COMPREHENSIVE MOCK EXAM 2

Supplemental to: Neonatology Board Review 2026-2027

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American Board of Pediatrics Neonatal-Perinatal Medicine subspecialty certification examination — 200 single-best-answer questions, A-D options, domain-weighted to the approved ABP blueprint

Board-Review Questions

1. A newborn develops severe jaundice and anemia. The mother is type O and the infant is type A; the direct antiglobulin test is positive. Which process is most likely?

A. The infant has hereditary spherocytosis.

B. The infant has vitamin K deficiency.

C. Maternal IgG anti-A antibodies are causing immune hemolysis of neonatal red cells.

D. Maternal IgM anti-A antibodies crossed the placenta and are causing intravascular hemolysis.

2. Parents facing delivery at the limits of viability ask whether intensive care should be started. Which counseling approach is most appropriate?

A. Use shared decision-making that explains prognosis and uncertainty, elicits family values, and discusses reasonable intensive and comfort-focused care.

B. Provide a population survival estimate without discussing the uncertainty around an individual infant.

C. Recommend intensive care primarily from gestational age and clinician preference rather than family values.

D. Defer goals-of-care counseling until after birth unless the infant is considered nonviable.

3. A term infant is delivered after a massive placental abruption and requires extensive resuscitation. Which placental event most directly explains the infant's risk for hypoxic-ischemic injury?

A. Selective placental amino-acid transport failure causing acute neonatal encephalopathy.

B. Maternal hyperventilation causing persistent fetal respiratory alkalosis and cerebral edema.

C. Gradual placental calcium loss producing neonatal myocardial depression after birth.

D. Abrupt interruption of placental gas exchange and fetal perfusion before delivery.

4. A 5-week-old infant remains jaundiced and has pale stools, dark urine, hepatomegaly, and an elevated direct bilirubin concentration. What is the most urgent diagnostic concern?

A. Neonatal cholestasis such as biliary atresia requiring prompt evaluation.

B. Physiologic jaundice that can be safely observed until six months of age.

C. G6PD deficiency causing direct hyperbilirubinemia with pale stools and hepatomegaly.

D. Breast-milk jaundice causing isolated conjugated hyperbilirubinemia and acholic stools.

5. A newborn with trisomy 21 develops heart failure from a large defect involving the atrial and ventricular septa and a common atrioventricular valve. What is the lesion?

A. Complete atrioventricular septal defect.

B. Isolated secundum atrial septal defect.

C. Coarctation of the aorta with intact septa.

D. Tetralogy of Fallot with pulmonary atresia.

6. A phenotypic female newborn has diffuse hand and foot edema, a webbed neck, widely spaced nipples, and coarctation of the aorta. Which chromosomal diagnosis is most likely?

A. Paternal 15q11-q13 deletion.

B. 47,XXY Klinefelter syndrome.

C. Monosomy X, or Turner syndrome.

D. Trisomy 21.

7. Which immunoglobulin class is transferred most efficiently across the placenta and provides much of a term newborn's passive systemic antibody protection?

A. Maternal secretory IgA.

B. Maternal IgE.

C. Maternal IgG.

D. Maternal IgM.

8. A term infant had profound perinatal asphyxia and now has altered consciousness, hypotonia, weak reflexes, and seizures. What diagnosis best describes the neurologic syndrome?

A. Apnea of prematurity with an otherwise normal neurologic examination.

B. Transient sleep-state depression after an otherwise uncomplicated delivery.

C. Isolated neonatal peripheral neuromuscular weakness without encephalopathy.

D. Hypoxic-ischemic neonatal encephalopathy following severe perinatal asphyxia.

9. A noninferiority trial compares a less invasive surfactant technique with standard intubation. What must be specified before the trial to interpret noninferiority?

A. A clinically justified noninferiority margin defining the largest acceptable loss of efficacy.

B. A requirement that the new treatment have a statistically significant superiority P value.

C. A post hoc margin chosen after seeing which value makes the new technique appear successful.

D. A rule that confidence intervals are unnecessary.

10. An infant with short bowel syndrome after extensive NEC surgery is receiving increasing enteral feeds. Which nutritional principle promotes intestinal adaptation?

A. Restrict enteral fat and rely mainly on carbohydrate-containing feeds during adaptation.

B. Limit enteral intake to electrolyte solution while providing full nutrition parenterally.

C. Maintain exclusive parenteral nutrition for several months before attempting enteral feeds.

D. Advance enteral nutrition as tolerated because luminal nutrients stimulate adaptation of the remaining bowel.

11. A stable extremely preterm infant has a soft abdomen and normal perfusion on day 1. What is the rationale for introducing small trophic enteral feeds rather than prolonged complete bowel rest?

A. Trophic feeds are used primarily to correct neonatal hypoglycemia through rapid carbohydrate delivery.

B. Trophic feeds lower NEC risk primarily by suppressing bacterial colonization of the bowel.

C. Small enteral volumes support gut maturation and feeding tolerance while nutrition is advanced cautiously.

D. Trophic feeds provide enough calories to eliminate the need for parenteral amino acids immediately.

12. A former 26-week infant is 9 months old chronologically and was born 14 weeks early. Which age is most appropriate when assessing early developmental milestones?

A. Use unadjusted chronological age for milestone expectations from the time of birth.

B. Use gestational age at birth as the child's developmental age until the second birthday.

C. Use corrected age of about 5.5 months for early developmental expectations.

D. Subtract the infant's birth weight percentile from chronological age to calculate developmental age.

13. A newborn has a distended abdomen and meconium ileus. After stabilization, which underlying disease should be evaluated even if the obstruction is successfully relieved?

A. Cystic fibrosis.

B. Turner syndrome.

C. Congenital hypothyroidism.

D. Neonatal hemochromatosis.

14. A 31-week infant is receiving fortified human milk and growing poorly despite an adequate fluid volume. Which nutritional variable should be assessed before simply increasing fluid intake?

A. Whether calcium and phosphorus have been withheld to reduce the risk of nephrocalcinosis.

B. Remove sodium supplementation from feeds to avoid extracellular volume expansion.

C. Whether enteral fat has been eliminated.

D. Actual protein and energy delivery relative to the infant's growth requirements.

15. A thriving former 27-week infant has a gradual fall in hemoglobin during the first weeks of life, low reticulocyte production, and no evidence of bleeding or hemolysis. What is the most likely explanation?

A. Vitamin K deficiency causing isolated anemia without bleeding or coagulation abnormalities.

B. Acute fetomaternal hemorrhage causing ongoing large-volume blood loss weeks after delivery.

C. Anemia of prematurity from low erythropoietin response, short red-cell lifespan, growth, and phlebotomy losses.

D. Immune hemolysis causing a suppressed reticulocyte count and positive cultures.

16. An Rh-negative pregnant patient previously formed anti-D antibodies. Fetal middle cerebral artery Doppler velocity is markedly elevated. What fetal complication is most concerning?

A. Fetal thrombocytosis from maternal platelet alloimmunization.

B. Fetal polycythemia from chronic transplacental maternal transfusion.

C. Fetal neutropenia from transplacental anti-neutrophil antibodies.

D. Severe fetal anemia from immune-mediated red-cell destruction.

17. A cyanotic neonate with Ebstein anomaly has massive right atrial enlargement and severe tricuspid regurgitation. Which maternal exposure is classically associated with this lesion?

A. Lithium exposure during early pregnancy.

B. Magnesium sulfate used for fetal neuroprotection shortly before delivery.

C. Methimazole exposure limited to the final week of pregnancy.

D. Betamethasone given for fetal lung maturation before preterm birth.

18. An extremely preterm infant has a PDA detected on echocardiography at 48 hours but is clinically stable. Which current management principle is most appropriate?

A. Begin ibuprofen whenever a PDA is identified by echocardiography during the first 72 hours.

B. Begin prostaglandin E1 to preserve ductal flow while the infant remains ventilated.

C. Proceed to early surgical ligation once ductal patency is confirmed by echocardiography.

D. Use individualized conservative assessment rather than routine early PDA closure in a clinically stable infant.

19. A 3-week-old infant has progressive nonbilious projectile vomiting, remains hungry after vomiting, and has hypochloremic metabolic alkalosis. Which diagnosis is most likely?

A. Hirschsprung-associated enterocolitis.

B. Duodenal atresia.

C. Hypertrophic pyloric stenosis.

D. Midgut volvulus.

20. A neonate has severe respiratory distress, scaphoid abdomen, and bowel sounds heard in the left chest. Which associated pulmonary abnormality most strongly determines early respiratory severity?

A. Diffuse surfactant excess causing uniform overexpansion of both lungs.

B. Primary ciliary dyskinesia causing immediate collapse of otherwise normal-sized lungs.

C. Isolated pleural inflammation causing large bilateral effusions before birth.

D. Ipsilateral and contralateral pulmonary hypoplasia with abnormal pulmonary vascular development.

21. A newborn has cataracts, a patent ductus arteriosus, sensorineural hearing loss, and a purpuric rash. Which congenital infection is most likely?

A. Congenital parvovirus B19 infection.

B. Congenital rubella syndrome.

C. Congenital herpes simplex virus infection.

D. Congenital toxoplasmosis.

22. An extremely preterm infant with a central venous catheter and broad-spectrum antibiotic exposure develops thrombocytopenia, glucose instability, and persistent bloodstream infection. Which pathogen group should be strongly considered?

A. Mycoplasma pneumoniae infection.

B. Invasive Candida species infection.

C. Helicobacter pylori infection.

D. Bordetella pertussis infection.

23. A neonate has profound hypotonia, weak cry, poor respiratory effort, and absent deep tendon reflexes. The mother reports decreased fetal movement. Which disorder should be urgently considered?

A. Prader-Willi syndrome due to loss of paternal chromosome 15 expression.

B. Congenital hypothyroidism due to thyroid dysgenesis.

C. Spinal muscular atrophy due to biallelic SMN1 loss.

D. Neonatal Graves disease due to stimulating TSH-receptor antibodies.

24. During neonatal resuscitation, the heart rate remains below 60/min despite effective ventilation and coordinated chest compressions. Which medication is indicated?

A. Epinephrine, preferably given by an intravascular route while ventilation and compressions continue.

B. Atropine, given routinely to reverse presumed vagal bradycardia during delivery-room resuscitation.

C. Adenosine, given rapidly to terminate presumed supraventricular tachycardia causing the low heart rate.

D. Sodium bicarbonate, given before epinephrine as the standard first-line medication for neonatal bradycardia.

25. A jaundiced newborn has rapidly rising bilirubin, anemia, reticulocytosis, and a positive direct antiglobulin test. What mechanism is most likely?

A. Immune-mediated hemolysis increasing unconjugated bilirubin production.

B. Physiologic jaundice causing a positive antiglobulin test without hemolysis.

C. Breast-milk jaundice causing anemia through suppression of erythropoiesis.

D. Biliary obstruction reducing direct bilirubin excretion without red-cell destruction.

26. Researchers enroll infants with NEC and matched infants without NEC, then look backward for prior antibiotic exposure. What study design is this?

A. A randomized controlled trial.

B. A retrospective case-control study.

C. A prospective cohort study beginning with exposure status.

D. A cross-sectional prevalence survey without outcome-based selection.

27. A newborn is suspected of having profound T-cell immunodeficiency. Which preventive measure is most important while the diagnosis is being clarified?

A. Continue routine live-virus vaccination while awaiting confirmatory immune testing.

B. Use standard nonirradiated blood products during the evaluation.

C. Avoid live vaccines and use appropriately screened or modified blood products according to immune-status protocols.

D. Use broad-spectrum antibacterial prophylaxis as the sole protective measure while testing proceeds.

28. A 38-week infant has a total serum bilirubin approaching the phototherapy threshold. Which factors should determine the treatment threshold?

A. Birth weight and feeding method without considering postnatal age.

B. Visual assessment of skin color and cephalocaudal jaundice alone.

C. Direct bilirubin concentration and stool color without the total bilirubin.

D. Postnatal age in hours, gestational age, total bilirubin, and neurotoxicity risk factors.

29. A term newborn has recurrent electrographic seizures after acute brain injury. Which medication is generally used as first-line antiseizure therapy for most neonatal seizures when no channelopathy is suspected?

A. Ethosuximide.

B. Carbamazepine as first-line therapy for acute symptomatic neonatal seizures without a suspected channelopathy.

C. Phenobarbital as initial antiseizure therapy.

D. Chronic diazepam monotherapy.

30. A 32-week infant has a persistent need for oxygen and ventilation after bacterial pneumonia. Which principle best reduces additional oxygen-mediated lung injury?

A. Target lower-than-recommended oxygen saturations to minimize oxidant exposure.

B. Keep inspired oxygen at 100% until the radiographic lung disease has resolved.

C. Titrate oxygen to recommended saturation targets and avoid unnecessary hyperoxemia.

D. Rely on intermittent blood gases without continuous pulse-oximetry guidance.

31. After a difficult vacuum-assisted delivery, a newborn becomes pale and tachycardic with a boggy scalp swelling that crosses suture lines and enlarges over hours. What is the most likely diagnosis?

A. Caput succedaneum causing major hemorrhagic shock from blood loss.

B. Cephalohematoma confined beneath one cranial bone periosteum.

C. Molding of the skull causing progressive anemia and hypovolemia.

D. Subgaleal hemorrhage with potentially large-volume blood loss.

32. A preterm infant has been dependent on parenteral nutrition for many weeks and develops conjugated hyperbilirubinemia. Which complication is most likely?

A. Physiologic unconjugated jaundice caused solely by increased enterohepatic circulation.

B. Parenteral nutrition-associated cholestasis, especially with prolonged exposure and limited enteral feeding.

C. Hemolytic disease causing direct bilirubin elevation without anemia or reticulocytosis.

D. Breast-milk jaundice causing isolated direct hyperbilirubinemia from mature human milk.

33. A newborn is encased in thick armor-like plates of hyperkeratotic skin with deep fissures, ectropion, and eclabium. Which diagnosis is most likely?

A. Epidermolysis bullosa simplex.

B. Aplasia cutis congenita.

C. Harlequin ichthyosis.

D. Erythema toxicum neonatorum.

34. A newborn has early-onset sepsis and meningitis. Maternal history includes a febrile gastroenteritis-like illness after eating unpasteurized cheese. Which pathogen is most likely?

A. Bordetella pertussis.

B. Listeria monocytogenes.

C. Shigella sonnei.

D. Clostridioides difficile.

35. A floppy newborn has facial diplegia and respiratory failure. The mother has mild distal weakness, cataracts, and difficulty releasing her grip after handshakes. What is the most likely diagnosis in the infant?

A. Spinal muscular atrophy caused by biallelic SMN1 deletion.

B. Prader-Willi syndrome caused by paternal chromosome 15 loss.

C. Congenital myotonic dystrophy caused by expansion of the maternal DMPK repeat.

D. Pompe disease caused by acid alpha-glucosidase deficiency.

36. A former extremely preterm infant had cystic periventricular leukomalacia. Which later motor outcome is particularly associated with this white-matter injury?

A. Pure cerebellar ataxia without any risk of spastic motor impairment.

B. Progressive muscular dystrophy caused by dystrophin deficiency.

C. Isolated peripheral neuropathy with areflexia and no central motor findings.

D. Spastic cerebral palsy, often with greater lower-extremity involvement.

37. A stable newborn suddenly develops a narrow-complex tachycardia at 260/min with absent visible P waves. Vagal maneuvers fail. What is the next treatment for likely reentrant supraventricular tachycardia?

A. Atropine to slow atrioventricular nodal conduction and terminate the reentrant circuit.

B. Rapid intravenous adenosine while monitoring the rhythm continuously.

C. Give slow intravenous calcium gluconate after checking the serum calcium concentration.

D. Begin oral propranolol before attempting a short-acting atrioventricular nodal blocker.

38. A newborn fails bilateral hearing screening before discharge. What is the appropriate next principle?

A. Repeat a bedside behavioral response-to-sound assessment at the routine two-month visit.

B. Arrange timely repeat screening or diagnostic audiology according to the newborn hearing pathway.

C. Defer diagnostic audiology until speech or language delay becomes apparent.

D. Refer directly for hearing-device implantation without confirmatory diagnostic audiology.

39. A very preterm infant remains oxygen dependent at 36 weeks postmenstrual age after prolonged respiratory support. Which diagnosis best describes this chronic lung disease phenotype?

