Professional Pediatric Board-Style MCQs

Converted from uploaded resident exam notes | Scenario-based stems | Options A-D | Answer and Nelson-based explanation

This document converts the uploaded rough 3rd-year pediatric resident exam notes into board-style one-best-answer questions. Options were refined when needed to make each item clinically clear, homogeneous, and defensible. Explanations are concise Nelson pearls for resident teaching.

Hematology and Oncology

Q1. (Original item 1) A previously healthy 16-year-old girl presents after a first generalized tonic-clonic seizure. She is pale and confused. Laboratory studies show hemoglobin 7 g/dL, platelet count 40,000/mm3, WBC 4,000/mm3, increased reticulocyte count, and schistocytes on peripheral smear. PT and aPTT are normal. Which is the most appropriate initial management?

A. Packed red blood cell transfusion only

B. Urgent therapeutic plasma exchange

C. Fresh frozen plasma 20 mL/kg only

D. Platelet transfusion before any other therapy

Answer: B. Urgent therapeutic plasma exchange

Explanation: Microangiopathic hemolytic anemia, thrombocytopenia, and neurologic symptoms suggest thrombotic thrombocytopenic purpura. Plasma exchange is urgent and life-saving. PRBC transfusion may be supportive but is not definitive treatment.

Nelson topic reference: Thrombotic microangiopathies; TTP/HUS; anemia and thrombocytopenia.

Q2. (Original item 2) A 6-year-old child with immune thrombocytopenia receives intravenous immunoglobulin because of mucosal bleeding and severe thrombocytopenia. Two days later he develops severe headache, photophobia, vomiting, and neck stiffness. CSF culture is negative. Which complication of treatment is most likely?

A. Aseptic meningitis

B. Acute leukemia

C. Disseminated intravascular coagulation

D. Hemolytic uremic syndrome

Answer: A. Aseptic meningitis

Explanation: Aseptic meningitis is a recognized adverse effect of IVIG. It typically presents with headache, fever, vomiting, and meningeal signs with sterile CSF studies.

Nelson topic reference: Immune thrombocytopenia; IVIG adverse effects.

Q3. (Original item 3) A previously healthy 2-year-old girl presents with acute pallor and fatigue. There is no jaundice, dark urine, melena, or hematochezia. Examination is normal except for pallor. Laboratory studies show hemoglobin 5 g/dL, MCV 80 fL, platelet count 450,000/mm3, WBC 15,000/mm3, and markedly low reticulocyte count. Which diagnosis is most likely?

A. Fanconi anemia

B. Diamond-Blackfan anemia

C. Beta-thalassemia major

D. Transient erythroblastopenia of childhood

Answer: D. Transient erythroblastopenia of childhood

Explanation: Transient erythroblastopenia of childhood causes isolated transient red cell aplasia in young children, often after viral illness. It produces normocytic anemia with reticulocytopenia and preserved or increased platelets/WBCs.

Nelson topic reference: Pure red cell aplasia; transient erythroblastopenia of childhood.

Q4. (Original item 43) A child has easy bruising, recurrent epistaxis, and prolonged bleeding after dental work. Laboratory testing shows prolonged aPTT and reduced factor VIII activity. Which statement best explains the relationship between von Willebrand disease and factor VIII?

A. Von Willebrand factor stabilizes factor VIII in plasma

B. Von Willebrand disease always has normal aPTT

C. Factor VIII deficiency causes isolated thrombocytopenia

D. Von Willebrand disease never causes postoperative bleeding

Answer: A. Von Willebrand factor stabilizes factor VIII in plasma

Explanation: Von Willebrand factor carries and stabilizes factor VIII. In severe von Willebrand disease, factor VIII can be low enough to prolong aPTT; mucocutaneous bleeding remains a key clinical clue.

Nelson topic reference: Von Willebrand disease; factor VIII; bleeding disorders.

