

Practice Exam Questions and Answers
2021 October DWE
Paediatrics & Child Health

Instructions:

- This document contains the questions and answers from the DWE Paediatrics & Child Health Practice Exam
- The correct answer for each question is in **bold** type.

Question 1

A 2-year-old with acute abdominal pain has been diagnosed with pancreatitis. An ultrasound is performed, which reveals a significantly dilated common bile duct, tapering distally with dilatation of intrahepatic ducts.

Results of liver function tests are shown below.

Alanine aminotransferase	65 U/L	[5–35]
Alkaline phosphatase	580 U/L	[80–250]
Gamma glutamyltransferase	749 U/L	[5–40]
Total bilirubin	39 μ mol/L	[0–20]
Lipase	1200 U/L	[0–60]

What is the most likely cause of her pancreatitis?

Answer options:

- A. Bile duct adenoma.
- B. Choledochal cyst.**
- C. Neonatal sclerosing cholangitis.
- D. Sphincter of Oddi dysfunction.

Question 2

Which of the following is the most common clinical feature at presentation in acute rheumatic fever (ARF)?

Answer options:

- A. Arthritis.**
- B. Carditis.
- C. Erythema marginatum.
- D. Subcutaneous nodules.

Question 3

What is the most important serious side effect that parents should be warned about before commencing atomoxetine?

Answer options:

- A. Cardiac toxicity.
- B. Depression.
- C. Potential for abuse.
- D. Suicidal ideation.**

Question 4

Which renal condition is most commonly associated with congenital hepatic fibrosis?

Answer options:

- A. Autosomal recessive polycystic kidney disease.**
- B. Horseshoe kidney.
- C. Multicystic dysplastic kidney.
- D. Nephronophthisis



Question 5

You are called after hours by the mother of a 14-year-old girl with well-controlled type 1 diabetes, who has been recently started on insulin pump therapy. The mother states that she has recorded a capillary blood glucose level of 20.2 mmol/L, and ketones of 1.2 mmol/L [< 0.5]. Earlier in the day her blood glucose level was normal at 6.5 mmol/L, and she had been correctly given insulin with her dinner meal through the insulin pump. Her mother reports that apart from feeling thirsty, her daughter is well, with no nausea or vomiting.

With respect to her hyperglycaemia, what is the best advice you should give?

Answer options:

- A. Deliver a correction bolus of rapid-acting insulin through the insulin pump.
- B. Deliver a correction bolus of rapid-acting insulin via an insulin syringe or pen.**
- C. Deliver a dose of long-acting insulin.
- D. Perform 30 minutes of exercise and drink 500 mL of water.

Question 6

A 4-year-old boy is assessed for failure to thrive, having not gained weight over the preceding year. He was becoming increasingly irritable and lethargic, and is now refusing foods. His mother reported abdominal bloating and excess wind over recent months. A symmetrical rash is noted on his elbows and knees. As part of a nutritional screen, his transglutaminase IgA antibodies were positive.

What is the most likely diagnosis?

Answer options:

- A. Dermatitis herpetiformis.**
- B. Discoid eczema.
- C. Henoch–Schönlein purpura.
- D. Impetigo.



Question 7

Following acute bronchiolitis, which virus is associated with the long-term complication of bronchiolitis obliterans?

Answer options:

- A. **Adenovirus.**
- B. Human metapneumovirus.
- C. Influenza virus.
- D. Parainfluenza virus.

Question 8

A term newborn presents with respiratory distress and a chest x-ray confirms the presence of bilateral pleural effusions. The infant is dysmorphic with hypertelorism, posteriorly rotated ears and redundant nuchal skin. At 2 weeks of age the infant develops marked pallor and petechiae, and is diagnosed with juvenile myelomonocytic leukaemia.

What is the most likely underlying condition?

Answer options:

- A. Cockayne syndrome.
- B. Fanconi anaemia.
- C. **Noonan syndrome.**
- D. Omenn syndrome.

Question 9

A previously well 10-year-old girl presents to hospital acutely unwell with lobar pneumonia and persistent vomiting. She has a history of reaction to cefaclor at age 5 with 5 days of maculopapular rash including target lesions, swollen feet and arthralgia. She has never been prescribed penicillins due to a family history of penicillin anaphylaxis affecting her father.

