

2017 - IID - MD4043 - eksamen 1
Eksamensdato: 2017-12-14

1

What is the most important objective when calculating the Risk of Malignancy Index (RMI) in women with an unclarified tumour in the pelvis?

- A To determine whether the condition can be completely removed surgically
 - B To determine whether the condition is benign or malignant
 - C To determine whether the condition is of a gynaecological nature or not
 - D To determine whether the condition arises in the ovaries or uterus
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2

A 22-year old woman originally from Somalia, and who has lived in Norway for 3 months, contacts you her GP 6 weeks after a vaginal birth at term. She has normal lochia, but feels that she must continually wipe herself without being dry around the genital area. She is afebrile and it does not sting when urinating. At examination, you cannot get a complete overview of her anatomy, but inspect what you think is an episiotomy that is healing well. Urine dipstick displays 3+ for blood and 3+ for leukocytes.

What is the most probable diagnosis?

- A Fistula from the urinary tract
 - B Endometritis
 - C Chlamydia infection
 - D Tuberculosis of the urinary tract
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3

A 43-year old woman contacts you her GP to get advice about contraception. She has just got a new, regular partner. She is not interested in taking "anything with hormones".

What is the most correct contraceptive you can suggest for her?

- A Copper coil (intrauterine contraceptive device)
 - B Condoms
 - C Essure (hysteroscopic sterilisation)
 - D Pessary
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4

A 25-year old woman has for some time had pelvic pain that has come and gone. She also experiences deep stabbing pain during intercourse. She has tried continuous contraceptive pills without any improvement in the pain. During investigations, a diagnostic laparoscopy was performed which revealed a number of adhesions in the pelvis.

What is the most likely diagnosis?

- A Adenomyosis
 - B Endometriosis
 - C Chlamydia infection
 - D Polycystic ovary syndrome
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5

Why does the menopause occur in women?

- A The production of oestradiol in women drops too much.
 - B The number of primordial follicles in the ovaries decreases sharply.
 - C The hormonal interaction between the hypothalamus and the pituitary ceases.
 - D The production of progesterone drops too much.
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6

You are the GP for a 57-year old woman who attends for a routine cervical cytology test. She says she is bothered by dryness in the vagina. You examine her and find nothing abnormal. What should you preferably do now?

- A** You refer her to a sexologist
 - B** You start topical estrogen treatment
 - C** You start with oral estrogen treatment
 - D** You refer her to a gynecologist
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7

A 44-year old woman with a known uterine fibroid contacts you, her GP, because of increased vaginal bleeding. She has read a little about embolisation on the internet and wonders whether you could explain for her what it is about. What is the most correct explanation?

- A** A method that heats up/destroys the endometrium
 - B** Surgery during which the myoma is removed by hysteroscopy
 - C** Treatment with ultrasound waves targeting the myoma using a transvaginal transducer
 - D** A method that blocks the main blood supply to the uterus
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8

A 35-year old woman has for some months had intermenstrual bleeding, particularly in connection with intercourse. She has given birth to three children and has a copper intrauterine device. At gynaecological examination you (a general practitioner) find a easily bleeding "wound" on her uterine cervix. The "wound" is about 10 millimetres in diameter. What is your most correct course of action?

- A** Take a cervical cytology sample and wait for the results
 - B** Remove the intrauterine contraceptive device and make a check-up appointment in four weeks
 - C** Take a cervical sample for genital herpes simplex
 - D** Refer for urgent gynaecological investigations
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9

A 27-year old woman has an appointment with you her GP because over the last three years she has had increasing pelvic pain, particularly at ovulation and in the days prior to menstruation. What is the most likely explanation of her pain?

- A** That she has chronic salpingitis
 - B** That she has endometriosis
 - C** That she has a dermoid cyst
 - D** That she has myomas
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10

Synthetic hernia mesh can be used in surgery for pelvic organ prolapse. For which patients is a hernia mesh indicated?

- A** In elderly patients with recurrent prolapse
 - B** In patients with a connective tissue disorder
 - C** In elderly, frail patients
 - D** In younger patients in whom the risk of recurrent prolapse is greatest
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11

A 28-year old healthy woman expecting her second child attends for check-up in gestational week 32. You examine the woman with the Leopold's maneuvers and conclude that the fetus is in the breech presentation. What is the most correct thing to do in this situation?

- A** Inform the woman that you will wait and see what happens until the next check up
 - B** Refer the woman to the nearest Maternity Department for further investigation and treatment
 - C** Reassure the woman that it is safe to give birth to a baby in the breech presentation in Norway
 - D** Attempt to turn the fetus to a cephalic presentation
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12

The hemoglobin level in pregnant women is lower than in non-pregnant women. Why?

- A** The production of erythrocytes in the bone marrow falls during pregnancy
 - B** The plasma volume increases more than the erythrocyte volume during pregnancy
 - C** Pregnant women have physiologically increased hemolysis which can result in intrahepatic cholestasis (ICP) and HELLP (Hemolysis, Elevated Liver enzymes, Low Platelet count) syndrome
 - D** Pregnant women more easily bleed than non-pregnant women and therefore lose quite a bit of blood
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13

You are the on-call doctor in the Obstetrics and Gynaecology Department. A woman phones and is very worried. She has just been to her GP in gestation week 16. The GP could not hear fetal sounds with his stethoscope and she does not feel any fetal movements. How would you best deal with this situation?

- A** You ask her to contact her GP in one week for a new examination
 - B** You organise an appointment for her the next day for an ultrasound examination at the hospital
 - C** You ask her to come to the hospital immediately so that you can examine her using ultrasound
 - D** You say that this is normal. She should come to the scheduled routine ultrasound in gestational week 18
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14

A woman in her third pregnancy has had her two previous births by caesarian section. What is she at an increased risk of?

- A** Breech position
 - B** Placenta accreta
 - C** Premature birth
 - D** Post-term pregnancy
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15

A 29-year old woman attends your GP clinic in gestational week 24. This is her second pregnancy. All pregnancy parameters are normal. She had diet-controlled gestational diabetes in her first pregnancy. Her pre-pregnancy BMI was 24.

What is the best way to follow-up this pregnancy?

- A** Refer her for fetometry in the third trimester
 - B** No actions. Continue with routine follow-ups during the pregnancy
 - C** Refer her to the Obstetrics Outpatient Clinic in the third trimester
 - D** Perform a glucose tolerance test in week 24
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16

A child is born with an Apgar score of 3-3-3 after 1, 5 and 10 minutes even though the pediatrician rapidly administers adequate ventilation using a bag and a mask. Umbilical cord blood tests reveals pH 7.0 and base excess (BE) - 12.5 in the artery and pH 7.02 and BE - 12.2 in the vein. What does this indicate?

- A Metabolic acidosis
 - B Respiratory alkalosis
 - C Metabolic alkalosis
 - D Respiratory acidosis
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17

Why is measuring the fetus' biparietal diameter (BPD) the best method for determining the due date?

- A Due date using Naegele's rule is based on the last menstruation and is uncertain because the woman rarely remembers the date exactly
 - B It is assumed that the BPD increases equally every week throughout the pregnancy
 - C Due date using Naegele's rule is better than BPD measurements for women who are overdue, while the BPD is better for premature births than Naegele's rule. Because there are more premature births than overdue births, the BPD is the best method
 - D It is assumed that all fetuses of the same age have almost identical BPD at gestation week 18
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18

What is the lower limit (gestational age) for performing a caesarian section for fetal indications?

- A 22 weeks
 - B 23 weeks
 - C 24 weeks
 - D 25 weeks
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19

Blood pressure changes during pregnancy.
How does blood pressure normally develop during pregnancy?

- A Systolic and diastolic blood pressure both increase gradually during pregnancy
 - B Systolic blood pressure increases but diastolic blood pressure decreases during pregnancy
 - C Both systolic and diastolic blood pressure usually are lowest in the second trimester
 - D In healthy pregnant women, the blood pressure does not change during pregnancy
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20

You are the GP for a 40-year old woman who attends for post partum check-up 6 weeks after the birth. In the first pregnancy she had a caesarean section in week 32 due to severe pre-eclampsia. In the present pregnancy she has taken Albyl-E 75 mg x 1 from gestation week 12 as a pre-eclampsia prophylaxis. The birth of her second child was uncomplicated but she was induced at term due to slightly elevated blood pressure towards the end of the pregnancy.

You now find that her blood pressure has normalized.

What is the best way to follow-up this woman?