A. Persistent primary surfactant deficiency as the principal explanation for oxygen need at 36 weeks PMA.

B. Transient tachypnea of the newborn caused by fetal lung fluid that persists unchanged for months.

C. Bronchopulmonary dysplasia associated with disrupted alveolar and pulmonary vascular development.

D. Acute meconium aspiration syndrome despite a preterm delivery without meconium exposure.

40. A newborn has hypertelorism, low-set ears, redundant nuchal skin, pulmonary valve stenosis, and normal chromosomes. Which diagnosis is most likely?

A. Turner syndrome.

B. Cri-du-chat syndrome.

C. Noonan syndrome.

D. Trisomy 13.

41. A healthy term newborn has erythematous macules and papules with small central pustules on the trunk at 36 hours of life. The palms and soles are spared. What is the most likely diagnosis?

A. Bullous impetigo.

B. Neonatal herpes simplex infection.

C. Congenital candidiasis.

D. Erythema toxicum neonatorum.

42. A newborn has complete atrioventricular block with a ventricular rate of 55/min. The mother has systemic lupus erythematosus. Which maternal antibody is most strongly associated with this neonatal finding?

A. Antimitochondrial antibody crossing the placenta and causing congenital sinus-node fibrosis.

B. Anticentromere antibody crossing the placenta and causing isolated neonatal myocarditis.

C. Anti-dsDNA antibody crossing the placenta and directly blocking the neonatal AV node.

D. Anti-Ro/SSA antibody crossing the placenta and injuring the fetal conduction system.

43. An infant of a diabetic mother develops jitteriness and a prolonged QT interval. Serum calcium is low. What is the likely metabolic disturbance?

A. Hypophosphatemia caused by renal phosphate wasting as the sole cause of the prolonged QT interval.

B. Hypercalcemia caused by excess placental parathyroid hormone transfer.

C. Early neonatal hypocalcemia associated with maternal diabetes and relative hypoparathyroidism.

D. Hypermagnesemia caused by neonatal overproduction of magnesium after birth.

44. Which preterm infant clearly meets standard U.S. criteria for retinopathy of prematurity screening?

A. A healthy 40-week infant weighing 3600 g with no oxygen exposure or cardiorespiratory instability.

B. An infant born at 28 weeks' gestation with a birth weight of 1100 g.

C. A 39-week infant weighing 3400 g after an uncomplicated vaginal delivery.

D. A 38-week infant weighing 3200 g with a brief course of phototherapy and otherwise uncomplicated transition.

45. A newborn has hypoplastic left heart syndrome and is initially stable while the ductus remains open. Which physiologic change is most dangerous without treatment?

A. Ductal closure reduces systemic blood flow and can precipitate profound shock.

B. Falling pulmonary vascular resistance causes pulmonary runoff with cyanosis despite preserved systemic output.

C. Spontaneous closure of the foramen ovale improves systemic output by increasing left ventricular preload.

D. Postnatal rise in systemic vascular resistance causes the left ventricle to enlarge rapidly and normalize flow.

46. A newborn with a 22q11.2 deletion has profound thymic hypoplasia. Which immune defect is most expected?

A. Complete complement C3 overproduction causing recurrent encapsulated bacterial infection.

B. Isolated absence of neutrophil myeloperoxidase with normal lymphocyte development.

C. Reduced T-cell number and function due to impaired thymic development.

D. Excessive maternal IgM transfer causing transient neonatal B-cell suppression.

47. A preterm infant has rising creatinine and oliguria after hypotension and exposure to nephrotoxic antibiotics. Which diagnosis is most likely?

A. Diabetes insipidus.

B. Congenital nephrotic syndrome.

C. Physiologic transitional oliguria related to normal postnatal fluid shifts despite the rising creatinine.

D. Acute kidney injury from renal hypoperfusion with possible tubular injury.

48. A newborn with persistent pulmonary hypertension remains severely hypoxemic despite optimized ventilation and lung recruitment. Echocardiography confirms elevated pulmonary pressure without major congenital heart disease. Which selective pulmonary vasodilator is commonly used?

A. Inhaled nitric oxide.

B. Intravenous indomethacin.

C. Continuous adenosine infusion.

D. Oral propranolol.

49. A 26-week infant is beginning enteral feeds. Which feeding choice is associated with the lowest risk of necrotizing enterocolitis when the mother's own milk is unavailable?

A. Sterile water feeds until later prematurity.

B. Preterm cow-milk formula.

C. Diluted standard infant formula.

D. Pasteurized donor human milk.

50. A term infant becomes visibly jaundiced at 10 hours of life. What is the most important interpretation?

A. This is physiologic jaundice and needs no bilirubin measurement until after one week of age.

B. Early jaundice is diagnostic of breast-milk jaundice even before substantial feeding has occurred.

C. Jaundice in the first 24 hours is pathologic until evaluated for hemolysis or another cause.

D. Visible jaundice before 24 hours excludes hemolysis.

51. A 24-week infant receiving indomethacin and postnatal steroids develops sudden abdominal distention and free intraperitoneal air on day 5, but has little bowel-wall inflammation or pneumatosis. Which diagnosis is most likely?

A. Hypertrophic pyloric stenosis causing gastric outlet obstruction.

B. Spontaneous intestinal perforation associated with extreme prematurity.

C. Necrotizing enterocolitis presenting with intestinal perforation despite minimal early systemic findings.

D. Meconium ileus caused by cystic fibrosis.

52. A preterm infant receiving positive-pressure ventilation develops multiple small cystic lucencies tracking along bronchovascular bundles on chest radiograph. What is the diagnosis?

A. Pleural effusion producing diffuse opacity and contralateral mediastinal displacement.

B. Transient tachypnea of the newborn from retained fluid in the interlobar fissures.

C. Pulmonary interstitial emphysema from air dissecting into the lung interstitium.

D. Congenital lobar overinflation caused by intrinsic cartilage weakness in a single lobe.

53. A 10-day-old infant has vesicular skin lesions, seizures, and elevated hepatic transaminases. Which infection requires immediate treatment while diagnostic testing is obtained?

A. Group B streptococcal colonization treated with topical mupirocin alone.

B. Congenital toxoplasmosis treated with intravenous oseltamivir while PCR testing is pending.

C. Congenital rubella treated with intravenous ganciclovir as standard therapy.

D. Neonatal herpes simplex virus infection treated with intravenous acyclovir.

54. An infant is born to a mother with untreated syphilis. The newborn has snuffles, hepatosplenomegaly, rash involving the palms and soles, and long-bone abnormalities. What is the most likely diagnosis?

A. Congenital rubella.

B. Congenital syphilis.

C. Neonatal HSV infection.

D. Congenital CMV infection.

55. Investigators randomize preterm infants to two ventilation strategies but analyze participants according to the group originally assigned even when some cross over. What principle is being used?

A. Intention-to-treat analysis.

B. Ecologic analysis.

C. Case-control matching.

D. Per-protocol analysis.

56. A fetus with bilateral renal agenesis develops severe oligohydramnios. The newborn has refractory respiratory failure despite technically adequate ventilation. Which lung abnormality is expected?

A. Pulmonary hypoplasia from impaired prenatal lung growth.

B. Diffuse pulmonary overgrowth from excess fetal lung-fluid production.

C. Isolated tracheomalacia from absence of fetal renal hormones.

D. Primary surfactant overproduction causing severe air trapping after birth.

57. A newborn did not receive vitamin K prophylaxis and later develops gastrointestinal and intracranial bleeding with prolonged PT and aPTT but a normal platelet count. What is the most likely mechanism?

A. Polycythemia with hyperviscosity causing microvascular bleeding and secondary coagulopathy.

B. Deficiency of vitamin K-dependent coagulation factors.

C. Immune destruction of neonatal platelets by maternal antiplatelet antibodies.

D. Factor XII excess causing consumption of fibrinogen and platelets.

58. A large newborn delivered after shoulder dystocia has an adducted, internally rotated arm with an extended elbow and absent Moro response on that side. Which injury is most likely?

A. Lower brachial plexus injury limited to C8-T1 with isolated hand weakness.

B. Upper brachial plexus injury involving primarily C5-C6 roots, or Erb palsy.

C. Spinal cord transection causing unilateral arm weakness without lower-extremity findings.

D. Radial nerve injury causing wrist and finger extension weakness with preserved proximal shoulder function.

59. A critically ill newborn has irreversible lethal anomalies and progressive multiorgan failure despite maximal treatment. The parents ask to focus on comfort. Which plan is ethically appropriate?

A. Shift to a palliative plan emphasizing comfort, family presence, and withdrawal of burdensome nonbeneficial interventions.

B. Continue invasive life-sustaining interventions despite agreement that they no longer achieve the family's goals.

C. Exclude the parents from bedside care so the clinical team can manage the dying process independently.

D. Withdraw analgesia together with life-sustaining treatment to avoid suppressing respiratory drive.

60. A NICU team tests a new central-line insertion checklist on one unit, measures infection rates, modifies the process, and repeats the cycle. Which quality-improvement method is illustrated?

A. An iterative Plan-Do-Study-Act (PDSA) quality-improvement cycle.

B. A meta-analysis combining previously published randomized studies.

C. A case-control study designed to estimate an odds ratio for line infection.

D. A single blinded randomized efficacy trial that prohibits workflow modification.

61. A large-for-gestational-age infant of a diabetic mother is asymptomatic but has a low bedside glucose value. What is the best next principle?

A. Treat the bedside value with intravenous dextrose immediately without considering severity, symptoms, or confirmation.

B. Continue routine care without confirming the result or applying a neonatal glucose-management protocol.

C. Confirm and manage the low glucose according to symptoms, age, risk status, and the validated nursery protocol.

D. Administer insulin to lower circulating glucose and then repeat the bedside measurement.

62. A stable preterm infant is transitioning from gavage to oral feeding. Which finding best indicates readiness for safe oral feeding?

A. Ability to take the entire prescribed volume despite repeated desaturation and bradycardia.

B. Physiologic stability with coordinated suck-swallow-breathe behavior during feeding attempts.

C. Postmenstrual age at the usual feeding-transition point without assessing coordination during feeds.

D. Strong rooting and sustained nonnutritive suck despite intermittent airway instability during swallowing.

63. A newborn's serum creatinine is elevated on the first day of life, but urine output is normal and the value falls over the next several days. What best explains the initial value?

A. It reflects increased neonatal muscle-derived creatinine production immediately after birth.

B. Early neonatal creatinine partly reflects maternal creatinine transferred across the placenta.

C. It establishes intrinsic acute tubular injury despite normal urine output and a rapidly falling value.

D. It reflects neonatal glomerular filtration alone.

64. A term infant has focal clonic seizures at 18 hours of life. MRI shows an acute infarct in the left middle cerebral artery territory. Which diagnosis is most likely?

A. Periventricular leukomalacia of prematurity.

B. Diffuse hypoxic-ischemic injury limited symmetrically to watershed zones.

C. Benign neonatal sleep myoclonus without cerebral injury.

D. Perinatal arterial ischemic stroke.

65. A newborn has seizures and persistent hypocalcemia that does not correct adequately with calcium. Serum magnesium is very low. What should be addressed?

A. Continue calcium alone and defer magnesium replacement until the calcium concentration normalizes.

B. Correct hypomagnesemia because magnesium deficiency can impair parathyroid hormone secretion and action.

C. Treat with phosphate supplementation.

D. Begin calcitriol alone without correcting the associated magnesium deficit.

66. A newborn has an open lumbosacral neural-tube defect with exposed neural tissue. What is an immediate management priority?

A. Place the infant supine directly on the lesion to reduce cerebrospinal-fluid leakage.

B. Begin vigorous scrubbing of the exposed neural tissue to reduce bacterial colonization.

C. Cover the defect with a sterile moist nonadherent dressing, avoid pressure, and obtain prompt neurosurgical evaluation.

D. Delay neurosurgical consultation until feeding and temperature are fully stabilized.

67. An extremely preterm infant becomes cold during stabilization. Why is hypothermia particularly harmful in this population?

A. It increases oxygen and glucose consumption and is associated with worse neonatal outcomes.

B. It prevents pulmonary vasoconstriction by increasing endogenous nitric oxide production.

C. It eliminates insensible water loss by completely closing the immature epidermal barrier.

D. It reliably lowers metabolic demand without affecting glucose use or oxygen consumption.

68. A newborn has marked central hypotonia, poor suck, small hands and feet, and hypogonadism. Which imprinting disorder should be considered?

A. Turner syndrome from complete or partial monosomy X.

B. Prader-Willi syndrome from absent paternal expression in chromosome 15q11-q13.

C. Angelman syndrome from absent maternal expression in chromosome 15q11-q13.

D. Williams syndrome from a deletion including the elastin gene.

69. A premature infant has frequent desaturation events during feeds but no apnea while asleep. Which mechanism is most likely contributing?

A. Physiologic fetal circulation that reappears exclusively during bottle feeding.

B. A patent ductus that opens transiently with each swallow and closes during sleep.

C. Residual surfactant deficiency causing increased work of breathing that becomes apparent during feeds.

D. Immature coordination of sucking, swallowing, and breathing during oral feeding.

70. A newborn has profound thrombocytopenia with petechiae but is otherwise well. The mother's platelet count is normal, and a sibling had an intracranial hemorrhage at birth. What is the most likely diagnosis?

A. Neonatal autoimmune thrombocytopenia caused by maternal antiplatelet autoantibodies.

B. Vitamin K deficiency bleeding presenting primarily as severe isolated thrombocytopenia.

C. Hemophilia A causing severe thrombocytopenia through factor VIII deficiency.

D. Fetal and neonatal alloimmune thrombocytopenia from maternal antibodies against a fetal platelet antigen.

71. A medication error reaches a newborn but causes no apparent harm. What is the most appropriate professional response to the family?

A. Disclose the error promptly, explain monitoring and potential effects, apologize, and discuss prevention.

B. Do not disclose the event unless the infant later develops a clinically important complication.

C. Alter the medical record so the medication appears to have been intentionally prescribed.

D. Wait for the family to discover the error independently before discussing the event.

72. An observational study finds that caffeine exposure is associated with lower BPD, but infants receiving caffeine earlier were also less ill at baseline. What epidemiologic problem may distort the association?

A. Random allocation of infants to earlier versus later caffeine exposure.

B. Confounding because illness severity influences both treatment exposure and outcome.

C. Concealment of treatment assignment during enrollment into the observational cohort.

D. Blinding of clinicians and outcome assessors to the recorded caffeine exposure.

73. A newborn has multiple fractures of different ages, blue sclerae, and severe limb bowing. Which diagnosis is most likely?

A. Achondroplasia from FGFR3 activation.

B. Osteogenesis imperfecta from abnormal type I collagen.

C. Thanatophoric dysplasia from isolated vitamin D deficiency.

D. Congenital muscular dystrophy causing primary bone fragility.

74. A fetus has hydrops, cardiomegaly, and a high-output circulation because of profound anemia. Which physiologic response most directly contributes to the hydrops?

A. Reduced fetal insulin secretion causes osmotic diuresis and extracellular fluid depletion.

B. Suppressed fetal erythropoietin causes systemic vasoconstriction without volume overload.

C. Low placental prostaglandin production causes ductal closure and isolated pulmonary edema.

D. High-output cardiac failure raises venous hydrostatic pressure and promotes interstitial fluid accumulation.

75. A newborn with trisomy 21 has circulating blasts, hepatosplenomegaly, and thrombocytopenia. The blast count begins to decline spontaneously. What disorder is most likely?