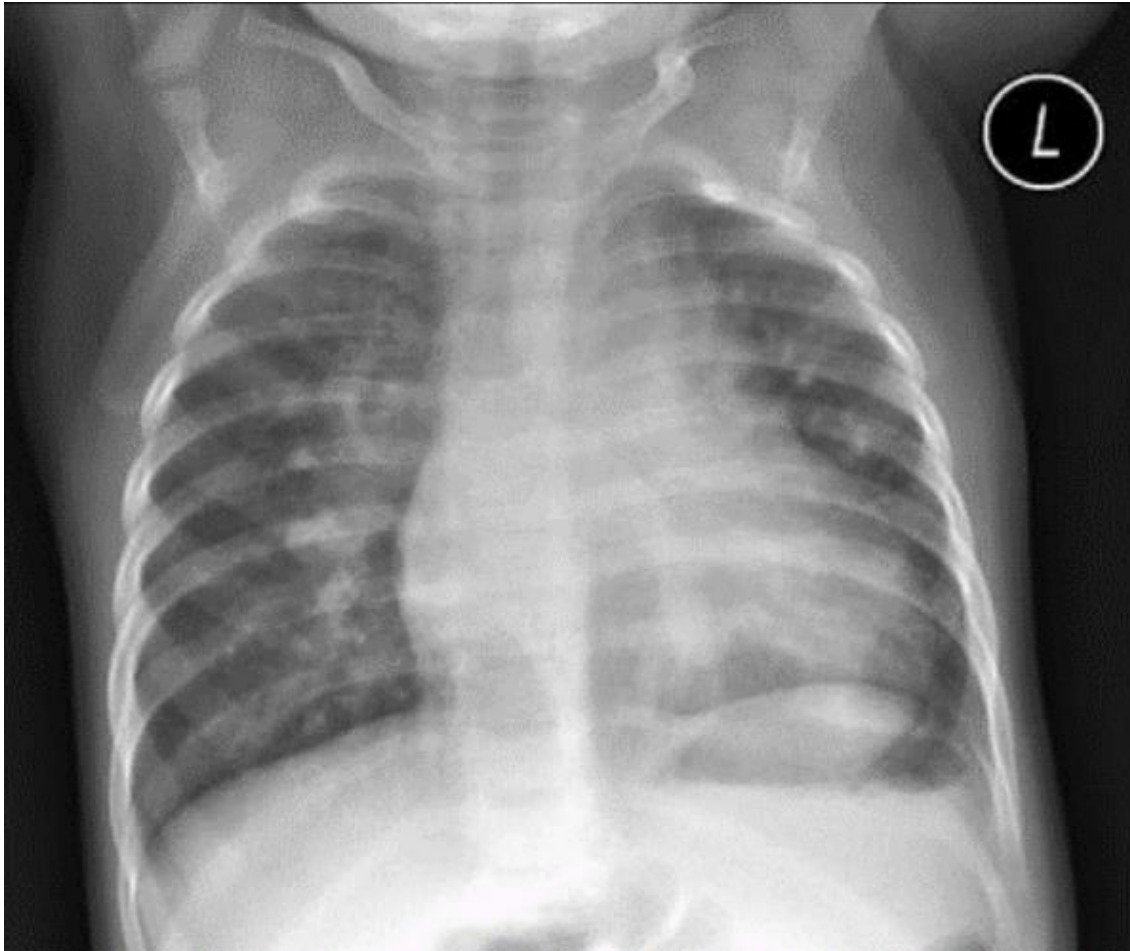
What is the most appropriate antibiotic for treatment of her pneumonia?

Answer options:

- A. Ceftriaxone.
- B. Ciprofloxacin.
- C. Clindamycin.
- D. **Penicillin.**

Question 10

A 5-month-old boy presents with fevers, poor feeds and worsening breathlessness. He has failure to thrive with head sparing. His saturation is 92% in air and normalises in oxygen. He is tachycardic and tachypnoeic. He has widespread crepitations and a harsh systolic murmur at the left sternal edge. Polymerase chain reaction (PCR) from a nasal swab is positive for respiratory syncytial virus (RSV). His chest x-ray is shown.



