

MRCPCH Applied Knowledge in Practice specimen examination Introduction

Welcome to the MRCPCH Applied Knowledge in Practice Paper 2 specimen examination for computer-based testing.

If you are new to the MRCPCH computer-based examination, please note that some questions may appear in a slightly different format from how they did in paper format.

Please answer all of the parts of each of the questions. You will have 2 hours and 30 minutes to complete the examination (unless you have been granted additional time).

For each question, please ensure that you scroll down in order to view all parts of the question. Please answer all parts of the question and check that you have entered an answer for all of the questions before you finish your examination.

You can adjust your display preferences at any point during the exam by clicking the preferences icon at the bottom of your screen.

You may find it helpful to eliminate some of the answer options to help you concentrate on others. You can do this by right-clicking over an answer option to strike a line through it. Right-clicking over it again will remove the line. *Please note that this does not apply to Extended Matching Questions.*

There is a highlight function that you may wish to use during the examination to help you to identify key text or questions to which you would like to return. You can do this by highlighting some text with your cursor and then clicking on the marker icon when it appears. The text will become highlighted in yellow and will remain highlighted throughout the remainder of the examination. *Please note that this highlight feature will not work with all questions.*

You will be able to flag questions that you may want to go back to at a later stage, to do this click on the flag icon at the bottom of the page. To un-flag a question, click on this icon again.

You will also be able to see an overview of the progress of your exam by clicking on the keyboard icon (section review) at the bottom left of your screen. Here you will see the number of questions that you have flagged, number of questions attempted and questions that you have not answered.

Where questions are based upon photographs, x-rays, growth charts, ECGs or any other visual material, the material will be embedded within the question, and you will be able to open the image separately and move it around the screen by clicking on it. Some, though not all, of these images will be automatically enlarged when opened up in this way.

Question types will include 'Best of List', 'Choose (n) from Many' and 'Extended Matching Questions'.

Best of List (Multiple Choice)

Click on the appropriate answer box.

Choose (n) from Many

In this type of question, there will be multiple parts to each question. You will be required to answer all parts to the question by scrolling down in order to view all parts of the question and by clicking on the required number of answer boxes.

Extended Matching Questions (EMQ)

In this type of question, 3 scenarios are given, followed by a list of options. The option list might include a list of diagnoses, treatments, drugs or other management steps. For each scenario, you will be asked to choose the option from the list that is the most appropriate. Type the correct letter in the given box. Please note that the response entered is not case-sensitive, so it will not affect your result if the letter you type is in lower case or upper case.

Please Remember:

Please answer **all parts** of **each** question. If you do not answer all parts of a question, you will only be awarded marks for the parts of the question you have answered.

Please pay particular attention to this when answering the EMQ and N of many questions, as they will have multiple parts.

It is strictly forbidden to talk to, read the work of, or attempt in any way to communicate with other candidates whilst the examination is in progress. Please exercise vigilance to ensure that no other candidate can attempt to copy your work.

The College has tools, which can identify the copying of answers or collusion between candidates to share answers.

If such a situation were to arise all identified parties will be investigated.

Breaches of these instructions, or misbehaviour in any other way relating to this theory examination, including continuing to attempt to answer after the allotted time, may lead to suspension from the examination.

Any attempt at copying or colluding to gain advantage may lead to permanent suspension from College examinations and notification to the GMC.

If a candidate is suspected of malpractice during an examination, they will be asked to leave the examination venue by the Chief Invigilator.

