Board Exam Desk

Medicine Reviewer

Medicine Licensure Examination | PRC | 120 original questions

2026 Edition | Updated November 2026

Original board-style practice questions with an answer key.

Practice questions

Biochemistry

1. A 7-month-old has fasting hypoglycemia, a markedly enlarged liver, lactic acidosis, high uric acid and high triglycerides. Glucagon does not raise the blood glucose. Which enzyme is most likely deficient?

A. Glucose-6-phosphatase
B. Hepatic glycogen phosphorylase
C. Lysosomal acid alpha-glucosidase
D. Glycogen debranching enzyme

2. Statins lower plasma LDL by inhibiting which enzyme, the rate-limiting step of cholesterol synthesis?

A. HMG-CoA synthase
B. Mevalonate kinase
C. Squalene epoxidase
D. HMG-CoA reductase

3. A malnourished man with chronic alcohol use becomes confused and ataxic after receiving dextrose infusion without vitamin supplementation. The missing vitamin is a cofactor for which enzyme?

A. Pyruvate carboxylase
B. Lactate dehydrogenase
C. Pyruvate dehydrogenase
D. Glycogen synthase

4. An infant with untreated fair skin, eczema, a musty body odor and developmental delay most likely has a deficiency of which enzyme?

A. Phenylalanine hydroxylase
B. Homogentisate oxidase
C. Branched-chain ketoacid dehydrogenase
D. Cystathionine beta-synthase

5. A boy with gout, choreoathetosis and self-biting of the lips and fingers has a defect in purine salvage. Which enzyme is deficient?

A. Adenosine deaminase
B. Xanthine oxidase
C. Ribonucleotide reductase
D. Hypoxanthine-guanine phosphoribosyltransferase

6. Which vitamin is required for the gamma-carboxylation of glutamate residues on clotting factors II, VII, IX and X?

A. Vitamin C
B. Vitamin K
C. Vitamin B6
D. Vitamin E

7. A young man develops dark urine and anemia after an antimalarial drug, and his smear shows bite cells and Heinz bodies. The deficient enzyme normally generates which molecule?

A. NADH
B. FADH2
C. ATP
D. NADPH

8. On a Lineweaver-Burk plot, adding a competitive inhibitor to an enzyme reaction produces which change?

A. Apparent Km increases while Vmax is unchanged
B. Vmax decreases while Km is unchanged
C. Both Km and Vmax decrease proportionally
D. Vmax increases while Km decreases

9. A patient's arterial bicarbonate is 12 mEq/L and PaCO2 is 30 mmHg. Using the Henderson-Hasselbalch equation, what is the approximate arterial pH?

A. 7.32
B. 7.12
C. 7.40
D. 7.22

10. A man on a diet with no fruits or vegetables for months has bleeding gums, perifollicular hemorrhages and poor wound healing. Which step of collagen synthesis is impaired?

A. Glycosylation of hydroxylysine residues
B. Cross-linking of tropocollagen by lysyl oxidase
C. Cleavage of procollagen terminal peptides
D. Hydroxylation of proline and lysine residues

Anatomy and Histology

11. After a fall, a man has a fracture of the surgical neck of the humerus. He cannot abduct the arm well and has numbness over the lateral shoulder. Which nerve is injured?

A. Radial nerve
B. Axillary nerve
C. Musculocutaneous nerve
D. Suprascapular nerve

12. A fracture of the medial epicondyle of the humerus is followed by weakness of finger abduction and clawing of the ring and little fingers. Which nerve is involved?

A. Median nerve
B. Ulnar nerve
C. Radial nerve
D. Anterior interosseous nerve

13. A stab wound enters the left 4th intercostal space just lateral to the sternum. Which heart chamber is most likely to be penetrated?

A. Left ventricle
B. Right ventricle
C. Left atrium
D. Right atrium

14. An adult aspirates a peanut while sitting upright. The object most likely lodges in which airway?

A. Left main bronchus
B. Left upper lobe bronchus
C. Right main bronchus
D. Trachea above the carina

15. During hernia repair, the surgeon finds the sac entering the deep inguinal ring. How does this hernia relate to the inferior epigastric vessels?

A. It lies lateral to the inferior epigastric vessels
B. It lies medial to the inferior epigastric vessels
C. It passes below the inguinal ligament
D. It passes through the linea semilunaris

16. A tight leg cast compresses the neck of the fibula. Which deficit is expected?

A. Loss of plantar flexion and inversion
B. Loss of knee extension
C. Foot drop with loss of eversion
D. Numbness of the sole of the foot

17. Which cell of the gastric fundic gland secretes intrinsic factor?

A. Chief cell
B. Mucous neck cell
C. Enteroendocrine G cell
D. Parietal cell

18. Which epithelium lines the lumen of the urinary bladder and can stretch as the bladder fills?

A. Transitional epithelium
B. Simple columnar epithelium
C. Keratinized stratified squamous epithelium
D. Pseudostratified ciliated columnar epithelium

19. A woman has sudden weakness and sensory loss of the right leg, with the right arm and face much less affected. Which artery is most likely occluded?

A. Left anterior cerebral artery
B. Left middle cerebral artery
C. Left posterior cerebral artery
D. Right anterior cerebral artery

20. A man has vertigo, hoarseness, difficulty swallowing, left facial pain and temperature loss, right body pain and temperature loss, and a left Horner syndrome. Which artery is most likely occluded?

A. Left posterior inferior cerebellar artery
B. Left anterior spinal artery
C. Right posterior cerebral artery
D. Right anterior inferior cerebellar artery

Physiology

21. A patient consumes 280 mL O2/min. Arterial O2 content is 19 mL/dL and mixed venous O2 content is 15 mL/dL. What is the cardiac output by the Fick principle?

A. 4.0 L/min
B. 7.0 L/min
C. 5.6 L/min
D. 2.8 L/min

22. Urine inulin is 36 mg/mL, plasma inulin is 0.3 mg/mL and urine flow is 1.1 mL/min. What is the glomerular filtration rate?