A. Transient abnormal myelopoiesis associated with trisomy 21 and GATA1-mutated megakaryoblasts.

B. Congenital cytomegalovirus infection producing a reactive population of circulating blasts.

C. Hereditary spherocytosis with marked erythroblastosis and neonatal thrombocytopenia.

D. Congenital acute lymphoblastic leukemia presenting during the newborn period.

76. An extremely preterm infant remains ventilator dependent and is at high risk for severe bronchopulmonary dysplasia. Which statement best reflects current use of postnatal systemic corticosteroids?

A. Use high-dose dexamethasone routinely during the first 24 hours to prevent bronchopulmonary dysplasia.

B. Avoid systemic corticosteroids throughout hospitalization even when repeated extubation attempts fail.

C. Low-dose systemic corticosteroids may be considered selectively when expected respiratory benefit outweighs potential adverse effects.

D. Continue systemic corticosteroids until the infant no longer requires supplemental oxygen.

77. A newborn has persistent tachycardia, irritability, poor weight gain, and a goiter. The mother has Graves disease treated with thyroid ablation years earlier. Which mechanism best explains the infant's illness?

A. Maternal antithyroid antibodies are destroying the neonatal pituitary and preventing TSH release.

B. Transplacental maternal TSH-receptor stimulating antibodies are activating the neonatal thyroid.

C. Placental transfer of maternal calcitonin is stimulating neonatal thyroid hormone synthesis after birth.

D. Transplacental maternal thyroxine is suppressing neonatal thyroid hormone production for several months.

78. A preterm infant with a postoperative chylothorax requires ongoing enteral nutrition. Which dietary strategy can reduce lymphatic chyle flow?

A. Use a fat-free formula without a replacement source of essential fatty acids.

B. Use a diet enriched exclusively in long-chain triglycerides to increase intestinal lymphatic transport.

C. Use a protein-free formula to reduce intestinal lymph production.

D. Use an MCT-rich diet while limiting long-chain fat as clinically appropriate.

79. A neonate has a structurally normal heart but develops ventricular dysfunction, arrhythmias, elevated troponin, and shock after a viral prodrome. Which diagnosis is most likely?

A. Uncomplicated peripheral pulmonary stenosis causing global systolic dysfunction.

B. Isolated patent foramen ovale causing primary ventricular pump failure.

C. Neonatal myocarditis causing inflammatory myocardial dysfunction.

D. Physiologic transitional circulation causing persistent troponin elevation and malignant arrhythmias.

80. A newborn has micrognathia, glossoptosis, and episodic upper-airway obstruction that improves when prone. Which sequence is most likely?

A. Pierre Robin sequence causing positional upper-airway obstruction.

B. Treacher Collins syndrome without mandibular hypoplasia.

C. Choanal atresia with normal tongue position.

D. Congenital diaphragmatic hernia.

81. A premature infant develops sudden hypotension after placement of a peripherally inserted central catheter. Echocardiography shows a large pericardial effusion with right atrial collapse. What is the immediate concern?

A. Isolated pulmonary hypertension causing pericardial fluid without hemodynamic effect.

B. Cardiac tamponade from catheter-related pericardial extravasation.

C. A PDA causing right atrial collapse through left-to-right shunting.

D. Physiologic neonatal pericardial fluid that requires no intervention despite shock.

82. A preterm infant on parenteral nutrition develops persistent hyperglycemia. Which initial strategy is generally appropriate before routine insulin therapy?

A. Review and reduce excessive glucose delivery while treating stressors that increase glucose production.

B. Increase the glucose infusion rate to stimulate endogenous insulin release until glucose normalizes.

C. Reduce amino-acid delivery substantially while maintaining the current glucose infusion rate.

D. Treat with repeated intravenous dextrose boluses despite persistent hyperglycemia.

83. A breastfed preterm infant is approaching discharge. Which micronutrient supplementation is commonly needed because fetal iron stores are limited and postnatal growth is rapid?

A. Enteral iron supplementation tailored to gestation, diet, transfusion history, and local protocol.

B. Routine folate megadoses as the sole strategy to prevent anemia of prematurity.

C. Empiric high-dose copper supplementation without documented deficiency or a specific clinical indication.

D. Complete avoidance of iron.

84. A newborn has holoprosencephaly, cleft lip and palate, postaxial polydactyly, and a congenital heart defect. Which diagnosis is most likely?

A. Williams syndrome.

B. Noonan syndrome.

C. Trisomy 18.

D. Trisomy 13.

85. A newborn has a firm parietal scalp swelling that does not cross suture lines and appears several hours after delivery. The infant is hemodynamically stable. What is the most likely diagnosis?

A. Cephalohematoma confined by periosteal attachments.

B. Subgaleal hemorrhage extending widely across suture lines.

C. Encephalocele containing intracranial contents through a skull defect.

D. Caput succedaneum confined beneath the periosteum of a single skull bone.

86. A nonvigorous infant is born through meconium-stained amniotic fluid and is apneic. What is the preferred initial airway strategy?

A. Delay positive-pressure ventilation until spontaneous crying clears meconium from the upper airway.

B. Provide standard resuscitation with prompt ventilation; do not delay ventilation for routine tracheal suctioning.

C. Perform endotracheal suctioning before assisted ventilation in an apneic infant with meconium exposure.

D. Perform gastric lavage before respiratory support to remove swallowed meconium from the stomach.

87. A newborn has vomiting, weight loss, dehydration, hyperkalemia, hyponatremia, and ambiguous genitalia. Which diagnosis is most likely?

A. Diabetes insipidus causing hypernatremia with dilute urine and no androgen excess.

B. Panhypopituitarism causing androgen excess and virilization in a genetic female.

C. Congenital hyperthyroidism causing isolated sodium retention and hypokalemia.

D. Salt-wasting congenital adrenal hyperplasia due to 21-hydroxylase deficiency.

88. A term infant with severe parenchymal lung disease has persistent hypoxemia despite optimized ventilation. The oxygenation index is rising. What does a rising oxygenation index generally indicate?

A. A direct measurement of pulmonary artery pressure that eliminates the need for echocardiography.

B. Worsening severity of hypoxemic respiratory failure relative to the amount of ventilatory support being delivered.

C. Isolated hypercapnia severity without any relationship to oxygenation or mean airway pressure.

D. Improving lung function.

89. A former extremely preterm infant has bronchopulmonary dysplasia and prolonged hospitalization. Which follow-up approach is most appropriate?

A. Limit follow-up to pulmonary status unless the family independently reports a developmental concern.

B. Defer developmental assessment until school age because early testing is not informative.

C. Provide longitudinal developmental surveillance and refer early when delays or high-risk features emerge.

D. Use a single normal newborn neurologic examination to exclude later developmental impairment.

90. A newborn has conotruncal heart disease, hypocalcemia, and absent thymic tissue on imaging. Which genetic disorder best unifies the findings?

A. Achondroplasia from an activating FGFR3 variant.

B. Prader-Willi syndrome from loss of paternal 15q expression.

C. Williams syndrome from a 7q11.23 deletion.

D. 22q11.2 deletion syndrome in the DiGeorge/velocardiofacial spectrum.

91. A very preterm infant later develops cystic changes in the periventricular white matter. Which injury pattern is most likely?

A. Epidural hemorrhage from skull fracture producing a lens-shaped extra-axial collection.

B. Germinal matrix hemorrhage limited to the caudothalamic groove without white-matter injury.

C. Subarachnoid hemorrhage from birth trauma causing superficial cortical bleeding rather than periventricular cystic injury.

D. Periventricular leukomalacia from injury to vulnerable preterm cerebral white matter.

92. A newborn has progressive abdominal distention and fails to pass meconium for 48 hours. Rectal examination causes explosive passage of stool and gas. Which diagnosis is most likely?

A. Pyloric stenosis causing proximal gastric obstruction.

B. Hirschsprung disease from distal intestinal aganglionosis.

C. Duodenal atresia causing immediate bilious vomiting and a double-bubble pattern.

D. Meconium ileus from cystic fibrosis involving the terminal ileum.

93. A mother develops primary varicella infection shortly before delivery. Her newborn develops a diffuse vesicular rash and severe systemic illness. Which pathogen is responsible?

A. Varicella-zoster virus.

B. Human herpesvirus 6.

C. Parvovirus B19.

D. Respiratory syncytial virus.

94. A preterm infant on volume-targeted ventilation has increasing peak pressures but stable delivered tidal volume as lung compliance worsens. What is the main advantage of volume-targeted ventilation in this setting?

A. It guarantees constant airway pressure even when compliance and resistance change substantially.

B. It eliminates the need to monitor blood gases.

C. Prevent air leak by keeping peak inspiratory pressure fixed as lung compliance worsens.

D. It limits excessive tidal-volume delivery as lung mechanics change, reducing volutrauma risk.

95. A 39-week infant requires respiratory support at birth. What initial inspired oxygen concentration is reasonable for this term infant?

A. Withhold pulse-oximetry guidance and provide no supplemental oxygen initially.

B. Begin with 21% oxygen and titrate using preductal pulse-oximetry targets.

C. Begin with 60% oxygen and reduce the concentration after heart rate and color improve.

D. Begin with 100% oxygen and then titrate mainly according to clinical color and heart rate.

96. A newborn has hypotonia, upslanting palpebral fissures, a single transverse palmar crease, and an atrioventricular septal defect. Which diagnosis is most likely?

A. Turner syndrome.

B. 22q11.2 deletion syndrome.

C. Trisomy 21.

D. Trisomy 18.

97. A former preterm infant failed the newborn hearing screen but later passed a repeat test. Why may continued surveillance still be warranted in some high-risk NICU graduates?

A. Discontinue audiologic follow-up after a normal repeat screen despite the infant's NICU risk profile.

B. Some neonatal risk factors are associated with delayed-onset or progressive hearing loss.

C. Repeat hearing testing if external ear abnormalities later become apparent on examination.

D. Use routine brain MRI instead of audiologic surveillance to detect delayed sensorineural hearing loss.

98. A neonate has respiratory distress and a chest radiograph showing a large multicystic lesion occupying one lower lobe, with mediastinal shift. Which congenital pulmonary lesion is most likely?

A. Pulmonary sequestration supplied exclusively by the pulmonary artery.

B. Diffuse respiratory distress syndrome from generalized surfactant deficiency.

C. Transient tachypnea with fluid limited to the interlobar fissures.

D. Congenital pulmonary airway malformation (CPAM).

99. A term infant of a diabetic mother is plethoric, jittery, and tachypneic. Venous hematocrit is 72%. Which diagnosis is most likely?

A. Fetal-neonatal alloimmune thrombocytopenia.

B. Neonatal polycythemia with hyperviscosity symptoms.

C. Hemolytic disease of the newborn.

D. Anemia of prematurity.

100. A very preterm infant has recurrent feeding intolerance but no signs of NEC. Which feeding practice best supports continued human-milk use while evaluating tolerance?

A. Temporarily replace human milk with an electrolyte solution until gastric residuals resolve.

B. Adjust feeding volume or delivery method while continuing human milk when clinically safe.

C. Advance immediately to unrestricted full-volume formula boluses despite feeding intolerance.

D. Discontinue human milk and use parenteral nutrition until feeding tolerance is fully established.

101. A newly born infant remains apneic with a heart rate of 80/min after warming and stimulation. What is the most important next intervention?

A. Begin effective positive-pressure ventilation and assess for a rising heart rate.

B. Administer epinephrine through an umbilical venous catheter before ventilating.

C. Start chest compressions immediately before attempting assisted ventilation.

D. Give a rapid crystalloid bolus before providing respiratory support.

102. A rare neonatal disorder is screened with a test of fixed sensitivity and specificity. If the disorder becomes much less prevalent, what generally happens to positive predictive value?

A. Positive predictive value remains completely unchanged by prevalence.

B. Positive predictive value increases to nearly 100%.

C. Positive predictive value becomes identical to test sensitivity.

D. Positive predictive value decreases as disease prevalence falls.

103. A monochorionic diamniotic twin pregnancy develops oligohydramnios and growth restriction in one twin and polyhydramnios with cardiac strain in the other. What is the underlying process?

A. Independent placental infarctions affecting each twin without vascular communication.

B. Unbalanced blood flow through placental vascular anastomoses between the twins.

C. Maternal hyperglycemia causing discordant insulin secretion in genetically identical fetuses.

D. Differential maternal antibody transfer causing hemolysis predominantly in the larger twin.

104. A preterm infant becomes lethargic and apneic at 18 hours of life after prolonged rupture of membranes. Blood culture is obtained. Which empiric regimen commonly provides initial coverage for early-onset sepsis while cultures are pending?

A. Ampicillin plus an aminoglycoside such as gentamicin, adjusted to local resistance patterns and renal function.

B. Use azithromycin monotherapy as empiric coverage for typical early-onset pathogens.

C. Use vancomycin plus fluconazole as broad empiric first-line therapy for early-onset sepsis.

D. Use oral amoxicillin alone while awaiting the blood-culture result.

105. A growing preterm infant develops hyponatremia with high urine sodium after diuretics and rapid somatic growth. What is the likely mechanism?

A. Sodium retention from complete renal tubular maturity causes dilutional hyponatremia despite volume contraction.

B. Renal sodium wasting exceeds intake in an immature kidney with increased sodium requirements.

C. Excess aldosterone causes urinary sodium loss by blocking distal tubular sodium channels.

D. High dietary protein directly converts sodium into urea and removes it from extracellular fluid.

106. A newborn has petechiae, hepatosplenomegaly, microcephaly, periventricular calcifications, and failed hearing screening. Which congenital infection is most likely?

A. Congenital toxoplasmosis.

B. Congenital syphilis.

C. Congenital varicella syndrome.

D. Congenital cytomegalovirus infection.

107. A newborn with significant jaundice has episodic hemolysis after oxidant exposure. The direct antiglobulin test is negative. Which enzymatic disorder should be considered?

A. Galactose-1-phosphate uridyltransferase excess.

B. Glucose-6-phosphate dehydrogenase deficiency.

C. Phenylalanine hydroxylase deficiency.

D. Pyruvate carboxylase excess.

108. A newborn has weight loss, poor feeding, dry mucous membranes, and serum sodium of 158 mEq/L. Which fluid disorder is most likely?

A. Dilutional hypernatremia from excessive free-water administration.

B. Cerebral salt wasting causing sodium loss with a markedly increased serum sodium concentration.

C. Hypernatremic dehydration from a water deficit that exceeds sodium loss.

D. SIADH causing water retention and concentrated serum sodium.

109. Parents of an extremely preterm infant ask whether a single early brain MRI can predict the child's exact long-term developmental outcome. What is the best response?

A. A normal early MRI effectively excludes later cognitive, language, and behavioral impairment.

B. Neuroimaging contributes prognostic information but cannot determine an individual child's exact developmental trajectory.

C. Major white-matter injury predicts the exact severity and pattern of later developmental disability.

D. MRI findings should not be incorporated into developmental counseling or follow-up planning.

110. A mechanically ventilated preterm infant develops a persistent oxygen requirement with flattened diaphragms and increased anterior-posterior diameter on radiography. Which ventilator-related mechanism most directly promotes chronic lung injury?

A. Avoiding unnecessary hypocapnia through careful adjustment of minute ventilation.

B. Using the lowest effective inspired oxygen concentration consistent with target saturations.

C. Repeated overdistention and cyclic alveolar opening and collapse causing volutrauma and atelectrauma.

D. Maintaining adequate functional residual capacity with carefully titrated distending pressure.

111. A term newborn with severe cyanosis has pulmonary atresia with an intact ventricular septum. Which medication should be started while cardiac intervention is arranged?

A. Indomethacin to close the ductus and reduce pulmonary overcirculation.

B. Prostaglandin E1 to maintain ductal pulmonary blood flow.

C. Adenosine to open the pulmonary valve by terminating occult tachycardia.

D. Furosemide alone to create an alternative source of pulmonary blood flow.

112. A preterm infant has low serum phosphorus, elevated alkaline phosphatase, and radiographic osteopenia. Which nutritional deficiency pattern is most likely contributing?