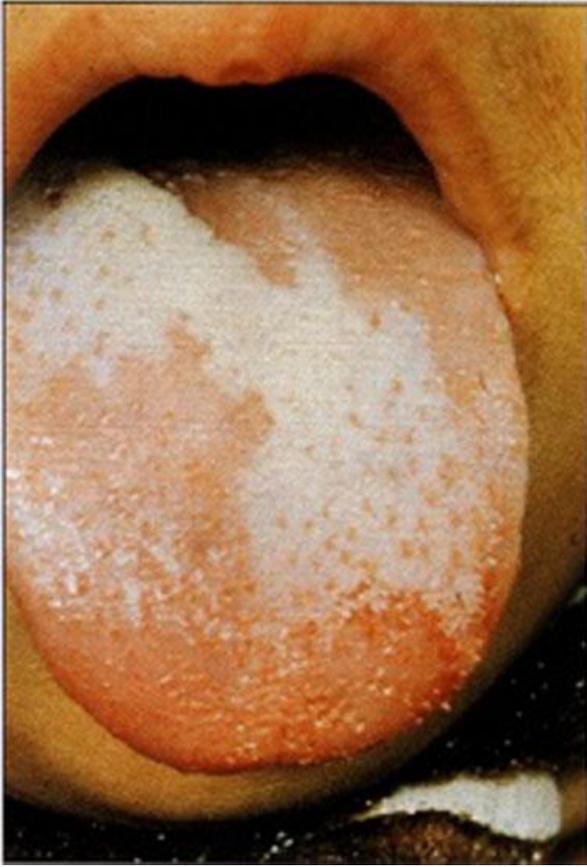
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- 1** This is the tongue of an otherwise healthy child. Her mother is worried about the appearance.

Which of the following is the most appropriate management? (4 marks)

Select one answer only

Clicking on the image below will open it in a new window, allowing it to be moved around the screen



- A Biopsy of the white area
- B Determine HIV status
- C Follow up for observation
- D Nystatin
- E Offer reassurance

- 2 A 3 day old girl presented with swelling and bruising of the right eyelid. She had been born at term by ventouse delivery due to fetal distress. Birth weight was 2.3 kg and she did not require resuscitation. She vomited 15 minutes after receiving oral vitamin K. She was otherwise well and feeding had been established without difficulty. Her test results are shown below.

Investigations:

Blood

haemoglobin	144 g/l	(145 - 220)
white cell count	6.5 x 10 ⁹ /l	(10.0 - 26.0)
normal differential		
platelets	29 x10 ⁹ /l	(150 - 450)
CRP	5 mg/l	(< 5)

Which of the following is the most important information contributing to the explanation of her problem? (5 marks)

Select one answer only

(D 0009 SP)

- A Family history of easy bruising
- B Low maternal platelet count in pregnancy
- C Maternal anti-epileptic medication during pregnancy
- D Perinatal risk factors for Group B Streptococcal sepsis
- E Vomiting after vitamin K administration

3 Title: Short versus long duration of antibiotic therapy for bacterial meningitis: a meta-analysis of randomised controlled trials in children.

Objective: To evaluate the effectiveness of short courses (<7 days) versus long courses (7-14 days) of antibiotic therapy for bacterial meningitis.

Outcomes: Clinical success, mortality, duration of hospitalisation, adverse events, hearing impairment, long-term neurological complications.

Results: Five open-label RCTs involving a total of 367 patients were included. The odds ratios for short versus long course outcomes were as follows: long term neurological complications 0.60 (95% confidence interval (CI) 0.29-1.27), hearing impairment 0.59 (95% CI 0.28-1.23). The weighted mean difference in the duration of hospitalisation was -2.17 days (95% CI -3.85 to -0.50).

(Adapted from ADC 2009;94:607-614)

Which two of the following conclusions can be deduced from the data? (6 marks)

Select two answers only

(EBM 0011 SP)

- A** Long course treatment resulted in higher levels of hearing impairment.
- B** Meta-analysis of RCTs is not the most appropriate way to resolve such clinical issues.
- C** Patients treated for meningitis should be observed in hospital for 24 hours following cessation of treatment.
- D** Short course treatment resulted in a significantly reduced length of hospital stay.
- E** Short course treatment should become the standard treatment for bacterial meningitis in children.
- F** There was no difference in the level of neurological complications between treatment groups.

- 4 The mother of an 8 year old girl with type 1 diabetes reports that her daughter is having shaking episodes during her sleep between 6 and 7 am. During the episodes, the girl is unresponsive and afterwards takes at least 30 minutes to return to her normal self. Her blood sugar was 3.5 mmol/l during the most recent episode. Her parents have recently separated and she has a cousin who was treated for epilepsy.