A. 120 mL/min
B. 109 mL/min
C. 132 mL/min
D. 40 mL/min

23. When a person stands up quickly from lying down, which baroreceptor response helps prevent fainting?

A. Decreased carotid sinus firing that raises sympathetic outflow
B. Increased carotid sinus firing that raises vagal tone
C. Decreased aortic arch firing that raises vagal tone
D. Increased atrial stretch that releases natriuretic peptide

24. Which condition shifts the oxyhemoglobin dissociation curve to the left?

A. Fever
B. Metabolic acidosis
C. Hypothermia
D. Increased red cell 2,3-BPG

25. Which hormone acts on principal cells of the collecting duct to increase sodium reabsorption and potassium secretion?

A. Aldosterone
B. Antidiuretic hormone
C. Atrial natriuretic peptide
D. Parathyroid hormone

26. At sea level on room air (FiO2 0.21, barometric pressure 760 mmHg, water vapor 47 mmHg, R 0.8), a patient has PaCO2 32 mmHg and PaO2 60 mmHg. What is the approximate A-a oxygen gradient?

A. 50 mmHg
B. 40 mmHg
C. 90 mmHg
D. 20 mmHg

27. During which phase of the cardiac cycle are all four valves closed while ventricular pressure rises rapidly?

A. Rapid ventricular ejection
B. Isovolumetric contraction
C. Isovolumetric relaxation
D. Rapid ventricular filling

28. A patient's blood pressure is 130/85 mmHg. What is the estimated mean arterial pressure?

A. 107.5 mmHg
B. 95 mmHg
C. 115 mmHg
D. 100 mmHg

29. Echocardiography shows an end-diastolic volume of 140 mL and an end-systolic volume of 56 mL. What is the ejection fraction?

A. 40%
B. 67%
C. 84%
D. 60%

30. Fat and protein entering the duodenum trigger I cells to release a hormone that contracts the gallbladder and stimulates pancreatic enzyme secretion. Which hormone is it?

A. Secretin
B. Cholecystokinin
C. Gastrin
D. Glucose-dependent insulinotropic peptide

Pharmacology and Therapeutics

31. A drug has a volume of distribution of 40 L and a clearance of 4 L/h. What is its approximate elimination half-life?

A. 6.9 hours
B. 10 hours
C. 2.8 hours
D. 4.6 hours

32. A 60-kg patient needs a target plasma level of 15 mg/L of an oral drug with Vd 0.6 L/kg and oral bioavailability 0.8. What loading dose is needed?

A. 540 mg
B. 450 mg
C. 675 mg
D. 810 mg

33. A drug with first-order kinetics and an 8-hour half-life is started as a constant infusion. About how long until it reaches steady state?

A. About 32 to 40 hours
B. About 8 hours
C. About 16 hours
D. About 4 days

34. A teenager arrives 6 hours after ingesting a large amount of paracetamol tablets. Which antidote should be given?

A. Flumazenil
B. N-acetylcysteine
C. Naloxone
D. Deferoxamine

35. A farmer exposed to an organophosphate pesticide has pinpoint pupils, drooling, wheezing and bradycardia. Which drug best reverses the muscarinic effects?

A. Physostigmine
B. Neostigmine
C. Propranolol
D. Atropine

36. A hypertensive patient develops a persistent dry cough after starting enalapril. What is the mechanism, and what is a suitable substitute?

A. Histamine release; switch to captopril
B. Bradykinin accumulation; switch to losartan
C. Beta-receptor blockade; switch to atenolol
D. Prostaglandin loss; switch to lisinopril

37. A patient on a heparin infusion develops major bleeding. Which agent reverses unfractionated heparin?

A. Vitamin K
B. Tranexamic acid
C. Protamine sulfate
D. Desmopressin

38. A patient on prolonged gentamicin therapy should be monitored most closely for which pair of adverse effects?

A. Nephrotoxicity and ototoxicity
B. Hepatotoxicity and pancreatitis
C. Tendon rupture and QT prolongation
D. Gray baby syndrome and aplastic anemia

39. A patient starting anti-TB treatment is also prescribed pyridoxine. Which drug's adverse effect is this meant to prevent?

A. Rifampicin-related hepatitis
B. Ethambutol-related optic neuritis
C. Pyrazinamide-related hyperuricemia
D. Isoniazid-related peripheral neuropathy

40. A 40-year-old with moderate persistent asthma needs treatment for hypertension. Which drug should be avoided?

A. Amlodipine
B. Losartan
C. Propranolol
D. Hydrochlorothiazide

Pathology

41. An autopsy shows an infarct in the cerebral hemisphere. Which pattern of necrosis is characteristic of ischemic injury to the brain?

A. Coagulative necrosis
B. Caseous necrosis
C. Liquefactive necrosis
D. Fat necrosis

42. A lymph node biopsy shows large binucleate cells with prominent owl-eye nucleoli that are CD15 and CD30 positive. What is the diagnosis?

A. Burkitt lymphoma
B. Follicular lymphoma
C. Hodgkin lymphoma
D. Chronic lymphocytic leukemia

43. A man dies 2 days after an acute myocardial infarction. What is the expected histologic finding in the infarcted area?

A. Coagulative necrosis with dense neutrophil infiltrate
B. Granulation tissue with new capillaries
C. Dense collagenous scar
D. Macrophages removing dead myocytes

44. A thyroid nodule biopsy shows papillae, nuclei with ground-glass clearing and grooves, and concentric calcified bodies. What is the diagnosis?

A. Follicular thyroid carcinoma
B. Papillary thyroid carcinoma
C. Medullary thyroid carcinoma
D. Anaplastic thyroid carcinoma

45. Tissue from a patient with nephrotic syndrome shows apple-green birefringence under polarized light after Congo red staining. Which substance is deposited?

A. Amyloid
B. Immune complexes
C. Hyaline arteriolosclerosis
D. Glycogen

46. A 4-year-old has generalized edema and heavy proteinuria. Light microscopy of the kidney is normal, but electron microscopy shows effacement of podocyte foot processes. What is the most likely diagnosis?

A. Membranous nephropathy
B. Post-streptococcal glomerulonephritis
C. IgA nephropathy
D. Minimal change disease

47. Endoscopic biopsy of the distal esophagus in a man with chronic reflux shows columnar epithelium with goblet cells. Which cancer is he at increased risk of?

A. Adenocarcinoma of the esophagus
B. Squamous cell carcinoma of the esophagus
C. Gastrointestinal stromal tumor
D. Small cell carcinoma of the esophagus

48. A man with chronic hepatitis B and cirrhosis has a new liver mass. Which serum marker is most useful to support the diagnosis of hepatocellular carcinoma?

