on a regular basis. A safe interval to avoid tissue damage would be every two hours. (Davies 62)  

113. A patient is referred to physical therapy after sustaining a lower extremity injury. The physical therapist examines the patient and identifies several postural abnormalities including genu varum. Which of the following motions or postures is not often correlated with genu varum?  
A. lateral patellar subluxation  
B. excessive hip abduction  
C. ipsilateral hip lateral rotation  
D. medial tibial torsion  

Explanation:  
Lateral patellar subluxation, excessive hip adduction, ipsilateral hip medial rotation, and lateral tibial torsion are associated with genu valgum. (Magee 511)  

114. A physical therapist prepares to use soft tissue massage as part of a treatment plan for a patient with an adductor strain. The most appropriate therapist action prior to initiating treatment is:  
A. utilize proper draping  
B. explain the treatment procedure and obtain patient consent  
C. ask another therapist to be present during the treatment session  
D. describe the benefits of soft tissue massage on muscle strains  

Explanation:  
Physical therapists should provide patients with a thorough explanation of the purpose and hypothesized benefits of a selected treatment intervention. Failure to obtain informed consent can be considered a form of substandard care. (Scott - Promoting Legal Awareness 114)  

115. A physical therapist moves a patient from sidelying to supine after the patient was unable to maintain the manual muscle test position for the hip abductors. Assuming the patient is able to complete full range of motion in the horizontal plane, the most appropriate muscle grade is:  
A. fair  
B. fair minus  
C. poor  
D. poor minus  

Explanation:  
A poor grade is characterized by the ability to move through complete range of motion in a gravity
116. A physician note indicates that a patient exhibits dysdiadochokinesia. The most appropriate test to assess dysdiadochokinesia is:
A. heel on shin
B. alternating finger to nose
C. deep tendon reflexes
D. passive movement

Explanation:
Dysdiadochokinesia is the inability to perform rapid alternating movements that stems from cerebellar dysfunction. A test that will assess this deficit is having the patient point his/her finger to the tip of the nose with reasonable speed and accuracy. (O'Sullivan 103)

117. A physical therapist completes a lower quarter screening examination on a patient diagnosed with trochanteric bursitis. Assuming a normal end-feel, which of the following classifications would be most consistent with hip extension?
A. soft
B. firm
C. hard
D. empty

Explanation:
The end-feel most often associated with hip extension is firm due to tension in the anterior joint capsule and the iliofemoral ligament. (Norkin and White 126)

118. A physician utilizes diagnostic imaging to show motion in a joint through x-ray imaging. This type of imaging is best termed:
A. computed tomography
B. fluoroscopy
C. discography
D. radionuclide scanning

Explanation:
Fluoroscopy refers to examination by means of the fluoroscope. A fluoroscope allows an examiner to observe the actions of joints, organs, or entire systems of the body. The instrument requires a specific body segment to be placed between a fluorescent screen and an x-ray tube. X-rays from the tube pass through the body and project images on the screen. (O'Toole 614)

119. A physical therapist develops a plan of care for a 21 year old patient rehabilitating from a traumatic brain injury. The patient's level of cognitive functioning is best described as Rancho Los Amigos level IV. Which general treatment approach would be least effective?
A. offer the patient treatment options
B. focus on teaching new skills associated with activities of daily living
C. establish a daily treatment routine
D. redirect the patient when distractions occur

Explanation:
A physical therapist would not be able to teach new skills to a patient at "level IV-confused-agitated." This patient is typically unable to cooperate during treatment, demonstrates poor attention, and memory. A patient would benefit from learning new skills at level VII. (Rothstein 450)

120. A physical therapist uses a bandage to construct a sling for a patient with a painful shoulder. The most appropriate bandage to utilize is:
A. two inch roller gauze
B. four inch elastic bandage
C. six inch elastic bandage
D. triangular bandage

Explanation:
A triangular bandage is ideal to utilize when constructing a shoulder arm sling. This type of sling provides the necessary forearm support to take pressure off of the shoulder. (Arnheim 289)

121. A patient with Alzheimer's disease is referred to physical therapy for instruction in an exercise program. The most important initial step when instructing the patient is:
A. provide verbal and written instructions
B. frequently repeat multiple step directions
C. assess the patient's cognitive status
D. avoid using medical terminology

Explanation:
It is essential for the therapist to determine the patient's cognitive status prior to providing formal exercise instruction. The patient's cognitive status will have a significant impact on a variety of factors including the ability to interpret instructions, the ability to perform exercises correctly, and the ability to recall elements of the exercise program. (Haggard 57)

122. A patient positioned in standing completes shoulder medial and lateral rotation exercises using a piece of elastic tubing. Which plane of the body is utilized with this activity?
A. coronal
B. frontal
C. sagittal
D. transverse
Explanation:
The transverse plane is horizontal and divides the body into upper and lower portions. Medial and lateral rotation occur in the transverse plane around a vertical axis. (Norkin and Levangie 5)

123. A physical therapist uses a self-care assessment to examine change over time in rehabilitation programs. The assessment uses a seven point scale to examine 18 items. The collected information is based on observation of client performance. This type of assessment most closely describes:
A. Function Independence Measure
B. Functional Status Index
C. Physical Self-Maintenance Scale
D. Katz Index of Activities of Daily Living

Explanation:
The Functional Independence Measure is used to describe the degree of disability experienced by an adult rehabilitation client and it also examines the change that occurs over time. (Van Deusen 425)