Q5. (Original item 44) A 12-year-old boy presents with localized bone pain and swelling. Imaging shows a destructive diaphyseal bone lesion with an onion-skin periosteal reaction. Biopsy suggests Ewing sarcoma. Which translocation is classically associated with this tumor?

A. t(9;22)

B. t(11;22)

C. t(12;21)

D. t(15;17)

Answer: B. t(11;22)

Explanation: Ewing sarcoma is classically associated with t(11;22), producing the EWSR1-FLI1 fusion. t(12;21) is associated with childhood B-ALL, not Ewing sarcoma.

Nelson topic reference: Bone tumors; Ewing sarcoma.

Q6. (Original item 47) A child receiving chemotherapy develops progressive sensorineural hearing loss. Which chemotherapeutic agent is classically associated with ototoxicity?

A. Vincristine

B. Methotrexate

C. Cisplatin

D. Cyclophosphamide

Answer: C. Cisplatin

Explanation: Cisplatin can cause dose-related ototoxicity, especially high-frequency sensorineural hearing loss. Aminoglycosides also cause ototoxicity but are antibiotics, not chemotherapy agents.

Nelson topic reference: Antineoplastic therapy; chemotherapy toxicities.

Emergency Medicine, Shock, and Cardiology

Q7. (Original item 4) A 3-year-old child with tetralogy of Fallot presents with a regular wide-complex tachycardia at 200/min, decreased level of consciousness, and blood pressure 50/20 mmHg. Pulses are present. What is the most appropriate immediate management?

A. Adenosine

B. Synchronized cardioversion

C. Unsynchronized defibrillation

D. Amiodarone infusion as the first step

Answer: B. Synchronized cardioversion

Explanation: This is unstable wide-complex tachycardia with a pulse. The appropriate immediate intervention is synchronized cardioversion. Defibrillation is used for pulseless ventricular tachycardia or ventricular fibrillation.

Nelson topic reference: Pediatric advanced life support; tachyarrhythmias.

Q8. (Original item 5) A 4-year-old child presents with tachycardia, delayed capillary refill, hypotension, dry mucous membranes, and lethargy after several days of vomiting and diarrhea. What is the most common category of shock in pediatrics?

A. Hypovolemic shock

B. Septic shock

C. Anaphylactic shock

D. Neurogenic shock

Answer: A. Hypovolemic shock

Explanation: Hypovolemic shock is the most common type of shock in children, commonly due to dehydration from gastroenteritis, hemorrhage, or fluid losses.

Nelson topic reference: Shock; dehydration; pediatric resuscitation.

Q9. (Original item 30) A cyanotic child has decreased pulmonary vascular markings on chest radiograph. Which congenital heart lesion most classically causes an oligemic lung field?

A. Large ventricular septal defect

B. Patent ductus arteriosus

C. Truncus arteriosus

D. Tetralogy of Fallot

Answer: D. Tetralogy of Fallot

Explanation: Tetralogy of Fallot commonly produces decreased pulmonary blood flow because right ventricular outflow obstruction limits flow to the lungs. Large VSD, PDA, and truncus arteriosus usually increase pulmonary vascularity.

Nelson topic reference: Cyanotic congenital heart disease; chest radiography.

Q10. (Original item 31) Which cardiac association is mismatched?

A. Complete atrioventricular canal - isolated left ventricular hypertrophy

B. Turner syndrome - coarctation of the aorta

C. Down syndrome - atrioventricular septal defect

D. Maternal lupus - congenital complete heart block

Answer: A. Complete atrioventricular canal - isolated left ventricular hypertrophy

Explanation: Complete atrioventricular canal is strongly associated with Down syndrome and causes atrial and ventricular level shunting with pulmonary overcirculation. Isolated LVH is not the classic association.

Nelson topic reference: Congenital heart disease associations.

Q11. (Original item 29) A child with MIS-C develops myocarditis and shock. Which physical finding is least consistent with decompensated heart failure?