A. Carcinoembryonic antigen
B. Alpha-fetoprotein
C. CA 125
D. Prostate-specific antigen

49. A lung biopsy shows granulomas with central amorphous, cheese-like necrosis surrounded by epithelioid cells and Langhans giant cells. What is the most likely cause?

A. Sarcoidosis
B. Tuberculosis
C. Foreign body reaction
D. Pneumocystis pneumonia

50. Which microscopic change indicates irreversible cell injury?

A. Cellular swelling
B. Fatty change
C. Membrane blebbing
D. Karyorrhexis

Microbiology and Parasitology

51. A week after wading through floodwater in Manila, a man has high fever, severe calf pain, reddened conjunctivae without discharge, and jaundice. Which organism is most likely?

A. Salmonella Typhi
B. Leptospira interrogans
C. Rickettsia typhi
D. Burkholderia pseudomallei

52. Which snail is the intermediate host of Schistosoma japonicum in the Philippines?

A. Biomphalaria glabrata
B. Oncomelania hupensis quadrasi
C. Bulinus truncatus
D. Pila luzonica

53. A man from Ilocos who often eats raw small freshwater fish has chronic watery diarrhea, weight loss and protein-losing enteropathy. Which parasite is most likely?

A. Ascaris lumbricoides
B. Capillaria philippinensis
C. Trichuris trichiura
D. Enterobius vermicularis

54. A wound culture grows gram-positive cocci in clusters that are catalase positive and coagulase positive. Which organism is this?

A. Staphylococcus epidermidis
B. Streptococcus pyogenes
C. Enterococcus faecalis
D. Staphylococcus aureus

55. Which mosquito, a day-biter that breeds in clean stagnant water in containers around homes, is the main vector of dengue?

A. Anopheles flavirostris
B. Culex quinquefasciatus
C. Aedes aegypti
D. Mansonia uniformis

56. A patient treated for malaria needs primaquine after chloroquine to prevent relapse from dormant liver forms. Which species most likely caused the infection?

A. Plasmodium falciparum
B. Plasmodium malariae
C. Plasmodium knowlesi
D. Plasmodium vivax

57. A patient has profuse painless rice-water stools leading to severe dehydration. How does the causative toxin act?

A. Inactivates the 60S ribosomal subunit
B. Blocks acetylcholine release at nerve terminals
C. ADP-ribosylates Gs protein to raise intestinal cAMP
D. Forms pores in enterocyte membranes

58. Which HIV envelope glycoprotein binds directly to the CD4 molecule on helper T cells?

A. gp41
B. p24
C. Reverse transcriptase
D. gp120

59. A health worker's hepatitis B tests show HBsAg negative, anti-HBs positive and anti-HBc negative. What does this pattern indicate?

A. Immunity from past natural infection
B. Acute infection in the window period
C. Chronic carrier state
D. Immunity from vaccination

60. A farmer with a puncture wound develops lockjaw and generalized muscle spasms. How does the responsible toxin produce spasticity?

A. Blocks acetylcholine release at the neuromuscular junction
B. Blocks glycine and GABA release from inhibitory interneurons
C. Stimulates nicotinic receptors on skeletal muscle
D. Inhibits acetylcholinesterase in synaptic clefts

Legal Medicine, Ethics and Medical Jurisprudence

61. At autopsy a few hours after death, rigor mortis is first detected in which muscles?

A. Muscles of the eyelids and jaw
B. Muscles of the thighs and legs
C. Muscles of the trunk
D. Muscles of the fingers and toes

62. A drowning victim is found with weeds and gravel tightly clutched in the hand at the moment of death. What postmortem phenomenon explains this?

A. Rigor mortis
B. Cadaveric spasm
C. Heat stiffening
D. Primary flaccidity

63. A competent adult fully understands that refusing a blood transfusion could be fatal and still refuses for religious reasons. What is the physician's ethical obligation?

A. Transfuse anyway since life takes priority
B. Ask the spouse to sign consent instead
C. Sedate the patient and transfuse
D. Respect the refusal, document it, and offer alternatives

64. Under Philippine rules of evidence, in which type of case may a physician not be examined about information acquired in treating a patient, without that patient's consent?

A. Criminal cases
B. Administrative cases only
C. Civil cases
D. All cases without exception

65. Which Philippine law, known as the Medical Act of 1959, governs medical education, licensure and practice?

A. Republic Act No. 9165
B. Republic Act No. 7719
C. Republic Act No. 2382
D. Republic Act No. 9173

66. A surgical sponge is found in a patient's abdomen months after laparotomy. Which legal doctrine lets the court infer negligence without expert testimony?

A. Respondeat superior
B. Res ipsa loquitur
C. Captain of the ship
D. Doctrine of informed consent

67. In a medical malpractice suit, besides duty, breach and injury, the plaintiff must prove that the breach was which of the following in relation to the injury?

A. A remote contributing factor
B. An unavoidable risk
C. An intentional act
D. The proximate cause

68. A gunshot wound shows a round defect with inverted edges and a ring of abraded skin around it. What does this ring indicate?

A. It is a wound of exit
B. It was fired at long range only
C. It is a wound of entrance
D. It is a postmortem wound

69. A hospital allocates its few ICU beds strictly according to medical need and likelihood of benefit, not ability to pay. Which ethical principle is mainly applied?

A. Justice
B. Autonomy
C. Fidelity
D. Veracity

70. Under the Comprehensive Dangerous Drugs Act, what must a physician hold in order to prescribe dangerous drugs?

A. A professional tax receipt only
B. An S-2 license from PDEA
C. An FDA License to Operate
D. A specialty board certificate

Preventive Medicine and Community Health

71. A screening test is positive in 160 of 200 people with a disease and negative in 270 of 300 people without it. What is the positive predictive value?

A. 84.2%
B. 87.1%
C. 80.0%
D. 90.0%

72. In a cohort study, 40 of 200 exposed workers and 10 of 200 unexposed workers develop a lung disease. What is the relative risk?

A. 0.15
B. 4.0
C. 2.0
D. 5.0

73. A trial shows stroke in 20% of controls and 15% of treated patients over 5 years. How many patients must be treated to prevent one stroke?

A. 5
B. 7
C. 33
D. 20

74. Researchers select patients with oral cancer and similar people without it, then compare their past betel nut chewing. Which study design is this?