A. Excess vitamin K intake causing increased osteoclastic bone resorption.

B. Excess iron intake causing replacement of bone mineral with marrow iron stores.

C. Deficient sodium alone causing severe skeletal demineralization without mineral deficiency.

D. Inadequate calcium and phosphorus accretion causing metabolic bone disease of prematurity.

113. After severe hypoxic brain injury, a newborn develops brisk dilute urine output, rising serum sodium, and high serum osmolality. What is the most likely endocrine-renal problem?

A. Renal failure causing inability to excrete water and progressive dilutional hyponatremia.

B. Central diabetes insipidus from deficient antidiuretic hormone secretion.

C. SIADH with excessive antidiuretic hormone activity and concentrated urine.

D. Primary hyperaldosteronism causing low urine output and water retention.

114. A fetus has severe oligohydramnios after prolonged early rupture of membranes. Which neonatal respiratory problem is most directly associated with this history?

A. Surfactant overproduction causing diffuse alveolar overdistention at birth.

B. Pulmonary hypoplasia with inadequate alveolar and vascular development.

C. Transient tachypnea caused by delayed clearance of fetal lung fluid alone.

D. Primary ciliary dyskinesia causing impaired mucociliary clearance immediately after delivery.

115. A jaundiced infant develops lethargy, abnormal tone, a high-pitched cry, and later opisthotonus. Which neurologic syndrome should be suspected?

A. Transient tachypnea causing secondary brainstem dysfunction without hypoxemia.

B. Isolated peripheral neuropathy from vitamin K deficiency.

C. Benign neonatal sleep myoclonus caused by normal REM sleep physiology.

D. Acute bilirubin encephalopathy from severe unconjugated hyperbilirubinemia.

116. A growth-restricted preterm infant born after severe maternal hypertension has thrombocytopenia on the first day but is otherwise stable. What mechanism is most likely?

A. Placental insufficiency with reduced fetal megakaryopoiesis causing early thrombocytopenia.

B. Late-onset catheter infection causing platelet consumption before the infant is born.

C. Hemophilia causing thrombocytopenia through factor VIII consumption.

D. Vitamin K deficiency causing isolated low platelet production in the fetal marrow.

117. A term infant has moderate-to-severe neonatal encephalopathy after a clearly hypoxic-ischemic birth event. The infant is 2 hours old and meets established cooling criteria. Which treatment is appropriate?

A. Maintain deliberate hyperthermia for 24 hours to increase cerebral perfusion and metabolism.

B. Begin controlled therapeutic hypothermia promptly and maintain the target temperature for about 72 hours.

C. Delay cooling until seizures occur.

D. Use intermittent ice packs without continuous temperature monitoring until the infant appears less irritable.

118. A preterm infant is growing adequately on fortified human milk but develops increasing oral aversion after repeated stressful feeding attempts. Which strategy is most appropriate?

A. Increase nipple flow to shorten feeding sessions despite intermittent coughing or desaturation.

B. Continue prescribed oral volumes on a fixed schedule despite disengagement and stress cues.

C. Pause oral feeding practice completely until term-equivalent age and provide tube feeds alone.

D. Use cue-based, developmentally supportive feeding and stop attempts when physiologic stress appears.

119. A very-low-birth-weight infant is receiving parenteral nutrition during the first days after birth. Why are amino acids generally provided early rather than withholding protein for several days?

A. Protein should be given early primarily to induce osmotic diuresis and reduce pulmonary edema.

B. Early amino acids reduce hyperglycemia primarily by allowing a marked reduction in glucose delivery.

C. Early amino acids eliminate the need for enteral protein after feeds are established.

D. Early amino-acid provision limits negative nitrogen balance and supports growth in a highly catabolic infant.

120. A newborn screen suggests congenital hypothyroidism. Which outcome is most dependent on prompt confirmation and treatment?

A. Normalization of birth length, which is typically severely reduced in congenital hypothyroidism.

B. Prevention of irreversible neurodevelopmental impairment through early thyroid hormone replacement.

C. Reversal of thyroid dysgenesis so that lifelong thyroid replacement is no longer required.

D. Prevention of neonatal respiratory distress by increasing endogenous surfactant production.

121. A very-low-birth-weight infant with a long-standing central line develops late-onset sepsis. Blood cultures repeatedly grow coagulase-negative staphylococci. Why is this organism common in this setting?

A. Transplacental acquisition of coagulase-negative staphylococci late in gestation.

B. Selective invasion of neutropenic infants independent of the presence of vascular devices.

C. Skin flora can adhere to indwelling catheters and form biofilms that sustain bloodstream infection.

D. Toxin production after enteral contamination rather than adherence to catheter surfaces.

122. A newborn develops abdominal distention and fails to pass meconium. Contrast enema shows a microcolon, and surgery reveals thick inspissated meconium in the terminal ileum. Which genetic disease should be investigated?

A. Hereditary spherocytosis caused by erythrocyte membrane defects.

B. Phenylketonuria caused by phenylalanine hydroxylase deficiency.

C. Medium-chain acyl-CoA dehydrogenase deficiency causing fasting hypoglycemia.

D. Cystic fibrosis caused by pathogenic CFTR variants.

123. A neonate has irritability, tremors, high-pitched cry, poor feeding, and autonomic instability after chronic in-utero opioid exposure. Which diagnosis is most likely?

A. Neonatal opioid withdrawal syndrome after chronic prenatal opioid exposure.

B. Congenital myotonic dystrophy causing profound hypotonia rather than hyperirritability.

C. Congenital hypothyroidism causing lethargy and prolonged sleep rather than autonomic overactivity.

D. Hypoxic-ischemic encephalopathy caused by a sentinel intrapartum event.

124. A newborn has truncus arteriosus and hypocalcemia. Which chromosomal abnormality should be strongly considered?

A. A 7q11.23 deletion causing Williams syndrome.

B. A 5p deletion causing cri-du-chat syndrome.

C. A 15q11-q13 paternal deletion causing Prader-Willi syndrome.

D. A 22q11.2 deletion affecting conotruncal and pharyngeal development.

125. A newborn has rhizomelic limb shortening, macrocephaly with frontal bossing, and a small foramen magnum. Which molecular mechanism is typical?

A. A fibrillin-1 defect causing excessive linear growth and arachnodactyly at birth.

B. Loss of dystrophin causing congenital limb shortening with normal skull growth.

C. An activating FGFR3 variant impairing endochondral bone growth.

D. A collagen type I deficiency causing generalized bone fragility and fractures.

126. A post-term infant born through thick meconium develops respiratory distress and a barrel-shaped chest. Radiograph shows patchy infiltrates with areas of hyperinflation. What is the major pulmonary mechanism?

A. Meconium causes primary diaphragmatic paralysis without affecting airways or alveolar inflammation.

B. Meconium selectively increases surfactant production and causes uniform alveolar overexpansion.

C. Meconium produces isolated pulmonary edema by lowering plasma oncotic pressure after aspiration.

D. Meconium causes airway obstruction, chemical pneumonitis, surfactant dysfunction, and air trapping.

127. A jaundiced newborn has anemia, reticulocytosis, spherocytes on peripheral smear, and a negative direct antiglobulin test. A parent had splenectomy for hemolytic anemia. Which diagnosis is most likely?

A. Hereditary spherocytosis.

B. ABO hemolytic disease.

C. G6PD deficiency.

D. Vitamin K deficiency bleeding.

128. A preterm infant exposed to prolonged furosemide therapy develops echogenic deposits in the renal medulla on ultrasonography. Which complication is most likely?

A. Nephrocalcinosis related to increased urinary calcium excretion.

B. Renal vein thrombosis caused directly by reduced urinary sodium concentration.

C. Posterior urethral obstruction caused by precipitation of loop diuretic in the urethra.

D. Renal cortical necrosis caused by complete suppression of urinary calcium excretion.

129. A neonate with suspected seizures has frequent abnormal movements, but bedside observation cannot determine whether they are epileptic. Which test is most definitive?

A. Head circumference measurement alone.

B. Routine pulse oximetry without cerebral monitoring.

C. A single serum lactate concentration.

D. Continuous conventional EEG with video correlation.

130. A ventilated preterm infant has PaCO2 25 mm Hg because of excessive minute ventilation. Why should marked hypocapnia be avoided?

A. Hypocapnia can reduce cerebral blood flow and has been associated with neurologic injury in preterm infants.

B. Hypocapnia produces pulmonary vasoconstriction that commonly causes clinically important ductal closure.

C. Hypocapnia shifts fetal hemoglobin oxygen affinity enough to produce severe arterial hypoxemia.

D. Hypocapnia increases cerebral blood flow and directly causes intraventricular hemorrhage through hyperperfusion alone.

131. A breastfed late-preterm infant loses excessive weight and develops hypernatremia. Which feeding issue should be assessed urgently?

A. Excessive breast-milk protein causing osmotic diarrhea and dilutional hyponatremia.

B. Excessive lactose absorption leading to renal sodium retention and extracellular volume expansion.

C. Insufficient effective milk transfer leading to free-water deficit and inadequate intake.

D. Excessive sodium secretion into mature human milk causing unavoidable neonatal salt loading.

132. A 25-week infant on enteral feeds develops abdominal distention, bloody stools, thrombocytopenia, and pneumatosis intestinalis. What is the diagnosis?

A. Pyloric stenosis causing nonbilious projectile vomiting.

B. Necrotizing enterocolitis with pneumatosis intestinalis.

C. Spontaneous intestinal perforation without inflammatory bowel injury.

D. Hirschsprung disease with isolated distal aganglionosis.

133. A prenatal lung mass has a systemic arterial supply arising from the aorta and no normal connection to the tracheobronchial tree. What is the diagnosis?

A. Pulmonary sequestration with systemic arterial supply from the aorta.

B. Bronchopulmonary dysplasia caused by postnatal ventilator exposure.

C. Transient tachypnea caused by delayed resorption of fetal lung fluid.

D. Congenital pulmonary airway malformation supplied predominantly through the normal pulmonary arterial circulation.

134. A male infant later develops recurrent infections with catalase-positive organisms and abnormal granuloma formation. Which leukocyte function is defective in chronic granulomatous disease?

A. Defective terminal complement membrane-attack complex formation in circulating leukocytes.

B. Erythrocyte spectrin assembly during bone-marrow maturation.

C. NADPH oxidase-dependent respiratory burst in phagocytes.

D. T-cell receptor gene rearrangement in thymic lymphocytes.

135. A 25-week infant on CPAP has worsening oxygen need, marked work of breathing, and radiographic respiratory distress syndrome. Which therapy directly replaces the deficient substance?

A. Administer inhaled epinephrine to stimulate endogenous surfactant release from airway smooth muscle.

B. Administer systemic bicarbonate to raise alveolar pH and restore type I pneumocyte function.

C. Administer exogenous pulmonary surfactant using an appropriate minimally invasive or endotracheal technique.

D. Administer intravenous albumin to increase oncotic pressure and recruit collapsed alveoli.

136. A newborn with Down syndrome has bilious vomiting soon after birth. Radiograph shows a classic double-bubble sign with little distal bowel gas. What is the diagnosis?

A. Duodenal atresia.

B. Meconium plug syndrome.

C. Hypertrophic pyloric stenosis.

D. Hirschsprung disease.

137. A preterm infant with a symptomatic PDA is considered for ibuprofen. Which pharmacologic mechanism promotes ductal constriction?

A. Beta-adrenergic stimulation reduces oxygen tension and thereby forces the ductus to close.

B. Adenosine-receptor stimulation increases prostaglandin production and directly closes the ductus.

C. Cyclooxygenase inhibition lowers prostaglandin synthesis that normally maintains ductal patency.

D. Nitric-oxide donation raises cyclic GMP and constricts ductal smooth muscle selectively.

138. A term infant is born to a mother who screened positive for group B Streptococcus and received appropriate intrapartum penicillin. The infant is well appearing. What is the key preventive principle illustrated?

A. Intrapartum maternal antibiotics reduce early-onset neonatal GBS disease by decreasing exposure during labor.

B. Start empiric antibiotics in a well infant solely on the basis of adequately treated maternal GBS colonization.

C. Use antepartum oral antibiotics to eradicate maternal GBS colonization before labor begins.

D. Give postpartum maternal antibiotics to prevent neonatal acquisition during the first day of life.

139. A neonate has a serum pathogen-specific IgM antibody. Why can this finding support congenital infection?

A. IgM does not normally cross the placenta, so pathogen-specific neonatal IgM implies fetal antibody production.

B. IgM is the principal maternal immunoglobulin actively transported through the placenta late in gestation.

C. Neonatal IgM is generated mainly after postnatal antigen exposure, making congenital production unlikely.

D. IgM is produced exclusively by placental tissue and therefore directly measures placental infection.

140. A newborn of a mother with poorly controlled diabetes has a systolic murmur and respiratory distress. Echocardiography shows marked interventricular septal hypertrophy with dynamic outflow obstruction. What is the likely mechanism?

A. Fetal cortisol deficiency causing dilated cardiomyopathy and thin ventricular walls.

B. Maternal insulin crossing the placenta and directly stimulating neonatal cardiac insulin receptors.

C. Fetal hyperinsulinemia causing myocardial hypertrophy.

D. Placental antibody injury causing inflammatory destruction of the ventricular septum.

141. A newborn has no red reflex in one eye. What is the most appropriate next step?

A. Delay evaluation until the child can cooperate with a visual-acuity chart at school age.

B. Begin topical antibiotics and recheck the red reflex after the treatment course is completed.

C. Reassure the family and repeat routine vision screening at the next well-child visit.

D. Arrange urgent ophthalmology evaluation for congenital cataract, retinoblastoma, or other causes.

142. A newborn begins bilious vomiting and becomes acutely ill. Upper gastrointestinal imaging shows a corkscrew configuration of the proximal small bowel. What is the diagnosis?

A. Uncomplicated meconium plug syndrome.

B. Midgut volvulus due to intestinal malrotation.

C. Hypertrophic pyloric stenosis.

D. Gastroesophageal reflux without obstruction.

143. A preterm infant has normal anion-gap metabolic acidosis, low serum bicarbonate, and poor urinary acidification but no major gastrointestinal losses. Which mechanism is most likely?

A. Excessive distal hydrogen secretion causing systemic bicarbonate accumulation and alkalosis.

B. Immature renal tubular acid handling causing a renal tubular acidosis-like physiology.

C. Loss of gastric hydrochloric acid producing a normal anion-gap metabolic acidosis.

D. Primary lactic acidosis from tissue hypoxia producing an increased rather than normal anion gap.

144. A spontaneously breathing 29-week infant has mild-to-moderate respiratory distress soon after birth. Which initial respiratory strategy best supports the lung while limiting ventilator-associated injury?

A. Use early nasal CPAP with carefully titrated oxygen and escalate only if support is inadequate.

B. Provide supplemental oxygen without positive airway pressure while spontaneous breathing continues.

C. Intubate the infant early and use relatively large tidal volumes to recruit atelectatic lung units.

D. Provide unrestricted 100% oxygen by hood until the respiratory rate normalizes.

145. A newborn has hydrocephalus, diffuse intracranial calcifications, and chorioretinitis. Which congenital infection best fits this triad?

A. Toxoplasma gondii infection.

B. Parvovirus B19 infection.

C. Congenital syphilis.

D. Cytomegalovirus infection.

146. A term infant has severe hypoxemia with labile oxygen saturation. Echocardiography shows right-to-left shunting across the ductus and foramen ovale without structural heart disease. What is the underlying pulmonary process?

A. Isolated systemic hypertension causing reversal of normal ductal flow despite normal pulmonary pressure.

B. Persistently elevated pulmonary vascular resistance causing persistent pulmonary hypertension of the newborn.

C. Persistently low pulmonary vascular resistance causing excessive left-to-right shunting after birth.

D. Primary left ventricular outflow obstruction producing cyanosis through impaired systemic oxygen delivery.

147. A newborn with a cleft palate has coughing and nasal regurgitation during feeds but no respiratory distress at rest. Which feeding principle is most appropriate?

A. Use exclusive tube feeding until palatal repair rather than attempting specialized oral feeding.

B. Feed supine with a standard nipple to maximize passive milk flow into the pharynx.

C. Use a rapidly flowing nipple so the infant does not need to generate effective suction.

D. Use specialized feeding techniques and nipples that compensate for poor suction while monitoring airway safety and growth.