- A You inform her that she does not have any increased risk of later cardiovascular disease
 - B You recommend that she continues to take Albyl-E
 - C You follow her up with blood pressure measurements due to an increased risk of cardiovascular disease later in life
 - D You refer her now to a cardiologist for echocardiography
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21

The parents of a 7-year old boy who has recently been diagnosed with ADHD receive psychoeducation on ADHD. The parents ask whether there is any treatment that improves the prognosis for a well-functioning adult life.

What information do you give to the parents?

- A** Central nervous system stimulants and adaptation at home and in school have a good short-term effect, but uncertain long-term effect.
- B** Central nervous system stimulants together with adaptations at home and school will ensure that the child grows out of his ADHD symptoms.
- C** Central nervous system stimulants will ensure that the child grows out of the ADHD symptoms.
- D** Central nervous system stimulants and adaptation at home and in school do not have any effect.

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22

A boy (5 years old) has delayed speech development.

What is the most common cause of this condition?

- A** Selective mutism
- B** Autism spectrum disorder
- C** Sequelae after encephalitis
- D** Serous otitis media with fluid formation in the middle ear

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23

The semi-structured interview Kiddie-SADS-PL (Schedule for Affective Disorders and Schizophrenia for School-Age Children Present and Lifetime Version) offers the opportunity for diagnosis of psychological disorders in children and adolescents.

What are the advantages of such interviews?

- A** They describe dimensional aspects of psychological disorders that help clinicians to take decisions on whether to treat or not.
- B** They describe well both categoric and dimensional aspects of psychological disorders primarily in a research context.
- C** They can give a diagnosis that is categoric and primarily suitable in a research context but of little use for clinicians.
- D** They can give a diagnosis that is categoric and which helps the clinician to take a decision on whether to treat or not.

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24

You are the GP for a girl, 10-years old who uses a lot of time to check that things are in their right place. In the evening she has a number of rituals that she must complete before she can go to bed. If she is disturbed in these rituals, she becomes irritated, despairs and has to start again. She knows this is silly, but cannot stop herself.

What is the first line of therapy for her problems?

- A** Psychodynamic therapy to process negative life experiences
- B** Habit Reversal Training (HRT)
- C** Cognitive therapy with exposure and response prevention
- D** Medication treatment with SSRI (Selective Serotonin Reuptake Inhibitor)

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25

A 16-year old girl comes to the medical centre. She is quite upset and suspects that without knowing she took drugs the night before. She says that she became excitable, her behaviour changed to be more outgoing, with increased sexual interest and being uncritical (she went to the home of an older man; normally she is very careful). She did not feel sedated or chaotic. She says that she drank one unit of alcohol, and that the glass was left unattended while she was dancing. Which drug do you suspect?

- A Magic mushroom
 - B Amphetamine
 - C Cannabis
 - D Benzodiazepines
-

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26

A boy, 10 years old has been given the diagnosis Tourette's syndrome. What is the prevalence of this condition in a paediatric population?

- A About 5% of the paediatric population
 - B About 3% of the paediatric population
 - C About 7% of the paediatric population
 - D About 1% of the paediatric population
-

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27

A 17-month old boy is the third child in the family. His healthy older sisters are 4 and 6 years old. According to his mother, his development was the same as his sisters', but when he was 15 months old she started worrying about his language. He only used two words and never put two words together. He never points at pictures in books when you name them. According to his mother, her son gets agitated by the slightest thing, he does not smile, has no eye contact and never waves "bye bye". The father adds that the boy has unusual bodily movements such as rotating his hands at the wrist. **What is the most probable diagnosis?**

- A Specific developmental disorder of motor function
 - B Attention deficit hyperactivity disorder (ADHD)
 - C Mixed impulsive-expressive developmental disorder of language function
 - D Pervasive developmental disorders (Autism Spectrum Disorder)
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28

Post traumatic stress disorder (PTSD) is a severe condition that can occur as a result of an experienced negative life event. Does this disorder occur in children of school age?

- A Yes, the condition can occur in children of school age.
 - B This disorder can occur very occasionally in children of school age.
 - C No, the condition only occurs in adults.
 - D Yes, the condition occurs more frequently in children of school age than in adults.
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29

A boy (15 years old) has tics/Tourette's and ADHD. He has started stealing from shops. Together with a 5-year older youth he has stolen a car. He lies to both his mother and teacher, and is continually getting into fights with other pupils. He does not like school. He is rarely at home and drinks a lot of alcohol every weekend. His big dream is to become a member of "Hell's Angels" when he grows up. His mother is a single parent, has little money and has to have two cleaning jobs to manage financially. She is extremely worried because he no longer listens to her. You are the doctor at BUP. What is the best treatment for this boy?

- A** To treat his Tourette with Risperidone. This will also have a positive effect on his ADHD.
- B** To treat ADHD and Tourette's. The programme "The incredible years" ("De utrolige årene") should be tried for the other problems.
- C** To treat ADHD and Tourette's. Multisystemic therapy (MST) should be tried for the other problems.
- D** To treat his ADHD with Ritalin. This will also have a positive effect on his Tourette's.

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30

As an Emergency Centre doctor you meet Mina, 15 years old, and her mother. The mother had discovered Mina crying with a razor blade and several cuts on her left wrist. Mina confirmed suicidal thoughts and her mother is worried.

One year ago, Mina was being followed-up in the Child and Adolescent Outpatient Clinic for depression and suicide attempt (tablet intoxication), which was concluded 6 months ago due to improvement. She has been absent from school a few times during the last weeks. Her mother says Mina quarrelled with her boyfriend yesterday, and assumes that the relationship, which has been ongoing for 6 months, is about to finish.

Mina is quiet, looks down, does not make eye contact, answers questions abruptly, but will not say anything about how she is or what she thinks. She has several small cuts on her lower arm which are bleeding, but which do not need stitching. You see that she has several old scars from previous self-harming.

How should you as the doctor assess Mina's suicide risk?

- A** You assess the suicide risk as high, mostly due to the probable existence of emotional disorder and to the previous suicide attempt
- B** You cannot assess her suicide risk until you have talked with her more and been given a description of any suicidal thoughts
- C** You assess the suicide risk as high, mostly due to the probable break with the boyfriend
- D** You assess the suicide risk as high, mostly due to the existence of emotional disorder and self-harm.

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31

Carl, 6 months, is fed mainly on breastmilk, but has also started with a little rice and maize porridge. Ever since a few weeks of age, he has had problems with a distended stomach, pain with bowel movements and constipation. You suspect that the constipation could be secondary to another condition.

Which secondary condition do you suspect?

- A** Pyloric stenosis
- B** Hirschprung's disease
- C** Meckel's diverticulum
- D** Treitz ligament

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32

Oliver is 4-years old. Previously he has been healthy. The last 3 months he has had hives (urticaria). The problem comes 2-3 times a week with itchy skin. He has no other complaints and eats normal food. He has been to his GP recently who took blood tests with the following results:

Test	Result	Ref. range
Specific IgE against milk	0.5 kU/L	<0.35 kU/L
Specific IgE against wheat	0.5 kU/L	<0.35kU/L
Specific IgE against egg	1.1 kU/L	<0.35kU/L

You are the substitute for the GP and get the results. How do you interpret the results and what advice do you give?

- A** Send a referral to a specialist as it is difficult to interpret the result.
- B** Probably allergy to milk, wheat and eggs. Recommend a diet without milk, wheat and eggs.
- C** Try a diet without milk, wheat and eggs for 2-4 weeks to see if the hives improves.
- D** Probably allergy to eggs. Recommend a diet without eggs.

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33

Which of these conditions gives an increased risk of hip dysplasia (DDH) in the newborn?

- A** Boy child
- B** Twin pregnancy
- C** Face presentation of the fetus
- D** 1st degree relative (parent/sister) with hip dysplasia (DDH)

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34

Petter has had normal psychomotor development up to the age of 3. After this, he has become more clumsy and often falls over. Recently, he has struggled with getting up in the standing position. On examination, you find normal muscle tone and deep tendon reflexes, there is no asymmetry in his movements and his fine motor skills are normal. Language development is somewhat low, but within the normal range for his age group. Clinical examination is almost normal, but he has well-developed lower-leg muscles. Creatinine phosphokinase (CK) is raised.

What condition is most likely?

- A** Cerebral palsy
- B** Myelomeningocele
- C** Spinal muscular atrophy
- D** Duchenne muscular dystrophy

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35

Frode is 1,5 years old and has had normal psychomotor development. His parents tell you that Frode has had a couple of episodes where he "faints". The episodes last less than 1 minute, he has slightly blue lips, becomes flaccid and falls, and afterwards he is fine. He has often injured himself or cried just before an episode.