A. Elevated jugular venous pressure

B. Hepatomegaly

C. Narrow pulse pressure

D. Bounding pulses with wide pulse pressure

Answer: D. Bounding pulses with wide pulse pressure

Explanation: Heart failure/cardiogenic shock is supported by elevated JVP, hepatomegaly, edema, poor perfusion, and often narrow pulse pressure. Bounding pulses with wide pulse pressure suggest a hyperdynamic or runoff state rather than classic low-output heart failure.

Nelson topic reference: MIS-C; myocarditis; pediatric heart failure.

Gastroenterology, Nutrition, and Toxicology

Q12. (Original item 6) A newborn has abdominal distension, bilious vomiting, and failure to pass meconium. Rectal examination reveals an empty rectum followed by explosive stool passage. Which finding confirms the diagnosis?

A. Absence of parasympathetic ganglion cells

B. Hypertrophy of the pyloric muscle

C. Inflammation of Peyer patches

D. Malrotation with volvulus

Answer: A. Absence of parasympathetic ganglion cells

Explanation: Hirschsprung disease is caused by absence of ganglion cells in the submucosal and myenteric plexuses of the distal bowel, causing functional obstruction.

Nelson topic reference: Hirschsprung disease.

Q13. (Original item 7) A previously healthy 5-year-old child has intermittent painless bright red rectal bleeding. There is no abdominal pain, vomiting, fever, or anal fissure on examination. Which diagnosis is most likely?

A. Juvenile polyp

B. Anal fissure

C. Intussusception

D. Hemorrhoids

Answer: A. Juvenile polyp

Explanation: Juvenile polyps commonly present between 2 and 5 years with painless intermittent rectal bleeding. Anal fissure is painful, and intussusception usually causes episodic abdominal pain and currant-jelly stools.

Nelson topic reference: Lower gastrointestinal bleeding; juvenile polyps.

Q14. (Original item 9) An infant has periorificial dermatitis, acral rash, diarrhea, alopecia, and irritability. Which nutrient deficiency is most likely?

A. Zinc

B. Vitamin B12

C. Thiamine

D. Niacin

Answer: A. Zinc

Explanation: Zinc deficiency, including acrodermatitis enteropathica, causes periorificial and acral dermatitis, alopecia, diarrhea, poor growth, and irritability.

Nelson topic reference: Zinc deficiency; acrodermatitis enteropathica.

Neonatology, Development, Genetics, and Metabolism

Q15. (Original item 8) A 6-month-old infant develops acute hypotonia, poor feeding, constipation, weak cry, and absent deep tendon reflexes. The infant was recently given raw honey. What is the most likely cause?

A. Infant botulism

B. Cow's milk protein allergy

C. Spinal muscular atrophy type 1

D. Guillain-Barre syndrome

Answer: A. Infant botulism

Explanation: Honey can contain Clostridium botulinum spores. Infant botulism causes constipation, poor feeding, hypotonia, weak cry, and descending weakness with decreased reflexes.

Nelson topic reference: Infant botulism; acute flaccid paralysis.

Q16. (Original item 10) A neonatology resident is comparing early-onset and late-onset neonatal sepsis. Which statement is most accurate?

A. Early-onset sepsis usually presents within the first 72 hours of life

B. Late-onset sepsis occurs only in the first 24 hours

C. Early-onset sepsis is usually caused by hospital devices

D. Late-onset sepsis is never associated with meningitis

Answer: A. Early-onset sepsis usually presents within the first 72 hours of life

Explanation: Early-onset neonatal sepsis usually presents within the first 72 hours and is commonly vertically acquired. Late-onset sepsis occurs after 72 hours and may be community- or healthcare-associated.

Nelson topic reference: Neonatal sepsis.

Q17. (Original item 11) A newborn has suspected congenital diaphragmatic hernia with respiratory distress, scaphoid abdomen, and bowel sounds in the chest. Which resuscitation method should be avoided if possible?

