



NATIONAL BOARD OF PODIATRIC MEDICAL EXAMINERS

PART II Clinical Science Examination

PRACTICE TEST 1

The Part II Practice Tests are representative of the content covered in the Part II Examination. They include question formats found in the actual examination. They also include questions of varying difficulty. A candidate's performance on a Practice Test does not guarantee similar performance on the actual examination.

CLINICAL SCIENCE EXAMINATION
PRACTICE TEST 1

60 questions

Directions: Each of the questions or incomplete statements below is followed by four suggested answers or completions. Select the one that is best in each case.

NOTE: Throughout this test, the term “medial oblique foot” refers to a non-weight-bearing medial oblique position in which the film is flat on the orthoposer, the medial side of the foot is closest to the film and the sole forms a 45° angulation with the film, and the central beam is 90° to the film (the tubehead is angulated 0°). The converse is true for the term “lateral oblique.”

1. Venous stasis ulcers of the lower extremities usually respond best to which of the following types of treatment?
 - (A) Oral antibiotics
 - (B) Topical antibiotics
 - (C) Arterial revascularization
 - (D) Compressive contact dressings
2. Hemoglobin A_{1c} is most useful in the evaluation of which of the following conditions?
 - (A) Diabetes mellitus
 - (B) Diabetes insipidus
 - (C) Adrenal cortical hyperplasia
 - (D) Hyperparathyroidism
3. The most common location for an Achilles tendon rupture is
 - (A) the myotendinous juncture
 - (B) the posterior aspect of the calcaneus
 - (C) 2 to 6 cm proximal to its insertion
 - (D) 8 to 10 cm proximal to its insertion
4. A stratum granulosum is found in which of the following anatomical locations?
 - (A) Plantar skin
 - (B) Hair
 - (C) Nail bed
 - (D) Oral mucosa
5. Which of the following imaging modalities results in no ionizing radiation exposure to the patient?
 - (A) CT scan
 - (B) MRI
 - (C) Xeroradiography
 - (D) Technetium bone scan
6. One week after the application of a short leg fiberglass cast, a patient complains of pain and burning in her right foot. Homans' sign is positive. Her past medical history is unremarkable with the exception of a 15-year history of cigarette smoking (1 pack per day) and oral contraceptive use. The cast is removed and the leg is noted to be hot, red, and indurated with superficial venous engorgement. Which of the following is the most appropriate preliminary diagnosis?
 - (A) Phlebothrombosis
 - (B) Deep vein thrombosis
 - (C) Superficial thrombophlebitis
 - (D) Thromboangiitis obliterans
7. A hemi-implant is used with the Keller procedure primarily to
 - (A) establish intrinsic muscular stability
 - (B) reestablish the function of the flexor hallucis brevis
 - (C) reestablish normal range of motion
 - (D) act as a spacer following bone removal

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8. Twenty minutes into a procedure, a patient develops laryngoedema, loses consciousness, and becomes cyanotic. Which of the following is the most likely diagnosis?
- (A) Vasovagal attack
 - (B) Anaphylaxis
 - (C) Insulin-induced hypoglycemia
 - (D) Myocardial infarction
9. The most common adverse reaction to intravenous sedation with morphine is
- (A) hypertension
 - (B) anaphylaxis
 - (C) respiratory depression
 - (D) renal failure
10. The running gait cycle differs from the walking gait cycle in that the runner
- (A) supinates rather than pronates at heel contact
 - (B) pronates during the propulsive phase of gait
 - (C) does not have a double support phase of gait
 - (D) does not have a float phase of gait
11. If a skin incision is made directly over a tendon, there is an increased risk of
- (A) adhesion
 - (B) infection
 - (C) synovitis
 - (D) skin slough
12. A 10-year-old girl is brought to a hospital emergency department. She is seen by a podiatric physician for treatment of a large abscess on the dorsum of the foot, where she was bitten by an insect 3 days ago. Physical examination reveals a temperature of 103°F with a grade IV/VI holosystolic murmur radiating all over the chest wall. In this situation, it would be most appropriate for the podiatric physician to do which of the following?
- (A) Request a cardiac consultation and take no further action until the consultation
 - (B) Order an echocardiogram and take no further action until the results are reviewed
 - (C) Take prophylactic measures for endocarditis and proceed with surgery
 - (D) Admit the patient to the hospital, begin intravenous antibiotics, and wait for a stat. cardiac consultation before taking further action
13. Podiatric services that are eligible for payment under Medicare are determined by which of the following?
- (A) The state insurance commission
 - (B) The state podiatric medical association
 - (C) The Centers for Medicare & Medicaid Services
 - (D) The American Podiatric Medical Association
14. Which of the following is true with respect to magnetic resonance imaging of the Achilles tendon?
- (A) The normal diameter generally does not exceed 5 mm.
 - (B) Close to the calcaneal insertion, the anterior aspect is convex in the axial view.
 - (C) The signal intensity is normally isointense with muscle on a T2-weighted image.
 - (D) A high intratendinous signal intensity on a heavily water-weighted image is suggestive of an acute rupture or injury.

15. Secondary radiographic findings of a subtalar joint coalition include all of the following EXCEPT
- (A) talar beaking
 - (B) loss of sinus tarsi
 - (C) increased calcaneal inclination angle
 - (D) blunting of the lateral process of the talus
16. In a 75-year-old patient with bowel incontinence and an infected heel decubitus ulcer, which of the following is the most likely pathogen?
- (A) *Escherichia coli*
 - (B) *Bacteroides fragilis*
 - (C) *Neisseria gonorrhoeae*
 - (D) *Pseudomonas aeruginosa*
17. The four elements of the tort of medical malpractice are
- (A) duty, breach, causation, abandonment
 - (B) duty, breach, causation, damages
 - (C) duty, consent, causation, damages
 - (D) duty, standard, relationship, damages
18. A wet-to-dry dressing for an infected wound is used primarily to
- (A) cover the wound in order to prevent further contamination
 - (B) apply antibacterial solutions to the wound
 - (C) mechanically debride the wound
 - (D) keep the wound moist
19. In an anteroposterior radiographic view, a talonavicular articulation of less than 70 percent is a sign of
- (A) pronation
 - (B) supination
 - (C) metatarsus adductus
 - (D) skew foot
20. A 12-year-old patient presents with arch pain. Gait evaluation reveals hyperpronation throughout the stance phase of gait. Resting calcaneal stance position is 2 degrees valgus. Radiographic evaluation reveals an anterior break in the cyma line and an increased Kite's angle. This patient most likely has
- (A) a flexible flatfoot
 - (B) a clubfoot deformity
 - (C) a cavovarus foot
 - (D) an equinovarus foot
21. The primary goal of implant surgery of the first metatarsophalangeal joint is to
- (A) eliminate joint pain
 - (B) improve joint motion
 - (C) increase the stability of the first ray
 - (D) preserve the plantar intrinsic musculature
22. A 2-year-old child presents with symptoms of jaundice, chronic anemia, and episodes of abdominal, back, and limb pain. The child's symptoms seem to be precipitated by dehydration. Physical examination reveals swelling of the hands and feet. Treatment consists of fluid maintenance and the administration of analgesics. This case description is characteristic of
- (A) juvenile diabetes
 - (B) juvenile arthritis
 - (C) sickle cell anemia
 - (D) collagen disease
23. Which of the following provides the best compression and alignment for an Austin bunionectomy?
- (A) Cerclage wire
 - (B) Threaded Kirschner wire
 - (C) Cancellous screws
 - (D) Orthosorb pins
24. A complication of halothane anesthesia is
- (A) bronchospasm
 - (B) hepatic necrosis
 - (C) peripheral vasoconstriction
 - (D) hypertension

25. The female athlete triad is composed of
- (A) eating disorders, stress fractures, and infections
 - (B) eating disorders, amenorrhea, and osteoporosis
 - (C) amenorrhea, stress fractures, and infections
 - (D) osteoporosis, stress fractures, and increased incidence of endometrial cancer
26. A 5-year-old boy presents with a slight equinus deformity. His parents state that he has had a tight gastrocnemius-soleus complex ever since he was an infant. He appears to be a healthy, well-nourished, and well-developed child. Duchenne type muscular dystrophy is suspected. All of the following tests would provide useful information relative to this diagnosis EXCEPT
- (A) a muscle biopsy
 - (B) a muscle strength evaluation
 - (C) a genetic screening for a sex-linked recessive disorder
 - (D) an acetylcholine receptor (AChR) antibody test
27. A runner presents with a history of posteromedial shin splints due to overuse of the deep posterior muscles of the leg as a compensation for a structurally long limb on the involved side. Evaluation of the patient's shoe wear pattern on the involved side would reveal
- (A) excessive lateral forefoot outsole wear
 - (B) heel counter tipping medially in a valgus position
 - (C) compression of the lateral rearfoot midsole
 - (D) abnormal wear of the uppers in the region of the fifth digit due to lateral crowding
28. In a nursing home population of 200, 12 people are diagnosed with onychomycosis in one year. In the first 4 months of the next year, 5 more people are diagnosed with onychomycosis. What is the incidence rate for the second year?
- (A) 5/17
 - (B) 12/17
 - (C) 5/200
 - (D) 17/200
29. The inflammatory arthritis associated with hemophilia most commonly affects which of the following joints?
- (A) Shoulder
 - (B) Hip
 - (C) Knee
 - (D) Metatarsophalangeal
30. The Thompson test is useful in the detection of
- (A) an Achilles tendon rupture
 - (B) a calcaneofibular ligament sprain
 - (C) an anterior talofibular ligament sprain
 - (D) a bucket handle tear of the medial meniscus
31. A 52-year-old man experienced pain in his left arm, chest, and jaw for 5 minutes. He took nitroglycerin sublingually with no relief. He is taken to the emergency department where it is determined that he has had an acute myocardial infarction. Which of the following is a life-threatening dysrhythmia he will most likely experience during the first hour following the myocardial infarction?
- (A) Atrial flutter
 - (B) Atrial fibrillation
 - (C) Ventricular flutter
 - (D) Ventricular fibrillation
32. The nutrient artery of the first metatarsal enters the midshaft
- (A) medially
 - (B) laterally
 - (C) dorsally
 - (D) plantarly
33. An asymptomatic, fragmented, irregular, sclerotic, calcaneal apophysis in an 8 year old is most indicative of
- (A) Köhler's disease
 - (B) calcaneal apophysitis
 - (C) a nonunion fracture
 - (D) a normal anatomic variant