What is the most likely diagnosis? (5 marks)

Select one answer only

(7003 SP)

- A Benign seizures of childhood
- B Complex partial seizures
- C Fabricated seizure
- D Hypoglycaemia
- E Juvenile myoclonic epilepsy
- F Long QT syndrome

- 5 A 6 week old breast-fed baby girl presents with vomiting, poor feeding and lethargy of 1 day duration. She was born at term weighing 2.95 kg and was investigated for neonatal convulsions associated with hypoglycaemia that settled after the first week. She had been discharged home aged 10 days.

On initial examination, she was noted to have a capillary refill time of 4 seconds, temperature of 39°C, was jaundiced and her spleen was just palpable. Blood cultures grew E.coli and she responded well to intravenous antibiotics, but the jaundice persisted.

Current investigation shows a total bilirubin of 159 µmol/l (conjugated 56 µmol/l).

Which of the following additional investigations is most likely to help establish the diagnosis?
(5 marks)

Select one answer only

(D 0010 SP)

- A Brain MRI
- B Galactose-1-phosphate uridyl transferase level
- C Hepatitis serology
- D HIDA liver scan
- E Thyroid function tests
- F Ultrasound of abdomen

6 Study: Incidence of bacteraemia in infants and children with fever and petechiae.

Methods: Consecutive patients with a temperature of 38°C or higher and petechiae seen in the emergency department were prospectively enrolled. Our measures included (1) laboratory tests (leukocyte count, coagulation profile, blood culture, and cerebrospinal fluid bacterial culture); (2) a questionnaire requesting clinical data including general appearance, number and location of petechiae, and presence or absence of purpura; and (3) a follow-up telephone survey documenting health status.

Results: A total of 411 patients were enrolled, with 57.7% between 3 and 36 months of age. Eight patients (1.9%) had bacteraemia or clinical sepsis. None of the 357 well-appearing patients (95% confidence interval: 0.0% - 1.0%) had serious invasive bacteraemia. 53 patients appeared ill, including all 6 with serious invasive bacteraemia. An ill appearance of the child had a sensitivity of 1.00 (95% confidence interval: 0.60 - 1.00) and a leukocyte count of 15,000 or greater, or of less than 5000, had a sensitivity of 1.0 (95% confidence interval: 0.53 - 1.00) for detecting serious invasive bacteraemia. All children with bacteraemia had purpura.

Adapted from: Mandl KD, Stack AM, Fleisher GR. J Pediatr 1997 Sep;131(3):398-404

Which one of the following statements is the most reasonable conclusion to be drawn from this study? (5 marks)

Select one answer only

(EBM 0043 SP)

- A All febrile children with petechiae should have a white blood cell count performed.
- B Assessment of whether the child looks ill is a highly sensitive test for serious invasive bacteraemia.
- C Assessment of whether the child looks ill is a highly specific test.
- D Children with a white cell count between 5,000 and 15,000 should be allowed home.
- E The white cell count is an accurate test for bacteraemia.
- F These results do not apply to the UK because the study was performed in the United States.

7 You will be presented with three clinical scenarios and a list of endocrine diagnoses.

Type in one answer only for each of the 3 clinical scenarios below

Each question is worth 3 marks

Note: each answer may be used more than once.

(EMQ 0005 SP)

7.1 A 2 year old girl with isolated bilateral breast development.

Select the most likely diagnosis from the list below: (3 marks)

- A Constitutional growth and pubertal delay
- B Growth hormone deficiency
- C Hypothalamic hamartoma
- D Idiopathic precocious puberty
- E Klinefelter syndrome
- F McCune – Albright syndrome
- G Premature adrenarche
- H Premature thelarche
- I Testicular tumour
- J Turner syndrome

Please add the correct answer in the box then continue to scroll down to the next part of the question

(EMQ 0005 SP a)

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7.2 A 14 year old girl with short stature, delayed menarche and a cardiac murmur.

Select the most likely diagnosis from the list below: (3 marks)

- A Constitutional growth and pubertal delay
- B Growth hormone deficiency
- C Hypothalamic hamartoma
- D Idiopathic precocious puberty
- E Klinefelter syndrome
- F McCune – Albright syndrome
- G Premature adrenarche
- H Premature thelarche
- I Testicular tumour
- J Turner syndrome

Please add the correct answer in the box then continue to scroll down to the next part of the question

(EMQ 0005 SP b)

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7.3 A 14 year old boy with short stature and a family history of delayed puberty.