A. Endotracheal intubation

B. Bag-mask ventilation

C. Gastric decompression

D. Gentle ventilatory support

Answer: B. Bag-mask ventilation

Explanation: Bag-mask ventilation can distend the stomach and bowel in the thorax and worsen respiratory compromise. Intubation and gastric decompression are preferred.

Nelson topic reference: Congenital diaphragmatic hernia; neonatal resuscitation.

Q18. (Original item 12) A term infant is born to a mother with poorly controlled diabetes. Which finding is least expected in this infant?

A. Hypoglycemia

B. Hypocalcemia

C. Polycythemia

D. Persistent hyperglycemia

Answer: D. Persistent hyperglycemia

Explanation: Infants of diabetic mothers are at risk of hypoglycemia due to fetal hyperinsulinism, as well as hypocalcemia, hypomagnesemia, polycythemia, respiratory distress, and cardiomyopathy. Persistent hyperglycemia is not the typical finding.

Nelson topic reference: Infant of diabetic mother.

Q19. (Original item 13) Which feature is most consistent with physiologic jaundice in a healthy term newborn?

A. Jaundice beginning after the first 24 hours

B. Jaundice visible in the first 12 hours

C. Direct bilirubin 3 mg/dL

D. Bilirubin rising faster than 5 mg/dL/day

Answer: A. Jaundice beginning after the first 24 hours

Explanation: Physiologic jaundice appears after the first 24 hours, is unconjugated, and rises gradually. Jaundice on day 1, conjugated hyperbilirubinemia, or a rapid bilirubin rise is pathologic.

Nelson topic reference: Neonatal hyperbilirubinemia.

Q20. (Original item 14) A 10-month-old infant is seen for developmental surveillance. Which finding is not a developmental red flag?

A. Consistent hand preference

B. Not sitting without support

C. Not laughing or socially engaging

D. Presence of a parachute reflex

Answer: D. Presence of a parachute reflex

Explanation: The parachute protective response appears during infancy and persists. Early hand preference, inability to sit independently by 10 months, and poor social engagement are concerning findings.

Nelson topic reference: Developmental milestones; neurologic red flags.

Q21. (Original item 17) A 2-week-old infant has a positive Barlow and Ortolani examination. Which is the best next diagnostic step among the options listed?

A. Hip ultrasonography at about 4-6 weeks with orthopedic follow-up

B. Bone scan

C. MRI of the pelvis

D. Plain x-ray as the only test now

Answer: A. Hip ultrasonography at about 4-6 weeks with orthopedic follow-up

Explanation: In early infancy, hip ultrasonography is used because the femoral head is not yet ossified. A clearly positive Ortolani/Barlow exam also warrants orthopedic follow-up.

Nelson topic reference: Developmental dysplasia of the hip.

Q22. (Original item 41) A newborn is suspected to have Down syndrome because of hypotonia, upslanting palpebral fissures, and a single transverse palmar crease. Which is least likely to be part of the immediate newborn assessment?

A. Genetic counseling or referral

B. Formal visual acuity testing

C. Assessment of feeding and respiratory status

D. Echocardiography for congenital heart disease

Answer: B. Formal visual acuity testing

Explanation: Initial care includes assessment of feeding, respiratory status, congenital heart disease, thyroid disease, hearing, and genetic counseling. Formal visual acuity testing is not an immediate newborn step.

Nelson topic reference: Down syndrome; newborn care and screening.

Q23. (Original item 42) A 10-month-old infant has fasting hypoglycemia, hepatomegaly, lactic acidosis, hyperuricemia, and hypertriglyceridemia. Which metabolic diagnosis best explains these findings?

A. Glycogen storage disease type I

B. Medium-chain acyl-CoA dehydrogenase deficiency

C. Phenylketonuria

D. Classic galactosemia

Answer: A. Glycogen storage disease type I

Explanation: Glycogen storage disease type I causes fasting hypoglycemia with lactic acidosis, hepatomegaly, hyperuricemia, and hyperlipidemia due to impaired glucose-6-phosphatase activity.