34. Somatization disorder is a neurotic illness characterized by all of the following EXCEPT
- (A) weakness and paralysis of muscle groups
 - (B) dramatic, emotional presentation of complaints
 - (C) multiple, vague complaints referable to any part of the body
 - (D) dissatisfaction with care from one physician to the next
35. A patient with a long-standing varicose ulcer over the medial malleolus is at higher risk for the development of which of the following within the ulcer?
- (A) Melanoma
 - (B) Hemangioma
 - (C) Basal cell carcinoma
 - (D) Squamous cell carcinoma
36. Which of the following cells normally develops into a macrophage when it infiltrates tissue?
- (A) Monocyte
 - (B) Mast cell
 - (C) Lymphocyte
 - (D) Basophil
37. Yellow discoloration of radiographic film is most likely due to inadequate
- (A) development
 - (B) fixation
 - (C) mAs
 - (D) kVp
38. A 56-year-old woman is seen for pain involving her right ankle. The patient reports no specific traumatic incident. Recently she has noticed mild-to-moderate pain across her midfoot and her ankle with increased activity. Physical examination reveals pain and swelling along the medial ankle. On the single heel rise test, she is unable to invert the right hindfoot. On weight bearing, the right forefoot is abducted on the rearfoot and the arch appears to flatten significantly more on the right foot than on the left. Which of the following therapies would NOT be appropriate?
- (A) Steroid injection
 - (B) Walking brace/boot
 - (C) Prescription foot orthosis
 - (D) Nonsteroidal anti-inflammatory drugs (NSAIDs)
39. Neuromuscular causes of cavus foot include all of the following EXCEPT
- (A) cerebral palsy
 - (B) myelomeningocele
 - (C) muscular dystrophy
 - (D) Charcot-Marie-Tooth disease
40. The presence of Bence Jones proteins in the urine is diagnostic of
- (A) amyloidosis
 - (B) multiple myeloma
 - (C) monoclonal gammopathy
 - (D) Waldenström's macroglobulinemia
41. Which of the following is a periosteal elevator?
- (A) Sayre
 - (B) Hohmann
 - (C) Weitlaner
 - (D) Seeburger

42. A 23-year-old man is seen in the emergency department for a diagnosed right ankle fracture/dislocation. Vascular evaluation reveals an absence of all pulses below the knee. Closed reduction is not successful. The patient has just eaten a large meal. Assuming a thigh tourniquet will be used, what is the most appropriate type of anesthesia for this patient?
- (A) Spinal
 - (B) Local infiltration
 - (C) General (inhalation anesthesia)
 - (D) Intravenous sedation
43. The minimal acceptable treatment for a diastasis of the ankle joint would include which of the following?
- (A) Low Dye strapping with a crossover J
 - (B) A reinforced Unna's boot and a surgical shoe
 - (C) Internal fixation
 - (D) Immobilization with a short leg cast
44. In radiology, the Harris-Beath (calcaneal axial) projections are indicated to determine the presence of a talocalcaneal coalition that involves which of the following anatomic locations?
- (A) Anterior facet only
 - (B) Posterior facet only
 - (C) Anterior and middle facets
 - (D) Middle and posterior facets
45. Which of the following is normally associated with Paget's disease?
- (A) Increased osteoblast activity only
 - (B) Increased osteoblast and osteoclast activity
 - (C) Decreased serum alkaline phosphatase levels
 - (D) A male-to-female ratio of occurrence of 4:1
46. Which of the following fractures has the best prognosis?
- (A) Rowe type Ia
 - (B) Rowe type IV
 - (C) Rowe joint depression
 - (D) Essex-Lopresti joint depression
47. A 6 year old presents with a painful ankle injury of 3 days' duration. There is swelling and pain on direct palpation of the lateral malleolus. X-rays are unremarkable. Which of the following would be the treatment of choice?
- (A) A short leg cast
 - (B) An Ace bandage
 - (C) Ligamentous repair
 - (D) Activity, as tolerated
48. Which of the following statements about Lyme disease is true?
- (A) The disease is transmitted via feline to human contact.
 - (B) The diagnostic test of choice is the erythrocyte sedimentation rate (ESR).
 - (C) The drug of choice is metronidazole.
 - (D) The most commonly associated dermatologic lesion is erythema chronicum migrans.
49. A runner who twisted her ankle 6 months ago still has ankle pain and an occasional sensation of the ankle giving way and locking. She has no apparent swelling or pain on range of motion. The most likely diagnosis is
- (A) sinus tarsi syndrome
 - (B) osteochondral talar dome fracture
 - (C) synovitis of the fibular (peroneal) tendons
 - (D) fracture of the os trigonum

50. Pyoderma gangrenosum is most often found in individuals with which of the following diseases?
- (A) Ulcerative colitis
 - (B) Sarcoidosis
 - (C) Lupus erythematosus
 - (D) Psoriasis
51. Which of the following ligaments is most commonly damaged in an inversion sprain of the ankle?
- (A) Anterior talofibular
 - (B) Posterior talofibular
 - (C) Calcaneofibular
 - (D) Deltoid
52. Radiographic findings indicative of Freiberg's infraction are initial joint-space
- (A) widening followed by a long-term increase in subchondral bone density
 - (B) widening with no long-term effect on subchondral bone density
 - (C) narrowing followed by a long-term increase in subchondral bone density
 - (D) narrowing with no long-term effect on subchondral bone density
53. Multiple sclerosis is characterized by all of the following signs and symptoms EXCEPT
- (A) ataxia
 - (B) impaired vision
 - (C) bladder dysfunction
 - (D) fibular (peroneal) muscular atrophy
54. A custom molded shoe is the primary choice for treatment of which of the following?
- (A) Multiple sclerosis
 - (B) Metatarsal stress fracture
 - (C) Advanced Charcot foot deformity
 - (D) Severe osteoarthritis of the tarsus and lesser tarsus
55. Which of the following tumors is associated with night pain that is relieved by salicylates?
- (A) Osteblastoma
 - (B) Chondroblastoma
 - (C) Osteoid osteoma
 - (D) Chondromyxoid fibroma
56. A podiatric physician can best minimize drug interactions by
- (A) limiting the number of prescription refills
 - (B) performing an adequate physical examination
 - (C) taking a thorough medical history
 - (D) ordering appropriate laboratory tests
57. Which of the following is an inhibitor of prostaglandins?
- (A) Aspirin
 - (B) Warfarin
 - (C) Insulin
 - (D) Heparin
58. Which of the following is the most common postoperative infective organism in podiatric surgery?
- (A) *Streptococcus*
 - (B) *Pseudomonas*
 - (C) *Staphylococcus*
 - (D) *Clostridium*

The next 2 questions refer to the following case.

A male patient presents with an induration, pain, and bluish discoloration over the second interspace area of the left foot. The pain and size of the lesion have been increasing over the last month. X-rays show a calcification of portions of the lesion. There is no history of trauma and the skin texture is normal.

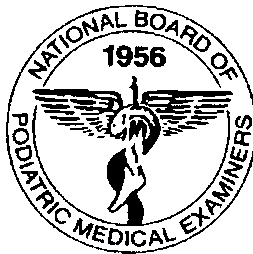
59. Which of the following is the most likely diagnosis?

- (A) Neuroma
- (B) Fibroma
- (C) Glomus tumor
- (D) Cavernous hemangioma

60. The correct treatment would be

- (A) surgical excision of the lesion
- (B) steroid injection of the lesion
- (C) padding of the lesion
- (D) ultrasound and whirlpool

END OF PRACTICE TEST 1



NATIONAL BOARD OF PODIATRIC MEDICAL EXAMINERS

PART II Clinical Science Examination

PRACTICE TEST 2

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CLINICAL SCIENCE EXAMINATION
PRACTICE TEST 2

60 questions

Directions: Each of the questions or incomplete statements below is followed by four suggested answers or completions. Select the one that is best in each case.

NOTE: Throughout this test, the term “medial oblique foot” refers to a non-weight-bearing medial oblique position in which the film is flat on the orthoposer, the medial side of the foot is closest to the film and the sole forms a 45° angulation with the film, and the central beam is 90° to the film (the tubehead is angulated 0°). The converse is true for the term “lateral oblique.”

1. Which of the following diagnostic tests is appropriate for a patient with suspected herpes simplex on the foot?
 - (A) Gram's stain
 - (B) Tzanck smear
 - (C) Ova and parasite smear
 - (D) Dermatophyte test medium (DTM)
2. Which of the following is associated with an increased incidence of osteosarcoma?
 - (A) Paget's disease
 - (B) Ankylosing spondylitis
 - (C) Rheumatoid arthritis
 - (D) Osteomalacia
3. The best modality to confirm an osseous subtalar joint coalition is
 - (A) a bone scan
 - (B) a CT scan
 - (C) an MRI
 - (D) tomography
4. A 68-year-old woman undergoes a complex reconstructive rearfoot surgical procedure with general anesthesia without complication. Within 48 hours the patient develops dyspnea, tachypnea, and a temperature of 101.5°F. Which of the following is the most likely diagnosis?
 - (A) Septicemia
 - (B) Pulmonary emboli
 - (C) Deep vein thrombosis
 - (D) Acute appendicitis
5. Which of the following agents is associated with drug-induced systemic lupus erythematosus?
 - (A) Procainamide
 - (B) Lidocaine
 - (C) Bupivacaine
 - (D) Etidocaine
6. In a histologic section of normal skin of the dorsal foot, melanocytes are located
 - (A) in the cornified layer
 - (B) in the subcutaneous fat
 - (C) deep in the reticular dermis
 - (D) in the basal cell layer of the epidermis
7. A 23-year-old runner presents with anterior leg pain that has been present for 3 weeks and is greatest when running on hills. Pain is elicited on palpation of the anterior aspect of the lower leg, lateral to the anterior crest of the tibia. The most likely diagnosis is
 - (A) peroneal tendinitis
 - (B) anterior shin splints
 - (C) iliotibial band syndrome
 - (D) anterior tibial compartment syndrome