124. A physical therapist examines a 38 year old female diagnosed with rheumatoid arthritis. The patient presents with muscle weakness, joint stiffness, and limited motion. The patient is warm to the touch over involved joints and has moderate swelling. Which of the following would not be a component of the patient's current care plan?
A. immobilization in a splint
B. gentle muscle setting
C. active stretching techniques
D. patient education

Explanation:
Active stretching exercises are contraindicated since the patient is in the acute inflammatory phase. Limited motion in a joint during this phase may be due to fluid in the joint space and not adhesions. Stretching may serve to exacerbate the patient's condition and perhaps result in hypermobility. Although therapists rarely view immobilization as a component of a patient care plan, in this particular instance it may be advisable. (Kisner 257)

125. A physical therapist performs rescue breathing on a patient that collapsed in the physical therapy gym. Which of the following is not accurate when performing rescue breathing on an adult?
A. maintain open airway with head-tilt/chin-lift
B. give one breath every five seconds
C. pinch nose shut
D. continue for 30 seconds; approximately six breaths

Explanation:
Rescue breathing is a cardiopulmonary resuscitation technique designed for a patient that exhibits a pulse, but is not breathing. This technique is typically performed on adults for a full cycle of 60 seconds with breaths occurring every five seconds. (Goold 15)

126. A physical therapist observes a line from an IV that is tangled around a patient's bedrail. What type of medical asepsis is indicated prior to coming in contact with the IV line?
A. gloves
B. gloves, gown
C. gloves, gown, mask
D. none

Explanation:
The physical therapist can reposition the IV line through direct hand contact. (Pierson 266)

127. A physical therapist treats a 45 year old female diagnosed with adhesive capsulitis. The therapist administers small amplitude, rhythmic oscillations at the limit of the available range of motion. This description best describes:
A. grade I oscillations
B. grade II oscillations
C. grade III oscillations
D. grade IV oscillations

Explanation:
Grade IV oscillations are used primarily as stretching maneuvers. (Kisner 194)

128. The physical therapy department sponsors a community education program on diabetes mellitus. Which of the following is not a characteristic of Type I insulin-dependent diabetes?
A. age of onset less than 25 years of age
B. gradual onset
C. controlled through insulin and diet
D. islet cell antibodies present at onset

Explanation:
Type I insulin-dependent diabetes accounts for 5-10 percent of all cases. This type of diabetes requires insulin injections and is more common in children and young adults. (Goodman 349)

129. A physical therapist presents an inservice to the rehabilitation staff that compares traditional gait terminology with Rancho Los Amigos terminology. Which pair of descriptive terms describe the same general point in the gait cycle?
A. midstance to heel off and initial swing
B. heel strike and initial contact
C. foot flat to midstance and loading response
D. toe off and midswing

Explanation:
Heel strike and initial contact are both terms that describe the moment that the heel contacts the ground and stance phase begins. (Rothstein 791)

130. A physical therapist selects a therapeutic ultrasound generator with a frequency of 3.0 MHz. Which condition would most warrant the use of this frequency?
A. lumbar paravertebral muscle spasm
B. hip contracture
C. quadriceps strain
D. anterior talofibular ligament sprain

Explanation:
A higher frequency results in greater attenuation of energy in superficial structures. As a result an ultrasound generator with a frequency of 3.0 MHz may be more desirable than a generator with a frequency of 1.0 MHz when treating a superficial structure. (Michlovitz 177)

131. A physical therapist notices that a patient with a transfemoral amputation consistently takes a longer step with the prosthetic limb. The most likely cause of the deviation is:
A. weak abdominal muscles
B. hip flexion contracture
C. weak residual limb
D. fear and insecurity

Explanation:
An uneven step length can be caused by a hip flexion contracture on the prosthetic side. (Rothstein 838)

132. A physical therapist completes daily documentation using a S.O.A.P. note format. Which entry would not typically belong in the subjective section?
A. denies pain with cough or sneeze
B. hip hiking reproduces knee pain
C. states history of chronic obstructive pulmonary disease since 1990
D. patient goal: return home without assistance

Explanation:
The subjective section of a S.O.A.P. note typically contains information received from the patient that is relative to his/her condition. The statement "hip hiking reproduces pain" may be a more
133. A physical therapist completes a chart review prior to examining a patient involved in a serious motor vehicle accident. The chart indicates the patient sustained multiple lower extremity fractures including a femur fracture which was treated with open reduction-internal fixation. The patient is currently taking Demerol. Which side effect is most relevant when taking Demerol?

A. peripheral edema  
B. dependency  
C. tachycardia  
D. blood pressure variability  

Explanation:
Demerol is a trademark for preparations of meperidine which is a synthetic narcotic analgesic. Inappropriate utilization of opioids, such as Demerol, often result in physical dependence. (Ciccone 188)

134. A physical therapist employed in a rehabilitation hospital utilizes a variety of transfer techniques to move patients of various functional abilities. Which type of transfer would not be classified as dependent?