Select the most likely diagnosis from the list below: (3 marks)

- A Constitutional growth and pubertal delay
- B Growth hormone deficiency
- C Hypothalamic hamartoma
- D Idiopathic precocious puberty
- E Klinefelter syndrome
- F McCune – Albright syndrome
- G Premature adrenarche
- H Premature thelarche
- I Testicular tumour
- J Turner syndrome

Please add the correct answer in the box

(EMQ 0005 SP c)

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- 8 A 6 year old boy was born with truncus arteriosus and had surgery when 3 days old. He made good post-operative recovery and continued with annual follow-up. He presents with isolated lesions on his toes (as shown in the image below) that had developed over the last 24 hours.

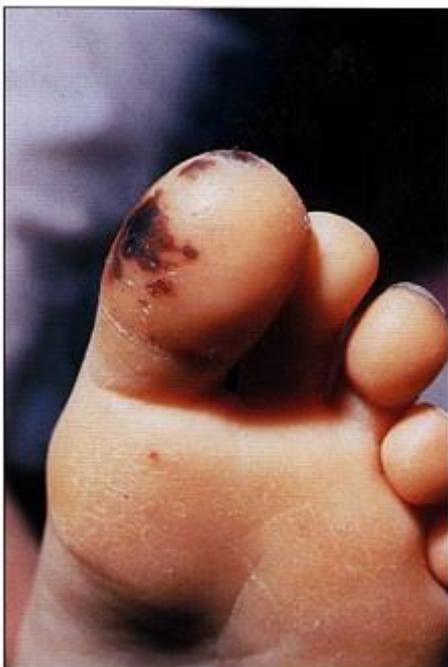
On examination, he has a temperature of 37.8°C, is centrally pink and there is no obvious changes to the known cardiac findings.

What is the most likely diagnosis? (4 marks)

Select one answer only

Clicking on the image below will open it in a new window, allowing it to be moved around the screen

(C 0017 SP)



- A Deep venous thrombosis
- B Idiopathic thrombocytopenic purpura
- C Meningococcal septicaemia
- D Protein S deficiency
- E Subacute bacterial endocarditis
- F Systemic lupus erythematosus

- 9 A 4 year old boy presents with a 2 month history of progressive lethargy and pallor. He had previously been well and very active. Over the last 2 days he had become distressed when moved or cuddled by his parents. His appetite had reduced but he still managed to drink well and pass normal amounts of urine. He had an episodic temperature, which at times reached 38.5°C, over the 2 days prior to admission.

Examination shows him to be pale, withdrawn and unwilling to move his arms and legs. He has palpable lymph nodes in the cervical chain, left supraclavicular area, axillae and both inguinal areas. He is tachycardic and has a 2/6 soft ejection systolic murmur at the lower left sternal edge. Examination of the abdomen identifies a mass in the right upper quadrant measuring 10 x 7 cm.

What investigation will lead to a definitive diagnosis of the above presentation? (4 marks)

Select one answer only

(7004 SP)

- A Blood cultures
- B Cardiac echo
- C Full blood count
- D Liver function tests
- E Serum alpha fetoprotein
- F Urinary catecholamines

- 10** A 7 year old girl was referred by GP with history of recurrent abdominal pain for 4 months. She has previously been treated for constipation with laxatives. She is able to pass soft stools without medication but her parents have noted fresh blood with stools during the last 2 weeks. Her mother is concerned that she appears to have lost weight recently and is less interested in sports.

Investigations:

haemoglobin 92 g/l (115 - 140)

MCV 65 fl (77 - 91)

CRP 83 mg/l (< 5 mg/l)

albumin 32 g/l (35 - 50)

faecal calprotectin 175 μ /g

What is the most likely diagnosis? (4 marks)

Select one answer only

(7009 SP)

- A Anal fissure
- B Crohn's colitis
- C Juvenile colonic polyp
- D Meckel's diverticulum
- E Volvulus

11.1 This question consists of two parts. Please answer both parts of the questions.

An 8 month old male infant was referred because of non-bilious vomiting. His GP had seen him frequently for constipation over the last few months.