8. Which of the following is a chronic inflammatory disease characterized by proliferative synovitis with subsequent bony erosion and destruction of the articular cartilage?
- (A) Gouty arthritis
 - (B) Osteoarthritis
 - (C) Rheumatoid arthritis
 - (D) Psoriatic arthritis
9. A 45-year-old overweight patient with a pes planus deformity reports “aching” pain at the tuberosity of the navicular that has progressed over the past 3 months. Radiographs show an enlarged navicular medially without fracture. The patient wears poorly supported shoes to work at a department store. The podiatric physician’s next step should be
- (A) foot and ankle strapping, a nonsteroidal anti-inflammatory drug (NSAID), and a discussion about shoes
 - (B) a short leg non-weight-bearing cast for 6 weeks
 - (C) an Unna's boot for 4 weeks with ice and elevation
 - (D) a technetium-99m 3-phase bone scan
10. A patient manifests a serpiginous eruption on the dorsal aspect of the foot that is successfully treated with topical thiabendazole. Which of the following is the most likely diagnosis?
- (A) Tuberculosis verrucosa cutis
 - (B) Erythema nodosum leprosum
 - (C) Cutaneous larva migrans
 - (D) Erosio interdigitalis blastomycetica
11. Which of the following is true of Sever’s disease?
- (A) It rarely affects females.
 - (B) It is a self-limiting disease.
 - (C) Ecchymosis and edema are pathognomonic.
 - (D) X-rays reveal a crescent sign in the Achilles tendon.
12. The Bunnell technique is used for
- (A) tenorrhaphy
 - (B) arthrodesis
 - (C) capsulodesis
 - (D) capsulorrhaphy
13. Differential diagnosis of Kaposi's sarcoma includes
- (A) stasis dermatitis
 - (B) hypertrophic lichen planus
 - (C) malignant melanoma
 - (D) dyshidrotic eczema
14. Which of the following bone lesions is characterized by dense bone surrounding a lytic central nidus?
- (A) Giant cell tumor
 - (B) Aneurysmal bone cyst
 - (C) Osteoid osteoma
 - (D) Osteosarcoma
15. In a patient with bacterial endocarditis who has no known allergies, the most appropriate prophylactic drug is
- (A) tetracycline
 - (B) gentamicin
 - (C) erythromycin
 - (D) amoxicillin
16. Semi-weight-bearing impression foam foot castings are most appropriate for which of the following?
- (A) Rigid foot with fixed deformity
 - (B) Flexible flatfoot deformity
 - (C) Flexible cavus foot deformity
 - (D) Hypermobility first ray deformity
17. When a soft-tissue lesion on the foot is excised, the standard length-to-width ratio for the incision is
- (A) 2:1
 - (B) 3:1
 - (C) 3:2
 - (D) 5:2
18. Which of the following is a muscle that directly prevents the longitudinal arch from collapsing?
- (A) Abductor hallucis
 - (B) Plantar aponeurosis
 - (C) Fibularis (peroneus) longus
 - (D) Posterior tibial

19. Following lesser digital arthroplasty, the digit should be splinted in which of the following positions?

Metatarsophalangeal <u>Joint</u>	Proximal Interphalangeal <u>Joint</u>	Distal Interphalangeal <u>Joint</u>
(A) Dorsiflexed	Straight	Straight
(B) Dorsiflexed	Plantarflexed	Straight
(C) Slightly Plantarflexed	Straight	Straight
(D) Slightly Plantarflexed	Plantarflexed	Plantarflexed

20. Which of the following is (are) most sensitive to radiation?

- (A) Spermatogonia
- (B) Neutrophils
- (C) Neurons
- (D) Skin

21. On a lateral radiograph, a decreased calcaneal inclination angle with an increased talar declination angle would indicate

- (A) supination of the foot
- (B) pronation of the foot
- (C) talipes equinovarus
- (D) metatarsus adductus

22. Radiographic subject contrast is best controlled by the manipulation of

- (A) kVp
- (B) mAs
- (C) source-to-image distance
- (D) developer temperature

23. Which of the following Salter-Harris fractures has the best prognosis?

- (A) I
- (B) II
- (C) III
- (D) IV

24. The fifth toe can clearly be seen in all of the following standard radiographic views EXCEPT the

- (A) lateral
- (B) lateral oblique
- (C) medial oblique
- (D) dorsoplantar

25. In addition to gloves, OSHA-designated personal protective equipment includes

- (A) gowns and eye protection
- (B) steam sterilizers and masks
- (C) self-sheathing needles and gowns
- (D) sharps containers and eye protection

26. A patient with a painful limb, who will be using a single cane, should be instructed to use the cane

- (A) with the elbow fully extended
- (B) in a manner to shift weight away from the cane
- (C) on the side opposite the painful/injured side
- (D) angled away from the body about 40 degrees

27. Serial casting is likely to be successful in the treatment of all of the following EXCEPT

- (A) metatarsus adductus
- (B) calcaneovalgus
- (C) windswept deformity
- (D) congenital vertical talus

28. Which of the following tendons is found plantar to the deep transverse metatarsal ligament?

- (A) Lumbrical tendon
- (B) Abductor tendon
- (C) Plantar interosseous tendon
- (D) Dorsal interosseous tendon

29. A podiatric physician is examining a 57-year-old patient who has a 21-year history of poorly controlled diabetes mellitus. A neurosensory examination reveals a loss of proprioception. Further examination of the patient would most likely reveal a
- (A) symmetric absence of deep tendon reflexes
 - (B) loss of protective sensation with 10-gram monofilament
 - (C) loss of sharp-dull discrimination
 - (D) plantar reflex with a bilateral flexion response
30. An individual can functionally increase limb length by
- (A) dorsiflexing the ankle joint
 - (B) supinating the subtalar joint
 - (C) supinating the longitudinal midtarsal joint
 - (D) pronating the oblique midtarsal joint
31. All of the following radiographic signs are associated with excessive pronation EXCEPT
- (A) obliteration of the sinus tarsi
 - (B) anterior displacement of the talus
 - (C) a talocalcaneal angle of 10°
 - (D) a metatarsus primus adductus angle of 20°
32. Which of the following general anesthetics is most likely to sensitize the myocardium to catecholamines?
- (A) Enflurane
 - (B) Isoflurane
 - (C) Halothane
 - (D) Nitrous oxide
33. A Young procedure performed on the tibialis anterior is best described as
- (A) tendon transfer
 - (B) tendon translocation
 - (C) tendon lengthening
 - (D) tenolysis
34. The formation of Heberden's nodes at distal interphalangeal joints is associated with
- (A) osteoarthritis
 - (B) rheumatoid arthritis
 - (C) systemic lupus erythematosus
 - (D) ankylosing spondylitis
35. Which of the following local anesthetics is NOT recommended for use in children under 12 years of age?
- (A) Lidocaine
 - (B) Mepivacaine
 - (C) Bupivacaine
 - (D) Procaine
36. A patient presents with a single, nonpruritic vesicle on the dorsum of the third toe. There is no history of trauma and the patient has not made any change in shoe gear. Inspection reveals an umbilicated vesicle. The most likely diagnosis is
- (A) verruca plana
 - (B) acute contact dermatitis
 - (C) molluscum contagiosum
 - (D) bullous diabeticorum
37. Which of the following is most characteristic of venous stasis ulcerations?
- (A) A punched-out border
 - (B) A gray mucoïd base
 - (C) A red, granulating base
 - (D) Pain
38. The most prominent physical finding of right-sided congestive heart failure is
- (A) S_3 gallop
 - (B) rapid breathing
 - (C) moist rales in the lungs
 - (D) lower extremity dependent edema
39. In a flexor tendon transfer for hammer toe correction, the flexor tendon is inserted into the
- (A) plantar aspect of the distal phalanx
 - (B) plantar aspect of the middle phalanx
 - (C) dorsal aspect of the proximal phalanx
 - (D) dorsal aspect of the middle phalanx

40. Which of the following statements applies to a podiatric physician who suspects that an elderly patient has been abused?
- (A) The podiatric physician should report the suspicion only if he or she is convinced beyond a reasonable doubt that abuse has occurred.
 - (B) The podiatric physician should report the suspicion as a matter of moral but not legal obligation.
 - (C) The podiatric physician may be criminally liable for failure to report the suspicion.
 - (D) The podiatric physician may not report the suspicion because of the doctor-patient privilege.
41. An orthopedic shoe with a steel shank from heel to toe and a rocker bar would be appropriate for treating
- (A) drop foot
 - (B) spastic flatfoot
 - (C) flexible hammer toes
 - (D) an arthritic ankle and subtalar joint
42. Which of the following is a true statement about healing by first intention?
- (A) It implies suppuration or necrosis.
 - (B) It involves excessive formation of granulation tissue.
 - (C) It profoundly diminishes the strength of the surgical wound.
 - (D) It is demonstrated in the closure of an uncomplicated skin incision.
43. A patient is experiencing anterior leg pain. On examination of muscle strength, the anterior compartment muscles are graded 3/5. Which of the following nerves is most likely responsible for this finding?
- (A) Tibial
 - (B) Saphenous
 - (C) Deep fibular (peroneal)
 - (D) Superficial fibular (peroneal)
44. In a lateral osteochondral talar dome fracture, the most common mechanism of injury is
- (A) inversion, plantarflexion
 - (B) inversion, dorsiflexion
 - (C) eversion, plantarflexion
 - (D) eversion, dorsiflexion
45. Which of the following is associated with normochromic, normocytic anemia?
- (A) Iron deficiency
 - (B) Hemolysis
 - (C) Folate deficiency
 - (D) Lead poisoning
46. A patient with 3° forefoot valgus was casted for functional orthoses, but the negative cast reflected 10° of forefoot valgus. This most likely occurred because the clinician
- (A) supinated the long axis of the midtarsal joint
 - (B) dorsiflexed the fourth and fifth metatarsophalangeal joints
 - (C) pronated the subtalar joint when locking the midtarsal joint
 - (D) did not check to make sure the patient was not contracting the anterior tibial muscle
47. A 35-year-old patient fell from the roof of a house and sustained a fracture of the talus. X-rays reveal fracture of the talar neck and dislocation of the talar body from the ankle mortise and subtalar joint. Which of the following describes this type of fracture and the most likely complication associated with it?
- (A) Berndt-Harty stage II fracture with a severe risk of osteochondritis
 - (B) Stewart type III fracture with a slight risk of avascular necrosis
 - (C) Hawkins type III fracture with a high risk of avascular necrosis
 - (D) Sanders fracture (Tongue type) with a risk of degenerative arthritis