A. Prospective cohort study
B. Cross-sectional survey
C. Case-control study
D. Randomized controlled trial

75. Routine Pap smear screening of asymptomatic women to detect cervical lesions early is an example of which level of prevention?

A. Primary prevention
B. Tertiary prevention
C. Secondary prevention
D. Primordial prevention

76. A province records 12,000 live births and 180 deaths of infants under 1 year old in one year. What is the infant mortality rate?

A. 1.5 per 1,000 live births
B. 150 per 1,000 live births
C. 66 per 1,000 live births
D. 15 per 1,000 live births

77. Household incomes in a barangay are strongly skewed by a few very wealthy families. Which measure best describes the typical income?

A. Arithmetic mean
B. Range
C. Standard deviation
D. Median

78. A study concludes a new drug lowers blood pressure when in truth it has no effect. Which error has occurred?

A. Type II error
B. Selection bias
C. Type I error
D. Recall bias

79. A town with a midyear population of 120,000 records 2,400 live births in a year. What is the crude birth rate?

A. 2 per 1,000 population
B. 50 per 1,000 population
C. 20 per 1,000 population
D. 24 per 1,000 population

80. A new screening test finds a cancer earlier, so survival from diagnosis appears longer, yet patients die at the same age as before. Which bias explains this?

A. Length-time bias
B. Observer bias
C. Berkson bias
D. Lead-time bias

Internal Medicine

81. A 19-year-old with type 1 diabetes has glucose 520 mg/dL, pH 7.10, deep rapid breathing and positive serum ketones. What is the first priority in management?

A. Intravenous isotonic saline
B. Intravenous sodium bicarbonate
C. Subcutaneous insulin glargine
D. Oral potassium supplementation

82. An ECG shows ST elevation in leads II, III and aVF with sinus bradycardia. Which coronary artery is most likely occluded?

A. Right coronary artery
B. Left anterior descending artery
C. Left circumflex artery
D. Left main coronary artery

83. A patient has serum sodium 138, chloride 100 and bicarbonate 12 mEq/L. What is the anion gap?

A. 16 mEq/L
B. 38 mEq/L
C. 50 mEq/L
D. 26 mEq/L

84. An otherwise healthy adult has fever, productive cough with rust-colored sputum and lobar consolidation. Which organism is the most likely cause?

A. Klebsiella pneumoniae
B. Pseudomonas aeruginosa
C. Streptococcus pneumoniae
D. Mycoplasma pneumoniae

85. A patient with renal failure has serum potassium 7.2 mEq/L and peaked T waves with widened QRS. What should be given first?

A. Oral sodium polystyrene sulfonate
B. Intravenous furosemide
C. Oral sodium bicarbonate tablets
D. Intravenous calcium gluconate

86. A woman has heat intolerance, a diffuse goiter, proptosis and thickened skin over the shins. What causes her hyperthyroidism?

A. Antibodies that stimulate the TSH receptor
B. Antibodies against thyroid peroxidase
C. A TSH-secreting pituitary adenoma
D. An autonomously functioning single nodule

87. A woman with heavy menses has microcytic hypochromic anemia. Which iron study pattern is expected?

A. High ferritin with low TIBC
B. Normal ferritin with low TIBC
C. High serum iron with high ferritin
D. Low ferritin with high TIBC

88. A man has fatigue, weight loss, darkened skin creases and gums, low sodium and high potassium. Which hormone pattern confirms primary adrenal insufficiency?

A. Low cortisol with low ACTH
B. Low cortisol with high ACTH
C. High cortisol with low ACTH
D. High cortisol with high ACTH

89. A man with severe COPD and chronic CO_2 retention is admitted with an exacerbation. What oxygen saturation target is appropriate?

A. 98% to 100%
B. 88% to 92%
C. 80% to 84%
D. 94% to 98%

90. A young woman with a malar rash, arthritis and proteinuria is diagnosed with systemic lupus. Which antibody level best tracks lupus nephritis activity?

A. Anti-histone
B. Anti-double-stranded DNA
C. Anti-centromere
D. Anti-Jo-1

Obstetrics and Gynecology

91. A woman's last menstrual period began on June 10, 2025, and her cycles are regular. Using Naegele's rule, what is her expected date of delivery?

A. March 3, 2026
B. March 17, 2026
C. February 17, 2026
D. April 17, 2026

92. Minutes after vaginal delivery of the placenta, a woman bleeds heavily and her uterus feels soft and boggy. What is the immediate first step?

A. Immediate hysterectomy
B. Intravenous tranexamic acid alone
C. Packing the vagina with gauze
D. Bimanual uterine massage with oxytocin

93. A woman with preeclampsia is on magnesium sulfate. Which finding is usually the earliest sign of magnesium toxicity?

A. Loss of the patellar reflex
B. Respiratory arrest
C. Cardiac arrest
D. Seizure activity

94. At 33 weeks, a woman has sudden painless bright red vaginal bleeding with a soft, nontender uterus. What should be avoided until the cause is clarified?

A. Transabdominal ultrasound
B. Digital vaginal examination
C. Fetal heart rate monitoring
D. Intravenous fluid infusion

95. A woman with amenorrhea and lower abdominal pain has an ectopic pregnancy. What is the most common site of implantation?

A. Ampulla of the fallopian tube
B. Isthmus of the fallopian tube
C. Ovary
D. Cervix

96. During labor, fetal monitoring shows repeated decelerations that begin after the peak of each contraction and recover after it ends. What do these indicate?

A. Uteroplacental insufficiency
B. Head compression
C. Umbilical cord compression
D. Normal fetal sleep cycle

97. A woman at 12 weeks has vaginal bleeding, a uterus larger than dates, very high hCG and a snowstorm pattern without fetal parts on ultrasound. What is the usual karyotype?

A. 69,XXY with maternal and paternal sets
B. 46,XX of entirely paternal origin
C. 45,X of maternal origin
D. 47,XX,+21 of maternal origin

98. A woman with oligomenorrhea, hirsutism, obesity and polycystic ovaries on ultrasound is at long-term risk of which condition from unopposed estrogen?

A. Ovarian dysgerminoma
B. Cervical squamous carcinoma
C. Endometrial hyperplasia and carcinoma
D. Uterine leiomyosarcoma

99. A pregnant woman with no prior diabetes is due for routine screening for gestational diabetes. Which test is done at 24 to 28 weeks?