What is the most likely diagnosis?

- A** Epilepsy
- B** Arrhythmia
- C** Vasovagal syncope
- D** Breath-holding spells

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36

You are the GP for a 5-year old boy. His mother brings him to the medical centre because he has a lot of stomach ache and appears to be constipated. Clinical examination reveals a slightly overweight boy with a mass in the left fossa. At rectal examination, you can feel a lot of stools in the ampula, and you see that he has a clear anal fissure in the mid-line of the anus. Otherwise you notice that the boy has extremely poor dental health.

What do you do?

- A** You refer the boy to the municipal dental services for further follow-up there.
- B** You start treatment for the constipation, refer to a dentist, and send a Child Concern Notification form to the Child Social Care Services.
- C** Based on the prevent duty, you notify the problem to the police.
- D** You prescribe Movicol powder to treat the constipation and follow-up with check-ups.

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37

In your job as GP you see a 3-year old girl who has previously been healthy, and who for the last two weeks has had bruises on her arms and legs. She had a fever and cough a few weeks ago. Normal bowel movements and urination. Had one episode of nose bleed 1 week ago. Has since had slight pain in one foot. At examination you find she is in good general health, temp 38.0°C, no respiratory problems, some bruises on her arms and legs. She also has some small red spots on her calves that do not disappear when you stretch the skin slightly. Individual glands in the neck; largest diameter 5 mm. Normal sounds over the heart, lungs and abdomen. No swelling over the ankles/lower legs/knees. Blood tests give the following results:

Test	Result	Ref. range
Hb	8.5 g/dL	10.5-135 g/dL
MCV	79 fL	75-87 fL
MCH	28.8 pg	23.9-34.1 pg
Tot. leukocytes	8.0 x 10 ⁹ /L	4.0-14.0 x 10 ⁹ /L
Granulocytes	0.8 x 10 ⁹ /L	1.5-7.5 x 10 ⁹ /L
Thrombocytes	25 x 10 ⁹ /L	145-390 x 10 ⁹ /L
CRP	<5 mg/L	< 5 mg/L
Creatine	30 µmol/L	23-37 µmol/L

What is the most probable diagnosis?

- A** Idiopathic/immune thrombocytopenic purpura (ITP)
- B** Acute lymphoblastic or myeloid leukemia (ALL/AML)
- C** Henoch-Schönlein/allergic purpura (HSP)
- D** Hemolytic uremic syndrome (HUS)

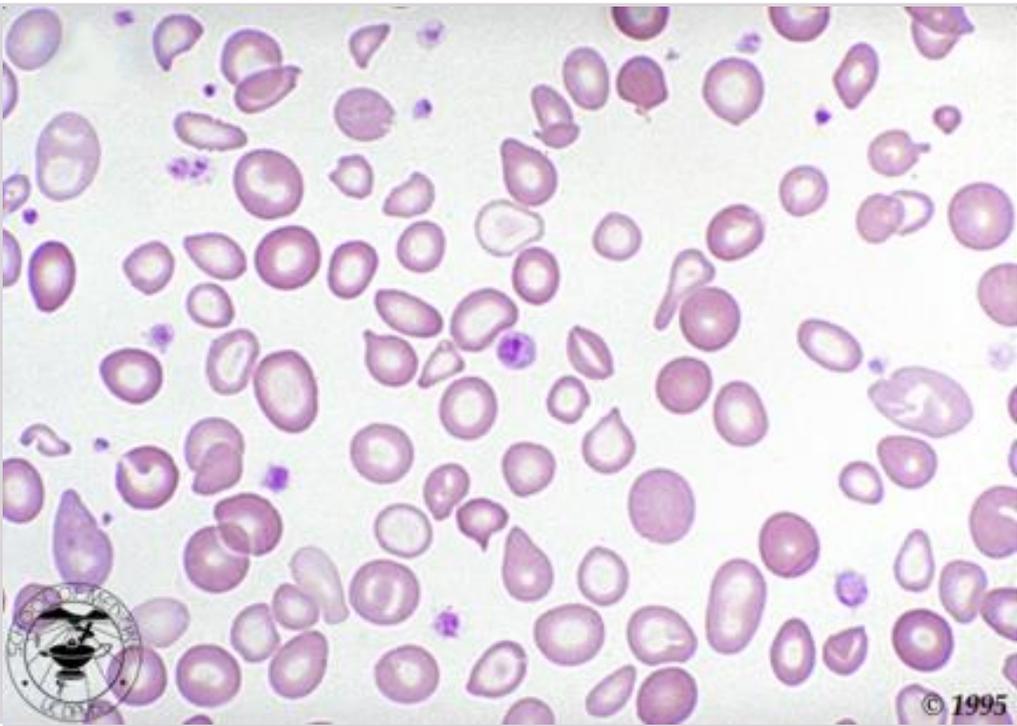
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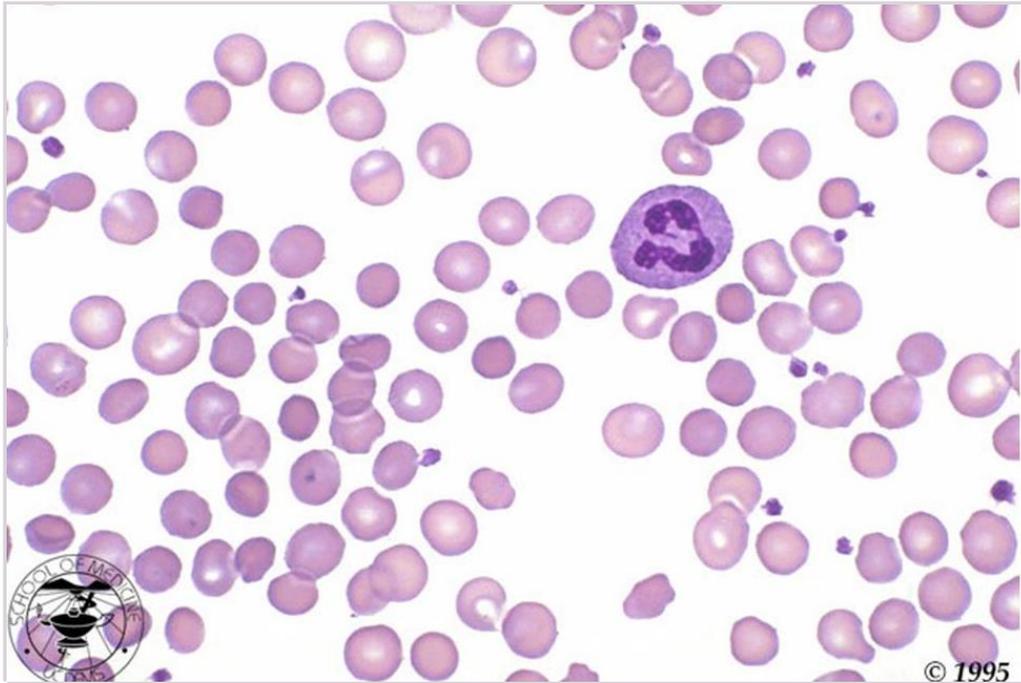
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Below you can see an image of a peripheral blood smear from three people (children).

Which combination of conditions/disease is the most correct?

(The order of the answers is random in relation to the order of the images)





- A iron deficiency anaemia, hereditary spherocytosis, normal blood smear
- B hereditary spherocytosis, normal blood smear, sickle cell anaemia
- C normal blood smear, thalassemia, hereditary spherocytosis
- D iron deficiency anaemia, thalassemia, sickle cell anaemia

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39

You are working as the first on-call at the hospital. A 2-week old baby arrives with an acute problem in the abdomen. The baby has been in pain for the last 24 hours and has bile-coloured vomit. Which diagnosis do you suspect based on these clinical symptoms?

- A Constipation
- B Volvulus/malrotation
- C Gastroenteritis
- D Pyloric stenosis

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40

Emma, 3 years old, sees you as her GP for a throat infection with fever. She has previously not had murmurs over the heart, but now you hear a cardiac murmur. You suspect Still's murmur. What findings would support your suspicion of Still's murmur?

- A The murmur is high frequency
- B The murmur is strongest over the back
- C Easily palpable groin pulses
- D The murmur disappears when changing position

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41

You are in the swimming hall when you witness that Per, 3 years old, is rescued from the bottom of the pool. He has been there for about 2 minutes and is lifeless. You see that the lifeguard calls 113. You go to start CPR. What is the first action you do?