48. Which of the following conditions may cause delayed relaxation of Achilles tendon reflexes?
- (A) Diabetes
 - (B) Porphyria
 - (C) Alcoholism
 - (D) Hypothyroidism
49. A 33-year-old woman presents with heat intolerance headaches and excessive sweating of 2 months' duration. She has a visible hand tremor and her handwriting is uneven. She jogs 5 miles a day, 5 times a week. Over the past 2 months her tolerance for exercise and her running times have decreased. Physical examination reveals a thin, well-developed and anxious woman. The patient's blood pressure is 130/50 mm Hg and her pulse is 120. Ocular inspection reveals lid retraction and stare. She also presents with proximal muscle weakness. Examination of the neck reveals diffuse enlargement of the thyroid and audible bruit. There is no history of drug intake. Which of the following is the most likely diagnosis?
- (A) Subacute thyroiditis
 - (B) Exogenous thyroid hormone
 - (C) Graves' disease
 - (D) Multinodular goiter
50. Emergency treatment of an acute myocardial infarction includes all of the following EXCEPT
- (A) thrombolysis
 - (B) heparin
 - (C) warfarin
 - (D) angioplasty
51. Thrombophlebitis of the small veins frequently occurs with intravenous administration of
- (A) diazepam
 - (B) propofol
 - (C) droperidol
 - (D) fentanyl
52. Which of the following is the correct ventilation-to-chest-compression ratio in one-rescuer CPR?
- (A) 2 ventilations : 3 chest compressions
 - (B) 2 ventilations : 15 chest compressions
 - (C) 4 ventilations : 8 chest compressions
 - (D) 8 ventilations : 15 chest compressions
53. Generalized subperiosteal bone resorption is characteristic of
- (A) osteomalacia
 - (B) hyperparathyroidism
 - (C) osteoporosis
 - (D) osteosarcoma
54. Unusual infections such as *Mycobacterium avium-intracellulare* are commonly seen in association with
- (A) HIV
 - (B) pelvic inflammatory disease
 - (C) sarcoidosis
 - (D) cystic fibrosis
55. In a prospective epidemiologic study of a disease, the cohort originally selected consists of persons
- (A) with the disease
 - (B) without the disease
 - (C) with a family history of the disease
 - (D) without a family history of the disease

56. Which of the following is NOT a characteristic of plantar fasciitis?

- (A) Post-static dyskinesia
- (B) A tight gastrocnemius-soleus complex
- (C) Pain at the medial plantar aspect of the calcaneus
- (D) Occurrence in boys between the ages of 4 and 7 years

57. The patellar reflex is largely mediated by which of the following nerve roots?

- (A) L1-L2
- (B) L3-L4
- (C) L5-S1
- (D) S2-S3

58. Which of the following medications is most likely to contribute to the formation of a deep vein thrombosis?

- (A) Multivitamins with zinc
- (B) Oral contraceptives
- (C) Enteric-coated aspirin
- (D) Dipyridamole

The next 2 questions refer to the following information.

A 40-year-old African-American man presents with an injury to his right foot sustained 5 days ago when a heavy sheet of glass fell onto the top of his foot. An examination reveals a laceration over the first metatarsophalangeal joint with erythema, edema, and drainage. A loss of active dorsiflexion of the first metatarsophalangeal joint is noted, indicating that some tendon damage may have occurred. The patient has not had past tetanus immunization.

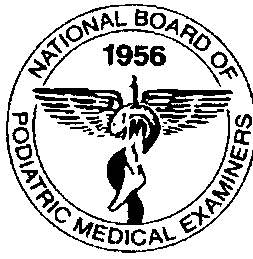
59. Conservative treatment fails and surgery is performed. Three days postoperatively, the patient presents with pain. Physical examination reveals severe localized edema, erythema, serosanguineous drainage, induration, and pain on palpation. The most likely diagnosis is

- (A) hematoma
- (B) causalgia
- (C) Freiberg's infraction
- (D) normal postoperative course

60. Preoperative laboratory tests should include which of the following?

- (A) Uric acid
- (B) Sick cell trait
- (C) Hemoglobin A and hemoglobin C
- (D) Erythrocyte sedimentation rate (ESR)

END OF PRACTICE TEST 2



NATIONAL BOARD OF PODIATRIC MEDICAL EXAMINERS

PART II Clinical Science Examination

PRACTICE TEST 3

The Part II Practice Tests are representative of the content covered in the Part II Examination. They include question formats found in the actual examination. They also include questions of varying difficulty. A candidate's performance on a Practice Test does not guarantee similar performance on the actual examination.

CLINICAL SCIENCE EXAMINATION
PRACTICE TEST 3

60 questions

Directions: Each of the questions or incomplete statements below is followed by four suggested answers or completions. Select the one that is best in each case.

NOTE: Throughout this test, the term “medial oblique foot” refers to a non-weight-bearing medial oblique position in which the film is flat on the orthoposer, the medial side of the foot is closest to the film and the sole forms a 45° angulation with the film, and the central beam is 90° to the film (the tubehead is angulated 0°). The converse is true for the term “lateral oblique.”

1. Deep vein thrombosis is diagnosed in a hospitalized, 3-day postoperative patient. The initial treatment of choice is
 - (A) oral warfarin
 - (B) intravenous heparin
 - (C) compression wraps
 - (D) local heat and elevation
2. Metatarsus adductus is evaluated radiographically by utilizing which two axes?
 - (A) Navicular and first metatarsal
 - (B) Calcaneal and second metatarsal
 - (C) Second metatarsal and long axis of the talus
 - (D) Second metatarsal and lesser tarsal
3. When griseofulvin is prescribed, it is important to perform which of the following tests in addition to a complete blood cell count (CBC)?
 - (A) Culture and sensitivity
 - (B) KOH or fungal culture
 - (C) Wood's light examination
 - (D) Gram's stain
4. Which of the following is a postoperative nonadherent dressing utilized in immediate wound care?
 - (A) Adaptic dressing
 - (B) Kerlix fluff dressing
 - (C) Kling roller bandage dressing
 - (D) Sterile 4" x 4" gauze dressing
5. The Hardcastle classification system was developed for classifying
 - (A) subtalar joint dislocations
 - (B) Lisfranc's joint dislocations
 - (C) metatarsophalangeal joint dislocations
 - (D) extra-articular fractures of the os calcis
6. When a short leg cast is applied, which superficial nerve needs to be protected in the area of the fibular neck?
 - (A) Sural
 - (B) Saphenous
 - (C) Femoral
 - (D) Common fibular (peroneal)
7. In the normal development of the foot, the center of ossification appears last in the
 - (A) talus
 - (B) calcaneus
 - (C) lateral cuneiform
 - (D) navicular
8. Which of the following types of padding would be best for an arthritic hammer toe?
 - (A) A metatarsal pad
 - (B) A crest pad
 - (C) A Morton's pad
 - (D) A heel-lift pad

9. True acquired clubbing of the fingernails is associated with which of the following diseases?
- (A) Lung cancer
 - (B) Osteoarthritis
 - (C) Rheumatoid arthritis
 - (D) Ulcerative colitis
10. Chemical exposure in the podiatric laboratory is controlled by the
- (A) Public Health Service
 - (B) National Institutes of Health
 - (C) Drug Enforcement Agency
 - (D) Occupational Safety and Health Administration
11. Adverse reactions associated with nonsteroidal anti-inflammatory drugs (NSAIDs) include all of the following EXCEPT
- (A) nausea
 - (B) interstitial nephritis
 - (C) respiratory depression
 - (D) peptic ulcer disease
12. A 45-year-old man presents with a history of pain in the medial aspect of the right ankle and foot for the past 6 months. The pain has become progressively worse and causes the patient to limp at the end of the workday. The pain is sharp at times; otherwise it is a throbbing, aching pain. Examination findings are pain on palpation posterior and proximal to the medial malleolus and also at the tuberosity of the navicular and stance heel valgus with a collapse of the longitudinal arch. The remaining examination is unremarkable. To form a treatment plan, it would be most helpful for the podiatric physician to review the results of
- (A) an MRI
 - (B) a CT scan
 - (C) a soft tissue ultrasound
 - (D) an EMG/NCV study
13. An avulsion fracture of the anterior process of the calcaneus is associated with which of the following ligaments?
- (A) Spring
 - (B) Bifurcate
 - (C) Long plantar
 - (D) Interosseous talocalcaneal
14. Which of the following radiographic findings is most consistent with chronic tophaceous gout?
- (A) Osteopenia
 - (B) Osteophytosis
 - (C) Early joint destruction
 - (D) Large bony erosions
15. Which of the following types of Salter-Harris epiphyseal injuries do NOT involve a fracture through the metaphysis?
- (A) I and II
 - (B) I and III
 - (C) II and III
 - (D) III and IV
16. In the 18- to 30-year-old age group, the most common infective organism in septic arthritis is
- (A) *Staphylococcus epidermidis*
 - (B) *Staphylococcus aureus*
 - (C) *Haemophilus influenzae*
 - (D) *Neisseria gonorrhoea*
17. Which of the following blood tests measures the coagulation time via the intrinsic pathway?
- (A) Bleeding time
 - (B) Sedimentation rate
 - (C) Prothrombin time (PT)/INR
 - (D) Partial thromboplastin time (PTT)
18. A Charcot joint is caused by
- (A) motor neuropathy
 - (B) sensory neuropathy
 - (C) vascular insufficiency
 - (D) dystrophic ulceration

19. The Hoffman-Clayton procedure is most commonly indicated for which of the following conditions?
- (A) Pes cavus
 - (B) Hallux valgus
 - (C) Hammer toe
 - (D) Rheumatoid arthritis
20. Which of the following is the usual mechanism of injury in football turf-toe injuries to the first metatarsophalangeal joint complex?
- (A) Hyperextension with compression
 - (B) Hyperflexion with tension
 - (C) Hyperflexion with shear
 - (D) Axial load on the sesamoid complex
21. A 35-year-old patient with rheumatoid arthritis has a severe hallux valgus deformity with a dislocated first metatarsophalangeal joint. She takes ibuprofen, prednisone, and methotrexate for the arthritis and has a severe penicillin allergy. Her bunion-last, extra-depth shoes no longer relieve her symptoms and she requests surgical intervention. The podiatric physician decides to perform a first metatarsophalangeal joint fusion under general anesthesia using internal fixation. In addition to a complete blood cell count (CBC) and a urinalysis, preoperative studies should include
- (A) a thyroid profile
 - (B) cervical radiographs
 - (C) patch testing for other antibiotic allergies
 - (D) muscle biopsy to evaluate her potential for malignant hyperthermia with general anesthesia
22. Which of the following is a true statement about gout?
- (A) Acute septic joint disease mimics gout.
 - (B) Blood uric acid levels above 7 mg/dL are pathognomonic of gout.
 - (C) Early acute gout is best treated by uricosuric agents.
 - (D) Salicylates are administered to potentiate the effects of uricosuric agents.
23. Pulmonary embolism is most definitively diagnosed by
- (A) pulmonary angiography
 - (B) ventilation perfusion scans
 - (C) chest x-ray studies
 - (D) arterial blood gas studies
24. A 68-year-old man reports coldness and numbness of both feet for the past 6 months and leg pain with increased activity that is relieved with rest. Physical examination shows absent DP and PT pulses. Subpapillary venous filling time is more than 8 seconds in all digits. The skin of both feet is cool to the touch, shiny, and pale, and there is a lack of digital hair growth. Doppler and plethysmography show minimal blood flow to both feet and lower legs. The likely diagnosis is
- (A) arterial embolism
 - (B) arteriosclerosis obliterans
 - (C) dissecting aortic aneurysm
 - (D) Raynaud's phenomenon
25. Which of the following findings should be expected in a 14-year-old patient with congenital soleus equinus?
- (A) Limited dorsiflexion of the ankle with the knee flexed and extended
 - (B) Limited dorsiflexion of the ankle with the knee extended but not flexed
 - (C) Normal dorsiflexion of the ankle with the knee flexed but not extended
 - (D) Normal dorsiflexion of the ankle with the knee extended but not flexed
26. A 50-year-old patient presents with a tender mass on the lateral forefoot. A radiograph reveals an expansile "soap bubble" lesion in the fifth metatarsal. The most likely diagnosis is
- (A) giant cell tumor
 - (B) osteochondroma
 - (C) Ewing's sarcoma
 - (D) unicameral bone cyst