A. Hemoglobin A1c alone
B. Random urine glucose dipstick
C. 75 g oral glucose tolerance test
D. Fasting serum insulin level

100. An unsensitized Rh-negative mother delivers an Rh-positive baby. What should be given to prevent alloimmunization?

A. Rh-positive blood transfusion
B. Intravenous immunoglobulin to the baby
C. Exchange transfusion of the newborn
D. Anti-D immunoglobulin within 72 hours

Pediatrics and Nutrition

101. Using the Holliday-Segar method, what is the daily maintenance fluid requirement of a 24-kg child?

A. 1,700 mL/day
B. 1,240 mL/day
C. 1,580 mL/day
D. 2,400 mL/day

102. A child walks independently, uses a neat pincer grasp and says 'mama' and 'dada' with meaning plus one other word. What is the most likely age?

A. 6 months
B. 9 months
C. 12 months
D. 24 months

103. A 2-year-old on a diet of mostly rice porridge has generalized edema, flaky-paint skin lesions, sparse light hair and an enlarged fatty liver. What is the diagnosis?

A. Marasmus
B. Rickets
C. Kwashiorkor
D. Pellagra

104. A preschool child has night blindness and dry, foamy gray patches on the conjunctiva. Which nutrient is deficient?

A. Vitamin D
B. Riboflavin
C. Zinc
D. Vitamin A

105. A child has high fever, cough, coryza and conjunctivitis, followed by small bluish-white spots on the buccal mucosa before a rash appears. Which infection is most likely?

A. Measles
B. Rubella
C. Roseola infantum
D. Varicella

106. At 1 minute, a newborn has heart rate 110, slow irregular breathing, some limb flexion, grimace on suctioning, and a pink body with blue extremities. What is the Apgar score?

A. 5
B. 6
C. 7
D. 8

107. A 3-year-old has had fever for 6 days with bilateral nonpurulent conjunctivitis, red cracked lips, a polymorphous rash, cervical lymphadenopathy and swollen hands. What treatment lowers the risk of coronary aneurysm?

A. Oral amoxicillin for 10 days
B. Intravenous methylprednisolone alone
C. Intravenous immunoglobulin with aspirin
D. Penicillin G with acetaminophen

108. A toddler with tetralogy of Fallot suddenly turns deeply cyanotic and breathless while crying. What position should the child be placed in first?

A. Supine with legs flat
B. Trendelenburg position
C. Knee-chest position
D. Prone with head turned

109. Which feature of neonatal jaundice is considered pathologic and requires immediate evaluation?

A. Jaundice first noted on day 3 of life
B. Peak bilirubin on day 4 in a term baby
C. Jaundice appearing within the first 24 hours
D. Mild jaundice resolving by day 10

110. A 2-year-old has a barking cough, inspiratory stridor and low-grade fever, and the neck X-ray shows subglottic narrowing. Which organism is the most common cause?

A. Parainfluenza virus
B. Haemophilus influenzae type b
C. Respiratory syncytial virus
D. Corynebacterium diphtheriae

Surgery

111. A 70-kg man has second- and third-degree burns over 40% of body surface area. Using the Parkland formula, how much crystalloid is given in the first 8 hours from the time of burn?

A. 11,200 mL
B. 5,600 mL
C. 2,800 mL
D. 3,733 mL

112. An adult has partial-thickness burns of the entire right upper limb and the entire front of the trunk. Using the rule of nines, what percentage of body surface area is burned?

A. 18%
B. 36%
C. 27%
D. 22.5%

113. A 20-year-old has periumbilical pain that later moves to the right lower quadrant, with anorexia, low-grade fever and tenderness at McBurney point. What is the most likely diagnosis?

A. Acute appendicitis
B. Acute cholecystitis
C. Acute pancreatitis
D. Perforated duodenal ulcer

114. After a road crash, a patient opens his eyes only to pain, speaks inappropriate words and withdraws his limb from a painful stimulus. What is his Glasgow Coma Scale score?

A. 9
B. 8
C. 10
D. 7

115. A stab-wound victim has severe respiratory distress, hypotension, distended neck veins, absent breath sounds on one side and tracheal deviation away from that side. What is the immediate management?

A. Chest X-ray before any intervention
B. Pericardiocentesis
C. Needle or finger decompression of the chest
D. Endotracheal intubation alone

116. A woman with known gallstones has fever with chills, jaundice and right upper quadrant pain. What is the most likely diagnosis?

A. Acute calculous cholecystitis
B. Acute ascending cholangitis
C. Biliary colic
D. Acute viral hepatitis

117. After a blow to the temple, a boy loses consciousness briefly, becomes lucid, then deteriorates hours later. CT shows a biconvex hyperdense collection. Which vessel is most likely torn?

A. Middle meningeal artery
B. Bridging cortical veins
C. Anterior communicating artery
D. Superior sagittal sinus

118. A woman has sudden severe eye pain, headache, vomiting, halos around lights, a red eye, a hazy cornea and a fixed mid-dilated pupil. What is the most likely diagnosis?

A. Acute anterior uveitis
B. Acute angle-closure glaucoma
C. Bacterial conjunctivitis
D. Central retinal artery occlusion

119. After a tibial fracture is casted, a man has severe leg pain unrelieved by analgesics that worsens with passive toe stretching. Pulses are present. What is the most likely diagnosis?

A. Deep vein thrombosis
B. Fat embolism syndrome
C. Arterial transection
D. Acute compartment syndrome

120. During general anesthesia with sevoflurane and succinylcholine, a patient develops masseter rigidity, rising end-tidal CO2, tachycardia and high fever. Which drug is the specific treatment?

A. Neostigmine
B. Sugammadex
C. Midazolam
D. Dantrolene

Answer key

Medicine

1. A. Glucose-6-phosphatase

Von Gierke disease (glucose-6-phosphatase deficiency) blocks the final step of both glycogenolysis and gluconeogenesis, causing severe fasting hypoglycemia with lactic acidosis, hyperuricemia and hyperlipidemia.

2. D. HMG-CoA reductase

HMG-CoA reductase converts HMG-CoA to mevalonate and is the committed, rate-limiting step that statins competitively inhibit.

3. C. Pyruvate dehydrogenase

Thiamine pyrophosphate is required by pyruvate dehydrogenase, alpha-ketoglutarate dehydrogenase and transketolase; a glucose load in thiamine deficiency can precipitate Wernicke encephalopathy.