What is the most likely diagnosis?

Answer options:

- A. Acute myocarditis.
- B. Atrial septal defect.
- C. Dilated cardiomyopathy.
- D. Ventricular septal defect.**

Question 11

A 2-year-old girl presents with a 4-week history of progressively enlarging submandibular lymphadenopathy, as shown. She is otherwise well. The parents recall that she grazed her chin prior to the lymphadenopathy developing.



What is the most likely infectious agent to cause this condition?

Answer options:

- A. *Actinomyces* species.
- B. *Bartonella henselae*.
- C. *Mycobacterium avium intracellulare*.**
- D. *Nocardia* species.

Question 12

A 13-year-old boy diagnosed with ulcerative colitis is admitted with increased bloody diarrhoea and fevers. An abdominal x-ray is performed.



What is the most likely explanation for the boy's clinical deterioration?

Answer options:

- A. Ileus.
- B. Large bowel ischaemia.
- C. Spontaneous colonic perforation.
- D. Toxic megacolon.**



Question 13

A baby is delivered urgently because of fetal tachycardia during labour. She is well at birth, but has a rapid and irregular heart rate. Her ECG is shown. The rhythm proves unresponsive to repeated doses of intravenous adenosine.



What treatment is most appropriate to achieve reversion to sinus rhythm?

Answer options:

- A. Amiodarone infusion.
- B. Electrical cardioversion.**
- C. Electrophysiologic ablation.
- D. Oral sotalol.

Question 14

A 12-year-old southeast Asian boy with a past history of a small ventricular septal defect presents in heart failure. He is afebrile. He is thin, has a bulging praecordium and a prominent apical impulse. He is not cyanosed or clubbed. He has a pansystolic murmur and a high-pitched early diastolic murmur at the left sternal edge. His chest x-ray shows cardiomegaly without plethora. His blood count and inflammatory markers are normal.

What complication of his original lesion best explains his heart failure?

Answer options:

- A. Acute rheumatic fever.
- B. Aortic valve regurgitation.**
- C. Eisenmenger syndrome.
- D. Increasing left to right shunt.

Question 15

A 7-year-old boy whose parents separated 3 months ago was brought in by his mother, who he lives with. He has been sleeping in his mother's bed and refusing to go to school. He loses his temper often and has been verbally aggressive towards his mother's new partner. He refuses to comply with requests made by his mother. When he was last at school, he was verbally aggressive and punched a wall before running home. He is settled in his grandmother's presence. He spends most of his time playing video games and does not want to play with his friends, despite having enjoyed this in the past.

What is the most likely diagnosis?

Answer options:

- A. Attention deficit hyperactivity disorder.
- B. Conduct disorder.
- C. Major depressive disorder.
- D. Separation anxiety disorder.**

Question 16

In addition to pertussis vaccination, which vaccine when given to pregnant women has been shown to reduce the likelihood of disease in their infants up to 3 months of age?

Answer options:

- A. Hepatitis B.
- B. Influenza.**
- C. Measles.
- D. Meningococcal B

Question 17

The primary aim of angiotensin converting enzyme inhibitor (ACE-I) therapy in the treatment of congestive heart failure is to improve which physiological parameter?

Answer options:

- A. Afterload.**
- B. Contractility.
- C. Heart rate.
- D. Myocardial relaxation.

Question 18

What is the inheritance pattern of complete androgen insensitivity syndrome?

Answer options:

- A. Autosomal dominant.
- B. Autosomal recessive.
- C. Mitochondrial.
- D. X-linked recessive**

Question 19

What is the average life span of normal human platelets in circulation?

Answer options:

- A. 24 hours.
- B. 72 hours.
- C. 10 days.**
- D. 30 days.

Question 20

A 1-year-old child (weight 10 kg) presents with urticaria and wheeze following the ingestion of peanut butter for the first time.

What is the correct management?

Answer options:

- A. 0.1 mL of 1:1000 IM adrenaline.**
- B. 0.1 mL of 1:10,000 IM adrenaline.
- C. 1 mL of 1:10,000 IM adrenaline.
- D. 0.1 mL of 1:10,000 SC adrenaline.