27. When a dorsal wedge osteotomy is performed at the base of the third metatarsal, which interosseous muscle belly is first seen between the second and third metatarsals?
- (A) Second dorsal
 - (B) Third dorsal
 - (C) Second plantar
 - (D) Third plantar
28. An abnormal “Q” angle is most commonly associated with
- (A) anterior cruciate tears
 - (B) posterior cruciate tears
 - (C) bucket handle meniscus tears
 - (D) patellar malalignment
29. A 40-year-old woman complains of a painful hammered hallux of the right foot. Examination shows a rigid hammering of the interphalangeal joint of the right hallux with an associated flexible plantarflexed first ray. Which of the following is the most appropriate operation for this patient?
- (A) Jones tenosuspension with interphalangeal fusion
 - (B) Arthroplasty of the interphalangeal joint
 - (C) Dorsiflexory wedge osteotomy of the first metatarsal with interphalangeal fusion
 - (D) First metatarsophalangeal joint fusion
30. Penicillin dose adjustment must be considered when
- (A) renal excretion is impaired
 - (B) hepatic excretion is impaired
 - (C) hepatic metabolism is impaired
 - (D) oral absorption is increased
31. An increased risk of deep vein thrombosis is associated with
- (A) diabetes mellitus
 - (B) iron deficiency anemia
 - (C) polycythemia vera
 - (D) rheumatoid arthritis
32. Postanesthesia headache is most likely to occur after which of the following types of anesthesia?
- (A) Spinal
 - (B) Local
 - (C) Epidural
 - (D) Subarachnoid
33. A 30-year-old patient is scheduled to have major rearfoot reconstruction. The patient has a history of asthma and is currently on an albuterol nebulizer and has taken prednisone, 7.5 milligrams, daily for the past 2 years. Prior to surgery, the podiatric physician should do which of the following?
- (A) Begin aspirin therapy 24 hours prior to surgery.
 - (B) Begin antibiotic prophylaxis to prevent endocarditis.
 - (C) Increase the prednisone dose to at least 20 milligrams per day.
 - (D) Stop the prednisone 2 days prior to surgery to aid in wound healing.
34. Which of the following steps should be followed when an individual is using an automated external defibrillator?
- (A) Wipe the patient's chest dry with alcohol.
 - (B) Remove any medication patch prior to use.
 - (C) Place the pads over implantable devices.
 - (D) Delay use until after hypothermia, if present, is treated.
35. Chest compressions in infant cardiopulmonary resuscitation should be
- (A) 0.5-1.0 inch
 - (B) 1.0-1.5 inches
 - (C) 1.5-2.0 inches
 - (D) 2.0-2.5 inches
36. Which of the following skin lesions is derived from a distinctive cell line of melanized cells?
- (A) Dermal nevus
 - (B) Junctional nevus
 - (C) Compound nevus
 - (D) Blue nevus

37. Which of the following is NOT a side effect of glucocorticoids?
- (A) Psychosis
 - (B) Edema
 - (C) Hypokalemia
 - (D) Chronic active hepatitis
38. A 60-year-old resident of a skilled nursing facility suffers from osteomyelitis of her calcaneus. Her past medical history includes stroke syndrome, inability to swallow, and chronic nasogastric tube feeding. She undergoes a 2-hour procedure. Two days later the patient is noted to have fever with shortness of breath and production of fetid sputum. The most likely diagnosis is
- (A) acute bronchitis
 - (B) atelectasis
 - (C) aspiration pneumonia
 - (D) pulmonary embolism
39. Hand-foot-and-mouth disease is a mild infectious disease of childhood caused by a
- (A) staphylococcus bacteria
 - (B) streptococcus bacteria
 - (C) herpesvirus
 - (D) coxsackievirus
40. In normal radiographic anatomy, the lateral (third) cuneiform bone is LEAST visible with which of the following standard pedal studies?
- (A) Anteroposterior foot
 - (B) Lateral foot
 - (C) Medial oblique foot
 - (D) Lateral oblique foot
41. Bone healing with rigid internal fixation is known as
- (A) secondary bone healing
 - (B) periosteal bone healing
 - (C) primary bone healing
 - (D) cartilage phase healing
42. A 42-year-old patient is seen by a podiatric physician 48 hours after an ankle sprain. Examination reveals moderate to severe edema and moderate ecchymosis. Which of the following would be the best course of treatment?
- (A) Primary repair
 - (B) Lateral ankle stabilization
 - (C) A short leg weight-bearing cast
 - (D) A Jones compression dressing, non-weight-bearing
43. In order to attain better x-ray penetration of the tarsal bones and avoid an increase in the overall film density the
- (A) kilovoltage and the mAs both must be increased
 - (B) kilovoltage must be increased and the mAs must be decreased
 - (C) kilovoltage must be decreased and the mAs must be increased
 - (D) kilovoltage and the mAs both must be decreased
44. Two measurements used for the evaluation of Haglund's deformity are the
- (A) parallel pitch lines and Böhler's angle
 - (B) parallel pitch lines and the Fowler-Philip angle
 - (C) Fowler-Philip angle and Böhler's angle
 - (D) angle of Gissane and Böhler's angle
45. Which of the following materials would be LEAST appropriate for extrinsic posting of functional orthotics?
- (A) Acrylic
 - (B) Crepe
 - (C) Cork
 - (D) Leather
46. The ability of a test to give a negative finding when the person screened is truly free of the condition is called the test's
- (A) validity
 - (B) sensitivity
 - (C) specificity
 - (D) variation

47. Fog on a developed radiographic film most likely indicates
- (A) a light leak
 - (B) excessive fixing
 - (C) low developer temperature
 - (D) weak developing solution
48. Statutes of limitations are determined by
- (A) state laws
 - (B) state podiatry associations
 - (C) the Department of Justice
 - (D) the American Podiatric Medical Association
49. Which of the following is an appropriate treatment for a Salter-Harris type V fracture?
- (A) An Ace bandage
 - (B) A functional orthosis
 - (C) Casting immobilization
 - (D) Open reduction internal fixation
50. A 25-year-old runner presents with achy soreness poorly localized to the lateral border of the foot and complains of something “going out of” and “popping into” place. This condition has been present for several months with periods of exacerbation and remission. The area is not warm or swollen and the patient has never noticed edema or redness. Palpation localizes tenderness to the calcaneocuboid joint. The most likely diagnosis is
- (A) plantar fasciitis
 - (B) a midtarsal stress fracture
 - (C) cuboid subluxation syndrome
 - (D) peroneal tendinitis
51. A patient presents with a chief complaint of interdigital itching and maceration. Physical examination reveals fissuring and maceration of the third and fourth web spaces bilaterally. A KOH preparation is performed and reveals multiple budding pseudohyphae. The most likely diagnosis is infection caused by
- (A) *Candida albicans*
 - (B) *Trichophyton rubrum*
 - (C) *Trichophyton mentagrophytes*
 - (D) *Corynebacterium minutissimum*
52. Which of the following dysplasias is characterized by multiple bone islands in periarticular areas?
- (A) Osteopetrosis
 - (B) Osteogenesis imperfecta
 - (C) Osteopoikilosis
 - (D) Melorheostosis
53. Common precipitating triggers of asthma include all of the following EXCEPT
- (A) smoke
 - (B) exercise
 - (C) dust mites
 - (D) topical cortisone
54. In long bones, primary ossification occurs at which of the following sites?
- (A) Metaphysis
 - (B) Diaphysis
 - (C) Epiphysis
 - (D) Metaphyseal-diaphyseal junction

55. A patient who presents with an adducted, toe-walking, scissor-type gait most likely has
- (A) cerebral palsy
 - (B) muscular dystrophy
 - (C) multiple sclerosis
 - (D) amyotrophic lateral sclerosis
56. A patient presents with a hemoglobin A_{1c} of 8.0 and a fasting blood glucose level of 210 mg/dL. Clinical examination strongly indicates that sensory polyneuropathy is present. A symptom of this would be
- (A) Babinski's reflex
 - (B) a positive Thompson test
 - (C) diminished deep tendon reflexes
 - (D) an inability to feel a 10-gram Semmes-Weinstein monofilament
57. Standards for quality of care by health systems are developed by the
- (A) National Institutes of Health
 - (B) Centers for Medicare & Medicaid Services
 - (C) National Committee for Quality Assurance
 - (D) Joint Commission on Accreditation of Healthcare Organizations
58. The most common side effect of fentanyl, sufentanil, and thiopental is
- (A) tachycardia
 - (B) hypokalemia
 - (C) respiratory depression
 - (D) hyperglycemia

The next 2 questions refer to the following case.

A patient with a documented penicillin allergy inadvertently receives an intravenous infusion of cefazolin. The patient complains of shortness of breath and develops a rash and pruritus.

59. Which of the following medications is indicated as the first line of therapy?
- (A) Epinephrine
 - (B) Sodium bicarbonate
 - (C) Verapamil
 - (D) Nifedipine
60. As part of the workup a complete blood cell count (CBC) is obtained. Which of the following cell types are most likely to be elevated?
- (A) Monocytes
 - (B) Lymphocytes
 - (C) Eosinophils
 - (D) Basophils

**PRACTICE TEST 1
ANSWER KEYS AND RATIONALES**

Sequence: Key
1 D

Stasis ulcers are caused by blood pooling in the legs secondary to venous distention and a failure of the venous valves to maintain an upward flow of venous blood against gravity. Compression dressings are an effective way to compensate for this lack of proper venous function.

Sequence: Key
2 A

Hemoglobin A_{1c} is an end product produced when hemoglobin glycosylates due to hyperglycemia. Assessment of hemoglobin A_{1c} provides useful information related to a patient's regulation of blood glucose during the previous 3 months.

Sequence: Key
3 C

Approximately 2 to 6 cm proximal to its insertion, the Achilles tendon has an area of decreased blood flow, making this region more vulnerable to strain and rupture.