Nelson topic reference: Glycogen storage diseases; metabolic hypoglycemia.

Q24. (Original item 45) A newborn has a generalized purpuric, nonblanching papular rash described as a blueberry muffin rash. Which interpretation is most appropriate?

A. Normal erythema toxicum

B. Benign transient pustular melanosis

C. Abnormal rash requiring evaluation

D. Physiologic cutis marmorata

Answer: C. Abnormal rash requiring evaluation

Explanation: Blueberry muffin rash suggests dermal extramedullary hematopoiesis and may be seen with congenital infections, hemolytic disease, or malignancy. It is not a normal newborn rash.

Nelson topic reference: Newborn skin findings; congenital infections.

Pulmonology, Allergy, Immunology, and Infectious Diseases

Q25. (Original item 18) A 6-year-old child has obstructive sleep apnea due to markedly enlarged tonsils and adenoids. Which statement is false?

A. Some children may need CPAP when surgery is not possible or symptoms persist

B. Adenotonsillectomy often improves symptoms

C. Routine antibiotics reliably decrease tonsillar size and cure OSA

D. Obesity and craniofacial disorders increase risk of persistent OSA

Answer: C. Routine antibiotics reliably decrease tonsillar size and cure OSA

Explanation: Adenotonsillectomy is first-line therapy for many children with OSA due to adenotonsillar hypertrophy. CPAP is used in selected cases. Routine antibiotics do not reliably cure OSA due to tonsillar hypertrophy.

Nelson topic reference: Obstructive sleep apnea; adenotonsillar hypertrophy.

Q26. (Original item 19) A 2-month-old infant presents with apnea, cyanosis, poor feeding, and temperature instability. Sepsis is suspected. Which test is least appropriate as part of the initial evaluation?

A. Lumbar puncture when clinically stable

B. Urinalysis and urine culture

C. Chest CT scan

D. Blood culture

Answer: C. Chest CT scan

Explanation: Initial evaluation of a young infant with suspected sepsis includes blood, urine, and often CSF studies when safe. Chest radiography may be used if respiratory findings are present, but chest CT is not a routine initial test.

Nelson topic reference: Serious bacterial infection in young infants; sepsis evaluation.

Q27. (Original item 20) A child develops a brain abscess 1 week after dental extraction. Which organism group is most likely?

A. Viridans streptococci and oral anaerobes

B. Staphylococcus epidermidis

C. Pseudomonas aeruginosa

D. Escherichia coli

Answer: A. Viridans streptococci and oral anaerobes

Explanation: Brain abscess after dental or sinus source is commonly related to oral flora, especially viridans streptococci and anaerobes.

Nelson topic reference: Brain abscess; odontogenic infections.

Q28. (Original item 21) A child has asthma, eczema, allergic rhinitis, and recurrent wheezing. Which statement about atopic asthma is false?

A. Peripheral eosinophilia may be present

B. Airway inflammation may include eosinophils

C. Selected severe eosinophilic asthma may respond to anti-IL-5 therapy

D. Inhaled corticosteroids have no role in persistent asthma

Answer: D. Inhaled corticosteroids have no role in persistent asthma

Explanation: Inhaled corticosteroids are key controller therapy for persistent asthma. Eosinophilic inflammation may be present, and anti-IL-5 biologics are options in selected severe eosinophilic asthma.

Nelson topic reference: Asthma; atopy; severe eosinophilic asthma.

Q29. (Original item 22) Which child has the lowest risk for future asthma exacerbation?

A. A child admitted once last year for asthma

B. A child with poor inhaler technique

C. A child using albuterol once every three weeks

D. A child exposed to cigarette smoke at home

Answer: C. A child using albuterol once every three weeks

Explanation: Prior admission, poor inhaler technique, and tobacco smoke exposure increase exacerbation risk. Infrequent reliever use suggests better control and lower risk.

Nelson topic reference: Asthma control and risk assessment.