4. A. Phenylalanine hydroxylase

Classic phenylketonuria results from phenylalanine hydroxylase deficiency; phenylacetate gives the musty odor and reduced tyrosine causes hypopigmentation.

5. D. Hypoxanthine-guanine phosphoribosyltransferase

Lesch-Nyhan syndrome is X-linked HGPRT deficiency; failure of purine salvage increases de novo synthesis and uric acid production.

6. B. Vitamin K

Vitamin K is the cofactor for gamma-glutamyl carboxylase; warfarin acts by blocking vitamin K epoxide reductase.

7. D. NADPH

G6PD is the rate-limiting enzyme of the pentose phosphate pathway; NADPH keeps glutathione reduced to protect red cells from oxidant stress.

8. A. Apparent Km increases while Vmax is unchanged

A competitive inhibitor can be overcome by more substrate, so Vmax is preserved but more substrate is needed for half-maximal velocity (higher apparent Km).

9. D. 7.22

pH = 6.1 + log(12 / (0.03 x 30)) = 6.1 + log(13.3) = 6.1 + 1.12 = 7.22.

10. D. Hydroxylation of proline and lysine residues

Vitamin C is a cofactor for prolyl and lysyl hydroxylases; without hydroxylation the triple helix is unstable, causing scurvy.

11. B. Axillary nerve

The axillary nerve wraps around the surgical neck to supply the deltoid and teres minor and the skin over the lower deltoid.

12. B. Ulnar nerve

The ulnar nerve passes behind the medial epicondyle and supplies the interossei and medial lumbricals; its injury causes clawing of the 4th and 5th digits.

13. B. Right ventricle

The right ventricle forms most of the anterior (sternocostal) surface of the heart, so anterior parasternal wounds usually reach it first.

14. C. Right main bronchus

The right main bronchus is wider, shorter and more vertical than the left, so aspirated objects favor the right side.

15. A. It lies lateral to the inferior epigastric vessels

An indirect inguinal hernia enters the deep ring lateral to the inferior epigastric vessels; a direct hernia bulges through Hesselbach triangle medial to them.

16. C. Foot drop with loss of eversion

The common fibular nerve winds around the fibular neck; injury paralyzes dorsiflexors and evertors, giving foot drop and sensory loss over the dorsum of the foot.

17. D. Parietal cell

Parietal cells secrete both hydrochloric acid and intrinsic factor; chief cells secrete pepsinogen and G cells (mainly antral) secrete gastrin.

18. A. Transitional epithelium

Urothelium (transitional epithelium) has dome-shaped umbrella cells that flatten when the bladder distends.

19. A. Left anterior cerebral artery

The anterior cerebral artery supplies the medial frontal and parietal cortex where the leg is represented; the deficit is contralateral.

20. A. Left posterior inferior cerebellar artery

Lateral medullary (Wallenberg) syndrome from PICA or vertebral occlusion gives ipsilateral facial and contralateral body pain-temperature loss, ipsilateral Horner and nucleus ambiguus signs.

21. B. 7.0 L/min

CO = O2 consumption / (Ca - Cv) = 280 / (4 mL/dL x 10 dL/L) = 280 / 40 = 7.0 L/min.

22. C. 132 mL/min

GFR = (U x V) / P = (36 x 1.1) / 0.3 = 39.6 / 0.3 = 132 mL/min.

23. A. Decreased carotid sinus firing that raises sympathetic outflow

Venous pooling lowers arterial pressure, reducing baroreceptor firing; the medulla responds with more sympathetic and less vagal output, raising heart rate and vascular tone.

24. C. Hypothermia

Low temperature increases hemoglobin's affinity for oxygen (left shift); heat, acid, CO2 and 2,3-BPG shift the curve to the right.

25. A. Aldosterone

Aldosterone increases ENaC channels and Na-K-ATPase in principal cells, promoting Na reabsorption and K secretion.

26. A. 50 mmHg

PAO2 = 0.21 x (760 - 47) - 32/0.8 = 149.7 - 40 = 109.7 mmHg; A-a gradient = 109.7 - 60 = about 50 mmHg.

27. B. Isovolumetric contraction

After the AV valves close and before the semilunar valves open, the ventricle contracts with no change in volume.

28. D. 100 mmHg

MAP is about diastolic + one-third pulse pressure = 85 + (45 / 3) = 85 + 15 = 100 mmHg.

29. D. 60%

Stroke volume = 140 - 56 = 84 mL; EF = 84 / 140 = 0.60, or 60%.

30. B. Cholecystokinin

CCK from duodenal and jejunal I cells contracts the gallbladder, relaxes the sphincter of Oddi and stimulates acinar enzyme secretion.

31. A. 6.9 hours

t1/2 = 0.693 x Vd / CL = 0.693 x 40 / 4 = 6.93 hours.

32. C. 675 mg

Loading dose = Cp x Vd / F = 15 x (0.6 x 60) / 0.8 = 15 x 36 / 0.8 = 675 mg.

33. A. About 32 to 40 hours

Steady state is practically reached after 4 to 5 half-lives: 4 to 5 x 8 h = 32 to 40 hours.

34. B. N-acetylcysteine

N-acetylcysteine replenishes glutathione to detoxify NAPQI and is most effective when given within 8 to 10 hours of ingestion.

35. D. Atropine

Atropine blocks muscarinic receptors overwhelmed by excess acetylcholine; pralidoxime is added to reactivate cholinesterase.

36. B. Bradykinin accumulation; switch to losartan

ACE also degrades bradykinin, so ACE inhibitors raise bradykinin and cause cough; ARBs such as losartan do not affect bradykinin breakdown.

37. C. Protamine sulfate

Positively charged protamine binds and neutralizes negatively charged heparin.

38. A. Nephrotoxicity and ototoxicity

Aminoglycosides accumulate in renal tubular cells and inner ear hair cells, causing kidney injury and hearing or vestibular loss.

39. D. Isoniazid-related peripheral neuropathy

Isoniazid increases pyridoxine excretion and interferes with its action, causing peripheral neuropathy that vitamin B6 prevents.

40. C. Propranolol

Nonselective beta blockers block beta-2 receptors in the airways and can trigger severe bronchospasm in asthmatics.