A. sliding transfer  
B. hydraulic lift  
C. sliding board transfer  
D. two-person lift  

Explanation:
A sliding board transfer requires a patient to possess upper extremity strength and sitting balance. (Minor 248)

135. A patient four days status post transtibial amputation is transported to physical therapy for a scheduled treatment session. Assuming an uncomplicated recovery, the most appropriate patient transfer to utilize from a wheelchair to a mat table is:

A. two man lift  
B. hydraulic lift  
C. standing pivot  
D. sliding board  

Explanation:
A patient status post transtibial amputation should be able to perform a standing pivot transfer using the uninvolved lower extremity. (O'Sullivan 389)

136. A physical therapist treats a patient rehabilitating from an Achilles tendon repair using cryotherapy. Which cryotherapeutic agent would provide the greatest magnitude of tissue
cooling?
A. frozen gel packs
B. ice massage
C. fluori-methane spray
D. cold water bath

Explanation:
Ice massage is a form of cryotherapy most commonly used over small areas such as a muscle belly or tendon. Ice massage is often administered using ice cups. Due to the direct contact of the ice and the target area, five to ten minutes is the typical treatment time. (Cameron 141)

137. A patient scheduled for posterior cruciate ligament reconstruction in two weeks is examined in physical therapy. The patient has diminished quadriceps strength and walks with a noticeable limp. The involved knee has mild edema and a 15 degree flexion contracture. The most appropriate treatment priority is:
A. improve quadriceps strength
B. improve fluidity of gait
C. reduce edema
D. improve range of motion

Explanation:
A physical therapist should work with the patient to restore normal range of motion in the involved knee prior to surgery. By improving range of motion, the patient will likely be able to improve the fluidity of gait and diminish abnormal loading of the patellofemoral joint. (Kisner 424)

138. A physical therapist positions a patient in supine in preparation for goniometric measurements. When measuring medial rotation of the shoulder, the therapist should position the fulcrum:
A. over the lateral epicondyle of the humerus
B. perpendicular to the floor
C. along the mid-axillary line
D. over the olecranon process

Explanation:
When measuring medial rotation of the shoulder, the physical therapist should position the proximal arm of the goniometer so that it is parallel or perpendicular to the floor and the distal arm aligned with the ulna, using the olecranon and ulnar styloid as a reference. According to the American Academy of Orthopaedic Surgeons normal shoulder medial rotation is 0-70 degrees. (Norkin and White 62)

139. A physical therapist examines a patient diagnosed with left sided heart failure. Which sign/symptom is not typically associated with this condition?
A. pulmonary edema  
B. persistent cough  
C. dependent edema  
D. muscular weakness

Explanation:  
Dependent edema is a characteristic of right sided heart failure along with liver enlargement, weight gain, and cyanosis.  (Rothstein 654)

140. A patient with a grade III inversion ankle sprain is examined in physical therapy.  The patient sustained the injury approximately 36 hours ago while playing in a basketball game.  The most appropriate treatment is:  
A. ice pack and intermittent compression  
B. whirlpool (29 degrees Celsius) and passive exercise  
C. ultrasound and electrical stimulation  
D. ice massage and mobilization

Explanation:  
A grade III inversion ankle sprain involves a severe disruption of the lateral ligaments of the ankle complex.  Since the injury occurred only 36 hours ago, the patient is in the acute phase of inflammation and as a result should be treated with rest, ice, compression, and elevation.  (Arnheim 166)

141. A physical therapist monitors a patient with a single lead electrocardiogram.  After carefully examining the obtained data, the therapist classifies the rhythm as sinus bradycardia.  Which description is most indicative of this condition?  
A. wave forms are irregular with a fluctuating rate  
B. wave forms are irregular with a diminished rate  
C. wave forms are normal with a rate greater than 100 beats per minute  
D. wave forms are normal with a rate less than 60 beats per minute

Explanation:  
Sinus bradycardia is a classification of cardiac rhythm where the wave form is normal and the heart rate is between 40 and 59 beats per minute.  (Irwin 56)

142. A physical therapist washes his hands thoroughly after treating a patient with a suspected infection.  Which statement regarding handwashing is not accurate?  
A. wash all hand and wrist jewelry  
B. wash your wrist and two to three inches of your distal forearm  
C. wash for at least 30 seconds  
D. select warm water to allow soap to lather easily
Explanation:
All hand and wrist jewelry should be removed prior to commencing handwashing. (Pierson 276)

143. A physician orders a series of pulmonary function tests for a patient with pectus excavatum. Which test result is not typical for a patient with this condition?
A. forced vital capacity is decreased
B. vital capacity is decreased
C. forced expiratory volume/forced vital capacity ratio is decreased
D. total lung capacity is decreased

Explanation:
Pectus excavatum is a congenital malformation of the chest and is characterized by an obvious depression of the sternum. This condition is classified as a restrictive disease. (Rothstein 505)

144. A physical therapist collects data as part of a preseason athletic screening program designed to identify individuals susceptible to heat illness. Which of the following measures would be the most valuable to collect?
A. height
B. weight
C. percent body fat
D. vital capacity

Explanation:
Research has demonstrated that overweight individuals may generate up to 18% greater heat production than underweight individuals. (Arnheim 269)

145. A physical therapist participating in a team conference describes a patient's present cognitive functioning as a level IV according to the Rancho Los Amigos Level of Cognitive Functioning Scale. Which statement does not accurately describe this level?
A. patient is in a heightened state of awareness
B. verbalizations are often incoherent or inappropriate
C. patient does not discriminate among persons or objects
D. patient responds to simple commands fairly consistently

Explanation:
A patient with a head injury classified as level VI confused-appropriate is able to follow simple directions on a consistent basis. This is not attainable for a patient at level IV. (Rothstein 450)

146. A rehabilitation hospital assembles a team of health professionals to offer comprehensive care for patients following amputation. Which member of the team would be responsible for assisting the patient and family with financial matters and acting as a liaison with third party

