1. How many ultrasound examinations are done in uncomplicated pregnancies?
   A. Ultrasound is offered routinely in the second and third trimester.
   B. Ultrasound is not offered routinely in uncomplicated pregnancies.
   C. All pregnant women are offered an ultrasound examination in the second trimester.
   D. All pregnant women are offered two ultrasound examinations (first and second trimester).

2. Some infections are especially dangerous in pregnancy. What is correct?
   A. Toxoplasmosis infection can cause foetal meningomyelocele (spina bifida).
   B. Listeria infects the foetal intestine and may cause gastroschisis (defect in the anterior abdominal wall).
   C. Infection with Cytomegalovirus (CMV) can cause severe foetal anaemia.
   D. Infection with Parvovirus B19 can cause severe foetal anaemia.

3. You are the general practitioner (GP) for a 45-year-old woman. The patient is para 3. She is sterilised and has heavy menstrual bleeding lasting 3-14 days and with bleeding intervals of 1-3 weeks. She consults you for help and says that she has some pain. What should you do at this consultation, except for a gynaecological examination?
   A. Take a cervical cytology
   B. Refer her to a CT scan of the abdomen/pelvis
   C. Insert an intrauterine hormonal contraceptive device
   D. Take an endometrial biopsy (Pipelle)

4. Why is the chance of delivering live, healthy children significantly reduced for women aged > 40 years?
   A. The prevalence of fallopian tubes damage (tubal factor), uterine fibroids (myomas), endometriosis and other gynaecological diseases increases with the woman’s age.
   B. The woman’s ovarian reserve is reduced both quantitatively and qualitatively with increasing age.
   C. Older women often have older partners, and sperm quality decreases in older men.
   D. The older the woman is, the fewer primordial follicles (ova) are found in her ovaries.

5. A 65-year-old woman consulted her doctor because of weight loss and frequent urination. Investigations show that the symptoms most likely are caused by an ovarian tumour. What type of ovarian tumour is the most likely diagnosis?
   A. Trophoblast
   B. Germ cell
   C. Stromal
   D. Epithelial

6. Which immunoglobulins cross the placental barrier?
   A. IgG
   B. Neither IgG nor IgM cross the placental barrier.
   C. IgM
   D. Both IgG and IgM
7 Which of these conditions is the most correct clinical indication for HRT (hormone replacement therapy)?

A Prevention of ovarian cancer when there is premature ovarian failure
B Prevention of Alzheimer’s disease
C Hot flashes
D Anovulatory PCOS

8 A 38-year-old woman has not had any menstrual periods for more than one year, and after investigation, she has been diagnosed with premature ovarian failure. She is otherwise perfectly healthy and have no hereditary diseases. For how long should she take combined hormonal replacement therapy with oestrogen and progesterone?

A Until 50-51 years of age.
B For 2-3 years. And then try to discontinue it.
C Lifelong.
D She should not be on this at all because of the increased risk of ovarian cancer.

9 A 56-year-old woman, para 3, consults you as her general practitioner (GP) because of urinary incontinence, especially when coughing and jogging. What is the most likely cause of this?

A A ureteral diverticulum.
B Urinary tract infection.
C Stress incontinence.
D Urge incontinence.

10 How is the contraceptive implant administered?

A Subdermally every 6th year.
B Intrauterine every 5th year.
C Subdermally every 3rd year.
D By injection every 12th week.

11 A 29-year-old woman delivered her 3rd child a few days ago. After lifting her 3-year-old son, she suddenly felt a big lump coming out of her vagina, and she immediately contacted her doctor. The doctor examines her and finds a large uterine prolapse, and replaces the prolapsed uterus. What is the main further treatment option?

A Bed rest for a minimum of 4 weeks and Klexane (Enoksaparin) to prevent thrombosis.
B Intensified pelvic floor muscle exercise after instruction from a physioterapist.
C Treatment with a vaginal ring pessary and local oestrogens.
D Surgical correction of the prolapse as an emergency procedure.
12 A midwife is attending a home birth and calls you, as the emergency doctor, for advice. The labour has stalled. The cervix has shortened and has been dilated to 5 cm for the last 3 hours. What advice is most appropriate?

A Refer to the hospital for an emergency caesarean section.
B Refer to hospital for evaluation of cephalopelvic disproportion and oxytocin administration.
C Stimulate the uterus by squeezing and massaging the woman's abdomen.
D Stimulate the nipples to increase oxytocin levels and stimulate contractions.

13 You are a GP. A woman pregnant in week 17 comes to see you. She has previously been healthy. She lists a whole load of symptoms. Which symptoms are important for the doctor to prioritize and investigate with regard to the pregnancy?