Examination reveals a thin, non-dysmorphic infant weighing 6.8 kg (0.4th centile). He has a scaphoid abdomen and his capillary refill time is 3 seconds. General examination is otherwise unremarkable. His test results are shown below.

What is the most likely diagnosis? (6 marks)

Select one answer only

Clicking on the data chart below will open it in a new window, allowing it to be moved around the screen

Please continue to scroll down to the next part of the question

(D 0011 SP a)

Investigations:

Blood

haemoglobin	122 g/l	(110 - 140)
white cell count	$13 \times 10^9/l$	(6.0 - 15.0)
neutrophils	$9.4 \times 10^9/l$	(1.5 - 8.0)
lymphocytes	$3.6 \times 10^9/l$	(4.0 - 10.0)
platelets	$373 \times 10^9/l$	(150 - 450)
sodium	154 mmol/l	(133 - 146)
potassium	3.8 mmol/l	(3.5 - 5.5)
urea	6.0 mmol/l	(0.8 - 5.5)

Urine

microscopy	no red cells no white cells no casts
osmolality	180 mOsm/kg

- A Chronic renal failure
- B Diabetes insipidus
- C Gastro-oesophageal reflux disease
- D Hirschprung disease
- E Pseudohypoaldosteronism Type 1A

11.2 Which of the following is the most appropriate test to confirm the diagnosis? (5 marks)

Select one answer only

(D 0011 SP b)

- A Oesophageal pH study
- B Serum aldosterone level
- C Serum osmolality
- D Rectal biopsy
- E Water deprivation test
- F Serum creatinine

- 12 A 10 year old Somalian girl developed an abscess in the wound of a compound fracture from which E.coli was cultured. Her test results are shown below.

What is the most likely cause of the anaemia? (6 marks)

Select one answer only

Clicking on the data chart below will open it in a new window, allowing it to be moved around the screen

(D 1136 SP)

Investigations:

Blood

haemoglobin	68 g/l	(115 - 140)
MCV	82.3 fl	(77 - 91)
PCV	0.22	(0.35 - 0.48)
MCHC	30.6 g/dl	(32 - 35)
white cell count	12.3 x 10 ⁹ /l	(5.0 - 12.0)
neutrophils	9.1 x 10 ⁹ /l	(2.0 - 6.0)
lymphocytes	2.3 x 10 ⁹ /l	(1.5 - 7.0)
monocytes	0.9 x 10 ⁹ /l	(0.2 - 1.2)
reticulocytes	5.5%	
platelets	79 x 10 ⁹ /l	(150 - 450)
blood film	anisocytosis with microcytes and burr cells	
Coombs test	negative	

Urine microscopy 200 red blood cells x 10⁶/l
 granular casts

- A Acute lymphoblastic leukaemia
- B Blood loss
- C HIV infection
- D Malaria
- E Microangiopathic intravascular haemolysis
- F Sickle cell disease
- G Thalassaemia
- H Tuberculosis

- 13** A 13 year old girl presents with poor diabetic control and feeling unwell. She was admitted with diabetic ketoacidosis. Initial blood glucose is 27 mmol/l with a pH of 7.0. She responded well to fluids, resuscitation and insulin and her blood glucose falls to 10 mmol/l.

Twelve hours after admission, her level of consciousness deteriorated and her pulse dropped to 70/minute.

What is the most likely diagnosis? (4 marks)

Select one answer only

(7005 SP)

- A Addison's disease
- B Aspirin toxicity
- C Cerebral oedema
- D Diabetic ketoacidosis
- E Reye syndrome

14.1 This question consists of two parts. Please answer both parts of the questions.

This is a MAG 3 renogram of a boy with recurrent urinary tract infection.