146. Which of the following is typically responsible for evaluating community and family resources, obtaining necessary community services, and facilitating discharge planning?
A. physiatrist
B. physical therapist
C. social worker
D. vocational counselor

Explanation:
Social workers assist families to evaluate community and family resources, obtain necessary community services, and facilitate discharge planning. (Post Stroke Rehabilitation 195)

147. A physical therapist employed in an acute care hospital would like to alter a patient's medication schedule in order to have the patient be more responsive during physical therapy. The most appropriate medical professional to communicate this information to is the:
A. administrator
B. physician
C. nurse
D. case manager

Explanation:
Nurses are the medical professionals typically responsible for administering medication within the hospital. As a result, in order to modify an existing schedule, the therapist would need to communicate directly with a member of the nursing staff. (Post-Stroke Rehabilitation 194)

148. A physical therapist performs segmental breathing exercises with a patient following atelectasis. Which manual contact would be the most appropriate to emphasize lingula expansion?
A. place the hands on the left side of the chest below the axilla
B. place the hands below the clavicle on the anterior chest wall
C. place the hands over the posterior aspect of the lower ribs
D. place the hands on the right side of the chest below the axilla

Explanation:
The goal of segmental breathing is to improve oxygenation to a particular area of the lungs. The position of the lingula corresponds to a position below the axilla on the left side of the body. Breathing should be directed into the hands in an attempt to oxygenate the lingula. (Irwin 360)

149. A physical therapist instructs a patient with a transfemoral amputation to ascend stairs. Which initial instruction would be the most appropriate?
A. utilize your arms to propel your legs to the next step simultaneously
B. place your body weight on the prosthetic side and lead with your uninvolved leg
C. place your body weight on the uninvolved side and lead with your prosthetic leg
150. A patient with C5 tetraplegia exercises on a mat table. Suddenly, the patient begins to demonstrate signs and symptoms of autonomic dysreflexia including headache and sweating above the level of the lesion. The most appropriate assessment to validate the presence of autonomic dysreflexia is:
A. pulse rate
B. blood pressure
C. respiratory rate
D. oxygen saturation

Explanation:
Blood pressure often rises dramatically with autonomic dysreflexia. This condition should be treated as a medical emergency. (Umphred 493)

151. A patient rehabilitating from a spinal cord injury informs a therapist that he will walk again. Which type of injury would make functional ambulation the most unrealistic?
A. complete T9 paraplegia
B. posterior cord syndrome
C. Brown-Sequard's syndrome
D. cauda equina injury

Explanation:
Patients with complete lesions higher than T12 are not able to maintain the high energy cost of functional ambulation. (Umphred 523)

152. As part of a sensory assessment, a therapist measures two-point discrimination throughout the upper extremity. Which skin region would you expect to have the smallest measured distance between two perceived points?
A. lateral arm
B. posterior forearm
C. over first dorsal interosseous muscle
D. distal phalanx of the thumb

Explanation:
Research indicates that the distal upper extremity possesses the smallest distance between two perceivable points of stimuli. The hand is able to recognize two stimuli at approximately
millimeters apart. (O'Sullivan 92)

153. A physical therapist monitors a patient positioned on a tilt table. After elevating the tilt table to 30 degrees, the patient begins to complain of nausea and dizziness. The patient's blood pressure is measured as 70/35 mm Hg. The patient's signs and symptoms are most indicative of:
A. spinal shock
B. postural hypertension
C. autonomic dysreflexia
D. orthostatic hypotension

Explanation:
Orthostatic hypotension is a condition that can occur frequently in patients status post spinal cord injury. The patient experiences a loss of sympathetic influence that causes vasoconstriction in combination with diminished muscle pumping. This results in a significant drop in blood pressure due to the vertical position change. (Umphred 492)

154. A physical therapist attempts to examine the relationship between scores on a functional independence measure and another measurement whose validity is known. This type of example best describes:
A. face validity
B. predictive validity
C. concurrent validity
D. content validity

Explanation:
Concurrent validity refers to the relationship between test scores and either criterion states or measurements whose validity is known. (Payton 337)

155. A physical therapist performs palpation as part of a respiratory assessment with the patient in standing. Which structure would be the most appropriate to assess with the therapist positioned behind the patient?
A. mediastinum
B. upper lobes
C. right middle lobe
D. lower lobes

Explanation:
The lower lobes should be examined with the patient's back towards the physical therapist. The therapist positions his hands around the anterior axillary fold and draws the skin medially until the thumbs meet. The patient should be instructed to inspire once. The hand movement during inspiration is examined and recorded. (Irwin 342)
156. A physical therapist reviews physical therapy treatment records as part of a department quality assurance program. Which treatment objective would be the most likely to be reimbursed by a third party payer?
A. promote compliance with exercise activities
B. prevent scar tissue and contractures
C. maintain range of motion
D. improve cardiovascular status

Explanation:
Physical therapists are often required to demonstrate how physical therapy services improve patient status. Maintenance and prevention, although often necessary components of a treatment program, are less likely to be reimbursed by third party payers. (Guide to Physical Therapist Practice)

157. A patient rehabilitating from a traumatic head injury is lethargic since being placed on Phenobarbital. The primary purpose of the medication is to:
A. decrease agitation
B. prevent seizures
C. reduce spasticity
D. limit central nervous system damage