- A Perform the Heimlich manoeuvre
- B Start 30 cardiac compressions
- C Dry the skin and start warming
- D Start 5 rescue breaths

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42

There is a higher incidence of brain injuries in premature babies than term babies. One common injury is Periventricular Leukomalacia or PVL.

What exactly is PVL?

- A Necrosis of several areas of the brain
- B Necrosis of the white matter
- C Necrosis of grey matter
- D Necrosis of basal ganglia

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43

Kurt was admitted after three days with diarrhoea. Clinically, he is about 5% dehydrated and weighs 19 kg at admission. How much fluid in total do we anticipate he will need the first 24 hours if we do not need to take into account any ongoing loss and he receives isotonic dehydration?

- A 2400 ml
- B 1830 ml
- C 1900 ml
- D 2500 ml

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Which of these intestinal microbial pathogens typically cause voluminous, watery and non-bloody diarrhoea?

- A *Campylobacter*
- B *Vibrio cholerae*
- C *Entamoeba histolytica*
- D *Shigella*

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45

A baby is born prematurely in week 24. After discharge from the Newborn Intensive Care Unit, the baby should, in accordance with the national guidelines, be followed-up in the specialist healthcare services in addition to the primary healthcare services.

When should the first interdisciplinary assessment be performed in the specialist healthcare services?

- A Immediately after discharge
- B At 1 year corrected age
- C At 3 months corrected age
- D At 3 months chronological age

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46

An otherwise healthy 4-year old girl was examined at a routine check-up at the health station. No murmurs had been heard previously. Clinical examination in a sitting position revealed a grade 2/6 high frequency continuous humming sound over the left upper sternal border which was also audible over the medial end of the left clavicle. The murmur disappears when she turns her head to the right and when she is lying flat.

What is the most probable diagnosis?

- A Left-sided venous hum
- B Persistent ductus arteriosus
- C Perimembranous VSD

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47

10-year old boy, previously healthy. Over the last 8 days has had a worsening cough without phlegm production, fever and listlessness. Examination by the doctor shows him to be pale, listless but not seriously debilitated. T_p 38.5, respiratory rate 28/minute. Normal BP and pulse. Individual crackling sounds are heard over both lungs basally over the back. No suppression. CRP 50 mg/L (ref: <5 mg/L).

Which microbe do you think has most probably caused the infection?

- A Streptococcus pneumoniae
- B Mycoplasma pneumoniae
- C Respiratory syncytial virus

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48

Which of the following diseases in children is characterised by haematuria, renal failure and sometimes mild oedema?

- A Kawasaki's disease
- B Haemolytic-uremic syndrome
- C Acute nephritic syndrome
- D Nephrotic syndrome

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49

Erik (10 years old) has asthma and hay fever. He uses inhalation steroids daily and a beta-2-agonist as needed. In spite of this, over the last 4 weeks he has had symptoms with coughing at night, and he cannot manage more than the first 15 minutes of football training because he gets so short of breath. How should you now proceed with the drug treatment?

- A Give a week's course of penicillin
- B Supplement with teofyllamin
- C Supplement with a leukotriene antagonist
- D Supplement with antihistamine

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50

Jørgen is 2 months old and previously healthy. He has a fever and takes very little milk when breastfeeding. At the hospital after a day's illness he is listless and pale, sleeps most of the time, but can be woken. The anterior fontanelle is not tense, he does not have neck or back stiffness, capillary filling time is 3 seconds, pulse 170/minute, t_p 38.8 Celsius rectally, no rash, respiration rate 45/minute, no subcostal retractions, normal conditions at auscultation of the heart and lungs, normal palpation of the abdomen, normal findings at examination of the mouth, throat, ears and limbs. Spinal puncture reveals no cells and normal glucose and protein levels in CSF.

Which of the diseases in the answers below is the most probable?

- A Purulent meningitis
- B Urinary tract infection
- C Acute bronchiolitis
- D Primary encephalitis
- E Bacterial pneumonia

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51

A 65-year old man has attended a 4-week height training camp in Kenya (he also visited Mombassa on the coast for a short trip) and when returning home to Trondheim he took part in a marathon race. The day after the race he handed in a urine sample to the laboratory at the health centre because his urine has been "dark" after returning to Trondheim. He celebrated achieving a good position in the marathon with a special meal yesterday evening. Urine dipstick is positive for blood.

Which of the following differential diagnoses must be excluded in this patient?

- A** Kidney stones, malaria, cancer of the bladder
 - B** Malaria, bile duct obstruction, kidney stones
 - C** Cancer of the bladder, exertional haemoglobinuria, bile duct obstruction
 - D** Exertional haemoglobinuria, malaria, cancer of the bladder
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52

Patients with a low risk of prostate cancer should be followed with active surveillance to reduce treatment-related side effects. Which side effects are the most serious with radical treatment of prostate cancer?

- A** Lymphatic oedema and fatigue.
 - B** Urine leakage, erectile dysfunction and dysuria.
 - C** Erectile dysfunction and loss of sexual desire.
 - D** Anal soiling, urine leakage and hot flushes
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53

A man in his thirties is seeing you because of a swelling in the scrotum. He says that it is uncomfortable when he stands for any length of time and that it is most pronounced on the left side. He has no signs of infection and says that he has had the problem for almost a year. You find an irregular swelling on the left side which retracts when the patient lies down.

What is the most probable diagnosis and how should this be investigated further?

- A** Spermatocele, does not need further investigation.
 - B** Varicocele, ultrasound of the upper and lower urinary tract.
 - C** Cancer of the testis, phone the on-call urologist for an emergency assessment.
 - D** Hydrocele, referral to a urologist.
-

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54

You see a young man, 29 years old, in your office who is worried about a lump in his right testis and has diffuse discomfort in the testicle. You examine him and find a change about the size of a pin-head in the upper pole. Non-tender at palpation. Otherwise the testes feel normal. What do you do?

- A** You reassure the patient saying this is probably just a small, harmless change but to be on the safe side you are referring him for ultrasound of the scrotum.
 - B** Refer the patient for investigation at the hospital the following day with ultrasound scrotum, CT abdomen and thorax and tumour markers.
 - C** You reassure the patient saying this is not cancer, but only a small calcification in the tunica that surrounds the testis. You explain that further investigations are not necessary.
 - D** Refer the patient to Urology Outpatients for further investigations with ultrasound.
-

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55

You have referred a 70-year old woman for CT of the urinary tract after a painful episode that you presume is due to kidney stones. The patient was effectively treated with analgesics. The results of CT show that the patient has an 8 mm stone in the distal ureter on the left side. There are no signs of hydronephrosis.

What should you do?

- A** You refer the patient for admission as emergency help due to the risk of obstruction affecting kidney function. Even though there are no symptoms at the moment, it is important to prevent damage to the kidney.
- B** You consider that such a small stone has passed spontaneously and that further action is not necessary.
- C** You contact the patient by phone and ask whether the patient has any symptoms. If the patient is well, no further investigations are necessary.
- D** You inform the patient about the CT results. If the patient doesn't have any symptoms, order a new CT in a few weeks to see if the stone has passed spontaneously.

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56

There are several reasons why men experience erectile dysfunction and impotence. These can include psychological factors such as poor self-esteem, divorce and depression. What are the most common reasons for erectile dysfunction?

- A** Injury to the neurovascular bundle after pelvic surgery.
- B** Disruption of the hormone balance and neurological diseases.
- C** Diabetes and cardiovascular disease.
- D** Trauma affecting the spinal cord and diabetes

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57

A 60-year old woman comes to the health centre because of severe pain in her right side radiating out to the right groin. She has not had this type of pain previously. You interpret the condition as an acute attack of renal stones.

Which of the investigations listed below is the most relevant to confirm your diagnosis?

- A** Urine dipstick
- B** Calcium
- C** Creatine
- D** Fist percussion test (bankeømhet) over the costovertebral angle on the relevant side

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58

A young woman aged 20 sees the doctor because of diffuse pain in her lower abdomen and a burning sensation when urinating. You attend the patient, examine her and find tenderness in the lower abdomen at palpation. Urine sample reveals 3+ blood and 3+ white blood cells, nitrite pos. The patient is afebrile.

What should you do?