A Occasional headaches in the last weeks
B Increasing constipation the last weeks
C Frequent, stinging and painful urination over the last few days
D Increasing whiteish, odourless discharge over the last weeks

14 You started as the locum GP 2 weeks ago in Bjerkvik municipality. The medical secretary tells you that a woman who gave birth 1 week ago wants an appointment for a post-partum "check-up". The medical secretary wonders what she should do. You look in the patient's notes and see that the locum GP who worked there before you had made a note that in week 32 of pregnancy, the patient had pregnancy diabetes treated by diet. What is the correct message for the secretary?

A The patient is to be given an appointment next week. She is to have a fasting blood glucose test and bring a urine sample with her
B The patient is to be given an appointment in about 2 months. She is to attend fasting for a "glucose tolerance test"
C The patient doesn't need a postpartum check-up as pregnancy diabetes resolves itself after the pregnancy
D The patient is to be given an appointment as soon as possible for insertion of the coil, as she must avoid unplanned pregnancies

15 You are a patient's general practitioner (GP). The patient is pregnant in week 10. Previously, she has delivered one child. The baby was delivered at 32 weeks due to severe intrauterine growth restriction. The patient did not have pre-eclampsia in this pregnancy. How will you follow the current pregnancy?

A The woman should be referred to a specialist if there is a decrease in symphysiofundal height (SFH) and at the same time an increasing blood pressure.
B Follow her with blood pressure measurements, she has a risk of pre-eclampsia because she has previously delivered an intrauterine growth restricted child.
C Refer the woman to a specialist in the first trimester to evaluate the need to start administration of Albyl-E (acetylsalicylic acid), and do a Doppler scan of the uterine artery approximately in week 24.
D She should be referred to a specialist if flattening of the symphysiofundal height (SFH) is found in week 24.
16 You are a general practitioner (GP) and a patient is pregnant in week 18. She has previously delivered 2 children, in week 29 and 33 respectively. She is afraid of pre-term labour also this time and has had some pelvic pressure and heaviness sensation. She wants to be referred to a gynaecologist.

A You refer to a gynaecologist because of the previous history of pre-term labour in order to start treatment with progesterone vagitories.
B Only women with symptoms should be referred, hence, you refer this patient to a gynaecologist.
C You comfort her and say that it is not necessary, because she gave birth later in the second pregnancy than in the first pregnancy.
D You inform her that the foetus is not yet viable so it is too early with referral to the gynaecologist.

17 You are a general practitioner (GP). A patient is a 40-year-old woman, pregnant in week 10. She has previously had two normal pregnancies and has delivered 2 healthy children.

You do the 1st pregnancy check-up and inform her about the following:

A That because of advanced age she may, if she wishes, be referred to a specialist in prenatal medicine.
B That you have to refer her to a specialist because of advanced age.
C That she will be followed by you throughout the pregnancy and that you will refer her to a specialist if something happens which should be evaluated.
D That she has given birth to healthy children earlier and therefore she will have a normal pregnancy this time as well.

18 A patient is pregnant for the third time and is in week 24. She has previously experienced pre-term labour twice, in week 31 and week 29, respectively. Both children had normal birth weight for gestational age. The follow-up in this pregnancy is done by her general practitioner (GP) and by a private practice specialist. She now has got back pain and says she feels pressure and heaviness. She contacts you as her GP.

What kind of evaluation/treatment is the most important now?

A Comfort her, await further development and see her in approximately 2 days.
B Send her to the private practice specialist.
C Make contact with the maternity ward at the hospital for further assessment of the woman.
D Investigate if there is a urinary tract infection and treat it.

19 The patient is a healthy woman, para 3, all normal pregnancies: 2 normal vaginal deliveries and 1 caesaeran section. Now she is pregnant again and the investigations by routine ultrasound in week 18 and ultrasound control in week 32 confirm that the placenta is placed on the anterior uterine wall and there is placenta previa.

Which is the most important risk factor to be aware of in this situation?

A Vasa praevia.
B Placenta accreta.
C Intrauterine foetal growth restriction.
D Hypertension in pregnancy.
You are the emergency doctor on call and you are called to the home of a 15-year-old boy, after his mother found him crying in the bathroom with an untightened belt around his neck. According to the mother he was hospitalised at a psychiatric ward one year ago due to disruptive behavior/acting out, suicidal threats and a possible suicidal attempt. He received outpatient care for depression for six months, then follow-up of child welfare services with assistance to him and his parents due to major conflicts at home and behavioural difficulties. For the last weeks, he has had increasing school absence, been very irritable, angry and withdrawn. The boy gives little eye contact and will not say anything about how he is doing, or what he thinks. What is your evaluation of suicidal risk in the boy?