Explanation:
Phenobarbital is classified as a barbituate and is prescribed to prevent adult seizures. The mechanism of action of the drug is unclear and its side effects include sedation, vitamin deficiencies, nystagmus, and ataxia. (Ciccone 110)

158. A physical therapist seeks patient consent prior to administering a selected treatment procedure. Which element is most essential when obtaining informed consent?
A. specify treatment parameters
B. provide the patient with a reasonable opportunity to refuse
C. offer alternative treatment options
D. justify the need for the selected treatment procedure

Explanation:
Although each of the presented options is appropriate, it is essential to provide all patients with a reasonable opportunity to refuse treatment. Failure to perform this essential element can be considered a form of negligence. (Scott - Promoting Legal Awareness 113)

159. A physical therapist treats a 53 year old factory worker with low back pain. The patient indicates he injured his back while lifting a cement block approximately two months ago. The patient has limited range of motion and paravertebral muscle spasm. The most appropriate deep
heating agent is:
A. hot pack
B. pulsed ultrasound
C. hydrotherapy
D. shortwave diathermy

Explanation:
Shortwave diathermy is able to effectively produce deep heating effects. The design of diathermy units often allows physical therapists to direct the heating effects to a relatively large surface area. (Cameron 325)

160. A physical therapist attempts to prevent alveolar collapse in a patient following thoracic surgery. Which breathing technique would be the most beneficial to achieve the established goal?
A. diaphragmatic breathing
B. pursed lip breathing
C. incentive respiratory spirometry
D. segmental breathing

Explanation:
An incentive spirometer provides visual or in some cases auditory feedback as the patient takes a maximum inspiration. Incentive spirometry increases the amount of air that is inspired and as a result can be used as a treatment to prevent alveolar collapse in a postoperative patient. (Kisner 668)

161. A physical therapist instructs a patient in a three-point gait pattern. Which assistive device would be most appropriate when performing the gait pattern?
A. bilateral canes
B. quad cane
C. one axillary crutch
D. Lofstrand crutches

Explanation:
A three point gait pattern requires the use of bilateral ambulation aids or a walker. Since the gait pattern allows for varying degrees of weight bearing through the involved extremity, the use of bilateral canes is not permitted. (Pierson 203)

162. A physical therapist reviews the surface anatomy of the hand in preparation for a patient status post wrist arthrodesis. Which bony structure does not articulate with the lunate?
A. trapezium
B. radius
C. capitate
D. scaphoid

Explanation:
The trapezium is located in the distal carpal row on the radial side. The bone articulates with the first metacarpal. (Hoppenfeld 66)

163. A physical therapist asks a physical therapist assistant to complete a number of designated activities. Which activity would be inappropriate to delegate to the physical therapist assistant?
A. instruction in universal precautions and infection control
B. reexamination of the patient and the patient's treatment goals
C. documentation of daily physical therapy treatment
D. utilization of electromagnetic radiation

Explanation:
Formal reexamination of the patient and treatment goals is the responsibility of the supervising physical therapist. (Guide to Physical Therapist Practice 1-10)

164. A physical therapist examines a three year old child diagnosed with asthma. The child's condition has resulted in limitations of daily activity and occasional bed rest for one or more days. Which type of physical therapy intervention would be the most beneficial?
A. parent education and involvement
B. relaxation training
C. exercise to improve or maintain range of motion
D. instruction in diaphragmatic breathing and effective coughing techniques

Explanation:
Parent education and involvement is required for a child with asthma in order to control the asthma and avoid acute episodes. This can be accomplished by altering the environment, monitoring activities, and assisting the child with making appropriate decisions regarding exercise. (Ratliffe 394)

165. A physical therapist treats a patient in a medical intensive care unit. The therapist notices that IV solution appears to be infusing into the tissues surrounding the dorsum of the patient's hand. The most appropriate therapist action is:
A. contact nursing
B. reposition the IV
C. remove the IV
D. document the incident in the medical record

Explanation:
An IV that is infusing fluid into tissue has likely become dislodged from a vein. It is necessary to contact nursing in order for the IV to be removed and perhaps reinserted. (Pierson 266)
166. A physical therapist completes a cognitive function test on a patient status post stroke. As part of the test, the therapist examines the patient's abstract ability. Which of the following tasks would be the most appropriate?
A. repetition of a series of letters
B. reproduce a figure from a picture
C. discuss how two objects are similar
D. verbalize a position statement

Explanation:
Abstract thinking is commonly tested using two specific methods. The first method is by asking the patient to interpret the meaning of a proverb such as "a rolling stone gathers no moss." The other method is by asking the patient to describe how two items such as a cat and a mouse are similar. (Bickley 119)

167. A patient fails to attain established physical therapy goals within the number of visits approved by the patient's third party payer. The patient has made progress in therapy, however has been slowed somewhat by an adverse reaction to medication. The most appropriate physical therapist action is:
A. request additional visits from the referring physician
B. request additional visits from the third party payer
C. inform the patient that physical therapy services may not be fully covered by the third party payer
D. discharge the patient from physical therapy with a home exercise program

Explanation:
A physical therapist should attempt to secure approval for additional physical therapy visits when there is ample evidence that the patient is progressing towards the established goals. (Standards of Practice)

168. A nurse notifies a therapist that a patient has been placed on hold. The nurse indicates the patient has been diagnosed with respiratory acidosis. Which of the following is not a typical symptom of this condition?
A. dyspnea
B. restlessness
C. anxiety
D. vomiting