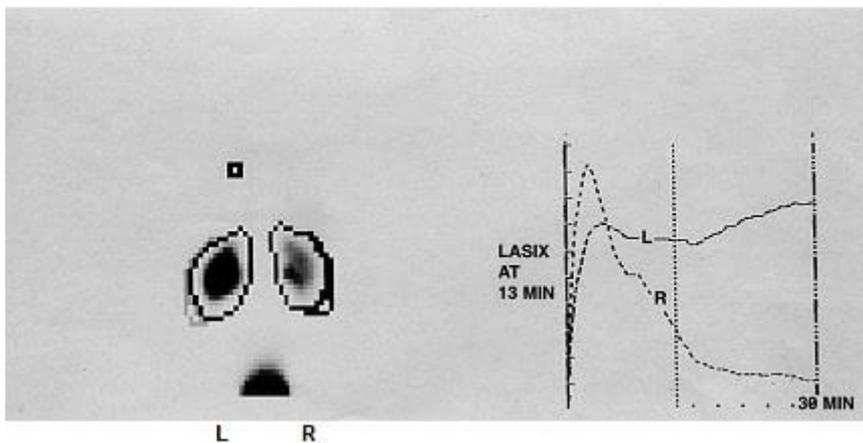
What important structural abnormality is shown? (5 marks)

Select one answer only

Clicking on the renogram below will open it in a new window, allowing it to be moved around the screen

Please continue to scroll down to the next part of the question

(X 0015 SP a)



- A Bilateral pelvi-ureteric junction obstruction
- B Bilateral renal cortical scarring
- C Dilated left renal pelvis
- D Dilated right renal pelvis
- E Left renal cortical scarring
- F Right pelvi-ureteric obstruction
- G Right renal cortical scarring
- H Posterior urethral valves

14.2 What functional abnormality is shown? (5 marks)

Select one answer only

(X 0015 SP b)

- A Bilaterally delayed excretion
- B Bilateral ureteric reflux
- C Delayed excretion on left despite furosemide
- D Delayed excretion on right despite furosemide
- E Left ureteric reflux
- F Poor uptake on the left
- G Poor uptake on the right
- H Right ureteric reflux

- 15 This 3 year old Romanian child, who has recently arrived in the UK, was noted to have an abnormality of his nail bed.

In which of the following is this physical sign a clinical feature? (4 marks)

Select one answer only

Clicking on the image below will open it in a new window, allowing it to be moved around the screen

(C 2129 SP)



- A Congenital cystic adenomatoid malformation
- B Eisenmenger syndrome
- C Homozygous sickle cell disease
- D Polycystic kidneys
- E Pulmonary stenosis

- 16 A 15 year old girl with a BMI of 15 (0.4 centile) had been diagnosed with ileocaecal Crohn's disease. She was to be commenced on enteral nutrition given by nasogastric tube in order to achieve remission. Her test results are shown below.

Which of the following is the most important action to take before commencing the enteral feeding regime? (4 marks)

Select one answer only

Clicking on the data chart below will open it in a new window, allowing it to be moved around the screen

(D 2330 SP)

Investigations:

Blood

haemoglobin	93 g/l	(115 - 165)
white cell count	11.3 x 10 ⁹ /l	(3.0 - 10.0)
normal differential		
platelets	275 x 10 ⁹ /l	(150 - 400)
ferritin	15 µg/l	(12 - 200)
sodium	133 mmol/l	(135 - 146)
choride	95 mmol/l	(95 - 106)
potassium	2.9 mmol/l	(3.5 - 5.3)
urea	6.0 mmol/l	(2.5 - 7.8)
creatinine	55 µmol/l	(60 - 120)
phosphate	1.3 mmol/l	(0.9 - 1.8)

- A Commence oral iron therapy
- B Correct hypokalaemia
- C Give intramuscular vitamin B12
- D Start oral multivitamin therapy
- E Transfuse haemoglobin to 120 g/l

17 Select the two most likely causes for the appearance of this 4 year old boy. (6 marks)

Select two answers only

Clicking on the image below will open it in a new window, allowing it to be moved around the screen

(C 0022 SP)



- A Acute nephritis
- B Bilateral periorbital cellulitis
- C Cardiac failure
- D Henoch-Schönlein purpura
- E Hereditary angio-oedema
- F Myotonia
- G Nephrotic syndrome
- H Non-accidental injury
- I Superior vena cava obstruction

- 18** An 8 year old girl was diagnosed as having cystic fibrosis on neonatal screening. She had been treated with oral flucloxacillin for intermittent *Staphylococcus aureus* grown from cough swabs in the clinic. The most recent sample has grown *Pseudomonas aeruginosa*.