Sequence: Key
4 A

The stratum lucidum is one of the five layers of the normal plantar skin epidermis. The stratum granulosum lies just above the mucosal layer of the epidermis.

Sequence: Key
5 B

MRI uses nonionizing radio frequency pulses that are absorbed and then emitted by tissue lying inside a magnetic field.

Sequence: Key
6 B

The patient has several risk factors for deep vein thrombosis (DVT), i.e., smoking, immobilization, and oral contraceptive use. The description of the leg as "hot, red, and indurated" is most consistent with DVT. Homan's sign is a diagnostic sign, although unspecific for DVT.

Sequence: Key
7 D

Removal of the proximal phalangeal base of the hallux may result in shortening and postoperative contracture of the hallux. Maintaining this space with a hemi-implant may reduce this complication.

Sequence: Key
8 B

Stridor, laryngospasm, wheezing, angioedema, hives, possible hypotension, and circulatory collapse are symptoms of anaphylaxis. A lack of oxygen due to bronchospasm is the primary cause of death.

Sequence: Key
9 C

Morphine causes depression of ventilation.

Sequence: Key
10 C

Stance phase is shortened as running speed increases, which decreases the time in stance and results in the elimination of the brief time when both feet are in stance at the same time.

Sequence: Key
11 A

Fibrous scar tissue often causes adhesions between a tendon and its sheath and the overlying skin.

Sequence: Key
12 D

Although the intensity of the murmur does not indicate the severity of a valve defect, a patient with cardiac murmur should be medically cleared by an M.D. or D.O. prior to undergoing any invasive treatment such as surgical intervention. In this case, there is the potential for incision and drainage.

Sequence: Key
13 C

The Centers for Medicare & Medicaid Services (CMS) is the government agency responsible for determining the fees and services that are eligible for payment for Medicare and Medicaid recipients. Federal law to provide that direction defines this agency.

Sequence: Key
14 D

On MRI, a rupture or an injury appears as an area of increased signal in the tendon.

Sequence: Key
15 C

Subtalar joint coalition is most often associated with pes planus and peroneal spasm, with available motion seen usually in the pronatory direction. All of these findings are associated with a decreased calcaneal inclination angle.

Sequence: Key
16 A

Escherichia coli is transmitted from fecal material and isolated from stool cultures. In a patient with bowel incontinence, the ulcer is most likely infected from the patient's fecal material.

Sequence: Key
17 B

A tort is an act of wrongdoing, which is civil in nature rather than criminal. It is a wrong independent of contract or criminality. Health care providers have a duty to do what is right and reasonable. The elements of the tort of malpractice address situations in which there is a breach of duty that causes or results in harm.

Sequence: Key
18 C

When a wet-to-dry dressing is removed, superficial necrotic tissue is also removed from the wound.

Sequence: Key
19 A

The talus adducts and plantarflexes in closed chain pronation, and actually decreases the amount of articulation of the talus and navicular.

Sequence: Key
20 A

The clinical and radiographic features described in this question are associated with an excessively pronated foot, such as flexible flatfoot.

Sequence: Key
21 A

The implant functions as a spacer between the proximal phalanx and the first metatarsal after the painful joint has been resected.

Sequence: Key
22 C

Sickle cell anemia manifests itself in infancy. Clinical manifestations include all the symptoms described in the question. Management is largely symptomatic and supportive.

Sequence: Key
23 C

A partially threaded screw is used to create interfragmental compression by the lag principle. This technique is commonly used to provide the best compression and alignment for an Austin bunionectomy.

Sequence: Key
24 B

In genetically susceptible patients, an oxidative trifluoroacetyl metabolite of halothane may evoke the production of neoantigens directed against hepatocytes.

Sequence: Key
25 B

The female athlete triad, which affects women and girls in many sports, is defined by the following symptoms: disordered eating (bulimia or anorexia), amenorrhea, and osteoporosis.

Sequence: Key
26 D

Acetylcholine is found in the autonomic nervous system, which is not involved in the development of muscular dystrophy.

Sequence: Key
27 B

Compensation for a structurally long limb produces excessive pronation of the foot on the involved side. The wear pattern of the shoe on the involved foot would, therefore, be greatest on the medial side.

Sequence: Key
28 C

Incidence is the number of new cases of a specific disease occurring during a given period in a specified population. In this question there are 200 nursing homes residents. In one year, there were 12 patients who presented with onychomycosis. During the next year, there were 5 new cases diagnosed. The incidence rate for the second year is 5/200, representing only new cases.

Sequence: Key
29 C

Hemarthrosis from hemophilia occurs in up to two-thirds of patients and is heralded by pain, warmth, and stiffness. The knee, elbow, and ankle are the joints most frequently affected.

Sequence: Key
30 A

The Thompson test is performed by squeezing the calf muscle of a patient lying in the prone position, and observing for plantarflexion of the foot. Absence of foot plantarflexion is indicative of disruption of the Achilles tendon.

Sequence: Key
31 D

Ventricular fibrillation is a life-threatening dysrhythmia that occurs in the early phases of a myocardial infarction.

Sequence: Key
32 B

The nutrient artery of the first metatarsal enters the midshaft on the lateral aspect.

Sequence: Key
33 D

The apophysis of the calcaneus can develop normally from multiple ossification centers with the adjoining metaphysis appearing sclerotic, irregular, or even serrated.

Sequence: Key
34 A

Weakness and paralysis of muscle groups are not characteristic of somatization disorder.

Sequence: Key
35 D

Many types of chronic skin irritations and long-standing ulcers, such as venous stasis ulcers, can undergo malignant transformations, the vast majority of which result in well-differentiated squamous cell carcinoma.

Sequence: Key
36 A

A monocyte is a large phagocytic cell that transforms into a macrophage once it enters tissues.

Sequence: Key
37 B

Flaws in the fixation process are the most common cause of yellow discoloration of radiographic film.

Sequence: Key
38 A

The systematic evaluation and examination findings are indicative of posterior tibial tendinitis. The tendon is intact due to the inversion noted with the heel rise test. Excessive calcaneal eversion with progressively increasing forefoot abduction is a hallmark of posterior tibial tendinitis. Injection of a steroid near or within a tendon increases the risk of iatrogenic rupture. Injected corticosteroids (and even oral steroids) have been well documented to predispose a tendon to rupture because they weaken collagen cross-linking.

Sequence: Key
39 C

In muscular dystrophy, contractures of the gastrocnemius muscles appear early and result in tightening of the heel cords, which causes the patient to have an equinus deformity and walk on the toes.

Sequence: Key
40 B

Bence Jones proteins in the urine are diagnostic of multiple myeloma (a malignancy of plasma cells). These proteins are produced by plasma cells and are considered the first tumor marker.

Sequence: Key
41 A

Of the choices listed, only the Sayre is a periosteal elevator.

Sequence: Key
42 A

Open reduction and internal fixation are now indicated for the patient. Spinal anesthesia would provide anesthesia at the appropriate level for lower extremity surgery with a thigh tourniquet. Also, with spinal anesthesia there is no risk that the food recently eaten by the patient will be aspirated.

Sequence: Key
43 D

Latent ankle diastasis requires no reduction and is treated by cast immobilization. Distal syndesmotic ligamentous injuries without fractures or gross widening of the ankle mortise are treated nonoperatively with a short leg cast, followed by physical therapy.

Sequence: Key
44 D

The orientation of this view is 45 degrees from the long axis of the foot. This orientation most closely parallels the plane of the posterior and middle calcaneal facets, thus visualizing the joint space.

Sequence: Key
45 B

Osteoblast and osteoclast activity both increase in Paget's disease.

Sequence: Key
46 A

Rowe classifications I through III describe extra-articular calcaneal fractures, which comprise about 25 percent of calcaneal fractures and have the best prognosis.

Sequence: Key
47 A

Since there is no visible fracture on x-ray, an epiphyseal fracture of the lateral malleolus is likely. A short leg cast for 3 weeks would be the treatment of choice.

Sequence: Key
48 D

The dermatologic lesion most commonly associated with Lyme disease is erythema chronicum migrans.

Sequence: Key
49 B

The anatomic location of the patient's symptoms narrows the diagnosis to an intra-articular injury of the ankle joint.

Sequence: Key
50 A

Pyoderma gangrenosum is thought to be an autoimmune disease and can be caused by many systemic diseases, although the exact etiology is unknown. It is associated with inflammatory bowel diseases such as ulcerative colitis and Crohn's disease.

Sequence: Key
51 A

Most inversion ankle sprain injuries occur when the foot is plantarflexed and inverted at the ankle joint, which results in instability. The anterior talofibular ligament is the first ligament of the lateral ankle area to be maximally stretched and torn with this type of injury.

Sequence: Key
52 A

Freiberg's infraction is a true osteonecrosis of the second metatarsal head, with the inflammation causing the initial joint space widening. The resultant osteoarthritis causes the subchondral sclerosis commonly seen.

Sequence: Key
53 D

Patients with multiple sclerosis do not usually have signs and symptoms affecting the lower motor neurons. Lower extremity reflexes are generally hyperactive.

Sequence: Key
54 C

Charcot neuroarthropathy is a progressive deterioration of a joint characterized by peripheral neuropathy. The goal of treatment is to maintain a stable foot in order to decrease the tendency of the foot to subluxate or dislocate without support. A custom molded shoe will help maintain the foot in a stable position and help protect the extremity from repetitive microtrauma and skin breakdown.

Sequence: Key
55 C

Osteoid osteoma is classically described as associated with pain at night, relieved by the use of salicylates.

Sequence: Key
56 C

A thorough medical history is the only method listed that covers the identification of all of the prescription and over-the-counter medications a patient has taken or is taking.

Sequence: Key
57 A

Aspirin inhibits prostaglandins.

Sequence: Key
58 C

Coagulase-positive *Staphylococcus aureus* has consistently been the most common infecting organism in postoperative infections. This also applies to foot and ankle surgery. Closely following this is the less but increasingly virulent organism coagulase-negative *Staphylococcus epidermidis*.

Sequence: Key
59 D

Pain and the rapid increase in size without trauma make cavernous hemangioma the most likely diagnosis.

Sequence: Key
60 A

An aggressive lesion is best treated with surgical curettage and packing.

PRACTICE TEST 2
ANSWER KEYS AND RATIONALES

Sequence: Key
1 B

Herpes simplex is diagnosed with a Tzanck smear in which fluid from an intact vesicle is smeared on a glass slide, dried, and stained with Giemsa's stain.

Sequence: Key
2 A

The most serious complication of Paget's disease is sarcomatous degeneration. Osteosarcomas are most common but fibrosarcomas and chondrosarcomas can also be seen.

Sequence: Key
3 B

A CT scan is definitive in the diagnosis of osseous subtalar joint coalition, particularly in terms of preoperative planning.