Explanation:
Respiratory acidosis is a condition resulting from ventilatory impairment and subsequent retention of carbon dioxide. Respiratory acidosis can result from pathologies that decrease the efficiency of the respiratory system such as neoplasm, chronic obstructive pulmonary disease, and pneumonia.
169. A physical therapist attempts to auscultate over the aortic valve on a patient status post myocardial infarction. The most appropriate area to auscultate is:

A. second right intercostal space at the right sternal border
B. second left intercostal space at the left sternal border
C. fourth left intercostal space along the lower left sternal border
D. fifth left intercostal space at the midclavicular line

Explanation:
The aortic valve is a semilunar valve that separates the left ventricle and the aorta. The valve opens at the end of diastole, causing the second heart sound. (Rothstein 621)

170. A physical therapist preparing a hot pack notices the water in the hot pack unit is cloudy. The most probable explanation is:

A. power failure
B. seepage from a hot pack
C. burned out heating element
D. thermostat set too low

Explanation:
Hot packs usually consist of a canvas case filled with hydrophilic silicate. A disruption in the case may cause small quantities of the silicate to be released into the water. (Michlovitz 116)

171. A physical therapist designs a home exercise program for a patient rehabilitating from a lower extremity injury. Which step would be the most appropriate to maximize patient compliance?

A. limit the exercise program to 10 minutes
B. select a maximum of five different exercises
C. select exercises consistent with the patient's rehabilitation goals
D. avoid physically demanding exercises

Explanation:
Many factors can influence patient compliance with a home exercise program, however regardless of the construction of the program it is essential that the program is designed to be consistent with the patient's rehabilitation goals. (Haggard 43)

172. A physical therapist completes a goniometric assessment on a patient rehabilitating from a motor vehicle accident. Which measurement would you expect to have the poorest intertester reliability?

A. elbow extension
B. shoulder lateral rotation
C. knee flexion
D. ankle inversion

Explanation:
The intraclass correlation coefficients for intertester reliability are as follows: elbow extension 0.94, shoulder lateral rotation 0.90, knee flexion 0.85, and ankle inversion 0.32. (Rothstein 122)

173. A physical therapist instructs a patient rehabilitating from thoracic surgery to produce an effective cough. Which patient position would be the most appropriate to initiate treatment?
A. standing
B. sitting
C. sidelying
D. hooklying

Explanation:
Coughing is an effective method to assist with airway clearance following thoracic surgery. A sitting position is typically the easiest position to produce a cough. (Kisner 677)

174. A 65 year old female falls while attempting to shovel snow in her driveway and sustains a nondisplaced humerus fracture. The patient has no significant past medical history and has lived alone since the death of her spouse approximately six years ago. The most appropriate site for physical therapy is:
A. inpatient rehabilitation hospital
B. skilled nursing facility
C. outpatient orthopedic practice
D. home physical therapy services

Explanation:
An otherwise healthy patient that was living independently prior to sustaining the injury is a good candidate for outpatient physical therapy services. Although the patient's spouse is not living, she may be able to rely on friends or community transport to drive her to scheduled therapy sessions. (Post Stroke Rehabilitation 73)

175. A patient with a transtibial amputation ambulates in the physical therapy gym. The patient exhibits an extended knee throughout early stance phase on the prosthetic side. The most appropriate solution to resolve the patient's difficulty is:
A. inset the foot
B. soften the heel wedge
C. move the foot posteriorly
D. dorsiflex the foot
If a prosthesis presents with excessive plantar flexion at the ankle it will allow for full knee extension during stance. The prosthesis should be set with slight ankle dorsiflexion which will allow for subsequent knee flexion during the initial stance phase. (Rothstein 831)

176. A patient rehabilitating from a CVA exhibits diminished weightshifting, trunk rotation, and eccentric control in weight bearing postures. Which stage of control is characterized by these objective findings?
A. mobility
B. stability
C. controlled mobility
D. skill

177. A physical therapist provides preoperative instructions for a patient scheduled for hip replacement surgery. As part of the session, the therapist discusses the importance of preventing deep venous thrombosis following surgery. Which finding is the best indicator that the patient is at a reduced risk of acquiring a deep venous thrombosis?
A. ability to perform ankle pumps and muscle setting exercises
B. ability to ambulate on a frequent schedule
C. ability to achieve full hip range of motion within the allowable limits
D. ability to utilize pneumatic compression devices and elastic stockings

178. A physical therapist applies silver sulfadiazine to a wound after hydrotherapy treatment. What type of aseptic equipment is necessary when applying the topical agent?
A. gloves
B. sterile gloves
C. gloves, gown
D. sterile gloves, gown
Silver sulfadiazine is an antimicrobial drug used for the prevention and treatment of wound sepsis. Since the topical agent is applied directly to the wound, it is necessary to use sterile gloves. (Trofino 45)

179. A patient diagnosed with Cushing's syndrome is referred to physical therapy. Which of the following signs and symptoms is not consistent with this syndrome?
A. distension of the abdomen
B. swelling in the facial area
C. adrenal hypoplasia
D. cardiac hypertrophy

Explanation:
Cushing's syndrome is produced by an excess of free circulating cortisol from the adrenal cortex. Other signs and symptoms of Cushing's syndrome include amenorrhea, high blood pressure, osteoporosis, and susceptibility to bruising. (Goodman 337)