- A** Start treatment with antibiotics and order CT of the urinary tract without contrast to reduce the dose of radiation.
- B** Order blood tests, take a urine sample for bacteriological culture and 3-phase CT of the urinary tract because the patient has microscopic haematuria. Start treatment with antibiotics for urinary tract infection.
- C** Start treatment with antibiotics, send a urine sample for bacteriological investigation, order ultrasound of the abdomen to exclude other pathology.
- D** Send the patient home with a prescription for antibiotics. Ask her to contact her GP with a new urine sample when the course of treatment is finished.

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59

Kristine (25), previously healthy, underwent 3-phase contrast CT of the urinary tract which revealed a 3 cm solid tumour in the lower right renal pole. No regionally enlarged lymph nodes. CT thorax and skeletal scintigraphy were normal. Renography has revealed equal renal function on both sides. S-creatinine is normal. Ultrasound-guided biopsy of the tumour showed adenocarcinoma (renal cell carcinoma).

What treatment should the doctor recommend?

- A Radiotherapy of the lower half of the right kidney and peri-aortal lymph nodes at the renal hilus level
- B Resection of the lower right renal pole
- C Radical nephrectomy right side with right-sided retroperitoneal lymph node dissection
- D Radical right-side nephroureterectomy
- E 6 courses of chemotherapy (docetaxel)

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60

A 73-year old man has had type 2 diabetes for 20 years. He had a cardiac infarction 3 years ago, and is overweight with a BMI 32. He uses Metformin 500 mg x 2, ACE inhibitor Lisinopril 20 mg x 1, betablocker SeloZok 100 mg x 1, Simvastatin 20 mg x 1 and Albyl E 75 mg x 1. He now attends for his annual doctor's check-up. BP is 164/93, otherwise normal organ findings.

Lab tests:	Reference range:
Hb 13.4 g/dl	13.4-17.0 g/dl
creatinine 138 micromol/L	< 105
eGFR 46	> 90
Na 139 mmol/L	137-145 mmol/L
K 4.8 mmol/L	3.6-4.4 mmol/L
fasting glucose 8.3 mmol/L	4.0-6.0 mmol/L
HbA1c 7.3%	4.3-5.6%
cholesterol 4.4 mmol/L	3.9-7.8 mmol/L
u-stix: albumin 3+, all other neg	
u-ACR: 123 mg/mmol	< 3 mg/mmol

What is the correct course of action and why?

- A Add insulin to his metformin to improve control of his blood glucose
- B Add a calcium antagonist or thiazide to reduce his blood pressure and thereby the risk of further cardiovascular disease
- C Discontinue the ACE inhibitor due to impaired renal function and start other antihypertensive treatment such as a calcium antagonist.
- D No change to his medication as he is adequately managed in relation to his age and comorbidity

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61

A 27-year old man was diagnosed with type 1 diabetes about 7 years ago. He is slim and in good shape, but has only sporadically attended for check-ups with the doctor. As today's check-up he is in good general health, BP 136/83, fasting glucose 9.3 and HbA1c 7.9. Urine dipstick gives the following results:

u-creatinine: 4.67 mmol/L	
u-albumin/creatinine ratio: 15.0 mg/mmol	ref: 0-3 mg/mmol
u-glucose: neg	ref: neg
u-albumin: +	ref: neg
u-blood: neg	ref: neg
u-leukocytes: neg	ref: neg
u-nitrites: neg	ref: neg
u-albumin: 70 mg/L	ref: 0-25

Control urine sample confirmed the findings.

Which assessment is the most correct:

- A** He has moderately elevated albumin in his urine (microalbuminuria). Improved glycaemic control could reverse the urine findings
- B** He has severely elevated albumin in the urine (macroalbuminuria). Improved blood pressure control could reduce cardiovascular disease
- C** He has severely elevated albumin in the urine (macroalbuminuria). The cause of this must be investigated further
- D** He has severely elevated albuminuria in the nephrotic range. Improved blood pressure control could reduce cardiovascular disease

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62

A 40-year old woman has diabetes mellitus type 2. She takes a high-dose ACE inhibitor and her blood pressure is 132/75. In addition she takes metformin 1000mg x2. Today's lab results show the following: HB 13.6 g/dl (12.5-15.5), K 3.9 mmol/l (3.5-5.0), cholesterol 4.8 mmol/l (3.3-6.9), HDL cholesterol 1.5 mmol/l (1.0-2.7), creatine 119 umol/l (45-90), glucose 9.1 mmol/l (3.5-6.5), HbA1c 7.3% (<5.7), urine albumin/creatinine ratio 15 mg/mmol (<3).

What is the most correct treatment option and assessment of the situation?

- A** There is a high risk of progression (low eGFR and high albuminuria) so one recommends supplementing with long-acting insulin to give maximum control of blood glucose.
- B** Metformin should be reduced to 500mg x2 due to impaired renal function
- C** Metformin should be reduced to 500mg x2 because of the reduced renal function, and the patient should start on a DPP4 analogue (e.g. Trajenta)
- D** The situation is almost optimal; no change is recommended

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63

A 78-year old man is admitted as an emergency due to 10 hours' moderate acute stomach pains. He has diabetes and takes furix 20 mg x1 due to mild heart failure. BP 115/70 and heart rate 95/min. The registrar in the Surgical Department wants to perform an acute CT abdomen. Blood samples taken on arrival are relatively unchanged from the last check-up:

Hb: 13.1 g/dL	ref: 13.4 - 17.0 g/dL
K: 4.1 mmol/L	ref: 3.5 - 4.4 mmol/L
Ca: 2.15 mmol/L	ref: 2.15 - 2.51 mmol/L
creatinine: 110 µmol/L	ref: 60 - 105 µmol/L
carbamide: 5.1 mmol/L	ref: 3.5 - 8.1 mmol/L
u-dipstick, albumin: 2+	ref: neg
u-dipstick otherwise negative	

What is the most correct assessment?

- A** CT should be postponed 4-5 hours so that the patient can be rehydrated well with saline as the risk of contrast nephropathy is high
 - B** CT can be performed immediately because there is a low risk of acute contrast nephropathy and good indication.
 - C** CT can be performed immediately because there is negligible risk of acute contrast nephropathy.
 - D** CT should be cancelled and replaced by ultrasound of the abdomen as the risk for contrast nephropathy is very high.
-

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64

A 40-year old woman is diagnosed with hypertension. BP is 150/70 at the last 3 check-ups. She does not have diabetes. She is otherwise healthy and takes no medications. Lab tests give the following results:

Hb 13.7 g/dL (ref: 12.5-15.5 g/dL), K 4.5 mmol/L (ref: 3.5-5.0 mmol/L), Cholesterol 5.1 mmol/L (ref: 3.3 - 6.9 mmol/L), HDL cholesterol 1.5 mmol/L (ref: 1.00 - 2.70 mmol/L), creatine 85 μ mol/L (ref: 45-90 μ mol/L), uric acid 380 mmol/L (ref: 150-370 mmol/L).

In addition, urine tests show u-Albumin/creatinine ratio 51 mg/mmol (ref: <3 mg/mmol)
What is the most correct answer in regard to type of medication and treatment goal?

- A** Calcium channel blocker and BP <140/90
 - B** ACE inhibitor and BP <140/90
 - C** Calcium channel blocker and BP <130/80
 - D** ACE inhibitor and BP <130/80
-

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65

A 55-year old man has known nephrosclerosis (hypertensive renal injury). He is being treated with an ACE inhibitor and has a BP 135/70. He is otherwise healthy. Most recent lab tests show s-creatinine 110 μ mol/L (ref: 60 - 105 μ mol/L) and u-Albumin/creatinine ratio 21 mg/mmol (ref: < 3 mg/mmol).

What is the most correct answer for how often such a patient should have a check-up?

- A** Twice a year because the renal function is moderately to severely impaired but there is only moderately increased albuminuria.
 - B** Twice a year because the renal function is only slightly to moderately impaired but there is severely increased albuminuria
 - C** Three to four times a year because the renal function is moderately to severely impaired combined with a severely increased albuminuria.
 - D** Once a year because the renal function is only slightly to moderately impaired combined with a moderately increased albuminuria.
-

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66

A 35-year old man has had a known low grade glomerulonephritis over the last 5 years. He now wants an appointment because he is worried about the prognosis. You have access to the following relevant lab informationn:

Sept. 2015: s-creatinine 125 μ mol/L (H), u-Albumin/creatinine ratio 17 mg/mmol (H)

Oct. 2017: s-creatinine 148 μ mol/L (H), u-Albumin/creatinine ratio 12 mg/mmol (H)

What is the most correct description of his progression/risk of progression?