Sequence: Key
4 B

Pulmonary emboli are usually released from deep venous structures of the lower extremity. They lodge in pulmonary vasculature, which causes a decrease in oxygen levels and an increase in pulmonary blood pressure. The result is air hunger, tachypnea, and dyspnea.

Sequence: Key
5 A

Patients who take procainamide for prolonged periods often develop anticardiolipin antibodies as well as anti-DNA and anti-histone antibodies. Drug-induced systemic lupus erythematosus is rare and usually subsides once the medication is discontinued.

Sequence: Key
6 D

Melanocytes are contained in the stratum germinativum, also known as the basal layer of the epidermis.

Sequence: Key
7 B

The anatomic location of the patient's pain narrows the diagnosis to the anterior muscle compartment. Shin splints are a common injury in runners and are most symptomatic when a person is running on hills. Overpronation is often the etiology.

Sequence: Key
8 C

Rheumatoid arthritis is characterized by synovial inflammation. Joint destruction in rheumatoid arthritis targets articular cartilage, ligaments, tendons, and bone.

Sequence: Key
9 A

Conservative therapy that consists of rest, anti-inflammatory medication, and shoe modification is the first step in the treatment of a painful pes planus deformity.

Sequence: Key
10 C

Cutaneous larva migrans is a disorder caused by nematode larvae, is serpiginous in appearance, and responds to treatment with thiabendazole.

Sequence: Key
11 B

Sever's disease is limited to the posterior aspect of the heel and resolves by the time the apophysis fuses with the body of the calcaneus.

Sequence: Key
12 A

The Bunnell suturing technique is an effective and commonly used end-to-end technique for the repair of tendon ruptures.

Sequence: Key
13 C

Malignant melanoma would produce the type of pigmented skin changes that could mimic Kaposi's sarcoma.

Sequence: Key
14 C

Osteoid osteoma is a small benign osteoblastic tumor. It initially appears as a sclerotic bone island with a central lucent defect.

Sequence: Key
15 D

Prophylaxis against *Staphylococcus aureus* and *Staphylococcus epidermidis* consists of amoxicillin 3 gm orally 1 hour before the procedure and 1.5 gm orally 6 hours later.

Sequence: Key
16 A

The goal of the semi-weight-bearing technique is to capture an accurate impression of the size and shape of the foot. The cast produced via this technique is most appropriate for an accommodative orthosis.

Sequence: Key
17 B

Generally, excisional biopsies for skin lesions are performed in the shape of an ellipse with pointed ends. The long axis of the ellipse should be roughly three times its central and greatest width to prevent buckling of the skin.

Sequence: Key
18 D

The posterior tibial muscle, an inverter of the foot, is the only muscle listed that is powerful enough to support the arch and counteract the effect of fibularis (peroneus) brevis, an everter of the foot. One of the main characteristics of posterior tibial dysfunction is loss of the arch.

Sequence: Key
19 C

The positions listed in the answer slightly overcorrect for the preoperative hammer toe deformity and are the positions most likely to prevent recurrence.

Sequence: Key
20 A

This sensitivity refers to the significant genetic effect radiation has on the chromosomes in germ cells.

Sequence: Key
21 B

In pronation, the talus is positioned more distally and plantarly, which increases the talar declination angle. The calcaneus is lowered and everted, which decreases the calcaneal inclination angle.

Sequence: Key
22 A

Manipulation of the kVp will affect radiographic subject contrast. A lower kVp will increase the contrast; a higher kVp will decrease the contrast.

Sequence: Key
23 A

A Salter-Harris type I fracture is simply a fracture of the growth plate without joint involvement.

Sequence: Key
24 A

In the lateral view, the fifth toe is juxtaposed against the other four toes and the metatarsal heads; therefore, it is not clearly visible.

Sequence: Key
25 A

In addition to gloves, OSHA-designated personal protection includes gowns and eye protection, which provide protection especially from blood splatter.

Sequence: Key
26 C

The cane is held on the stronger side of the body and the weight is shifted away from the weaker/painful limb.

Sequence: Key
27 D

Congenital vertical talus is a complex deformity involving bone, tendon, capsule, and soft tissue abnormality. It has a similar appearance at birth to talipes calcaneovalgus, but there is lack of motion at the subtalar joint and ankle joint within 6 months after birth, a negative calcaneal inclination angle, and complete dislocation of the talonavicular joint. It cannot be reduced with serial casting.

Sequence: Key
28 A

The lumbrical tendon is located plantar to the deep transverse metatarsal ligament.

Sequence: Key
29 B

A patient with a loss of proprioception will also have a loss of protective sensation, which is best detected with a 10-gram monofilament.

Sequence: Key
30 B

In closed kinetic chain supination of the subtalar joint, the talus and tibia externally rotate, the calcaneus inverts, and the longitudinal arch of the foot is elevated, all of which result in a functionally longer limb.

Sequence: Key
31 C

The normal value for the talocalcaneal angle is 20 to 40 degrees. The talocalcaneal angle becomes smaller with supination, so a value of 10 degrees would be indicative of supination, not excessive pronation.

Sequence: Key
32 C

With the exception of halothane, all volatile anesthetics contain an ether linkage. Volatile anesthetics with an ether linkage are less likely than halothane to produce cardiac dysrhythmias in the presence of exogenous epinephrine injection.

Sequence: Key
33 B

The tibialis anterior tendon remains attached at its insertion and is simply routed through a groove created in the navicular. Since its insertion has not changed, it is a translocation.

Sequence: Key
34 A

People with osteoarthritis frequently have bony enlargement of the distal interphalangeal joints, referred to as Heberden's nodes.

Sequence: Key
35 C

Bupivacaine is not recommended for use in children under 12 years of age. It is long acting, and long-acting local anesthetics carry an increased risk of cardiac and CNS toxicity.

Sequence: Key
36 C

Molluscum contagiosum is a viral infection of the skin characterized by the appearance of a few to numerous small, pearly, umbilicated papular epithelial lesions that contain numerous inclusion bodies known as molluscum bodies.

Sequence: Key
37 C

Practically all venous stasis ulcers exhibit a red, granulating base.

Sequence: Key
38 D

Lower extremity dependent edema is a sign of right-sided congestive heart failure.

Sequence: Key
39 C

Surgically changing the insertion of the flexor digitorum longus tendon from the base of the distal phalanx to the dorsal aspect of the proximal phalanx will correct the proximal interphalangeal joint contracture of the hammer toe by pulling the proximal phalanx into a more congruous position with the middle phalanx.

Sequence: Key
40 C

The failure to report a suspicion of patient abuse may potentially result in harm or death. In such cases, the practitioner may be criminally liable.

Sequence: Key
41 D

Rocker sole modification is used for any type of pathologic or pathomechanical condition that limits normal movement of the ankle, metatarsal, or metatarsophalangeal joint. A rocker sole is a dynamic lever that assists with the normal movement of the lower extremity during gait and prevents flexing of the sole of the shoe during all phases of gait.

Sequence: Key
42 D

Routine primary suturing is categorized as healing by first intention.

Sequence: Key
43 C

Motor innervation to the anterior compartment muscles of the lower leg is supplied by the deep fibular (peroneal) nerve.

Sequence: Key
44 B

During ankle joint dorsiflexion, the anterior and widest portion of the talar dome is wedged in the ankle mortise. With inversion, the lateral border of the talar dome is compressed against the lateral malleolus.

Sequence: Key
45 B

Hemolytic anemia is normochromic and normocytic.

Sequence: Key
46 C

A pronated subtalar joint would result in pronation of the midtarsal joint, and forefoot valgus would increase.

Sequence: Key
47 C

The Hawkins classification of talar neck fractures is universally accepted as a way of defining the different fracture patterns of this injury. The severity of the injury and the associated risk of avascular necrosis of the talus increases in a stepwise fashion from type I to type IV. The severity of the injury is directly correlated with anatomic disruption of blood supply to the talus.

Sequence: Key
48 D

In hypothyroidism, the relaxation of Achilles tendon reflexes is delayed. This is sometimes referred to as hypothyroid neuropathy.

Sequence: Key
49 C

The patient's presentation is fairly classic for Graves' disease. The audible bruit described is generally found only in Graves' disease. The classic triad in this common disorder is hyperthyroidism with goiter, ophthalmopathy, and dermopathy.

Sequence: Key
50 C

Warfarin is an oral anticoagulant and therefore has no effect on established thrombi, nor does it reverse ischemic tissue damage.

Sequence: Key
51 A

Diazepam is insoluble in water and contains propylene glycol, a tissue irritant that causes pain on injection and venous irritation.

Sequence: Key
52 B

The correct ventilation-to-chest-compression ratio in one-rescuer CPR is 2 ventilations for every 15 chest compressions.

Sequence: Key
53 B

Hyperparathyroidism, which can affect bone in many ways, appears on radiographs as osteopenia. Excess parathyroid hormone results in an increase in bone metabolism, which may appear as microfractures, bone cysts, brown tumors, and pathologic fractures.

Sequence: Key
54 A

Mycobacterium avium-intracellulare is one of the most common bacterial infections in people with HIV. One study demonstrated the presence of these bacteria in 43 percent of people within 2 years of an HIV diagnosis. This is a disseminated infection that thrives in the presence of a weakened immune system and low CD4+ counts.

Sequence: Key
55 B

A cohort represents a designated group of individuals who are followed or traced over a period of time. Epidemiology is the study of how a disease presents itself or occurs within a population. Prospective studies examine patients rather than a review of the records. To study a disease and how it presents from one point in time forward, one looks at those who are free of the disease.

Sequence: Key
56 D

Heel pain in boys 4 to 7 years old is more likely to be caused by irritation of the growth plate of the calcaneus.

Sequence: Key
57 B

The patellar reflex tests the femoral nerve, which innervates the quadriceps tendon. The nerve is made up of spinal roots L2, L3, and L4.

Sequence: Key
58 B

The use of oral contraceptives puts a woman at risk to develop deep vein thrombosis.

Sequence: Key
59 A

Severe localized edema, erythema, serosanguineous drainage, induration, and pain on palpation 3 days postoperatively all indicate that a vessel was damaged, causing a hematoma.

Sequence: Key
60 B

Sickle cell crisis is a medical emergency in African-American patients, and the risks associated with this condition can be minimized by using a sickle cell trait screening test.

**PRACTICE TEST 3
ANSWER KEYS AND RATIONALES**

Sequence: Key
1 B

The initial treatment of choice for deep vein thrombosis is intravenous heparin.

Sequence: Key
2 D

Measurement of the angle formed by the bisection of the second metatarsal and the line perpendicular to the lesser tarsus bisection gives the metatarsus adductus angle.