180. A physical therapist performs an initial examination on an 84 year old female in the physical therapy gym. The patient answers the therapist's questions in a very soft voice and appears to be intimidated by the bustling environment. The most appropriate therapist action is:
A. ask the patient if she understands why she was referred to physical therapy
B. tell the patient to relax and speak louder
C. complete the examination in a private treatment room
D. ask the patient about her rehabilitation goals

Explanation:
A physical therapist should make every attempt to ensure that a patient is comfortable with the surroundings. A private treatment room offers a secure, quiet location that can be much less intimidating than a physical therapy gym. (Purtillo - Health Professional and Patient Interaction 136)

181. A group of physical therapists designs a research study which examines the reliability of the Functional Independence Measure (FIM). To measure reliability the therapists utilize a test-retest design. What is the most significant source of error with this type of research design?
A. change in subject behavior as a result of being measured
B. tendency to rate too strictly or leniently
C. change in test forms due to sampling of items
D. change in subject situation over time

Explanation:
Reliability in this particular example refers to the degree of consistency of the Functional
Independence Measure to produce similar scores on repeated testing occasions. Since in a test-retest design there is an interval of time between each of the testing sessions, it is possible for items such as a change in patient status to significantly alter the results. (DePoy 202)

182. A patient status post knee surgery receives instructions on the use of a continuous passive motion machine. Which of the following would be the most essential to ensure patient safety?
A. instructions on progression of range of motion
B. utilization of proximal and distal stabilization straps
C. recommendations for cryotherapy following treatment sessions
D. orientation to remote on/off switch

Explanation:
A continuous passive motion machine is a piece of equipment that moves a desired joint through a selected range of motion in a constant pattern. The machine is commonly used to avoid the negative effects of immobilization. Orientation to the on/off switch is essential to maintain patient safety. (Kisner 52)

183. A physical therapist instructs a patient rehabilitating from a rotator cuff repair in a home exercise program. The patient is a 27 year old male who is illiterate. The most appropriate action to promote compliance with the exercise program is:
A. ask the patient to memorize the exercises
B. use short sentences consisting of simple words
C. draw pictures to describe the exercises
D. do not utilize a home exercise program

Explanation:
A physical therapist must adapt his/her educational media to best meet the needs of each individual. Drawing pictures is an appropriate modification that should allow the patient to refer to the handout at home. (Haggard 127)

184. A physical therapist treats a patient status post femur fracture with external fixation. While monitoring the patient during an exercise session, the therapist observes clear drainage from a distal pin site. The most appropriate therapist action is:
A. discontinue the exercise session and contact the referring physician
B. use a gauze pad to absorb the drainage and notify nursing
C. use a gauze pad to absorb the drainage and continue with the exercise session
D. document the finding and discontinue the exercise session

Explanation:
External fixation devices provide stabilization to fracture sites through the use of pins that are inserted into bone fragments. Clear drainage from a pin site is not uncommon and should not be viewed as a sign of infection or any other serious medical complication. (Pierson 271)
185. A patient attempts to complete an independent transfer from a wheelchair to a mat table. The most appropriate method to protect the patient while completing the transfer is:
A. have the patient use a sliding board
B. utilize proper guarding technique
C. insist the patient use a gait belt
D. instruct the patient how to fall

Explanation:
It is essential for physical therapists to utilize proper guarding techniques for both dependent and independent transfers. (Pierson 106)

186. A physical therapist completes a gait assessment on a patient diagnosed with knee pain of unknown etiology. The therapist identifies excessive foot pronation during midstance through toe off. The most likely cause of the deviation is:
A. pes cavus
B. uncompensated lateral rotation of the tibia
C. compensated forefoot varus deformity
D. dorsiflexor weakness

Explanation:
Other possible causes of excessive foot pronation from midstance through toe off include compensated rearfoot varus deformity, uncompensated forefoot valgus deformity, pes planus, and decreased ankle dorsiflexion. (Magee 694)

187. A physical therapist assesses a patient's pulse by palpating at the wrist between the flexor digitorum superficialis and the flexor carpi ulnaris tendons. This site is used to assess the:
A. radial artery
B. ulnar artery
C. brachial artery
D. carotid artery

Explanation:
The pulse of the ulnar artery can be palpated proximal to the pisiform bone on the anterior aspect of the ulna, immediately prior to the artery crossing the wrist. (Hoppenfeld 80)

188. A physical therapist uses a subjective pain scale to assess pain intensity. The pain scale consists of a 10 cm line with each end anchored by one extreme of perceived pain intensity. The patient is asked to mark on the line the point that best describes his/her present pain level. This type of scale is best termed:
A. descriptor differential scale
B. verbal rating scale
C. visual analog scale
D. numerical rating scale

Explanation:
A visual analog scale is a form of a subjective pain scale that is commonly used in physical therapy. The scale provides physical therapists with the opportunity to compare changes in pain intensity over time. (Van Deusen 127)

189. A physical therapist assesses end-feel while completing passive plantar flexion range of motion. The therapist classifies the end-feel as firm. Which of the following structures does not contribute to the firm end-feel?
A. tension in the anterior joint capsule
B. tension in the tibialis anterior
C. tension in the anterior talofibular ligament
D. tension in the calcaneofibular ligament

Explanation:
Tension in the calcaneofibular ligament is often associated with the normal end-feel of dorsiflexion. (Norkin and White 154)

190. A member of Congress introduces a bill in the Senate that is supported by the American Physical Therapy Association. Which of the following would be the first action after introducing the proposed law?
A. the bill is referred to committee
B. the bill is referred to the House
C. amendments are made to the bill
D. the bill is sent to the floor