A The suicidal risk is high, because of probable mental illness and increasing withdrawal.
B The suicidal risk is high, because of probable mental illness and previous hospitalisation for suicidal threats and a possible suicidal attempt.
C The suicidal risk is high, because of probable mental illness and conflicts in the family.
D The suicidal risk cannot be assessed before I have talked to the boy about his thoughts about death and suicidal plans.

A 12-year-old boy, has been diagnosed with hyperkinetic disorder and has recently started with Ritalin SR (methylphenidate Sustained Release). As a general practitioner (GP) you have to give advice about other treatment measures. What other treatment measures are the most important in a comprehensive treatment regimen?

A Educational and behavioural measures.
B "Time-out" from concentration intensive tasks.
C Physical exercise and a proper diet.
D Leisure activities which can build self-confidence.

A 7-year-old boy is running around and makes a lot of noise both inside and outside the classroom. He is afraid of the dark and has difficulty falling asleep at night. At school he does not sit still in his seat, but is restless and disturbs the others, and he has few friends. What additional information is most important in order to clarify whether he has hyperkinetic disorder/ADHD?

A If the care at home is good enough, with engagement and warmth in close relationships.
B If he is impulsive and has attention difficulties, and if he has symptoms also in his leisure time.
C If the connection with the parents was good during his first few years of life, and if he got help with emotional regulation.
D If he is exposed to or performs bullying, or if he has experienced traumatic events.

A 10-year-old boy has involuntary, rapid movements of the face and mouth, and eye blinking. This started when he was 6 years old and has increased lately. For the last two years, he makes sudden noises at times: clearing of the throat and loud shouting. The symptoms are bothersome and affects his functioning at school. Which measure will you prioritise as the first choice?

A Guidance of the patient, family and school.
B Habit Reversal Training (tic reversal treatment)
C Family therapy
D Medical treatment with clonidine or a neuroleptic.
24
A 10-year-old boy has a bad temper with much anger. He is very active, restless in class and often
goes to school. He has repeatedly hit other children so they had to see a doctor. He dislikes school,
concentrating only for a few minutes at a time and is starting to lag behind in reading and mathematics.
The parents are concerned and responsive to the advice they can get.
Which diagnoses are most probable and therefore important to investigate first?
A Conduct disorder, hyperkinetic disorder and specific learning difficulties
B Specific learning difficulties, depression and anxiety disorder
C Depression, anxiety disorder and conduct disorder
D Hyperkinetic disorder, specific learning difficulties and depression

25
A 7-year-old girl, in first grade, is an only child in a closely knit family (mother, father and the girl). She
has always been very cautious. For the last 2-3 months, she has been hesitant to go to school. She
complains about stomach ache and goes to the toilet repeatedly to avoid school. She worries that
something bad might happen with her or with her mother, and asks repetitively if her mother and father
love her. Every day her mother accompany her to school, and has to comfort the girl for a long time
before she gets to go to work. The girl wants to be together with others from the class if they come to
her home.
Which diagnosis is most likely?
A Obsessive compulsive disorder
B Separation anxiety disorder
C Social anxiety disorder
D Depression

26
A 12-year-old girl, has over the last three weeks been sad, had concentration and sleeping difficulties.
Even when she participates in activities that are usually fun, she cannot feel enjoyment. She is
unhappy with her appearance, and feels that others think she's boring. You think she has a depressive
episode, currently of a mild degree, and want to try out the recommended treatment regimen in
general practice.
Which elements will be the first choices in this regimen?
A Use the "circle of growth" to increase self-esteem
B Medical treatment with a SSRI (selective Serotonin reuptake inhibitor).
C Improve sleep hygiene and change dysfunctional thoughts.
D Expose her to "triggers" with response prevention.

27
In child and adolescent psychiatry the multi-axial diagnostic system (ICD-10) is used to describe
biopsychosocial factors. One of the axes covers deviant psychosocial situation.
Which of the following factors are included in this axis?
A Acute life events, somatic illness in the child
B Divergent upbringing, the child’s global functioning
C Divergent family relationships, mentally ill parent.
D Mental retardation in the child, physical child abuse
A 15-year-old girl witnessed a dramatic incident 6 months ago, where a person fired shots right by the school she attends, killing 5 people and finally himself. One of the people killed was the girl’s little sister. Now she is very sad and anxious, keeps mostly at home with her parents and has not been in school since the incident. She is troubled by insomnia and nightmares, and has difficulty concentrating. What is the most likely diagnosis?