- A** This is a slight to moderate reduction in renal function (1-3 ml/min per year), but the minimally increased albuminuria indicates a good prognosis
 - B** This indicates a rapidly falling renal function (>5 ml/min per year)
 - C** This represents no significant change in renal function (< 1 ml/min per year)
 - D** This is a slight to moderate reduction in renal function (1-3 ml/min per year)
-

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67

IgA glomerulonephritis is one of the most common types of glomerulonephritis. How does it most commonly manifest in these patients?

- A Microscopic haematuria with varying degree of proteinuria
- B Nephrotic syndrome with pronounced peripheral oedemas
- C Rapidly progressing glomerulonephritis with development of renal failure
- D Nephritic syndrome with treatment-requiring hypertension

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68

What is the most common histopathology findings in patients with acute renal injury?

- A Acute interstitial nephritis (AIN)
- B Acute glomerular necrosis (AGN)
- C Acute tubular necrosis (ATN)
- D Focal segmental glomerulosclerosis (FSGS)

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69

Which clinical findings are typical for a patient with nephrotic syndrome?

- A High BP (>160 mmHg systolic), normal GFR and oedemas
- B Normal BP, normal GFR and oedemas
- C High BP (>160 mmHg systolic), reduced GFR (<60 ml/min) and oedemas
- D Normal BP, normal GFR obvious ascites and oedemas

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70

A 62-year old man has type 2 diabetes and takes metformin 1 g x2 as well as a sulfonylurea (SU) medication. At the last doctor's check-up he has an estimated GFR 49 mL/min/1.73m², HbA1c 9.1% and fasting blood glucose 10.7 mmol/L. The doctor recommends switching to insulin. How is this done in compliance with the Norwegian guidelines for treating diabetes from 2016?

- A Start with rapid-acting insulin at each meal time. Metformin and SU are discontinued.
- B Start with intermediate-acting insulin morning and evening. Metformin and SU are discontinued.
- C Start with intermediate-acting (NPH) insulin at night. Metformin is reduced to 500 mg X 2. SU is discontinued.
- D Start with rapid-acting insulin at each meal time and intermediate-acting NPH insulin at night. Metformin and SU are discontinued.

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71

An otherwise healthy woman aged 43 (weight 60 kg) has symptoms of low metabolism and the following lab results:

	Patient's test results	Reference range
Free thyroxine (FT4)- 1st sample	9.1 pmol/L	11.6 - 19.1 pmol/L
Free thyroxine (FT4) – 2nd sample	8.5 pmol/L	11.6 - 19.1 pmol/L
Thyroid Stimulating Hormone (TSH)- 1st sample	5.65mIE/L	0.24 - 3.78 mIE/L
Thyroid Stimulating Hormone (TSH)- 2nd sample	8.83 mIE/L	0.24 - 3.78 mIE/L
Anti-thyroid peroxidase (anti-TPO)	> 1300 IU/mL	≤ 35 IU/mL

Her GP decides that she should receive treatment for autoimmune hypothyroidism. How should this treatment be started?

- A NeoMercazole 5 mg X 2 per day.
- B Levothyroxine (L-T4) 100 ug and T3 (triiodothyronine) 20 ug per day.
- C Levothyroxine (L-T4) 100 ug per day.
- D Armour thyroid extract 60 mg daily.

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72

A 52-year old man underwent surgery for a non-functional pituitary adenoma 7 years ago. 5 years ago he was treated with a gamma knife for a residual tumour that had grown a little since the operation two years previously. At the annual routine check-up he says that he feels his life's a drag. Blood tests reveal that TSH, free T4, cortisol, prolactin, FSH, LH and testosterone all lie within the reference range.

Which of the following diagnostic measures should be done first (are best suited to clarify the situation/ make a satisfactory diagnosis)?

- A Order a glucose load with determination of growth hormone and IGF-1 determination in a basal sample to exclude acromegaly secondary to radiotherapy of the pituitary 5 years previously.
- B Tell the patient that everybody gets older, and that this is a natural development that affects many patients who have undergone surgery on the pituitary.
- C Order an insulin hypoglycaemia test with determination of growth hormone, ACTH and cortisol
- D Order blood tests for determination of adrenal gland antibodies

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73

A 30-year old mother with type 1 diabetes mellitus is concerned that her daughter will also get the disease.

How great is the risk that her daughter will get the disease at some point during her lifetime?

- A 50%
- B 3%
- C 75%
- D 30%

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74

When blood glucose in a person without diabetes drops below about 4.5 mmol/L, the person's own (endogenous) insulin production is suppressed. When the blood glucose drops to about 3.8 mmol/L, hormonal counterregulation starts to prevent a further drop in blood glucose.

Which four hormones are the most important in this hormonal counterregulation of hypoglycaemia in people who do not have diabetes?

- A Glucagon, thyroxine, cortisol and growth hormone
- B Adrenaline, cortisol and growth hormone
- C Glucagon, adrenaline, cortisol and growth hormone
- D Glucagon, adrenaline, thyroxine and gastrin

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75

A woman aged 52 has the following blood test results:

	Patient's test results	Reference range
Free thyroxine	15.3 pmol/L	11.6 - 19.1 pmol/L
Thyroid Stimulating Hormone (TSH)	2.74 mIE/L	0.24 - 3.78 mIE/L
Anti-thyroid peroxidase (anti-TPO)	>1300 IU/mL	≤35 IU/mL
Anti-TSH receptor antibody (TRAS)	1.0 IU/L	<1.5 IU/L

Does this woman have an increased risk of developing metabolic disease and, if so, which disease is she at most risk of developing?

- A Yes. She has an increased risk of Grave's disease (autoimmune hyperthyroidism).
 - B Yes. She has an increased risk of autoimmune hypothyroidism (Hashimoto's thyroiditis).
 - C No. She has no increased risk of developing metabolic disease.
 - D Yes. She has an increased risk of subacute thyroiditis.
-

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76

A 23-year old woman has had type 1 diabetes (T1D) for 15 years. One year ago her HbA1c was 7.9% (reference range 4.3 - 5.6%). Over the last year she has lost weight from 60 kg to 57 kg. She has reduced her insulin dose due to frequent hypoglycaemic episodes, and now uses 24 units insulin/day (i.e. 0.42 units/kg/day) but continues to have hypoglycaemic episodes. HbA1c is now 6.7%. BP is 105/60. She is not pregnant. What is the most probable cause of her tendency to hypoglycaemia, and which tests are most important to check?

- A Insulinoma; check insulin C-peptide and concomitant plasma glucose.
 - B Addison's disease; check serum cortisol and adrenocorticotropin hormone (ACTH).
 - C Primary hypothyroidism (Hashimoto's thyroiditis); check free thyroxine (FT4) and thyroid stimulating hormone (TSH).
 - D A haemoglobinopathy with false-low HbA1c; perform haemoglobin electrophoresis.
-

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77

Which (only one) of the following blood glucose lowering drugs can **not** result in severe hypoglycaemia (low blood glucose) when it is given as the only blood glucose lowering medication?

- A intermediate-acting insulin analogue
 - B metformin tablets
 - C Sulfonyl urea tablets
 - D rapid-acting insulin analogue
-

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78

Uptake of radioactive iodine or technetium (which is taken up as iodine) in the thyroid can give useful information in the diagnosis of thyroid conditions. Which type of uptake is typical for thyroiditis?

- A Low and homogenous uptake
 - B Normal and non-homogenous uptake
 - C High and homogenous uptake
 - D High and non-homogenous uptake
-

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79

You are the Registrar in the Surgical Department and see a patient in the Outpatient Clinic. A 40-year old woman has been diagnosed with breast cancer after a mammography. The tumour is said to measure 5 cm. There are suspicious findings in the axilla. Which treatment should you recommend to her?

- A Consider medical treatment first, with anti-estrogen tablets and radiotherapy.
 - B Consider medical oncology treatment first with chemotherapy and radiotherapy.
 - C Removal of the breast together with the lymph nodes in the axilla, then chemotherapy.
 - D Consider medical oncology treatment first, and then removal of the breast and lymph nodes in the axilla.
-

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80

You see the patient in the GP's office. She is a 23-year old woman, previously healthy, no children, takes the contraceptive pill. There are no special diseases in the family. She says that over the last few weeks she has felt a tumour in the left breast. It is perhaps a little tender. There is nothing noticeable at visual examination. At palpation there is a well-defined tumour slightly laterally and up in the right breast. There are no other findings.

What do you think this is, and what actions would you take?