Question 21

Hereditary methaemoglobinaemia is most commonly due to deficiency of which red cell enzyme?

Answer options:

- A. Cytochrome b5 reductase.**
- B. Glutathione peroxidase.
- C. Heme oxygenase.
- D. Methylene tetrahydrofolate reductase.

Question 22

During routine follow-up of a boy with spinal muscular atrophy (SMA) type 2, his mother informs you she is in a new relationship and 20 weeks pregnant with a male fetus.

What is the risk the fetus will be affected?

Answer options:

- A. 1 in 2.
- B. 1 in 4.
- C. 1 in 50.
- D. 1 in 200.**

Question 23

Lissencephaly is a disorder of what stage of neural development?

Answer options:

- A. Myelination.
- B. Neuronal and glial proliferation.
- C. Neuronal migration.**
- D. Neuronal organisation.

Question 24

A 4-year-old boy ingests a large dose of aspirin (acetylsalicylic acid).

What is the most appropriate therapy to maximise his urinary excretion of aspirin?

Answer options:

- A. Allopurinol.
- B. Forced diuresis with furosemide (frusemide).
- C. Hyperhydration.
- D. Urinary alkalinisation.**



Question 25

Which histological feature found on biopsy during colonoscopy would favour a diagnosis of Crohn disease over ulcerative colitis?

Answer options:

- A. Crypt abscesses.
- B. Granulomata.**
- C. Lymphocytic infiltrate.
- D. Paneth cells.

Question 26

The HEADSS adolescent psychosocial risk assessment is used as a framework for conversation to develop rapport with a young person.

What does the 'A' stand for?

Answer options:

- A. Academic achievement.
- B. Accommodation.
- C. Activities.**
- D. Affect.



Question 27

Questions 27 and 28 are about heart defects.

A 5-day-old baby is found to be in severe heart failure with marked tachycardia, tachypnoea and hepatomegaly. He is poorly perfused and mottled. All of his pulses are poor. He has an active praecordium. On auscultation he has a gallop rhythm, a click and an ejection systolic murmur at the base.

What is the most likely diagnosis for this infant?

Answer options:

- A. Arteriovenous malformation.
- B. Atrioventricular septal defect.
- C. Coarctation of the aorta.
- D. Critical aortic stenosis.**
- E. Hypoplastic left heart.
- F. Patent duct.
- G. Truncus arteriosus.
- H. Ventricular septal defect.

Question 28

Questions 27 and 28 are about heart defects.

A 1-month-old baby presents with slow feeds and poor weight gain. She is small and has dysmorphic features suggestive of 22q11.2 deletion syndrome. She has an oxygen saturation of 91% in air. She has prominent systolic and diastolic murmurs and a large liver. Her chest x-ray demonstrates marked cardiomegaly and plethora.

What is the most likely diagnosis for this infant?

Answer options:

- A. Arteriovenous malformation.
- B. Atrioventricular septal defect.
- C. Coarctation of the aorta.
- D. Critical aortic stenosis.
- E. Hypoplastic left heart.
- F. Patent duct.
- G. Truncus arteriosus.**
- H. Ventricular septal defect.



Question 29

Questions 29 and 30 are about respiratory parameters.

Which respiratory parameter determines the maximal volume of air that can be inhaled above the tidal volume?

Answer options:

- A. Anatomic dead space.
- B. Expiratory reserve capacity.
- C. Forced expiratory volume in 1 second.
- D. Forced vital capacity.
- E. Functional residual capacity.
- F. Inspiratory reserve capacity.**
- G. Physiologic dead space.
- H. Residual volume.

Question 30

Questions 29 and 30 are about respiratory parameters.

Which respiratory parameter determines the volume of the lung that does not eliminate CO₂?

Answer options:

- A. Anatomic dead space.
- B. Expiratory reserve capacity.
- C. Forced expiratory volume in 1 second.
- D. Forced vital capacity.
- E. Functional residual capacity.
- F. Inspiratory reserve capacity.
- G. Physiologic dead space.**
- H. Residual volume.