A  PTSD, because she fulfills all of the diagnostic criteria.
B  Separation anxiety, because she is anxious, stays together with her parents, and does not fulfill all the criteria for PTSD.
C  Depression, because she is very sad, has difficulty sleeping, and does not fulfill all the criteria for PTSD.
D  Developmental trauma disorder, because this happened at a crucial developmental stage, she has symptoms of trauma, and does not fulfill all the criteria for PTSD.

You are the school doctor at a primary school, and you are contacted by the principal who says that a teacher is concerned about a 7-year-old boy, who is followed up by a child and adolescent psychiatrist because of ADHD. The boy came to school today, he seemed upset and stated that it was painful to sit. Spontaneously he told the teacher that "Daddy has given me spanking because I peed myself last night."

You examine the boy and find that on his right buttock he has a red-blue bruise of approximately 7 x 10 cm which is tender to the touch. In addition, you find that he has a brown mark located on the left ear cartilage and some unremarkable scrapes and bruises on his legs and knees. The boy repeats the story of the bruise on his buttock, in addition he says that "Daddy dragged me in my ear."

How do you handle this?

A  You submit a written report of concern to the child welfare services and ask the general practitioner (GP) to control the boy in about a week.
B  You contact the child welfare services and police by telephone immediately after the examination of the boy.
C  You ask the principal to convene the parents to a meeting the same day to determine if the boy's story is correct.
D  You send a message to the general practitioner (GP) and ask that the boy and his family are followed up by him/her.

Which disease is best suited with the following clinical findings: skin bleeding on lower limb, arthritis and haematuria?

A  Haemolytic uraemic syndrome
B  Glomerulonephritis
C  Henoch Schönlein Purpura
D  Kawasaki disease
Mia is 2 years old and goes to a nursery. Last week she had loose stools, and for the last days her parents have thought that she looks a little pale. Today the nursery called and asked the parents to fetch her because she seemed very lethargic. The parents took her directly to the emergency room when they saw her. The doctor finds that she is very faint, pale and in poor general condition with scattered bruises and bleeding under the skin. Temperature 37.1, pulse 130, capillary refill 2 sec. Hb 5.2 g/dL and CRP <5 mg/L. The emergency room doctor sends her directly to the hospital children's emergency room where several blood tests are ordered after the doctor on call have examined her. The first blood test results are:

- Hb 4.8 g/dL (ref. 10.5 to 13.5 g/dL)
- Leucocytes 5.2 x 10^9/L (ref. 4.0 to 14.0 x 10^9/L)
- Thrombocytes 10 x 10^9/L (ref. 164-370 x 10^9/L)
- CRP <5 mg/L (ref. <5 mg/L)
- Creatinine 92 μmol/L (ref. 15 to 31 μmol/L)

What is the most likely diagnosis?

A. Haemolytic uraemic syndrome
B. Post-infectious glomerulonephritis
C. Moderate to severe dehydration
D. Acute lymphatic leukaemia

Mari, 12 years old, is a previously healthy girl. Over the last two weeks she has had a worsening dry cough, mild fever and gradually increasing weakness. She has been home from school for the past five days. On examination by the general practitioner (GP), she is weak and pale, but she is not severely lethargic. Respiration rate is 26/min. She has a normal blood pressure and a slightly increased pulse, 100/minute, temperature 38.3. Over the lungs there are light crackles bilaterally, mostly basally, but there is no dullness to percussion. CRP 42 mg/L (ref: <5 mg/L).

Which microbe do you think has caused the infection?

A. Mycoplasma pneumoniae
B. Respiratory syncytial virus
C. Influenza virus type A or B
D. Streptococcal pneumonia

Peder is fasting before surgery tomorrow. He weighs 37 kg. How much fluid will you give intravenously per hour to cover his basic needs?

A. 153 ml/hour
B. 98 ml/hour
C. 42 ml/hour
D. 77 ml/hour

Ella (5-year-old girl) had a normal length at birth, but from about 1.5 years of age, she has begun to deviate from the normal range. Look at the growth curve. She was born at term, and has a slight infection-induced asthma treated with beta-2 agonist as needed. Her father is 183 cm and her mother is 170 cm. Bone age is two years delayed. On clinical examination there are normal findings.

What is the most probable diagnosis?
A Coeliac disease or other malabsorption condition
B Growth hormone deficiency
C Genetically determined short stature
D Russell Silver syndrome

35 What is the most important preventive measure against respiratory distress syndrome (RDS) for premature infants?
A Endotracheal surfactant
B Early CPAP (non-invasive mechanical ventilation)
C Early invasive mechanical ventilation (respirator)
D Antenatal corticosteroids

36 What is the expected pre-ductal oxygen saturation in a newborn term infant about 5 minutes after birth?
A 65-70%
B 90-95%
C 95-100%
D 80-85%
37 Henrik, 9 years old, has had a chronic inflammatory disease for 5 years and has used immunosuppressive medication for a long time. The specialist he sees has told Henrik’s parents, general practitioner (GP) and public health nurse that he therefore should not get live vaccines. Which 3 vaccines should he not get?