Q30. (Original item 23) Which statement about cystic fibrosis is false?

A. Chronic Pseudomonas infection supports the diagnosis

B. A negative limited CFTR mutation panel rules out the disease

C. Pancreatic insufficiency can cause malabsorption

D. Male infertility is common

Answer: B. A negative limited CFTR mutation panel rules out the disease

Explanation: A limited CFTR mutation panel does not detect all disease-causing variants. Diagnosis is based on compatible clinical features plus sweat chloride testing and/or comprehensive CFTR analysis.

Nelson topic reference: Cystic fibrosis; diagnostic testing.

Q31. (Original item 46) A child with proven group A streptococcal pharyngitis has a sibling who develops high fever and sore throat. Which statement about treatment is false?

A. Antibiotic treatment reduces transmission

B. Antibiotic treatment prevents acute rheumatic fever when given appropriately

C. Antibiotic treatment reliably prevents poststreptococcal glomerulonephritis

D. Treatment can shorten symptoms when started early

Answer: C. Antibiotic treatment reliably prevents poststreptococcal glomerulonephritis

Explanation: Treatment of streptococcal pharyngitis prevents acute rheumatic fever and reduces spread, but it does not reliably prevent poststreptococcal glomerulonephritis.

Nelson topic reference: Group A streptococcal infections; complications.

Neurology and Neurosurgery

Q32. (Original item 24) A child with epilepsy develops worsening myoclonic and absence seizures after starting an antiseizure medication. Which medication is most likely to worsen generalized epilepsies of this type?

A. Levetiracetam

B. Valproate

C. Carbamazepine

D. Clobazam

Answer: C. Carbamazepine

Explanation: Carbamazepine can worsen absence and myoclonic seizures in generalized epilepsy syndromes. It is more useful for focal seizures.

Nelson topic reference: Antiseizure medications; seizure syndromes.

Q33. (Original item 25) A child presents with sudden severe headache. CT shows subarachnoid blood in the cisterna magna and signs of raised intracranial pressure. Which is the most appropriate next step after initial stabilization?

A. Discharge with outpatient follow-up

B. Urgent neurosurgical consultation

C. Oral analgesics only

D. Lumbar puncture before stabilization

Answer: B. Urgent neurosurgical consultation

Explanation: Subarachnoid hemorrhage with increased ICP requires urgent stabilization and neurosurgical/neurocritical care involvement. Lumbar puncture is contraindicated when increased ICP is suspected.

Nelson topic reference: Intracranial hemorrhage; increased intracranial pressure.

Q34. (Original item 26) A child with Guillain-Barre syndrome is admitted for monitoring. Which issue is least typical as a priority complication of Guillain-Barre syndrome?

A. Dysphagia and impaired gag reflex

B. Increased intracranial pressure

C. Arrhythmias from autonomic dysfunction

D. Bladder retention

Answer: B. Increased intracranial pressure

Explanation: GBS priorities include respiratory failure, bulbar weakness, aspiration risk, autonomic instability including arrhythmias, pain, and bladder dysfunction. Increased intracranial pressure is not a typical GBS complication.

Nelson topic reference: Guillain-Barre syndrome.

Q35. (Original item 27) Which antiseizure medication adverse-effect match is incorrect?

A. Levetiracetam - behavioral changes

B. Phenobarbital - irritability or hyperactivity

C. Topiramate - weight gain

D. Valproate - elevated liver enzymes

Answer: C. Topiramate - weight gain

Explanation: Topiramate is more often associated with weight loss, appetite suppression, cognitive slowing, nephrolithiasis, and metabolic acidosis. Weight gain is more associated with valproate.

Nelson topic reference: Antiseizure medications; adverse effects.

Q36. (Original item 28) An obese adolescent has headache, transient visual obscurations, papilledema, and elevated CSF opening pressure. Which statement about idiopathic intracranial hypertension is false?