- A** Breast cancer; would refer to the Breast Diagnosis Centre (BDS).
- B** Fibroadenoma; would refer to ultrasound.
- C** Infection with abscess; would try a course of antibiotics.
- D** Breast cancer; would requisition mammography at a private institute where there is a short waiting time.

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81

As part of a follow-up for haematuria, a 3-phase-CT-scan is performed.

What does this consist of?

- A** CT images with intravenous contrast after 80 seconds, 5 minutes and 10 minutes
- B** CT images without contrast + with intravenous contrast after 80 seconds and 10 minutes
- C** CT images with intravenous contrast + oral contrast + rectal contrast
- D** CT images with oral contrast after 80 seconds, 5 minutes and 10 minutes

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82

A 9-month old boy is admitted with renal failure and suspected posterior urethral valve.

Which imaging diagnostic method is optimal to display an urethral valve before an operation?

- A** MRI urinary tract
- B** Urography
- C** Miction cystography
- D** X-ray overview of the urinary tract

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83

Petter, 1-year old, has a fever and symptoms of an airways infection. He is debilitated and is admitted to the Paediatric Clinic. X-ray of the thorax reveals atelectasis of the right mid-lobe, small areas of atelectasis also in the other lung sections and areas with hyperinflated lung tissue bilaterally.

What is the most probable diagnosis?

- A** Lobar emphysema
- B** Pulmonary sequestration
- C** Bronchiolitis
- D** Lobar pneumonia

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84

A 65-year old man visits his GP because he believes he has problems seeing in parts of his visual field. When you examine him using the Donder's test, you suspect that he has lost vision in his peripheral vision bilaterally.

Which imaging investigation is the most sensible to start with?

- A** MRI (Magnetic Resonance Imaging) of the pituitary gland
- B** MRI (Magnetic Resonance Imaging) of the basal ganglia
- C** CT (Computer Tomography) of the pituitary gland
- D** CT (Computer Tomography) of the basal ganglia

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85

A 4-month old child comes to the Paediatric emergency ward with a high fever and symptoms of respiratory tract infection. An X-ray of the thorax front is taken. Here, consolidation of the right upper lobe without loss of volume is seen.

At which of the following conditions is this a typical finding?

- A Pneumothorax
 - B Lobar pneumonia
 - C Bronchiolitis
 - D Foreign body
-

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86

Meningiomas can grow into the sella tursica.

Why can this sometimes cause prolactinaemia?

- A Meningiomas can sometimes contain prolactin-producing cells
 - B Meningiomas can compress the pituitary stalk so that inhibiting substances from the hypothalamus cannot reach the adenohypophysis
 - C Compression of the adenohypophysis can stimulate the pituitary tissue to increased production of all pituitary hormones
 - D Meningiomas and prolactinomas often occur together
-

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87

An 18-year old boy has been diagnosed with cancer of the testis by ultrasound. The treating doctor is concerned about the presence of remote metastases (we are not asking here about lymph node metastases, but remote metastases).

Which investigations are then the most important?

- A MRI spine and pelvis
 - B CT Thorax
 - C Ultrasound of the liver
 - D Skeletal scintigraphy
-

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88

A 65-year old woman has been shown to have something that is described as "a 2 cm oval mass with high density values" in the left kidney.

How, using CT, can one decide whether this is a benign cyst or solid malignant tumour ?

- A This can be done by comparing the density of the mass with the density of normal kidney tissue
 - B It is necessary to take a series before and after contrast to show contrast uptake
 - C It isn't possible; another modality is necessary in addition to CT
 - D A series is necessary in the arterial phase to show blood vessel supply
-

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89

A micturating cystourethrogram (MCUG) in a 4-year-old boy shows grade 5 vesicoureteral reflux. Which treatment is most commonly used?

- A Fluid and diet restrictions
 - B Diuretics
 - C Infection prophylaxis
 - D Operative treatment
-

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90

Developmental disorders cover a wide range of conditions with varying aetiology.

What term is used about disorders in several areas of development/organs with one aetiological cause?

- A Association
 - B Syndrome
 - C Sequence
 - D Malformation
-

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91

At routine ultrasound, fetal hydrops is diagnosed in a pregnant women in gestation week 18. The woman says that recently she briefly had a fever, joint pains and rash.

What would you suspect based on this information?

- A Pre-eclampsia
 - B Placental abruption
 - C Parvovirus infection
 - D Chorioamnionitis
-

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92

The ovaries can be the starting point for a number of tumours with varying origin.

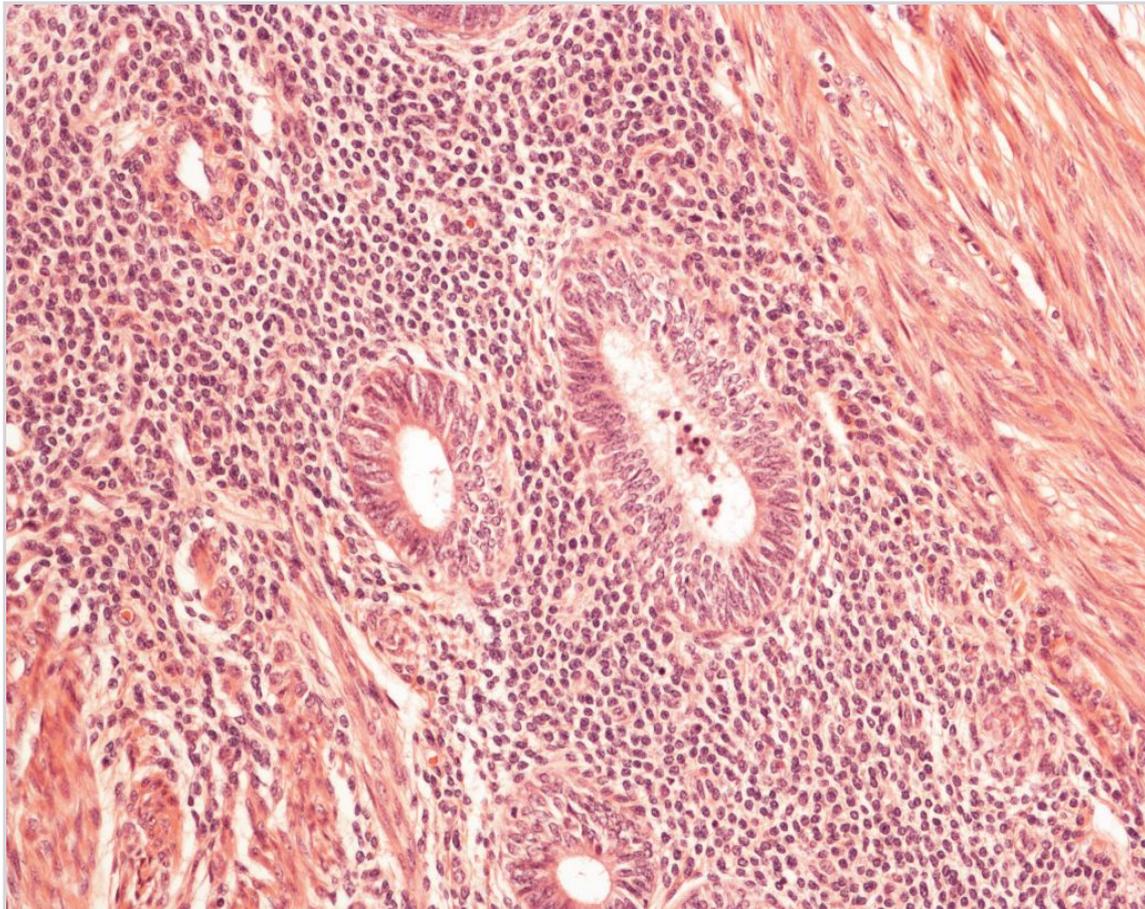
Which category of ovarian cancers is the most common?

- A Metastases
 - B Epithelial tumours
 - C Sex cord stromal tumours (tumours arising in the support cells)
 - D Germinal cell tumours
-

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93

A 50-year old woman has undergone surgery for an adenocarcinoma in the endometrium. At macroscopic investigation, changes were noticed in the myometrium. The image below is from such a change in the myometrium (HE, 200x magnification).



What is the diagnosis?

- A** Complex hyperplasia with atypical cells
- B** Endometriosis
- C** Adenocarcinoma
- D** Adenomyosis

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94

Different developmental disorders can have their origin in a common cause, for example, a stenosis distally in the urethra could cause bladder dilatation, hydronephrosis and hydroureter.