41. C. Liquefactive necrosis

Brain tissue has little supporting stroma and abundant lysosomal enzymes, so ischemia produces liquefactive rather than coagulative necrosis.

42. C. Hodgkin lymphoma

Reed-Sternberg cells, CD15 and CD30 positive, define classic Hodgkin lymphoma.

43. A. Coagulative necrosis with dense neutrophil infiltrate

At 1 to 3 days the infarct shows coagulative necrosis with a peak neutrophil infiltrate; macrophages dominate at 3 to 7 days and granulation tissue later.

44. B. Papillary thyroid carcinoma

Orphan Annie eye nuclei, nuclear grooves and psammoma bodies are characteristic of papillary carcinoma.

45. A. Amyloid

Amyloid fibrils have a beta-pleated sheet structure that gives apple-green birefringence with Congo red.

46. D. Minimal change disease

Minimal change disease is the commonest cause of nephrotic syndrome in children and shows only foot process effacement on EM.

47. A. Adenocarcinoma of the esophagus

Barrett esophagus is intestinal metaplasia from chronic reflux and is the main precursor of esophageal adenocarcinoma.

48. B. Alpha-fetoprotein

Alpha-fetoprotein is frequently elevated in hepatocellular carcinoma, which commonly arises in chronic hepatitis B and cirrhosis.

49. B. Tuberculosis

Caseating granulomas are typical of Mycobacterium tuberculosis; sarcoidosis classically forms non-caseating granulomas.

50. D. Karyorrhexis

Nuclear fragmentation (karyorrhexis), like pyknosis and karyolysis, marks cell death; swelling, fatty change and blebbing can be reversible.

51. B. Leptospira interrogans

Leptospirosis is acquired through skin contact with water contaminated by rat urine; calf myalgia and conjunctival suffusion are classic, and Weil disease adds jaundice and renal failure.

52. B. Oncomelania hupensis quadrasi

S. japonicum, endemic in parts of the Visayas and Mindanao, develops in the amphibious snail Oncomelania hupensis quadrasi.

53. B. Capillaria philippinensis

Intestinal capillariasis is acquired from raw freshwater fish and causes severe malabsorption; it was first described in northern Luzon.

54. D. Staphylococcus aureus

Staphylococci are catalase positive; S. aureus is distinguished from coagulase-negative staphylococci by coagulase production.

55. C. Aedes aegypti

Aedes aegypti bites mainly in the daytime and breeds in water containers, flower vases and discarded tires near houses.

56. D. Plasmodium vivax

P. vivax and P. ovale form hypnozoites in the liver that cause relapses; primaquine eradicates them.

57. C. ADP-ribosylates Gs protein to raise intestinal cAMP

Cholera toxin locks Gs in the active state, increasing cAMP and CFTR chloride secretion with massive water loss.

58. D. gp120

gp120 binds CD4 and a chemokine coreceptor (CCR5 or CXCR4); gp41 then mediates membrane fusion.

59. D. Immunity from vaccination

Anti-HBs alone without anti-HBc means immunity from vaccination; past infection would also show anti-HBc.

60. B. Blocks glycine and GABA release from inhibitory interneurons

Tetanospasmin travels retrograde to the spinal cord and cleaves synaptobrevin in Renshaw cells, removing inhibition of motor neurons.

61. A. Muscles of the eyelids and jaw

Rigor mortis usually appears first in small muscles such as the eyelids and jaw and then spreads downward to larger muscles.

62. B. Cadaveric spasm

Cadaveric spasm is instantaneous rigidity occurring at the moment of death, often with intense emotion or exertion, and preserves the final act.

63. D. Respect the refusal, document it, and offer alternatives

A competent, informed adult has the right to refuse treatment under the principle of autonomy; the physician documents the refusal and offers acceptable alternatives.

64. C. Civil cases

The physician-patient privileged communication rule in the Rules of Court applies to civil cases.

65. C. Republic Act No. 2382

RA 2382 is the Medical Act of 1959; RA 9165 is the Dangerous Drugs Act, RA 7719 covers blood services and RA 9173 is the Nursing Act.

66. B. Res ipsa loquitur

Res ipsa loquitur applies when the injury ordinarily would not happen without negligence and the instrumentality was under the defendant's exclusive control.

67. D. The proximate cause

Medical negligence requires duty, breach, injury and a proximate causal connection between the breach and the injury.

68. C. It is a wound of entrance

The contusion or abrasion collar forms as the bullet indents and scrapes the skin on entry; exit wounds are usually everted and lack it.

69. A. Justice

Distributive justice concerns fair allocation of scarce resources based on morally relevant criteria such as need.

70. B. An S-2 license from PDEA

Physicians need an S-2 license issued by the Philippine Drug Enforcement Agency and must use the special prescription form for dangerous drugs.

71. A. 84.2%

TP = 160, FP = 300 - 270 = 30; PPV = 160 / (160 + 30) = 84.2%.

72. B. 4.0

Incidence exposed = 40/200 = 0.20; unexposed = 10/200 = 0.05; RR = 0.20 / 0.05 = 4.0.

73. D. 20

Absolute risk reduction = 0.20 - 0.15 = 0.05; NNT = 1 / 0.05 = 20.

74. C. Case-control study

A case-control study starts from outcome status and looks back at exposure, and its measure of association is the odds ratio.

75. C. Secondary prevention

Secondary prevention detects disease early in its course before symptoms; primary prevention, such as HPV vaccination, prevents disease from occurring.

76. D. 15 per 1,000 live births

IMR = (180 / 12,000) x 1,000 = 15 per 1,000 live births.

77. D. Median

The median is resistant to extreme values and better represents the center of skewed data than the mean.

78. C. Type I error

A type I (alpha) error is rejecting a null hypothesis that is actually true, a false positive conclusion.

79. C. 20 per 1,000 population

CBR = (2,400 / 120,000) x 1,000 = 20 per 1,000 population.

80. D. Lead-time bias

Lead-time bias inflates survival measured from diagnosis because diagnosis moves earlier without delaying death.

81. A. Intravenous isotonic saline

Fluid resuscitation with isotonic saline comes first in DKA; IV insulin follows once potassium is known to be adequate, and bicarbonate is reserved for severe acidosis.

82. A. Right coronary artery

Inferior wall MI usually results from RCA occlusion, which also often supplies the SA and AV nodes, explaining bradycardia.