Which of the following is the most appropriate management? (4 marks)

Select one answer only

(SH 0030 SP)

- A Inhaled tobramycin for 3 weeks
- B IV ceftazidime for 14 days
- C Nebulised Dnase for 3 weeks
- D Nebulised hypertonic saline for 3 weeks
- E Oral ciprofloxacin and nebulised colomycin for 3 months

19 A 4 year old child presented with an abdominal mass.

What two abnormalities are seen on the CT scan below with IV contrast? (6 marks)

Select two answers only

Clicking on the CT scan below will open it in a new window, allowing it to be moved around the screen

(X 0014 SP)



- A Displaced right kidney
- B Megacolon
- C Multi-cystic right kidney
- D Solid tumour of the liver
- E Solid tumour of the right adrenal gland
- F Solid tumour of the right kidney

20 You will be presented with three clinical scenarios with a list of investigations for infants with scrotal problems.

Type in one answer only for each of the 3 clinical scenarios below

Each question is worth 3 marks

Note: each answer may be used more than once

(EMQ 0019 SP)

20.1 At 6 week check, a baby was noted to have an empty scrotum. A mobile non-tender mass is palpable high in the inguinal canal.

Which should be the next step in the immediate management? (3 marks)

- A 17-hydroxyprogesterone assay
- B 21-alpha hydroxylase assay
- C CT abdomen
- D DNA analysis for CYP21 gene mutation
- E GP review at 6 months
- F Karyotyping
- G Referral to clinical geneticist
- H Referral to paediatric surgeon
- I Ultrasound of abdomen
- J Urea and electrolytes

Please add the correct answer in the box below then continue to scroll down to the next part of the question

(EMQ 0019 SP a)

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20.2 At 6 week check a baby was noted to have an empty scrotum and hypospadias.

Which should be the next step in the immediate management? (3 marks)

- A 17-hydroxyprogesterone assay
- B 21-alpha hydroxylase assay
- C CT abdomen
- D DNA analysis for CYP21 gene mutation
- E GP review at 6 months
- F Karyotyping
- G Referral to clinical geneticist
- H Referral to paediatric surgeon
- I Ultrasound of abdomen
- J Urea and electrolytes

Please add the correct answer in the box below then continue to scroll down to the next part of the question

(EMQ 0019 SP b)

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20.3 At 6 week check a baby was noted to have a firm tender swelling in the right inguinal canal. Both testes are in the scrotum.

Which should be the next step in the immediate management? (3 marks)

- A 17-hydroxyprogesterone assay
- B 21-alpha hydroxylase assay
- C CT abdomen
- D DNA analysis for CYP21 gene mutation
- E GP review at 6 months
- F Karyotyping
- G Referral to clinical geneticist
- H Referral to paediatric surgeon
- I Ultrasound of abdomen
- J Urea and electrolytes

Please add the correct answer in the box below

(EMQ 0019 SP c)

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- 21** A 2 year old boy became coryzal and lethargic. He refused food saying his throat was sore and his fluid intake was reduced. He continued to pass urine although his mother states that it was darker in colour. He subsequently became drowsy and then had a generalised tonic-clonic seizure lasting about 4 minutes. He remained drowsy after this and was brought to hospital.

On observation in the emergency department, it is noted that he is rousable and aware of his mother's presence. His temperature is 38.2°C, heart rate 100 and BP is 90/60. Blood tests are undertaken and the results are shown below.

Investigations:

glucose	4.6 mmol/l	(3.0 - 6.0)
sodium	137 mmol/l	(133 - 146)
potassium	4.5 mmol/l	(3.5 - 5.5)
creatinine	30 mmol/l	(13 - 39)
urea	2.5 mmol/l	(2.5 - 6.5)

What is the most likely diagnosis? (4 marks)

Select one answer only

(7006 SP)

- A Addison disease
- B Benign focal epilepsy of childhood
- C Febrile convulsion
- D Glycogen storage disease
- E Hypopituitarism
- F Medium chain acyl-CoA dehydrogenase deficiency (MCAD)