148. A growth-restricted newborn has clenched hands with overlapping fingers, rocker-bottom feet, micrognathia, and a congenital heart defect. Which aneuploidy is most likely?

A. Trisomy 18 (Edwards syndrome).

B. Trisomy 21.

C. 47,XXY Klinefelter syndrome.

D. 45,X Turner syndrome.

149. A 26-week infant has a continuous murmur, bounding pulses, widened pulse pressure, and increasing ventilator needs. What test is required to determine whether a patent ductus arteriosus is hemodynamically significant?

A. Use electrocardiography alone to quantify the size and direction of the ductal shunt.

B. Targeted echocardiography evaluating ductal shunt characteristics and cardiac effects.

C. Use a single systemic blood-pressure measurement to establish shunt significance.

D. Use chest radiography alone to determine ductal diameter and left-heart volume load.

150. A preterm infant receives mostly human milk. Why is vitamin D supplementation commonly prescribed?

A. Human milk alone may not provide enough vitamin D to meet the infant's needs for bone mineral health.

B. Vitamin D is required to prevent neonatal hemolysis by stabilizing the erythrocyte membrane.

C. Vitamin D replaces the calcium and phosphorus normally supplied by human-milk fortifier.

D. Vitamin D directly stimulates central respiratory drive and is used to reduce apnea of prematurity.

151. A cyanotic newborn has severe hypoxemia that improves only minimally with oxygen. Preductal saturation is 96% and postductal saturation is 82%. Which physiology is most likely?

A. A closed ductus with isolated pulmonary venous hypertension and identical preductal and postductal saturations.

B. Pure systemic venous desaturation from anemia without any intracardiac or ductal shunting.

C. Right-to-left shunting through the ductus from persistent pulmonary hypertension.

D. Isolated left-to-right ventricular septal shunting with normal pulmonary vascular resistance.

152. A newborn has severe cyanosis, a single loud second heart sound, and a chest radiograph suggesting decreased pulmonary vascularity. Which defect is characterized by right ventricular outflow obstruction, VSD, overriding aorta, and right ventricular hypertrophy?

A. Total anomalous pulmonary venous return.

B. Complete atrioventricular septal defect.

C. Tetralogy of Fallot with right ventricular outflow obstruction.

D. Truncus arteriosus without pulmonary stenosis.

153. A neonate develops fulminant hepatitis, myocarditis, coagulopathy, and shock during the second week of life. Which viral infection is an important consideration?

A. Enterovirus infection, including coxsackievirus disease.

B. Rhinovirus infection causing isolated upper-airway symptoms.

C. Adenovirus infection limited to conjunctivitis in neonates.

D. Rotavirus infection causing uncomplicated diarrhea without systemic disease.

154. A woman at 27 weeks' gestation is likely to deliver because of severe preeclampsia. Which antenatal therapy is used primarily for fetal neuroprotection when very preterm birth is imminent?

A. Administer maternal acetazolamide to reduce fetal cerebral blood flow before delivery.

B. Administer maternal magnesium sulfate according to the preterm neuroprotection protocol.

C. Administer maternal digoxin to prevent neonatal intraventricular hemorrhage after birth.

D. Administer maternal vitamin K to accelerate fetal cerebral vascular maturation.

155. A newborn develops blisters and erosions at sites of minor friction and adhesive contact. Similar blistering occurred in several relatives. Which disorder is most likely?

A. Transient neonatal pustular melanosis.

B. Miliaria caused by sweat-duct obstruction.

C. Epidermolysis bullosa due to inherited skin fragility.

D. Nevus simplex from superficial capillary dilation.

156. A newborn's heart rate remains 50/min despite effective ventilation with visible chest movement and ventilation corrective steps. What should be done next?

A. Stop ventilation and give epinephrine before starting chest compressions.

B. Continue tactile stimulation and reassess after several additional minutes.

C. Begin coordinated chest compressions with ventilation while using an advanced airway when feasible.

D. Stop active resuscitation and observe in room air for spontaneous recovery.

157. A newborn with ductal-dependent systemic circulation is started on prostaglandin E1. Which adverse effect requires immediate preparation at the bedside?

A. Apnea that may require assisted ventilation or intubation.

B. Severe hyperglycemia caused by direct pancreatic beta-cell destruction.

C. Irreversible closure of the ductus arteriosus within minutes of starting the infusion.

D. Profound thrombocytosis requiring emergent plateletpheresis.

158. A newborn develops shock and weak femoral pulses when the ductus begins to close. Upper-extremity blood pressure exceeds lower-extremity pressure. Which lesion is most likely?

A. Mild pulmonary valve stenosis causing selective lower-extremity hypoperfusion after ductal closure.

B. Critical coarctation of the aorta causing ductal-dependent systemic blood flow.

C. A small muscular ventricular septal defect causing abrupt loss of descending-aortic perfusion.

D. A large atrial septal defect causing isolated right-sided volume overload without systemic obstruction.

159. A preterm infant with meningitis develops hyponatremia, low serum osmolality, inappropriately concentrated urine, and low urine output without clinical hypovolemia. What is most likely?

A. Central diabetes insipidus.

B. Hyperaldosteronism causing sodium retention and hypernatremia.

C. Syndrome of inappropriate antidiuretic hormone secretion.

D. Renal salt wasting with marked polyuria and volume depletion.

160. A fetus has severe symmetric growth restriction, abnormal umbilical artery Doppler studies, and maternal hypertension. Which placental process most likely explains the fetal growth pattern?

A. Uteroplacental vascular insufficiency limits oxygen and nutrient delivery to the fetus.

B. Excess placental glucose transfer produces fetal hyperinsulinemia and generalized overgrowth.

C. Increased placental aromatase activity causes isolated fetal skeletal shortening without hypoxia.

D. Accelerated placental calcium transport produces fetal macrosomia despite maternal hypertension.

161. A male newborn has a distended bladder, poor urinary stream, bilateral hydronephrosis, and rising creatinine. Which diagnosis is most likely?

A. Transient neonatal hydronephrosis associated with delayed postnatal adaptation of urinary drainage.

B. Minimal-change nephrotic syndrome causing isolated proteinuria and normal urinary flow.

C. Renal vein thrombosis causing unilateral renal enlargement without lower-tract obstruction.

D. Posterior urethral valves causing congenital bladder outlet obstruction.

162. A preterm infant with severe intraventricular hemorrhage develops rapidly increasing head circumference and progressive ventricular enlargement. What complication is occurring?

A. A subgaleal hemorrhage causing progressive extracranial scalp swelling.

B. Physiologic macrocephaly caused by accelerated normal brain growth after hemorrhage.

C. Cerebral atrophy with compensatory enlargement of the ventricles.

D. Posthemorrhagic ventricular dilatation from impaired cerebrospinal-fluid circulation or absorption.

163. A neonate with dehydration and sepsis develops seizures. MRI venography shows thrombosis of the superior sagittal sinus. What is the diagnosis?

A. Cerebral sinovenous thrombosis.

B. Periventricular leukomalacia.

C. Middle cerebral artery ischemic stroke.

D. Benign enlargement of the subarachnoid spaces.

164. A newborn becomes profoundly cyanotic shortly after birth. Echocardiography shows complete transposition of the great arteries with restrictive atrial mixing. Which immediate therapy helps stabilize the infant before definitive intervention?

A. Restrict supplemental oxygen to decrease pulmonary blood flow before transfer.

B. Administer adenosine to terminate an occult supraventricular tachyarrhythmia.

C. Start prostaglandin E1 to maintain ductal patency and urgently improve intercirculatory mixing.

D. Give indomethacin to close the ductus and separate the systemic and pulmonary circulations.

165. A previously well newborn becomes lethargic with respiratory alkalosis and markedly elevated ammonia. Glucose is normal and there is no major acidosis. Which disorder is most concerning?

A. Diabetic ketoacidosis caused by neonatal insulin deficiency.

B. Classic galactosemia causing isolated respiratory alkalosis without liver dysfunction or sepsis risk.

C. Congenital chloride diarrhea causing metabolic alkalosis and hyperammonemia.

D. A urea-cycle defect causing hyperammonemia without the prominent ketoacidosis typical of organic acidemias.

166. A newborn develops jaundice, hepatomegaly, vomiting, and Escherichia coli sepsis after milk feeds. Which metabolic disease is most likely?

A. Maple syrup urine disease causing branched-chain amino-acid accumulation without liver dysfunction.

B. Phenylketonuria due to phenylalanine hydroxylase deficiency.

C. Medium-chain acyl-CoA dehydrogenase deficiency causing fasting hypoketotic hypoglycemia.

D. Classic galactosemia due to galactose-1-phosphate uridyltransferase deficiency.

167. A 28-week infant has increasing oxygen requirement and a new diffuse hazy radiographic pattern after several transfusions. The infant has edema and a large positive fluid balance. Which respiratory contributor is most likely?

A. An uncomplicated small pneumothorax causing diffuse bilateral opacification rather than lucency.

B. Isolated apnea of prematurity producing diffuse alveolar infiltrates without changes in lung water.

C. Pulmonary edema from fluid overload superimposed on immature lung disease.

D. Congenital lobar emphysema causing bilateral symmetric haziness from fixed airway obstruction.

168. A 27-week infant develops grunting, retractions, and increasing oxygen need minutes after birth. Chest radiograph shows diffuse reticulogranular opacities with air bronchograms and low lung volumes. What is the primary pathophysiology?

A. Surfactant deficiency causing reduced lung compliance and widespread alveolar collapse.

B. Meconium obstruction causing patchy air trapping and coarse asymmetric infiltrates.

C. Delayed fetal lung-fluid clearance causing hyperinflation and prominent fissural fluid.

D. Pulmonary venous obstruction causing cardiogenic edema with normal surfactant function.

169. A term infant born to a mother with poorly controlled pregestational diabetes is plethoric and large for gestational age. Two hours after birth the infant becomes jittery. What is the most likely metabolic problem?

A. Hypophosphatemia caused by placental phosphate trapping during the final hours of labor.

B. Hypernatremia caused by fetal osmotic diuresis from maternal ketone exposure.

C. Hyperglycemia caused by abrupt loss of maternal insulin transfer across the placenta.

D. Hypoglycemia caused by persistent fetal hyperinsulinemia after interruption of maternal glucose delivery.

170. A study follows infants exposed and unexposed to prolonged mechanical ventilation and compares later neurodevelopmental outcomes. What design is this?

A. A case-control study.

B. A crossover randomized trial.

C. A diagnostic accuracy study.

D. A prospective cohort study.

171. A 37-week infant born by scheduled cesarean delivery without labor develops tachypnea shortly after birth. Radiograph shows hyperinflation, perihilar streaking, and fluid in the fissures. What is the most likely diagnosis?

A. Congenital pneumonia causing focal lobar consolidation as the characteristic radiographic pattern.

B. Transient tachypnea of the newborn from delayed clearance of fetal lung fluid.

C. Meconium aspiration syndrome from obstructive particulate material and chemical pneumonitis.

D. Respiratory distress syndrome from profound surfactant deficiency with low lung volumes.

172. A therapy reduces an adverse outcome from 20% to 10%. What is the number needed to treat?

A. 10 infants.

B. 5 infants.

C. 2 infants.

D. 20 infants.

173. A term newborn has a harsh holosystolic murmur but is otherwise stable. Echocardiography shows a moderate ventricular septal defect. Why may symptoms of pulmonary overcirculation become more prominent several weeks later rather than immediately after birth?

A. Systemic vascular resistance falls below fetal levels, eliminating the pressure gradient across the VSD.

B. The ductus arteriosus normally opens wider over the first month, forcing blood across the VSD.

C. Pulmonary vascular resistance falls after birth, increasing left-to-right shunt volume.

D. Hemoglobin concentration rises sharply after birth, increasing blood viscosity and left-to-right shunting.

174. A ventilated preterm infant suddenly becomes bradycardic and hypoxemic. Breath sounds are markedly decreased on the right and the chest is asymmetric. What should be suspected first?

A. An uncomplicated PDA causing isolated pulmonary overcirculation without acute asymmetry.

B. A tension pneumothorax causing acute loss of ventilation and impaired venous return.

C. Apnea of prematurity causing absent respiratory drive with equal bilateral breath sounds.

D. Gradual bronchopulmonary dysplasia causing symmetric chronic oxygen dependence.

175. A newborn has recurrent severe hypoglycemia requiring a very high glucose infusion rate. During hypoglycemia, insulin is detectable and ketones are suppressed. What is the most likely mechanism?

A. Cortisol excess causing inability to mobilize glycogen during fasting.

B. Persistent hyperinsulinism suppressing hepatic glucose output and ketogenesis.

C. Growth hormone excess causing excessive ketone production and reduced glucose utilization.

D. Glucagon excess causing persistent inhibition of hepatic glycogenolysis.

176. A vigorous term newborn is breathing well after an uncomplicated birth. Which umbilical-cord strategy is generally appropriate?

A. Clamp the cord immediately after birth to minimize the risk of neonatal jaundice.

B. Delay cord clamping for several minutes even when the newborn requires immediate advanced resuscitation.

C. Use intact-cord milking as the preferred routine placental-transfusion strategy for vigorous term newborns.

D. Defer cord clamping for at least about 60 seconds while assessing normal transition.

177. A 30-week infant has recurrent apnea with bradycardia after infection, hypoglycemia, and seizures have been excluded. Which treatment is most appropriate?

A. Routine phenobarbital.

B. Indomethacin to increase central carbon-dioxide responsiveness.

C. Caffeine citrate to stimulate respiratory drive and treat apnea of prematurity.

D. Chronic morphine to reduce respiratory variability during sleep.

178. A newborn has persistent lymphopenia and later develops severe viral and fungal infections. Newborn screening shows absent T-cell receptor excision circles. Which diagnosis is most concerning?

A. Severe combined immunodeficiency with profound T-cell dysfunction.

B. Selective IgA deficiency presenting with normal cellular immunity in the newborn period.

C. Chronic granulomatous disease with isolated neutrophil oxidative-burst failure.

D. Hereditary spherocytosis causing hemolysis and secondary lymphopenia.

179. A critically ill septic neonate has bleeding from venipuncture sites, thrombocytopenia, prolonged PT and aPTT, low fibrinogen, and elevated D-dimer. Which diagnosis is most likely?

A. Fetal-neonatal alloimmune thrombocytopenia.

B. Disseminated intravascular coagulation.

C. Hereditary spherocytosis.

D. Isolated hemophilia A.

180. A cyanotic newborn improves when crying but becomes obstructed when quiet. A catheter cannot be passed through either nostril. What is the most likely diagnosis?

A. Laryngomalacia.

B. Bilateral choanal atresia.

C. Unilateral vocal-cord paralysis.

D. Tracheoesophageal fistula.

181. A neonate has persistent stridor that worsens with agitation and improves when prone. Flexible laryngoscopy shows inspiratory collapse of supraglottic structures. What is the diagnosis?

A. Congenital diaphragmatic hernia.

B. Meconium aspiration syndrome.

C. Laryngomalacia with supraglottic collapse.

D. Bilateral choanal atresia.

182. A 25-week infant has a sudden fall in hematocrit and new apnea on day 3. Cranial ultrasonography shows blood originating in the germinal matrix and extending into the lateral ventricles. What is the diagnosis?

A. Germinal matrix-intraventricular hemorrhage of prematurity.

B. Cephalohematoma confined beneath the periosteum of a skull bone.

C. Periventricular leukomalacia caused by selective white-matter ischemia without hemorrhage.

D. Subgaleal hemorrhage caused by scalp-vessel rupture outside the skull.

183. A preterm infant is treated with caffeine citrate for apnea of prematurity. Which pharmacologic effect is most important?