A. Obesity is a risk factor

B. CSF protein is typically increased

C. Vitamin A derivatives can contribute

D. Papilledema is common

Answer: B. CSF protein is typically increased

Explanation: Idiopathic intracranial hypertension has elevated opening pressure with otherwise normal CSF composition. Obesity and vitamin A derivatives are recognized risk factors; papilledema is common.

Nelson topic reference: Idiopathic intracranial hypertension.

Nephrology and Urology

Q37. (Original item 15) Which condition is least likely to cause hypercalciuria?

A. Hyperparathyroidism

B. Distal renal tubular acidosis

C. Immobilization

D. Hypoparathyroidism

Answer: D. Hypoparathyroidism

Explanation: Hyperparathyroidism, distal RTA, and immobilization can increase urinary calcium excretion. Hypoparathyroidism causes hypocalcemia and is not a typical cause of hypercalciuria.

Nelson topic reference: Calcium metabolism; hypercalciuria.

Q38. (Original item 32) A child with poststreptococcal glomerulonephritis is followed in clinic. Which statement is false?

A. C3 is often low during the acute illness

B. C3 usually normalizes within several weeks

C. Persistent low C3 should prompt evaluation for MPGN or C3 glomerulopathy

D. Persistent low C3 is expected and needs no further evaluation

Answer: D. Persistent low C3 is expected and needs no further evaluation

Explanation: Low C3 is typical in acute PSGN but should recover. Persistent hypocomplementemia suggests another diagnosis such as MPGN or C3 glomerulopathy.

Nelson topic reference: Poststreptococcal glomerulonephritis; complement.

Q39. (Original item 33) Which child least clearly needs renal biopsy at initial presentation?

A. A 4-year-old with first episode of typical nephrotic syndrome, normal BP, normal complement, and no hematuria

B. A child with nephrotic syndrome and acute kidney injury

C. A child with nephrotic syndrome and persistent low complement

D. A child with persistent proteinuria after adequate corticosteroid therapy

Answer: A. A 4-year-old with first episode of typical nephrotic syndrome, normal BP, normal complement, and no hematuria

Explanation: Typical first-episode childhood nephrotic syndrome does not require biopsy at presentation. Biopsy is considered for atypical features, impaired kidney function, low complement, or steroid resistance.

Nelson topic reference: Nephrotic syndrome; renal biopsy indications.

Q40. (Original item 34) A child develops acute kidney injury, fever, rash, eosinophilia, sterile pyuria, and WBC casts after starting an antibiotic. Which finding supports acute interstitial nephritis?

A. Fractional excretion of sodium greater than 1%

B. Nephrotic-range proteinuria as the only finding

C. Low C3 as the defining feature

D. Normal creatinine with isolated microscopic hematuria

Answer: A. Fractional excretion of sodium greater than 1%

Explanation: Acute interstitial nephritis is an intrinsic renal process and may have FeNa greater than 1%, sterile pyuria, WBC casts, eosinophilia, and AKI after drug exposure.

Nelson topic reference: Acute interstitial nephritis; acute kidney injury.

Q41. (Original item 35) A child with chronic kidney disease has anemia. Which statement is false?

A. Erythropoiesis-stimulating agents may be used when indicated

B. ACE inhibitors can contribute to anemia

C. CKD is associated with growth failure

D. Reticulocytosis is the typical primary mechanism

Answer: D. Reticulocytosis is the typical primary mechanism

Explanation: Anemia of CKD is mainly due to decreased erythropoietin production, inflammation, iron deficiency, and shortened RBC survival. The reticulocyte response is often inadequate.

Nelson topic reference: Chronic kidney disease; anemia in CKD.

Endocrinology and Diabetes

Q42. (Original item 36) A 7-year-old girl has progressive breast enlargement and pubic hair. Bone age is advanced to 9 years. Which diagnosis is most likely?