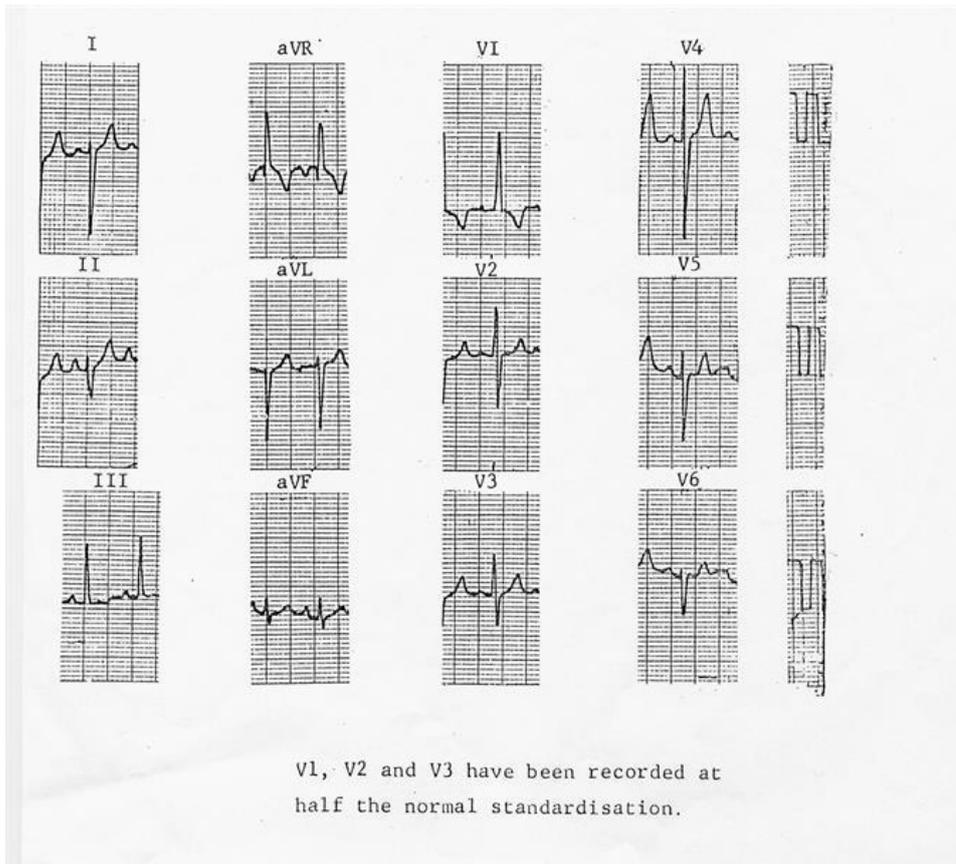
22 This ECG is from an active acyanotic 5 year old child who has signs of heart disease.

What is the most likely diagnosis? (5 marks)

Select one answer only

Clicking on the ECG below will open it in a new window, allowing it to be moved around the screen

(DE 252 SP)



- A Atrial septal defect
- B Fallot's tetralogy
- C Patent arterial duct (ductus arteriosus)
- D Pulmonary stenosis
- E Ventricular septal defect

23 A 14 year old boy with type 1 diabetes presents having had a series of collapses at school. His teacher provides a written history of the boy “going down like a sack of potatoes”. The boy has no recall of events during these collapses.

His neurological, cardiac examination and blood pressure are all normal.

What is the most likely diagnosis? (5 marks)

Select one answer only

(7008 SP)

- A Aortic stenosis
- B Benign seizures of childhood
- C Complex partial seizures
- D Hypoglycaemia
- E Juvenile myoclonic epilepsy
- F Long QT syndrome

24 A 5 year old boy suffering from painless daily rectal bleeding for the past 6 months was referred by his GP. The episodes occurred at any time of day and it was estimated that there was 1-2 teaspoons of fresh blood and visible mucous with each stool. There is no history of abdominal pain, weight loss, lethargy or loss of appetite. There is no relevant family history.

Investigations:

haemoglobin 91 g/l (115 - 140)

MCV 63 fl (77 - 91)

CRP 7 mg/l (<5)

albumin 39 g/l (35 - 50)

Which of the following is the most likely explanation for his symptoms? (4 marks)

Select one answer only

(7007 SP)

- A Anal fissure
- B Campylobacter enteritis
- C Crohn's colitis
- D Juvenile colonic polyp
- E Meckel's diverticulum