A. GABA-A receptor potentiation increases respiratory-center sensitivity to carbon dioxide.

B. Cyclooxygenase inhibition directly closes the ductus and thereby eliminates central apnea.

C. Adenosine-receptor antagonism increases central respiratory drive and improves diaphragmatic performance.

D. Mu-opioid receptor agonism suppresses arousal and prevents respiratory pauses during sleep.

184. A neonate has persistent cyanosis and pulmonary edema. Echocardiography shows all pulmonary veins draining to a vertical vein with obstruction before reaching the systemic venous circulation. What is the diagnosis?

A. Unobstructed secundum atrial septal defect with normal pulmonary venous connections.

B. Critical pulmonary valve stenosis with normal pulmonary venous drainage.

C. Obstructed total anomalous pulmonary venous return causing severe pulmonary venous hypertension.

D. A large patent ductus arteriosus with predominant left-to-right shunting and otherwise normal pulmonary venous return.

185. A newborn has excessive oral secretions, coughing and cyanosis with feeds, and inability to pass an orogastric tube into the stomach. What is the most likely diagnosis?

A. Esophageal atresia with a distal tracheoesophageal fistula.

B. Hypertrophic pyloric stenosis with gastric outlet obstruction.

C. Hirschsprung disease with distal colonic aganglionosis.

D. Necrotizing enterocolitis with inflammatory bowel injury.

186. A newborn becomes ill after feeds with anion-gap metabolic acidosis, ketosis, hyperammonemia, and neutropenia. Which category of inborn error is most likely?

A. An organic acidemia causing toxic metabolite accumulation after protein catabolism.

B. Persistent hyperinsulinism causing hyperketotic hypoglycemia and anion-gap acidosis.

C. A urea-cycle defect causing isolated hyperammonemia without metabolic acidosis.

D. Congenital hypothyroidism causing severe ketosis and neutropenia after each feeding.

187. A newborn has supravalvar aortic stenosis, characteristic facial features, and later is found to have hypercalcemia. Which syndrome is most likely?

A. Trisomy 18 due to an additional chromosome 18.

B. Noonan syndrome due to a RAS-MAPK pathway disorder.

C. Turner syndrome due to monosomy X.

D. Williams syndrome due to a 7q11.23 deletion involving elastin.

188. A trial reports NEC in 12% of control infants and 8% of treated infants. What is the absolute risk reduction?

A. 4 percentage points.

B. 150 percentage points.

C. 33 percentage points.

D. 50 percentage points.

189. A 30-week fetus is expected to deliver within 24 hours after preterm labor. The mother has not previously received antenatal corticosteroids. Which maternal intervention most directly improves neonatal respiratory outcomes?

A. Administer a course of antenatal corticosteroids before delivery if time permits.

B. Begin maternal indomethacin solely to accelerate fetal surfactant synthesis before delivery.

C. Give maternal furosemide to reduce fetal lung water before preterm birth.

D. Use fetal lung-maturity testing to determine whether antenatal corticosteroids should be administered before delivery.

190. A screening test for neonatal disease has very high sensitivity. Which clinical use best exploits this property?

A. High sensitivity guarantees high positive predictive value in a low-prevalence population.

B. A negative result helps rule out disease when sensitivity is sufficiently high and the test is applied appropriately.

C. Interpret a positive result as diagnostic without incorporating test specificity or pretest disease probability.

D. High sensitivity means the test has almost no false-positive results.

191. Parents with limited English proficiency are asked to consent to a complex neonatal procedure. What communication practice best supports valid informed consent?

A. Provide the English consent form and rely on the signed document rather than professional interpretation.

B. Use a qualified medical interpreter and confirm understanding with clear, family-centered communication.

C. Use an older sibling to interpret the procedural risks, benefits, and alternatives.

D. Avoid discussing alternatives to reduce confusion during a time-sensitive decision.

192. A newborn has a large tongue, omphalocele, asymmetric overgrowth, and neonatal hypoglycemia from hyperinsulinism. Which syndrome is most likely?

A. Turner syndrome involving complete or partial monosomy X.

B. Prader-Willi syndrome involving paternal 15q11-q13 expression loss.

C. Beckwith-Wiedemann syndrome involving dysregulated imprinting at 11p15.

D. Noonan syndrome involving RAS-MAPK signaling abnormalities.

193. A newborn has superficial pustules that rupture easily, leaving hyperpigmented macules with a fine collarette of scale. The infant is otherwise well. What is the diagnosis?

A. Erythema toxicum neonatorum.

B. Staphylococcal scalded skin syndrome.

C. Transient neonatal pustular melanosis.

D. Disseminated neonatal HSV infection.

194. A mother develops intrapartum fever, uterine tenderness, and foul-smelling amniotic fluid. Her infant is born preterm and develops respiratory distress. Which neonatal concern should be prioritized?

A. Early-onset bacterial infection associated with intra-amniotic infection and preterm birth.

B. Late-onset coagulase-negative staphylococcal sepsis caused by prolonged central-line exposure.

C. Postnatal cytomegalovirus infection acquired from breast milk during the first feeding.

D. Congenital toxoplasmosis caused by maternal ingestion of undercooked meat during labor.

195. A newborn with an umbilical venous catheter develops hematuria, thrombocytopenia, and an enlarged kidney. Doppler ultrasonography shows absent venous flow. What is the diagnosis?

A. Posterior urethral valves.

B. Autosomal recessive polycystic kidney disease with symmetric congenital nephromegaly.

C. Nephrocalcinosis from chronic loop-diuretic exposure.

D. Renal vein thrombosis related to the central venous catheter.

196. A newborn with a prenatal diagnosis of left congenital diaphragmatic hernia has severe respiratory distress at birth. What is the preferred initial stabilization approach?

A. Provide vigorous bag-mask ventilation to expand the hypoplastic lung before intubation.

B. Perform repeated deep tracheal suctioning as the primary treatment for pulmonary hypoplasia.

C. Delay airway support until immediate surgical repair restores normal thoracic anatomy.

D. Intubate promptly, decompress the stomach, and use gentle ventilation while avoiding bag-mask inflation.

197. A very preterm infant receives gentamicin for suspected sepsis. Why are dosing interval and drug-level monitoring especially important?

A. Gentamicin is eliminated almost entirely by the liver, so neonatal renal function does not affect exposure.

B. The drug has no concentration-dependent toxicity, making trough levels clinically irrelevant in prolonged therapy.

C. Renal clearance is immature and variable, so accumulation can increase nephrotoxicity and ototoxicity risk.

D. Preterm infants metabolize aminoglycosides faster than adults.

198. Face-mask ventilation is ineffective despite corrective steps, and an endotracheal tube cannot be placed promptly. Which device can serve as an alternative airway in an appropriately sized newborn?

A. A chest tube can be used as an emergency airway conduit when intubation is unsuccessful.

B. A nasopharyngeal airway alone provides a definitive seal for positive-pressure ventilation.

C. A laryngeal mask or other supraglottic airway can provide effective rescue ventilation.

D. A gastric tube can be connected to the ventilation device to provide direct lung inflation.

199. A high-risk infant has a standardized developmental assessment showing significant language delay but relatively preserved motor skills. What is the best interpretation?

A. Interpret the profile as invalid unless delays are present to a similar degree across developmental domains.

B. Language delay in a preterm infant can be ignored until adolescence.

C. A normal motor score proves the language score is invalid and no follow-up is needed.

D. Developmental domains can diverge, so targeted language intervention is appropriate even when motor development is stronger.

200. A very-low-birth-weight infant is receiving full volumes of human milk but has poor protein and mineral intake for growth. What is the usual nutritional strategy?

A. Continue unfortified human milk and accept slower growth until the infant reaches term age.

B. Add carbohydrate modular supplementation without additional protein, calcium, or phosphorus.

C. Replace human milk with standard term formula to increase caloric density.

D. Add human-milk fortifier to increase protein, calories, calcium, and phosphorus.

Answers

1. C. ABO hemolytic disease occurs when maternal IgG antibodies against fetal A or B antigens cross the placenta. It may cause early jaundice and variable anemia, often in type O mothers with type A or B infants.

2. A. Periviability decisions often involve substantial prognostic uncertainty and value-sensitive tradeoffs. Ethical counseling is individualized, transparent about uncertainty, and centered on informed shared decision-making within medically appropriate options.

3. D. Placental abruption can acutely separate the placenta from the uterine wall, compromising fetal oxygen delivery and circulation. Severe acute hypoxia-ischemia before birth can lead to neonatal encephalopathy and multiorgan injury.

4. A. Conjugated hyperbilirubinemia is never physiologic. Acholic stools and dark urine raise concern for biliary obstruction, especially biliary atresia, in which timely diagnosis and surgical referral are critical.

5. A. Complete atrioventricular septal defect is strongly associated with trisomy 21. The common atrioventricular junction and septal defects produce substantial left-to-right shunting as pulmonary vascular resistance falls.

6. C. Turner syndrome can present neonatally with lymphedema from lymphatic dysplasia, webbed neck, shield chest, and left-sided cardiac lesions such as coarctation. The usual karyotype is 45,X, although mosaic forms occur.

7. C. IgG is actively transported across the placenta, especially during the third trimester, providing passive systemic immunity after birth. Preterm infants receive less of this transfer and therefore begin life with lower maternal IgG levels.

8. D. Hypoxic-ischemic encephalopathy is a clinical syndrome of disturbed neurologic function after a significant hypoxic-ischemic event. Evaluation must still consider alternative or additional causes such as infection, metabolic disease, hemorrhage, or stroke.

9. A. Noninferiority depends on a prespecified margin that represents the largest clinically acceptable difference. The confidence interval for the treatment effect is then interpreted relative to that margin.

10. D. Enteral nutrients promote structural and functional adaptation of remaining intestine. Parenteral nutrition supports growth while feeds are advanced, but excessive prolonged bowel rest can delay adaptation.

11. C. Minimal enteral nutrition exposes the immature gut to small amounts of substrate that can promote functional maturation. It does not provide full nutritional requirements and does not abolish NEC risk.

12. C. Corrected age accounts for the degree of prematurity when interpreting early developmental milestones and growth. It is commonly used during the first two years, with clinical judgment as the child approaches expected milestones.

13. A. Meconium ileus is highly associated with cystic fibrosis and may be its earliest manifestation. The infant should undergo appropriate CF diagnostic evaluation after the acute intestinal problem is managed.

14. D. Growth failure in preterm infants often reflects inadequate protein or energy delivery, not merely insufficient fluid. Nutrient intake, losses, illness, and growth trajectory should be reviewed systematically before increasing volume.

15. C. Anemia of prematurity reflects a blunted erythropoietin response to anemia, shorter neonatal red-cell survival, rapid growth, and frequent laboratory blood loss. The pattern is typically hyporegenerative rather than hemolytic.

16. D. Maternal anti-D can cross the placenta and hemolyze fetal erythrocytes. Increased middle cerebral artery peak systolic velocity is a noninvasive marker used to detect clinically important fetal anemia.

17. A. Ebstein anomaly has a classic association with maternal lithium exposure, although the absolute risk is low. The malformed tricuspid valve is displaced apically, producing atrialization of part of the right ventricle and variable cyanosis.

18. D. Current evidence does not show improved major outcomes from routine prophylactic or early closure of PDA in preterm infants. Management should therefore be individualized, with echocardiographic and clinical assessment guiding intervention.

19. C. Pyloric muscle hypertrophy causes progressive gastric outlet obstruction, classically producing nonbilious projectile emesis and a hypochloremic metabolic alkalosis. Ultrasound is the preferred diagnostic study in most cases.

20. D. In congenital diaphragmatic hernia, pulmonary hypoplasia and abnormal pulmonary vascular development drive respiratory failure and pulmonary hypertension. The problem is not simply mechanical compression by bowel after delivery.

21. B. Congenital rubella classically produces cataracts, cardiac defects such as PDA or pulmonary artery stenosis, and sensorineural hearing loss. The purpuric or blueberry-muffin rash reflects extramedullary hematopoiesis.

22. B. Extreme prematurity, central catheters, antibiotic exposure, and mucosal immaturity increase the risk of invasive candidiasis. Persistent sepsis signs with thrombocytopenia should prompt cultures and evaluation for disseminated fungal disease.

23. C. Severe spinal muscular atrophy can present with prenatal hypomotility, symmetric weakness, areflexia, and respiratory compromise while sensation is preserved. Early molecular diagnosis matters because disease-modifying therapy is available.

24. A. Epinephrine is indicated for persistent heart rate below 60/min after effective ventilation and chest compressions. Intravascular administration is preferred; endotracheal dosing may be considered only while vascular access is being obtained.

25. A. Antibody-coated red cells undergo accelerated destruction, producing anemia, reticulocytosis, and increased unconjugated bilirubin. The direct antiglobulin test supports isoimmune hemolysis in the appropriate clinical context.

26. B. Case-control studies select participants based on outcome status and then assess prior exposures. They are efficient for uncommon outcomes but are vulnerable to selection and recall or measurement biases.

27. C. Profound cellular immunodeficiency creates risk from live organisms and transfusion-associated graft-versus-host disease. Protective measures should be instituted while definitive immune testing and specialist management proceed.

28. D. Modern bilirubin management uses hour-specific thresholds that account for gestational age and neurotoxicity risk factors. Visual inspection alone is not reliable enough to guide treatment when bilirubin is near a threshold.

29. C. Phenobarbital remains a standard first-line treatment for most acute provoked neonatal seizures. Etiology matters, and sodium-channel blockers may be favored in specific channelopathies or certain genetic epilepsies.

30. C. Both hypoxemia and hyperoxia can be harmful in preterm infants. Oxygen should therefore be titrated to clinically appropriate saturation targets instead of being administered at excessive concentrations without physiologic need.

31. D. The subgaleal space can hold a large fraction of a newborn's blood volume. Diffuse fluctuant swelling that crosses sutures with pallor, tachycardia, or falling hematocrit requires urgent recognition and circulatory support.

32. B. Prolonged parenteral nutrition, prematurity, inflammation, and lack of enteral stimulation contribute to intestinal failure-associated liver disease and cholestasis. Advancement of enteral nutrition when feasible is an important preventive and therapeutic measure.

33. C. Harlequin ichthyosis is a severe congenital disorder of epidermal barrier formation characterized by massive hyperkeratosis and fissuring. Immediate intensive skin, fluid, temperature, and infection management is required.

34. B. Listeria can be acquired from contaminated foods during pregnancy and cross the placenta, causing fetal loss, preterm birth, sepsis, or meningitis. Ampicillin is a key component of neonatal therapy.

35. C. Congenital myotonic dystrophy is most often transmitted by an affected mother through repeat expansion and can cause severe neonatal hypotonia and respiratory weakness. Maternal myotonia may be subtle until the infant's diagnosis prompts recognition.

36. D. Periventricular white-matter injury disrupts descending motor pathways and is strongly associated with cerebral palsy, often a spastic diplegic pattern. Cognitive, visual, and other developmental domains may also be affected.

37. B. Adenosine transiently blocks AV nodal conduction and is first-line therapy for many stable AV node-dependent supraventricular tachycardias after vagal maneuvers fail. Synchronized cardioversion is used when the infant is hemodynamically unstable.

38. B. Newborn hearing screening identifies infants who need further assessment but does not itself establish the final diagnosis. Prompt follow-up is essential so permanent hearing loss can be confirmed and intervention started early when needed.

39. C. Modern bronchopulmonary dysplasia reflects arrested or abnormal alveolar and vascular development after very preterm birth, often compounded by oxygen exposure, inflammation, and ventilator injury. Persistent respiratory support at later postmenstrual age is central to clinical classification.

40. C. Noonan syndrome is a RASopathy that can resemble Turner syndrome phenotypically but occurs in either sex with a normal chromosome complement. Pulmonary valve stenosis and hypertrophic cardiomyopathy are important cardiac associations.

41. D. Erythema toxicum is a benign, self-limited eruption of healthy newborns that typically appears after the first day and may contain eosinophils. Vesicular or systemic illness would require evaluation for infection instead.

42. D. Maternal anti-Ro/SSA and anti-La/SSB antibodies are associated with neonatal lupus and congenital heart block. The conduction disease may be permanent even though other antibody-mediated neonatal findings resolve as maternal antibodies disappear.