A. Premature thelarche

B. Central precocious puberty

C. Constitutional delay

D. Isolated premature adrenarche only

Answer: B. Central precocious puberty

Explanation: Progressive breast development before age 8 years with pubic hair and advanced bone age suggests central precocious puberty rather than isolated premature thelarche.

Nelson topic reference: Precocious puberty.

Q43. (Original item 37) A 12-year-old boy has height below the 1st percentile, mid-parental target height around the 25th percentile, delayed bone age, normal birth weight, and family history of delayed puberty. Which statement is false for constitutional delay of growth and puberty?

A. Birth weight is usually normal

B. Bone age is delayed

C. Family history may be present

D. Final adult height is usually far below genetic potential

Answer: D. Final adult height is usually far below genetic potential

Explanation: Children with constitutional delay usually have delayed bone age and family history of delayed puberty, and they often reach adult height appropriate for genetic potential, although later than peers.

Nelson topic reference: Short stature; constitutional delay.

Q44. (Original item 38) Which of the following is not a cause of neonatal thyrotoxicosis?

A. Maternal thyroid-stimulating receptor antibodies

B. Neonatal Graves disease

C. Activating TSH receptor mutation

D. Maternal TSH receptor-blocking antibodies

Answer: D. Maternal TSH receptor-blocking antibodies

Explanation: Maternal thyroid-stimulating antibodies can cause neonatal thyrotoxicosis. TSH receptor-blocking antibodies cause hypothyroidism, not thyrotoxicosis.

Nelson topic reference: Neonatal thyroid disease.

Q45. (Original item 39) A child recently diagnosed with type 1 diabetes develops decreasing insulin requirements and recurrent mild hypoglycemia several weeks after starting insulin. What is this period called?

A. Somogyi phenomenon

B. Dawn phenomenon

C. Honeymoon period

D. Diabetic ketoacidosis remission

Answer: C. Honeymoon period

Explanation: The honeymoon period is partial remission after diagnosis of type 1 diabetes, when residual beta-cell function temporarily lowers insulin needs.

Nelson topic reference: Type 1 diabetes mellitus.

Q46. (Original item 40) A 2-year-old child has episodes of fasting hypoglycemia with ketosis during intercurrent illness. Which feature is least consistent with idiopathic ketotic hypoglycemia?

A. Age between 18 months and 5 years

B. Triggering by prolonged fasting

C. Thin body habitus or limited glycogen reserve

D. Obesity

Answer: D. Obesity

Explanation: Idiopathic ketotic hypoglycemia typically affects toddlers and preschool children with limited fasting tolerance, often thin or small children. Obesity is not typical.

Nelson topic reference: Hypoglycemia in children; ketotic hypoglycemia.

Prevention and Immunization

Q47. (Original item 16) A healthy term newborn is ready for discharge from the nursery. Which statement about hepatitis B prevention is correct?

A. Hepatitis B vaccine should be given after delivery and before discharge

B. Hepatitis B vaccine is delayed until 2 months in all newborns

C. Vaccine is unnecessary if the mother is HBsAg negative

D. HBIG replaces the vaccine in exposed newborns

Answer: A. Hepatitis B vaccine should be given after delivery and before discharge

Explanation: A universal birth dose of hepatitis B vaccine is recommended for newborns. Infants born to HBsAg-positive mothers also require HBIG plus vaccine soon after birth.

Nelson topic reference: Hepatitis B prevention; newborn immunization.

Reference Notes

- Kliegman RM, St. Geme JW, Blum NJ, Shah SS, Tasker RC, Wilson KM, eds. Nelson Textbook of Pediatrics. 22nd ed. Elsevier. Core pediatric content reference for the explanations and topic framing.
- National Board of Medical Examiners. Item-Writing Guide. Used for board-style structure: clinical vignette, focused lead-in, homogeneous options, and one best answer.
- American Board of Pediatrics content outline. Used as a general framework for pediatric board-style organization by system.

Note: This PDF is for pediatric board preparation and resident teaching. Management should always be adapted to local protocols and current institutional guidelines.