83. D. 26 mEq/L

Anion gap = Na - (Cl + HCO3) = 138 - (100 + 12) = 26 mEq/L, an elevated value.

84. C. Streptococcus pneumoniae

S. pneumoniae is the leading cause of community-acquired pneumonia and classically produces lobar consolidation with rusty sputum.

85. D. Intravenous calcium gluconate

IV calcium stabilizes the cardiac membrane within minutes; insulin with glucose, beta agonists and potassium removal follow.

86. A. Antibodies that stimulate the TSH receptor

Graves disease is caused by TSH receptor-stimulating antibodies; ophthalmopathy and pretibial myxedema are specific features.

87. D. Low ferritin with high TIBC

Iron deficiency depletes stores (low ferritin) and raises transferrin, so total iron-binding capacity is high.

88. B. Low cortisol with high ACTH

Adrenal failure removes cortisol feedback, raising ACTH; the related POMC peptides cause hyperpigmentation.

89. B. 88% to 92%

In patients at risk of hypercapnia, a target of 88 to 92% avoids worsening CO2 retention from excess oxygen.

90. B. Anti-double-stranded DNA

Anti-dsDNA is specific for SLE and its titer, with low complement, correlates with nephritis activity.

91. B. March 17, 2026

Naegele's rule: add 7 days, subtract 3 months and add 1 year: June 10 + 7 days = June 17, then minus 3 months = March 17, 2026.

92. D. Bimanual uterine massage with oxytocin

Uterine atony is the commonest cause of postpartum hemorrhage; massage and uterotonics such as oxytocin are first-line.

93. A. Loss of the patellar reflex

Deep tendon reflexes disappear at lower levels than those causing respiratory depression, so they are checked regularly; calcium gluconate is the antidote.

94. B. Digital vaginal examination

Painless third-trimester bleeding suggests placenta previa; a digital exam can provoke massive hemorrhage, so ultrasound localizes the placenta first.

95. A. Ampulla of the fallopian tube

Most tubal ectopic pregnancies implant in the ampulla, the widest and longest segment of the tube.

96. A. Uteroplacental insufficiency

Late decelerations reflect fetal hypoxemia from reduced uteroplacental perfusion; early decelerations reflect head compression and variable ones cord compression.

97. B. 46,XX of entirely paternal origin

A complete mole arises when an empty ovum is fertilized and the paternal genome duplicates, giving 46,XX with no fetal tissue.

98. C. Endometrial hyperplasia and carcinoma

Chronic anovulation in PCOS leaves the endometrium exposed to estrogen without progesterone, raising the risk of hyperplasia and cancer.

99. C. 75 g oral glucose tolerance test

A 75 g OGTT at 24 to 28 weeks is the standard one-step test for gestational diabetes.

100. D. Anti-D immunoglobulin within 72 hours

Anti-D immunoglobulin clears fetal Rh-positive cells from the maternal circulation before she makes anti-D antibodies.

101. C. 1,580 mL/day

100 mL/kg for the first 10 kg (1,000) + 50 mL/kg for the next 10 kg (500) + 20 mL/kg for the remaining 4 kg (80) = 1,580 mL/day.

102. C. 12 months

Walking alone, a mature pincer grasp and one to three meaningful words are typical milestones at about 12 months.

103. C. Kwashiorkor

Kwashiorkor is protein deficiency with relatively adequate calories, producing edema, skin and hair changes and fatty liver; marasmus is severe wasting without edema.

104. D. Vitamin A

Night blindness and Bitot spots are early signs of xerophthalmia from vitamin A deficiency.

105. A. Measles

Koplik spots appear before the maculopapular rash and are characteristic of measles (rubeola).

106. B. 6

Heart rate over 100 = 2, irregular breathing = 1, some flexion = 1, grimace = 1, acrocyanosis = 1; total = 6.

107. C. Intravenous immunoglobulin with aspirin

Kawasaki disease is treated with IVIG plus aspirin, ideally within 10 days of fever onset, to reduce coronary artery aneurysms.

108. C. Knee-chest position

Knee-chest positioning (or squatting) increases systemic vascular resistance, reducing right-to-left shunting across the VSD.

109. C. Jaundice appearing within the first 24 hours

Jaundice in the first 24 hours suggests hemolysis or other pathology; physiologic jaundice typically appears after 24 hours.

110. A. Parainfluenza virus

Croup (laryngotracheobronchitis) is most often caused by parainfluenza virus and shows the steeple sign on frontal X-ray.

111. B. 5,600 mL

Total = 4 mL x 70 kg x 40% = 11,200 mL in 24 hours; half, or 5,600 mL, is given in the first 8 hours.

112. C. 27%

One upper limb = 9% and anterior trunk = 18%; total = 9 + 18 = 27%.

113. A. Acute appendicitis

Visceral pain from appendiceal distension is first felt periumbilically and shifts to the RLQ as the parietal peritoneum becomes inflamed.

114. A. 9

Eye opening to pain = 2, inappropriate words = 3, withdrawal from pain = 4; total = 9.

115. C. Needle or finger decompression of the chest

Tension pneumothorax is a clinical diagnosis requiring immediate decompression, followed by chest tube insertion; waiting for imaging can be fatal.

116. B. Acute ascending cholangitis

Charcot triad of fever, jaundice and RUQ pain indicates infection of an obstructed common bile duct and needs biliary drainage.

117. A. Middle meningeal artery

An epidural hematoma typically follows a temporal bone fracture tearing the middle meningeal artery and does not cross suture lines.

118. B. Acute angle-closure glaucoma

Sudden blockage of aqueous outflow raises intraocular pressure, causing corneal edema, halos and a mid-dilated nonreactive pupil.

119. D. Acute compartment syndrome

Pain out of proportion and pain on passive stretch are early signs of compartment syndrome; pulses are often preserved until late.

120. D. Dantrolene

Malignant hyperthermia is uncontrolled calcium release from the ryanodine receptor; dantrolene blocks this release.

Topics to review

• Anatomy, physiology and biochemistry

• Pathology, microbiology and pharmacology

• Clinical reasoning in medicine, surgery and pediatrics

• Obstetrics, preventive medicine and medical jurisprudence

Online question banks and study resources

Medicine - Pass Harbor (Question bank)

Official PRC board information

Current PRC exam programs

Independent study material prepared by Board Exam Desk.