43. C. Infants of diabetic mothers are at increased risk for early hypocalcemia, partly related to altered parathyroid adaptation. Symptomatic hypocalcemia can cause jitteriness, tetany, seizures, and QT prolongation.

44. B. ROP screening includes infants with birth weight at or below 1500 g or gestational age at or below 30 weeks, plus selected larger or more mature infants with an unstable course. Timely follow-up is essential because treatment can prevent blindness.

45. A. In hypoplastic left heart syndrome, systemic perfusion depends on right ventricular output crossing the ductus into the aorta. Ductal closure therefore causes systemic hypoperfusion and shock unless prostaglandin E1 maintains patency.

46. C. The thymus is required for normal T-cell maturation. Thymic hypoplasia in 22q11.2 deletion syndrome can therefore produce variable cellular immune deficiency, ranging from mild lymphopenia to profound T-cell absence.

47. D. Hypotension and nephrotoxin exposure can cause neonatal acute kidney injury. Rising creatinine and reduced urine output should trigger assessment of perfusion, medication exposure, fluid status, and obstructive causes.

48. A. Inhaled nitric oxide selectively reduces pulmonary vascular resistance in ventilated lung regions and can improve oxygenation in appropriate term and near-term infants with hypoxemic respiratory failure and pulmonary hypertension.

49. D. Human milk is associated with lower NEC risk than formula in very preterm infants. When maternal milk is unavailable or insufficient, donor human milk is commonly used while nutritional adequacy is supported with fortification as needed.

50. C. Jaundice appearing during the first 24 hours is concerning for pathologic bilirubin production, especially hemolysis, and warrants prompt bilirubin measurement and evaluation. Physiologic jaundice generally becomes apparent later.

51. B. Spontaneous intestinal perforation occurs mainly in extremely preterm infants and may present with isolated perforation and less systemic intestinal inflammation than NEC. Steroid and indomethacin exposure are recognized associations.

52. C. Pulmonary interstitial emphysema occurs when ventilator-related air leaks from alveoli into perivascular and peribronchial interstitial tissues. It is particularly associated with very preterm lungs exposed to positive pressure.

53. D. Neonatal HSV may present with skin-eye-mouth disease, encephalitis, or disseminated disease with hepatitis. Because progression can be rapid, intravenous acyclovir should not be delayed when the clinical syndrome raises strong suspicion.

54. B. Congenital syphilis can cause rhinitis, rash including palms and soles, hepatosplenomegaly, anemia, thrombocytopenia, and osteochondritis. Evaluation and penicillin treatment depend on maternal therapy, neonatal examination, serology, and other testing.

55. A. Intention-to-treat preserves the benefits of randomization by analyzing participants according to initial assignment. It estimates the effect of a treatment strategy under conditions that include nonadherence and crossover.

56. A. Adequate amniotic fluid and fetal breathing movements contribute to lung development. Severe prolonged oligohydramnios can produce small hypoplastic lungs that cannot be corrected simply by higher ventilator pressures.

57. B. Vitamin K is required for normal activity of factors II, VII, IX, and X and proteins C and S. Newborns have limited vitamin K stores, so prophylaxis prevents potentially catastrophic vitamin K deficiency bleeding.

58. B. Erb palsy follows traction injury to the upper brachial plexus and causes the classic waiter-tip posture. Most cases improve, but persistent weakness warrants specialized follow-up and evaluation for nerve injury severity.

59. A. When treatment can no longer achieve the infant's goals or offers disproportionate burden, shifting to comfort-focused care can be ethically appropriate. Withholding and withdrawing disproportionate treatment are ethically equivalent when decisions follow the same goals and standards.

60. A. Plan-Do-Study-Act cycles use small iterative tests of change: plan the intervention, implement it, study the results, and act on what was learned. The goal is local process improvement with repeated measurement and refinement.

61. C. Infants of diabetic mothers are at increased risk for transitional hypoglycemia from hyperinsulinism. Management depends on clinical status and the degree and persistence of low glucose, with prompt feeding or intravenous glucose when indicated.

62. B. Safe oral feeding requires more than an age threshold. The infant must maintain respiratory stability and coordinate sucking, swallowing, and breathing without significant aspiration signs or cardiorespiratory compromise.

63. B. Serum creatinine immediately after birth is influenced by maternal creatinine and then evolves as neonatal renal filtration becomes the dominant determinant. Trends are therefore more informative than a single early value.

64. D. Perinatal arterial ischemic stroke often presents with focal neonatal seizures in an otherwise relatively stable term infant. MRI defines the vascular territory and helps distinguish focal infarction from global hypoxic-ischemic patterns.

65. B. Severe hypomagnesemia can cause functional hypoparathyroidism and make hypocalcemia refractory to calcium therapy. Both abnormalities may need correction for calcium homeostasis to normalize.

66. C. Open myelomeningocele requires protection from trauma, drying, and infection, with positioning that avoids pressure on the lesion. Neurosurgical closure and assessment for hydrocephalus and associated neurologic or urologic complications follow stabilization.

67. A. Unintentional hypothermia increases metabolic stress and consumption of oxygen and glucose and is associated with morbidity and mortality. Delivery-room thermal care is therefore a core component of preterm stabilization.

68. B. Prader-Willi syndrome often presents in infancy with severe hypotonia and feeding difficulty, well before later hyperphagia develops. It results from loss of paternally expressed genes in the 15q11-q13 region.

69. D. Preterm infants may have immature suck-swallow-breathe coordination, leading to feeding-associated desaturation or bradycardia. Feeding readiness should therefore include respiratory stability and coordinated oral-motor function.

70. D. Fetal and neonatal alloimmune thrombocytopenia can cause severe thrombocytopenia in an otherwise healthy infant because maternal antibodies target a paternally inherited platelet antigen. Maternal platelet counts are typically normal, and intracranial hemorrhage can occur prenatally.

71. A. Transparent disclosure supports trust and patient safety even when harm is not evident. The clinical team should also monitor the infant, document accurately, report through safety systems, and address preventable contributors.

72. B. Confounding occurs when a third factor is related to both the exposure and outcome and creates or distorts an association. Baseline illness severity is a plausible confounder in nonrandomized treatment comparisons.

73. B. Osteogenesis imperfecta is a collagen disorder characterized by bone fragility, fractures, and variable extraskeletal findings such as blue sclerae and hearing loss. Severe forms can present prenatally or at birth.

74. D. Severe fetal anemia reduces oxygen-carrying capacity and can produce compensatory high-output cardiac failure. Rising venous pressure and impaired fluid homeostasis then contribute to edema, effusions, and hydrops.

75. A. Transient abnormal myelopoiesis occurs almost exclusively in neonates with trisomy 21 and may regress spontaneously, although severe organ involvement can require treatment. Affected infants have increased later risk of myeloid leukemia associated with Down syndrome.

76. C. Postnatal corticosteroids can facilitate extubation and reduce chronic lung disease in selected high-risk infants, but benefits must be balanced against short- and long-term adverse effects. Routine high-dose early dexamethasone is not recommended.

77. B. TSH-receptor antibodies can persist after definitive maternal thyroid treatment and cross the placenta. Stimulating antibodies may therefore cause fetal or neonatal thyrotoxicosis even when the mother no longer has an intact thyroid gland.

78. D. Long-chain triglycerides are transported through intestinal lymphatics, whereas medium-chain triglycerides are absorbed more directly into portal blood. A modified-fat diet can therefore reduce chyle flow in selected infants with chylothorax.

79. C. Myocarditis can cause acute systolic dysfunction, arrhythmias, and cardiogenic shock in neonates, often in association with enteroviruses or other viral infections. A structurally normal heart with myocardial injury markers supports this diagnosis.

80. A. Pierre Robin sequence consists of micrognathia leading to posterior tongue displacement, with airway obstruction and often a U-shaped cleft palate. Airway and feeding management depend on severity.

81. B. Central catheter tips can perforate or erode the myocardium or great vessels, leading to pericardial infusion and tamponade. Sudden cardiovascular collapse with an effusion requires urgent recognition and drainage while the catheter is addressed.

82. A. Hyperglycemia in preterm infants often reflects excessive glucose delivery combined with immature insulin responses and physiologic stress. Management begins with reassessment of glucose infusion and underlying illness; insulin is reserved for selected persistent cases.

83. A. Preterm infants have lower iron stores and high iron needs for erythropoiesis and growth. Enteral iron is commonly provided once feeding is established, with dose individualized for transfusions and dietary iron exposure.

84. D. Trisomy 13 is strongly associated with midline brain and facial defects, clefting, polydactyly, eye abnormalities, and congenital heart disease. The constellation differs from the limb positioning typical of trisomy 18.

85. A. A cephalohematoma is a subperiosteal collection and therefore does not cross sutures. It usually resolves spontaneously but can contribute to jaundice as the extravasated blood is broken down.

86. B. Routine tracheal suctioning for meconium is not recommended because it can delay the intervention that matters most: effective ventilation. Airway suctioning is reserved for suspected obstruction that interferes with ventilation.

87. D. Classic 21-hydroxylase deficiency causes cortisol and aldosterone deficiency with excess androgen production. Salt-wasting crisis produces hyponatremia, hyperkalemia, dehydration, and shock if untreated.

88. B. The oxygenation index incorporates mean airway pressure, inspired oxygen, and arterial oxygen tension. A higher value reflects more severe oxygenation failure and can help characterize disease severity and escalation needs.

89. C. Extremely preterm infants and infants with BPD are at increased risk for motor, cognitive, language, behavioral, hearing, and vision problems. Structured follow-up and early intervention allow problems to be identified and addressed before school age.

90. D. A 22q11.2 deletion can impair development of the pharyngeal arches, producing conotruncal heart disease, parathyroid hypoplasia with hypocalcemia, and thymic hypoplasia with variable T-cell deficiency.

91. D. Periventricular leukomalacia is an ischemic-inflammatory injury of preterm white matter and may evolve to cystic lesions. It is associated with later motor impairment, including spastic cerebral palsy.

92. B. Hirschsprung disease results from absence of enteric ganglion cells in the distal bowel, producing functional obstruction. Delayed meconium passage, distention, and explosive stool after rectal examination are classic clues.

93. A. Peripartum maternal varicella can cause severe neonatal varicella because the infant may be exposed before receiving adequate protective maternal antibody. Timing of maternal infection guides use of varicella-zoster immune globulin and antiviral management.

94. D. Volume-targeted strategies adjust pressure to achieve a selected tidal volume, helping avoid inadvertent overdistention as compliance improves or deteriorates. They do not eliminate the need for clinical, gas-exchange, and ventilator monitoring.

95. B. For term and late-preterm infants receiving respiratory support, starting with room air is reasonable. Supplemental oxygen is then titrated to target preductal saturation ranges rather than given indiscriminately at 100%.

96. C. The combination of characteristic facial features, neonatal hypotonia, and an atrioventricular septal defect is classic for trisomy 21. Affected infants also require assessment for gastrointestinal, hematologic, thyroid, hearing, and vision problems.

97. B. Certain NICU exposures and congenital infections can be associated with delayed or progressive hearing impairment. Follow-up should therefore reflect the infant's risk factors and diagnostic audiology recommendations, not only one screening result.

98. D. Congenital pulmonary airway malformation can appear as a multicystic intrapulmonary lesion and may cause respiratory compromise from mass effect. Management depends on symptoms, anatomy, and surgical assessment.

99. B. A venous hematocrit of 65% or higher defines neonatal polycythemia. Hyperviscosity may impair microvascular flow and produce neurologic, respiratory, metabolic, or gastrointestinal symptoms.

100. B. Feeding intolerance has many causes and does not automatically require abandonment of human milk. Clinical assessment should look for illness or obstruction while feed rate, volume, and method are adjusted to the infant's maturity and physiology.

101. A. Establishing lung inflation and effective ventilation is the central priority in neonatal resuscitation. A heart-rate rise is the most useful sign that assisted ventilation is effective.

102. D. When disease prevalence falls, a larger fraction of positive results may be false positives even if sensitivity and specificity do not change. Positive predictive value therefore usually decreases.

103. B. Twin-twin transfusion syndrome results from net blood transfer through placental vascular connections in monochorionic gestations. The donor becomes relatively hypovolemic with oligohydramnios, while the recipient develops volume overload and polyhydramnios.

104. A. Early-onset sepsis commonly involves GBS and gram-negative enteric organisms. Ampicillin with gentamicin provides broad initial coverage in many settings while culture results and local susceptibility data guide further therapy.

105. B. Preterm kidneys have limited sodium-conserving capacity, and diuretics increase urinary losses. During rapid growth, insufficient sodium intake can therefore contribute to hyponatremia and poor growth.

106. D. Congenital CMV can cause growth restriction, petechiae, hepatosplenomegaly, microcephaly, periventricular calcifications, and sensorineural hearing loss. Diagnostic testing must establish congenital infection early enough to distinguish it from postnatal acquisition.

107. B. G6PD deficiency reduces red-cell ability to handle oxidative stress and can produce rapid hemolysis and severe neonatal hyperbilirubinemia. Risk varies by genotype and exposure, and the antiglobulin test is not positive because the process is not immune mediated.

108. C. Hypernatremia with clinical dehydration indicates proportionally greater water loss or insufficient water intake. Correction must be controlled because overly rapid reduction in serum sodium can produce cerebral edema.

109. B. Structural imaging can improve risk stratification, especially when major white-matter or deep-gray injury is present, but development also reflects genetics, medical complications, environment, and postdischarge experiences. Prognosis should therefore be probabilistic rather than absolute.

110. C. Mechanical lung injury is driven by excessive tidal volumes, pressure-related overdistention, and repetitive recruitment-derecruitment, all of which amplify inflammation. Lung-protective strategies aim to minimize these exposures while maintaining adequate gas exchange.

111. B. With pulmonary atresia, pulmonary blood flow may depend on a patent ductus arteriosus. Prostaglandin E1 maintains ductal patency while definitive catheter-based or surgical management is planned.

112. D. Very preterm infants miss much of third-trimester mineral accretion and may develop metabolic bone disease if calcium, phosphorus, vitamin D, or overall nutrition is inadequate. Low phosphorus and high alkaline phosphatase support the diagnosis.

113. B. Central diabetes insipidus causes inadequate renal water conservation because of deficient vasopressin release. Polyuria, dilute urine, and hypernatremia after major CNS injury are characteristic.

114. B. Prolonged severe oligohydramnios during a critical period of lung growth can restrict thoracic and pulmonary development, causing pulmonary hypoplasia. The resulting respiratory failure is structural and is not simply delayed lung-fluid absorption.

115. D. Unbound unconjugated bilirubin can cross the blood-brain barrier and injure vulnerable nuclei, causing acute bilirubin encephalopathy. Progression can lead to chronic kernicterus with characteristic movement and auditory abnormalities.

116. A. Placental insufficiency and maternal hypertensive disease can be associated with early-onset neonatal thrombocytopenia, often in growth-restricted infants. The mechanism is primarily reduced platelet production rather than infection or coagulation-factor deficiency.

117. B. For eligible term or near-term infants with moderate-to-severe hypoxic-ischemic encephalopathy, controlled therapeutic hypothermia started within the therapeutic window improves outcomes. Treatment requires protocolized temperature control and intensive monitoring rather than unsupervised surface cooling.

118. D. Feeding development is supported by positive, cue-based oral experiences matched to the infant's state and respiratory capacity. Repeated forced or stressful feeds can worsen aversion and do not improve safe oral-motor maturation.

119. D. Extremely preterm infants rapidly develop negative nitrogen balance without protein intake. Early parenteral amino acids help support protein accretion until sufficient enteral nutrition can be established.

120. B. Thyroid hormone is critical for early brain development. Prompt confirmation and levothyroxine treatment of congenital hypothyroidism can prevent severe intellectual and developmental disability.

121. C. Coagulase-negative staphylococci are common skin commensals and important causes of catheter-associated late-onset sepsis in preterm infants. Biofilm formation on intravascular devices can make infection persistent.

122. D. Meconium ileus is strongly associated with cystic fibrosis. Abnormally dehydrated intestinal secretions obstruct the distal small bowel and may be complicated by perforation or volvulus.