Sequence: Key
3 B

A KOH preparation and/or fungal culture should be done to ensure that a fungal infection exists before griseofulvin is prescribed due to the risk of side effects.

Sequence: Key
4 A

Adaptic dressing is the only nonadherent dressing listed.

Sequence: Key
5 B

The Hardcastle classification is universally recognized as a diagnostic and therapeutic system specific only to Lisfranc's joint dislocation injuries.

Sequence: Key
6 D

The common fibular (peroneal) nerve winds around the neck of the fibula as it travels distally, lying superficial to the bone and deep to the skin, distal to the knee. If the proximal edge of a short leg cast is not properly padded, it can put pressure on the nerve and damage it.

Sequence: Key
7 D

The ossification center of the navicular bone appears at approximately 3 years of age and is the last center of ossification to appear in the foot.

Sequence: Key
8 B

The crest pad is used when one or several digits of a patient's foot are in moderate contracture and are becoming irritated at the distal end of the digit. Its purpose is to mechanically dorsiflex and extend the affected digits. It creates an upward thrust and places weight bearing on the padded plantar aspect of the toes, alleviating painful lesions.

Sequence: Key
9 A

The clubbing seen in lung cancer and certain other pulmonary diseases is generally considered to be a secondary effect of hypoxemia-induced local vasodilatation and is thus an acquired deformity.

Sequence: Key
10 D

The Occupational Safety and Health Administration is the government agency responsible for chemical exposures.

Sequence: Key
11 C

Nonsteroidal anti-inflammatory drugs do not cause respiratory depression.

Sequence: Key
12 A

MRI will assess the ligaments and tendons as well as the integrity of the associated osseous structures of the foot.

Sequence: Key
13 B

The bifurcate ligament, which originates on the anterior process of the calcaneus and attaches to the navicular and cuboid, is associated with this type of fracture.

Sequence: Key
14 D

Radiographic evaluation of chronic tophaceous gout usually reveals large bony erosions, which are caused by pressure necrosis of bone adjacent to a periarticular accumulation of monosodium urate crystals.

Sequence: Key
15 B

The Salter-Harris classification of epiphyseal injury defines fracture pattern on the basis of which zone or zones of the epiphysis in a long bone are disrupted. By definition, the fracture pattern of type I and type III injuries does not extend into or through the metaphysis of a long bone.

Sequence: Key
16 D

Neisseria gonorrhoea is the infective organism that most commonly causes septic arthritis in young adults. Commonly polyarticular in onset, it is often associated with skin lesions.

Sequence: Key
17 D

Partial thromboplastin time (PTT) evaluates the intrinsic coagulation system. It is commonly used to monitor heparin therapy.

Sequence: Key
18 B

Charcot joint is caused by impairment of deep pain sensation or proprioception, which affects the joint's normal protective reflexes. It commonly occurs in patients with diabetes in joints formed by the tarsal bones.

Sequence: Key
19 D

The severe debilitating effects of rheumatoid arthritis commonly require complete excision of the lesser metatarsophalangeal joints, a technique known as the Hoffman-Clayton procedure.

Sequence: Key
20 A

A plantar capsular-ligamentous sprain of the first metatarsophalangeal joint occurs when the hallux is hyperextended and compressed at the metatarsophalangeal joint. This can be caused by the friction of artificial surfaces resulting in fixation of the hallux, which causes hyperextension and jamming of the joint on the already dorsiflexed hallux.

Sequence: Key
21 B

Atlantoaxial subluxation is present in 40% of patients with rheumatoid arthritis, and marked flexion of the neck during anesthesia may cause severe neurological interruption. The anesthesiologist should be consulted preoperatively for evaluation, and flexion-extension lateral cervical neck radiographs should be obtained for patients at risk.

Sequence: Key
22 A

Acute septic joint disease produces a red, hot, swollen, and painful joint, which mimics the symptoms of gout.

Sequence: Key
23 A

The gold standard for the diagnosis of pulmonary embolism is the pulmonary angiogram.

Sequence: Key
24 B

Arteriosclerosis obliterans refers to the occluded peripheral arterial system hallmarked by the examination findings listed in this question.

Sequence: Key
25 A

The soleus muscle does not cross the knee joint. Limited ankle joint dorsiflexion with the knee flexed is due to soleus equinus, since the influence of the gastrocnemius and plantaris muscles has been eliminated.

Sequence: Key
26 A

Giant cell tumors are benign lesions, usually solitary and locally aggressive. They classically appear with a radiolucent center and denser periphery. They are eccentric and expansile, with a border that is well defined but not sclerotic, and have a “soap bubble” appearance.

Sequence: Key
27 A

When a dorsal incision for a dorsal wedge osteotomy is performed at the base of the third metatarsal, the second dorsal interosseous muscle belly is seen first between the second and third metatarsals.

Sequence: Key
28 D

The Q angle is formed in the frontal plane by two line segments: one segment from the tibial tubercle to the middle of the patella, and one segment from the middle of the patella to the anterior superior iliac spine (ASIS). Patellofemoral tracking problems and anterior knee pain are associated with an increased Q angle.

Sequence: Key
29 A

Extensor hallucis longus transfer to the first metatarsal head will elevate the plantarflexed first ray, and fusion of the hallux interphalangeal joint will prevent a hallux hammer toe.

Sequence: Key
30 A

Penicillin excretion occurs mainly by glomerular filtration. If renal excretion is impaired, the dose must be adjusted to accommodate the decreased renal function.

Sequence: Key
31 C

The combination of intravascular hyperviscosity due to a high red cell mass and a high platelet count with functionally abnormal platelets puts patients with polycythemia vera at high risk for stroke, myocardial infarction, and venous thromboembolism.

Sequence: Key
32 A

The headache associated with a spinal anesthetic is believed to result from the loss of cerebrospinal fluid through the meningeal needle hole, which results in decreased buoyant support for the brain. The headache is characteristically mild or absent when the patient is supine, but head elevation results in fronto-occipital headache. In the upright position, the brain sags in the cranial vault, putting traction on the pain-sensitive structures.

Sequence: Key
33 C

Long-term steroid usage suppresses the hypothalamic-pituitary axis (HPA) and increases the risk for hypotensive shock. Preoperative supplementation with high-dose steroids will help avert this complication.

Sequence: Key
34 B

If an automated external defibrillator is to be used on a patient who has a medication patch, the patch should be removed prior to use of the defibrillator. Small burns to the skin may result if a defibrillator pad is placed on a medication patch.

Sequence: Key
35 A

In infant cardiopulmonary resuscitation, the chest compressions should be 0.5-1.0 inch.

Sequence: Key
36 D

Blue nevi arise from dendritic melanocytes. This benign nevus is believed to form from nerves and not from the basal layer of the epidermis.

Sequence: Key
37 D

Glucocorticoids (steroids) do not cause hepatitis.

Sequence: Key
38 C

Swallowing difficulty, prior stroke, chronic nasogastric tube feeding, and fetid sputum 2 days postoperatively are all clues of an infection in the lung.

Sequence: Key
39 D

Hand-foot-and-mouth disease has a viral etiology and is caused by a coxsackievirus.

Sequence: Key
40 B

In the standard lateral view, the third metatarsal-cuneiform joint is usually not visible.

Sequence: Key
41 C

The two basic requirements for primary bone healing are an intact vascular supply to the bone and stable rigid fixation of the fracture fragments.

Sequence: Key
42 D

Treatment of acute ankle injury is generally conservative and consists of rest, ice, compression, and elevation. A modified Jones compression dressing to control edema and immobilize the extremity for 24 to 73 hours is recommended.

Sequence: Key
43 B

Increasing the kilovoltage increases the penetrating power of the x-rays emitted from the x-ray tube, with more photons reaching the x-ray film through the target tissue. This increases the exposure of the film and thus increases radiographic density. To keep the radiographic density constant, it is, therefore, necessary to reduce the mAs, which controls the total number of x-rays produced at the x-ray tube.

Sequence: Key
44 B

In Haglund's deformity, an increase in the Fowler-Philip angle of more than 75 degrees can be seen on a lateral radiograph. Positive parallel pitch lines or excessive bone on the calcaneus are also present. These measurements are used to evaluate the extent of the deformity and to plan surgical correction.

Sequence: Key
45 D

Leather is not a good material for extrinsic posting of a functional orthotic due to its tendency to wear and compress with weight bearing.

Sequence: Key
46 C

The specificity of a test is the degree to which it accurately provides a negative result for persons who are free of the disease.

Sequence: Key
47 A

Light leakage is the most common cause of fogging on developed radiographic film.

Sequence: Key
48 A

Statutes of limitations are a segment of an individual state's rights and are, therefore, determined by state law.

Sequence: Key
49 C

Salter and Harris described the type V injury as an uncommon injury secondary to a crushing force to the physis through the epiphysis. There is no visible fracture and no displacement. It is recommended that this injury be treated by placing the patient in a non-weight-bearing cast for 3 to 4 weeks, followed by range-of-motion exercises to prevent premature fusion secondary to immobilization.

Sequence: Key
50 C

The calcaneocuboid joint is prone to abduction in runners with pronation. This can then progress to subluxation, unless it is controlled with an orthotic device.

Sequence: Key
51 A

Candida albicans is a yeast that will reveal pseudohyphae on a KOH preparation.

Sequence: Key
52 C

Osteopoikilosis is a sclerosing bone disorder characterized by numerous, small, symmetrical bone islands prominent in metaphyseal areas.

Sequence: Key
53 D

Topical cortisone is an anti-inflammatory agent applied to the skin to treat various dermatologic conditions and is not known to induce asthma.

Sequence: Key
54 B

Each long bone usually has separate centers of ossification: the shaft (diaphysis) and each end (epiphysis). The first (primary) center to ossify is always the diaphysis.

Sequence: Key
55 A

An adducted, toe-walking, scissor-type gait is most often associated with the spastic disorder of cerebral palsy.

Sequence: Key
56 D

The 5.07 (10-gram) monofilament is used to screen for protective sensation loss in patients with diabetes.

Sequence: Key
57 C

The National Committee for Quality Assurance sets the standards for patient care.

Sequence: Key
58 C

Fentanyl, sufentanil, and thiopental cause depression of ventilation. They also cause cardiovascular depression and bradycardia, slowed gastric emptying, and antidiuretic hormone release.

Sequence: Key
59 A

Epinephrine is the drug of choice for shock, angioedema, airway obstruction, bronchospasm, and urticaria in severe anaphylactic reactions. Its action is via adrenergic effect.

Sequence: Key
60 C

Mild to moderate eosinophilia is associated with drug allergy. When drug-induced eosinophilia is suspected, termination of the offending agent generally terminates the problem.