Explanation:
The parliamentarian and leadership of the body that receives the bill (House or Senate) is responsible for referring the bill to the appropriate committee. The committee provides the forum where the bill receives its most formal consideration and witnesses are permitted to testify. (Pullen 168)

191. A physical therapist attempts to assess the integrity of the first cranial nerve. Which test would provide the therapist with the desired information?
A. the patient protrudes the tongue while an examiner checks lateral deviation
B. the patient completes a vision examination
C. the patient performs a shoulder shrug against resistance
D. the patient is asked to identify familiar odors with the eyes closed
Cranial nerve I refers to the olfactory nerve which is a sensory nerve concerned with sense of smell. To test the integrity of the nerve, physical therapists typically assess a patient's ability to identify familiar odors by sense of smell. (Reese 464)

192. A patient eight days status post anterior cruciate ligament reconstruction using a patellar tendon autograft is examined in physical therapy. Which of the following exercises would be the most appropriate based on the patient's postoperative status?
A. limited range isokinetics at 30 degrees per second
B. unilateral leg press
C. mini squats in standing
D. active knee extension in short sitting

A mini squat is a closed chain exercise typically performed in standing that enables the patient to vary the force through the involved extremity by simply shifting his/her weight. This exercise significantly limits the amount of knee flexion and as a result does not place a great deal of stress through the reconstructed knee. (Kisner 445)

193. A physical therapy department in an acute care hospital utilizes physical therapy aides to perform a variety of patient care services. What health care professional is directly responsible for the actions of the physical therapy aide?
A. the physical therapist of record
B. the physical therapist assistant of record
C. the director of physical therapy
D. the director of rehabilitation

Physical therapy aides work under the direction and supervision of a physical therapist. As a result, the physical therapist of record is the responsible health care professional. (Guide to Physical Therapist Practice 1-10)

194. A physical therapist assesses the superficial abdominal reflex by making a quick, light stroke with a large pin over the upper abdominal area. A normal response is best described as:
A. the umbilicus moves toward the upper abdominal area
B. the umbilicus moves toward the lower abdominal area
C. the abdomen contracts without umbilicus movement
D. the rectus abdominus contracts causing a forward flexion of the trunk

The superficial abdominal reflex can be assessed in each of the four quadrants of the abdomen.
Absence of the reflex may be indicative of an upper motor neuron lesion, while unilateral absence may indicate a lower motor neuron lesion. (Magee 405)

195. A 67 year old male with longstanding cardiac pathology is referred to physical therapy. The medical record indicates the patient is taking Nitrostat. The primary indication for nitrates is:
A. to strengthen the heart's pumping force
B. to produce a general vasodilation of vascular structures
C. to increase excretion of sodium and water
D. to decrease electrical conduction

Explanation:
Nitrates are administered to produce a general vasodilation throughout the body. Nitrates decrease the amount of blood returning to the heart as well as the amount of work the heart must perform. Through this process there is a decrease in the myocardial oxygen demand. (Ciccone 311)

196. A physical therapist completes a series of pulmonary function tests on a patient diagnosed with emphysema. Which pulmonary function tests could be used to calculate the patient's functional residual capacity?
A. expiratory reserve volume and residual volume
B. total lung capacity and expiratory reserve volume
C. vital capacity and inspiratory capacity
D. residual volume and inspiratory reserve volume

Explanation:
Functional residual capacity is the volume of air remaining in the lungs at the end of a normal expiration. An increased functional residual capacity may be indicative of an obstructive respiratory problem, while a decreased functional residual capacity indicates a restrictive respiratory pattern. \( \text{FRC} = \text{ERV} + \text{RV} \) (Rothstein 509)

197. A physical therapist provides preoperative instructions to a patient scheduled for lower extremity amputation. Which of the following is the most common cause of lower extremity amputation?
A. tumor
B. trauma
C. peripheral vascular disease
D. cardiac disease

Explanation:
Peripheral vascular disease is the most prevalent cause of lower extremity amputations. This disease has a strong association with smoking and/or diabetes. (O'Sullivan 375)
198. A physical therapist completes documentation after administering an ultrasound treatment. Which treatment parameter would be the least important to document?

A. patient position  
B. treatment time  
C. intensity  
D. duty cycle

Explanation:
Although each option includes information that may at times be necessary to document, patient position is perhaps the least important. The other listed options provide essential information that define the specific parameters of the ultrasound treatment. (Michlovitz 168)

199. A physical therapist completes a coordination assessment on a 67 year old patient with central nervous system involvement. After reviewing the results of the assessment, the therapist concludes the clinical findings are indicative of cerebellar dysfunction. Which finding is not associated with cerebellar dysfunction?

A. dysmetria  
B. hypertonia  
C. ataxia  
D. nystagmus

Explanation:
Hypotonicity is a common finding in patients with cerebellar involvement. It can occur unilaterally or bilaterally and will most significantly affect muscles that surround proximal joints. (Umphred 658)

200. A patient status post open knee meniscectomy is referred to physical therapy for neuromuscular electrical stimulation. The most beneficial frequency of treatment to promote strengthening is:

A. one time per week  
B. two times per week  
C. three times per week  
D. once every two weeks

Explanation:
Research indicates that three sessions per week of neuromuscular electrical stimulation produce the most desirable clinical outcome. (Robinson 141)