123. A. Chronic fetal opioid exposure can lead to a postnatal withdrawal syndrome with neurologic, gastrointestinal, and autonomic signs. Nonpharmacologic care and rooming-in are foundational, with medication reserved for infants who cannot maintain adequate function despite supportive care.

124. D. Conotruncal defects such as truncus arteriosus can occur with 22q11.2 deletion syndrome. Associated hypocalcemia reflects parathyroid hypoplasia, and immune dysfunction may result from thymic hypoplasia.

125. C. Achondroplasia results from gain-of-function FGFR3 variants that inhibit endochondral ossification. Rhizomelic shortening and macrocephaly are characteristic, and foramen magnum stenosis is a clinically important neonatal concern.

126. D. Meconium aspiration can produce partial airway obstruction with ball-valve air trapping, chemical inflammation, surfactant inactivation, and ventilation-perfusion mismatch. Severe disease may be complicated by air leak and pulmonary hypertension.

127. A. Hereditary spherocytosis can cause neonatal hemolysis and jaundice with spherocytes but a negative direct antiglobulin test. Family history of chronic hemolytic anemia or splenectomy is a valuable clue.

128. A. Loop diuretics increase urinary calcium excretion and can contribute to nephrocalcinosis in preterm infants, especially with prolonged exposure and other mineral disturbances.

129. D. Many neonatal seizures are electrographic-only, and many abnormal movements are nonepileptic. Continuous conventional EEG is the reference standard for seizure detection and treatment monitoring; amplitude-integrated EEG is useful but less sensitive.

130. A. Low PaCO2 causes cerebral vasoconstriction and can reduce cerebral perfusion. Avoiding unnecessary hyperventilation is part of lung-protective and neuroprotective ventilation in vulnerable preterm infants.

131. C. Hypernatremic dehydration in a breastfed newborn commonly reflects inadequate milk intake rather than excessive sodium ingestion. Feeding observation, maternal milk supply, hydration status, and weight trajectory require prompt assessment.

132. B. Pneumatosis intestinalis in a preterm infant with systemic and intestinal signs is strongly characteristic of NEC. Management includes bowel rest, decompression, antibiotics, supportive care, and surgical evaluation when perforation or necrosis is suspected.

133. A. Pulmonary sequestration is nonfunctioning lung tissue that lacks a normal airway connection and receives systemic arterial blood, usually from the aorta. Demonstration of the anomalous systemic vessel is a key diagnostic feature.

134. C. Chronic granulomatous disease results from impaired phagocyte oxidative burst, reducing killing of certain bacteria and fungi. Dihydrorhodamine flow cytometry is commonly used to assess this pathway.

135. C. Exogenous surfactant lowers alveolar surface tension and improves lung compliance in preterm respiratory distress syndrome. It is used when disease severity indicates that noninvasive support alone is insufficient.

136. A. Duodenal atresia causes proximal intestinal obstruction and is associated with trisomy 21. The double-bubble sign represents distended stomach and proximal duodenum.

137. C. Ibuprofen and indomethacin inhibit cyclooxygenase and reduce prostaglandin synthesis, favoring ductal constriction. Treatment decisions in preterm infants are individualized because closing a PDA does not necessarily improve long-term outcomes.

138. A. The most effective prevention of early-onset GBS disease is appropriate intrapartum antibiotic prophylaxis for mothers who meet indications. Management of a well newborn then depends on gestation, clinical appearance, and the adequacy of prophylaxis rather than automatic prolonged antibiotics.

139. A. Because maternal IgM is too large for normal placental transfer, pathogen-specific IgM in the newborn can indicate an in-utero immune response. The test is not perfectly sensitive or specific and must be interpreted with other diagnostic evidence.

140. C. Infants of diabetic mothers can develop hypertrophic cardiomyopathy, especially asymmetric septal hypertrophy, because fetal hyperinsulinemia acts as a growth factor. The hypertrophy often improves as the metabolic stimulus resolves after birth.

141. D. An absent or asymmetric red reflex can indicate media opacity or serious ocular disease and requires prompt ophthalmologic assessment. Early recognition of congenital cataract is especially important for visual development.

142. B. Bilious emesis in a neonate is a surgical emergency until obstruction is excluded. Malrotation can permit midgut volvulus around a narrow mesenteric base, threatening intestinal ischemia and requiring urgent surgery.

143. B. Immature preterm kidneys have limited bicarbonate reclamation and acid excretion. This can contribute to a normal anion-gap metabolic acidosis, particularly when renal function and nutrition are still maturing.

144. A. Early noninvasive distending pressure can maintain functional residual capacity and reduce the need for invasive ventilation in appropriate preterm infants. Oxygen should be titrated rather than routinely maximized.

145. A. Congenital toxoplasmosis classically causes chorioretinitis, hydrocephalus, and intracranial calcifications. CMV more typically causes periventricular calcifications and microcephaly rather than hydrocephalus as the defining pattern.

146. B. Failure of pulmonary vascular resistance to fall after birth can maintain fetal-pattern right-to-left shunting and cause severe hypoxemia. Management focuses on optimizing lung recruitment, oxygenation, systemic hemodynamics, and selective pulmonary vasodilation when indicated.

147. D. Cleft palate impairs generation of negative pressure for suction. Specialized bottles, upright positioning, pacing, and multidisciplinary feeding support can allow safe growth while definitive repair is planned.

148. A. Edwards syndrome, or trisomy 18, commonly causes severe growth restriction, clenched hands with overlapping digits, rocker-bottom feet, craniofacial anomalies, and major cardiac or renal malformations.

149. B. Clinical signs can suggest a significant PDA but are not sufficient to define its hemodynamic impact. Echocardiography assesses ductal anatomy, shunt direction and magnitude, chamber effects, and systemic consequences.

150. A. Vitamin D supports calcium and phosphorus metabolism and skeletal mineralization. Human milk often does not provide enough vitamin D by itself, so supplementation is generally required.

151. C. A significant preductal-postductal saturation difference supports right-to-left ductal shunting, a classic finding in persistent pulmonary hypertension of the newborn. Elevated pulmonary vascular resistance directs deoxygenated pulmonary arterial blood into the descending aorta.

152. C. Tetralogy of Fallot is defined by a VSD, overriding aorta, right ventricular outflow tract obstruction, and right ventricular hypertrophy. The degree of outflow obstruction determines the severity of neonatal cyanosis.

153. A. Enteroviruses can cause devastating neonatal sepsis-like disease with myocarditis, hepatitis, meningoencephalitis, coagulopathy, and shock. Maternal peripartum illness may be a clue.

154. B. Antenatal magnesium sulfate given before anticipated very preterm birth reduces the risk of cerebral palsy in surviving infants. Its purpose in this setting is neuroprotection, distinct from its obstetric use for seizure prophylaxis in preeclampsia.

155. C. Epidermolysis bullosa disorders cause mechanical fragility at different levels of the skin, producing blisters after minimal trauma. Care emphasizes wound protection, pain control, nutrition, infection prevention, and genetic classification.

156. C. Chest compressions are indicated when the heart rate remains below 60/min despite effective ventilation. Ventilation must remain optimized because inadequate lung inflation is the most common reversible cause of persistent neonatal bradycardia.

157. A. Prostaglandin E1 maintains or reopens ductal patency but can cause apnea, hypotension, fever, and flushing. Airway and ventilation support must therefore be readily available when the infusion is initiated.

158. B. Critical coarctation may be clinically silent while the ductus is open. As ductal flow decreases, systemic perfusion distal to the obstruction falls, producing weak femoral pulses, metabolic acidosis, and shock.

159. C. SIADH causes water retention with hyponatremia and inappropriately concentrated urine in a clinically euvolemic patient. Central nervous system disease is a recognized trigger.

160. A. Hypertensive placental disease can impair uteroplacental perfusion and cause fetal growth restriction. Abnormal Doppler flow supports placental vascular insufficiency rather than a mechanism associated with fetal overgrowth.

161. D. Posterior urethral valves are a major cause of lower urinary tract obstruction in male infants. Severe disease can damage the bladder and kidneys prenatally and may be associated with oligohydramnios and pulmonary hypoplasia.

162. D. Blood products after severe IVH can obstruct CSF pathways and impair resorption, producing progressive ventricular dilatation. Serial head circumference and cranial imaging help identify infants who may need temporizing or definitive CSF diversion.

163. A. Cerebral sinovenous thrombosis is associated with dehydration, infection, prothrombotic conditions, and critical illness. Presentation may include seizures, encephalopathy, or hemorrhagic venous infarction.

164. C. In transposition, the systemic and pulmonary circulations run in parallel, so survival depends on mixing. Prostaglandin E1 can maintain ductal patency while atrial septostomy or definitive repair is arranged when mixing is inadequate.

165. D. Urea-cycle disorders often present after protein exposure with severe hyperammonemia and neurologic deterioration. Respiratory alkalosis can occur early and helps distinguish these disorders from many organic acidemias, which more often cause metabolic acidosis.

166. D. Classic galactosemia can cause hepatic dysfunction, jaundice, vomiting, cataracts, and a distinctive risk of E. coli sepsis after lactose or galactose exposure. Galactose-containing feeds must be stopped while diagnosis and treatment proceed.

167. C. Preterm infants are vulnerable to pulmonary edema when fluid and sodium balance become excessive, especially with limited renal handling and underlying lung disease. The positive balance and edema make excess lung water a plausible contributor to worsening gas exchange.

168. A. Respiratory distress syndrome of prematurity results from inadequate surfactant in structurally immature lungs. High surface tension promotes atelectasis, reduced functional residual capacity, and poor compliance.

169. D. Maternal hyperglycemia drives fetal pancreatic insulin secretion. After delivery, the maternal glucose supply stops abruptly while neonatal insulin remains high, predisposing infants of diabetic mothers to early hypoglycemia.

170. D. Cohort studies define groups by exposure and follow them for outcomes, either prospectively or using existing longitudinal data. They can estimate incidence and relative risk but require careful adjustment for confounding in observational settings.

171. B. Transient tachypnea is associated with delayed fetal lung-fluid absorption, especially after cesarean birth without labor. Hyperinflation and interstitial or fissural fluid help distinguish it from classic surfactant-deficient RDS.

172. A. The absolute risk reduction is 0.20 minus 0.10, or 0.10. The number needed to treat is 1 divided by 0.10, which equals 10.

173. C. High pulmonary vascular resistance in the immediate newborn period limits left-to-right shunting. As resistance falls over subsequent weeks, pulmonary blood flow through a sizable VSD can increase and produce tachypnea, poor feeding, and heart failure.

174. B. A sudden deterioration with unilateral reduction in breath sounds strongly suggests pneumothorax, particularly in a mechanically ventilated preterm infant. Tension physiology can also impair venous return and cause rapid cardiovascular collapse.

175. B. Inappropriately detectable insulin during hypoglycemia, low ketones, and a high glucose requirement strongly suggest hyperinsulinism. Insulin both drives glucose uptake and prevents generation of alternative fuels such as ketones.

176. D. Current neonatal resuscitation guidance supports deferred cord clamping for at least 60 seconds in most newborns who are transitioning normally. The approach may need modification when immediate resuscitation or obstetric circumstances require earlier intervention.

177. C. Apnea of prematurity reflects immature respiratory control and commonly responds to caffeine. Secondary causes of apnea should be considered before attributing events solely to prematurity.

178. A. Absent or very low T-cell receptor excision circles suggest impaired thymic T-cell production and can identify severe combined immunodeficiency. Early recognition allows protective isolation, avoidance of live vaccines, and definitive immune evaluation and therapy.

179. B. DIC is a consumptive coagulopathy triggered by severe systemic illness such as sepsis, shock, or hypoxia. Simultaneous platelet consumption, coagulation-factor depletion, and fibrinolysis produce the characteristic laboratory pattern.

180. B. Newborns preferentially breathe through the nose, so bilateral choanal atresia can cause cyclic cyanosis relieved by crying. Failure to pass a nasal catheter supports the diagnosis and airway stabilization takes priority.

181. C. Laryngomalacia is the most common cause of congenital stridor and reflects dynamic inspiratory collapse of supraglottic tissues. Severe cases require evaluation for feeding difficulty, hypoxemia, or failure to thrive.

182. A. The fragile germinal matrix vasculature of very preterm infants is prone to hemorrhage, especially during the first days of life. Blood may remain localized or extend into the ventricles and, in severe cases, be associated with parenchymal venous infarction.

183. C. Caffeine is a methylxanthine and adenosine-receptor antagonist that stimulates respiratory drive and improves respiratory-muscle performance. It has a long neonatal half-life, particularly in very preterm infants.

184. C. Total anomalous pulmonary venous return requires an interatrial communication for survival. When the anomalous pathway is obstructed, pulmonary venous pressure rises rapidly, producing pulmonary edema, severe hypoxemia, and urgent need for surgical repair.

185. A. Esophageal atresia should be suspected when a feeding tube cannot reach the stomach and secretions accumulate. A distal tracheoesophageal fistula is common and can allow air into the stomach and aspiration of gastric contents.

186. A. Organic acidemias commonly cause high anion-gap acidosis, ketosis, secondary hyperammonemia, and bone-marrow suppression. Rapid metabolic stabilization and targeted biochemical testing are required.

187. D. Williams syndrome is associated with elastin deletion, supravalvar aortic stenosis or peripheral pulmonary stenosis, characteristic facies, and a tendency toward hypercalcemia. Developmental and behavioral features become more apparent later.

188. A. Absolute risk reduction equals the control event rate minus the treatment event rate: 12% minus 8% equals 4 percentage points. Relative measures answer a different question and should not be substituted for the absolute difference.

189. A. Antenatal corticosteroids given when preterm delivery is likely accelerate fetal lung maturation and reduce respiratory distress syndrome and other prematurity-related morbidity. Tocolysis or other measures may be used selectively to allow steroid administration, but they do not replace corticosteroids as the key lung-maturing intervention.

190. B. Sensitivity is the proportion of affected patients who test positive. A highly sensitive test has relatively few false negatives, so a negative result can be useful for ruling out disease when the testing context is appropriate.

191. B. Qualified interpreters reduce communication errors and support autonomy. Informed consent requires understandable discussion of the indication, benefits, risks, alternatives, and questions rather than reliance on a signature alone.

192. C. Beckwith-Wiedemann syndrome is an overgrowth disorder characterized by macroglossia, abdominal-wall defects, organomegaly, and risk of neonatal hypoglycemia from hyperinsulinism. Tumor surveillance is important later in childhood.

193. C. Transient neonatal pustular melanosis is benign and may be present at birth. Fragile pustules evolve into hyperpigmented macules with a characteristic collarette of scale.

194. A. Clinical intra-amniotic infection and preterm birth increase the risk of early-onset neonatal infection. Evaluation and empiric therapy depend on gestational age, infant condition, and local evidence-based protocols.

195. D. Renal vein thrombosis can present with hematuria, thrombocytopenia, renal enlargement, and impaired venous flow. Risk factors include dehydration, sepsis, maternal diabetes, and intravascular catheters.

196. D. Bag-mask ventilation can insufflate intrathoracic bowel and worsen lung compression in congenital diaphragmatic hernia. Initial care emphasizes controlled ventilation, gastric decompression, and physiologic stabilization before surgery.

197. C. Aminoglycosides are primarily cleared by the kidneys, and neonatal glomerular filtration varies with gestational and postnatal age. Extended intervals and level-guided dosing help achieve effective peaks while limiting toxic accumulation.

198. C. A supraglottic airway is an accepted alternative when face-mask ventilation is ineffective and tracheal intubation is unsuccessful or not feasible. Its role is to restore effective lung ventilation, not to replace appropriate airway assessment.

199. D. Neurodevelopment is multidimensional, and infants may have selective vulnerabilities. A domain-specific delay should prompt hearing assessment, developmental evaluation, and targeted early services rather than being dismissed because another domain is normal.

200. D. Unfortified human milk may not meet the high protein and mineral requirements of very preterm infants. Fortification improves nutrient delivery while preserving many benefits of human milk.