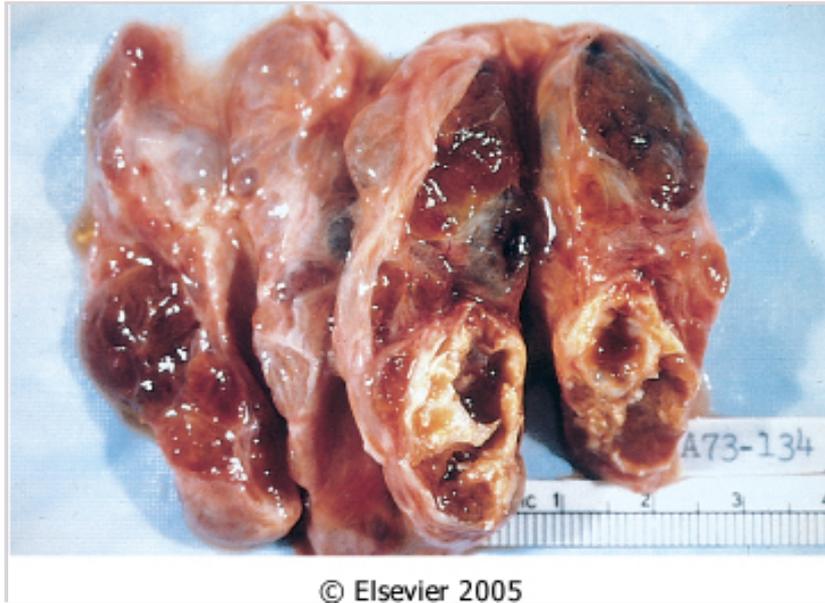
Which term is used when a focal defect causes such a cascade of several other developmental disorders?

- A** Malformation
- B** Sequence
- C** Syndrome
- D** Association

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95

A patient has had her entire thyroid gland removed surgically due to goiter because fine-needle biopsy has not been conclusive in regard to malignancy. The image shows the cut surface of the gland.



What is the most probable diagnosis?

- A Follicular carcinoma
- B Graves' disease
- C Colloid nodular goiter (adenomatous nodules)
- D Hashimoto's thyroiditis

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96

The picture shows a kidney removed at an autopsy and with a random finding.



What type of change can you see?

- A Polycystic kidney disease
 - B Renal cysts
 - C Adenoma
 - D Renal cell carcinoma
-

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97

A 55-year old woman has had a tumour in her left breast surgically removed. Histopathologic examination shows an invasive ductal carcinoma, histopathologic grade 1.

Which histopathologic criteria does the pathologist consider when determining the tumour's grade?

- A Number of apoptoses in 10 visual fields, proliferation index and degree of nuclear pleomorphism
 - B Tumour size, hormone receptor status and proliferation index
 - C Number of mitoses in 10 visual fields, percentage of tubular structures and degree of nuclear pleomorphism
 - D Tumour size, lymph node metastases and invasion of overlying skin
-

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98

Urine dip agar ("Uricult") has been used a lot for diagnosing urinary tract infections, particularly at the GP offices.

What is the most important reason this method continues to be used?

- A It has a good sensitivity for detection of anaerobic bacteria.
 - B It offers a good option for assessing the total number of bacteria strains.
 - C It ensures good survival of the bacteria in the urine sample.
 - D It provides a good assessment of the amount of bacteria in the various bacteria strains.
-

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99

What most strongly indicates that a urine culture finding represents contamination and not an actual infection?

- A The patient has an impaired immune system
 - B More than two days have passed from sample collection to sample streaking
 - C There is growth of two different strains of bacteria
 - D The sample has been taken as a mid-stream sample
-

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100

On call in the Medical Department, you see a young man who has been a backpacker in India. He has a fever, headache and stomach ache. There is no evidence of malaria, and your specialist asks you to investigate and treat the patient as though he has typhoid fever.

Which investigation and treatment are the most correct for you to choose for this patient?

- A Take a blood sample for a Widal test, and start treatment with antibiotics.
 - B Take a blood sample for culture and start treatment with antibiotics.
 - C Take a stool sample for culture of pathogenic intestinal bacteria and wait with antibiotics.
 - D Take a bone marrow aspirate sample for culture, and wait for the results before starting antibiotics.
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101

A 25-year old woman is admitted to hospital with fever and suspected malaria after a round trip to East Africa. Tests reveal 8% parasitemia with Plasmodium falciparum. Which antimalarial drug would you use to treat this patient?

- A Lariam (mefloquine)
- B Chloroquine
- C Malarone (atovaquone+proguanil)
- D Artemisinin

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102

What type of fungi are seen in connection with imported infectious diseases in Norway?

- A Histoplasma capsulatum.
- B Candida glabrata.
- C Aspergillus fumigatus.
- D Trichophyton rubrum.

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103

A 45-year old man returns from South Africa where he has been on safari. One week after returning he develops a fever (39.5°C), a maculopapulous rash and swollen lymph glands in the groin. He says he had several tick bites, and the doctor finds several lesions with black crusts after probable tick bites on his legs.

Which diagnosis is the most probable?

- A Dengue fever
- B Malaria
- C Rickettsia infection
- D Typhoid fever

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104

You are the GP for a 55-year old woman. She was recently admitted for investigations at the hospital and was diagnosed with heart failure (NYHA class II). She was started on a low dose of ACE inhibitor. The discharge summary advises that further dose increases should be supervised by the GP. She does not use diuretics.

Which blood tests are important to monitor before you increase the dose of ACE inhibitor in this patient?

- A Sodium, potassium and creatinine
- B Potassium, haemoglobin and NT-proBNP
- C Potassium, HbA1c and glucose
- D Sodium, ALAT and gamma-GT

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105

A patient who has recently had a cardiac infarction receives the following medication as secondary prophylaxis: Acetylsalicylic acid (ASA), clopidogrel, a beta blocker, an ACE inhibitor and a statin. At follow-up a few weeks later, the patient complains of an irritating dry cough. There are no signs of infection and you suspect the cough may be a side effect of the medication.

Which medication is the most likely cause of the dry cough?

- A Beta blocker
- B Acetylsalicylic acid
- C ACE inhibitor
- D Statin

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106

Patients with high blood pressure often have heart disease in addition, such as AV-block grade II, heart failure, angina pectoris or atrial fibrillation.

Which of these conditions is a contraindication for use of betablockers?

- A Heart failure
 - B Atrial fibrillation
 - C Angina pectoris
 - D AV-block grade II
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107

Benzodiazepines can reduce anxiety and restlessness and improve sleep. These effects can be useful; for example, in palliative treatment of terminally ill cancer patients. Some of these terminally ill patients can present additional challenges by having impaired renal function.

What consequences would this have for the dosing of benzodiazepines?

- A Benzodiazepines are themselves nephrotoxic and should therefore not be used in patients with impaired renal function or, if necessary, only at low dosage
 - B Benzodiazepines are partly metabolised in the liver and partly excreted unchanged; the dose must therefore be reduced, normally to about half of a standard dose in moderately impaired renal function
 - C Benzodiazepines are inactivated by metabolism in the liver; therefore, there is normally no need to reduce the dose in patients with impaired renal function
 - D Most benzodiazepines have active metabolites that are critically dependent on renal excretion, these medications should therefore normally not be used in impaired renal function
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108

What effects would you expect if you give a medication that blocks alpha-1 adrenergic receptors?

- A Vasodilation and relaxation of the urethral sphincter
 - B Vasoconstriction and relaxation of the urethral sphincter
 - C Vasoconstriction and increased tension in the urethral sphincter
 - D Vasodilation and increased tension in the urethral sphincter
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109

You work in a psychiatric department. A 24-year old woman was admitted with acute mania a few days ago. She has previously been healthy, in work, has a partner, and uses no medication apart from the contraceptive pill. She responded well to acute treatment which included parenteral risperidone, diazepam and valproate (valproic acid). The time has now come to consider oral maintenance treatment.

Why should this patient *not* receive maintenance treatment with valproate (valproic acid)?

- A Because valproate can cause thrombocytopenia, and women younger than 30 years of age have been identified as a high risk group
 - B Because valproate induces the liver enzyme CYP2D6, which with long-term treatment increases the metabolism of risperidone with the risk of treatment failure
 - C Because valproate can cause hormonal disorders such as polycystic ovary syndrome, and because it can be harmful to the fetus
 - D Because valproate, like many other antiepileptic agents, can induce metabolism of contraceptive pills, which with long term treatment could result in diminished efficacy and undesired pregnancy
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