A Human papillomavirus, hepatitis B and influenza
B Haemophilus influenza, pneumococcal and polio
C Measles, mumps and rubella
D Diptheria, tetanus and pertussis

38 Jon is a 2-year-old boy. He has atopic eczema and is allergic to eggs and milk. He is in the nursery. There he eats a tomato and drinks some milk from his friend’s glass. 20 minutes later he gets a red skin rash and swollen lips, he coughs and vomits. What mechanism and food are causing his symptoms?

A Type I allergic reaction caused by milk
B Type IV allergic reaction caused by milk
C Histamine release caused by the tomato
D Type I allergic reaction caused by the tomato

39 You are on call at the children’s ward emergency room. A 5-year-old boy arrives, he is unconscious and has twitching throughout his body. Which of these tests helps you the least in the emergency situation?

A CT scan of the brain
B EEG
C Glucose measurement
D Electrolyte measurement

40 A 5-month-old girl is previously healthy and has no atopic predisposition. She now has a fever and a stuffy nose, and for the last 24 hours she has been a bit lethargic and will not take the breast. On examination, she is pale, lethargic, and her respiratory rate is 70/min with retractions sub- and intercostally. Capillary refill time < 2 seconds and pulse 140/minute. She is admitted to the hospital, where oxygen saturation is 90%. Over the lungs crackles are found on both sides and she has a prolonged expiration phase. Blood tests show:

CRP 42 mg/L (ref. <5 mg/L)
Haemoglobin 10.8 g/dL (ref. 10.8 to 13.5 g/dL)
Leucocytes 7.8 x 10^9/L (ref. 4.0 to 20.0 x 10^9/L)
pH 7.30 (ref. 7.35 to 7.45)
pCO₂ 6.9 kPa (ref. 4.5 to 6.0 kPa)
BE -6 (ref. -3 To 3)
She initially gets nasal oxygen and a nasogastric tube for breast milk. What kind of treatment should be started at the hospital?

A Saline solution nasal drops, inhaled beta2 agonist
B Saline and/or adrenaline inhalation, oral steroids
C Saline solution nasal drops, saline and/or adrenaline inhalation
D Saline and/or adrenaline inhalation, Penicillin
41 Which of the following conditions is characterised by persistent fever, changes in mucous membranes and skin rash?

A Henoch Schönlein purpura  
B Kawasaki syndrome  
C Haemolytic uraemic syndrome  
D Acute nephritic syndrome

42 You have to assess the growth of a 15-year-old boy with a height of 156 cm, and you have the following information:
Born to term with length 49 cm and weight 3 kg. His height was on the 50th percentile until he started school. Then it gradually fell off and now he lies between the 2.5 and 10th percentile. He feels perfectly healthy. On examination he has a testicular volume of 3 ml bilaterally. His mother’s height is 165 cm and his father’s height is 178 cm. His father’s voice began to crack at age 17.
Which explanation for the boy’s growth pattern is most likely?

A Chronic illness with unrecognised symptoms  
B Genetically determined short stature  
C Midline brain damage with pituitary deficiency  
D Constitutionally delayed growth and puberty

43 Which is the most common type of seizure in febrile convulsions?

A Atonic seizure  
B Generalised tonic-clonic (GTC) seizure  
C Absence seizure  
D Partial seizure

44 Which of the following findings do you associate with malrotation of the intestines in children?

A Malabsorption  
B Invagination  
C Volvulus  
D Chronic constipation

45 Ane is the first child of healthy parents. She was born at term after a normal pregnancy. Her birth weight was 3350g. She was discharged on the 3rd day after birth, and her weight began to increase again after a normal postnatal weight loss. Nothing special was noted during the stay in the Maternity Ward. At the 6-week check-up at the Mother and Child Clinic, the doctor noted that Ane had jaundice. Her somatic status was otherwise unremarkable.
Which diagnosis should the doctor consider that justifies quick referral to the nearest Paediatric Department?

A Acute infection  
B Bile duct atresia  
C Rhesus immunisation  
D Breast milk jaundice
46 Tore, a 7-month-old boy, is brought to your office because his parents have observed some strange twitches, as if he is startled. These can often come in series after each other, and they only last a few seconds. He can have several such episodes every day. In between the episodes he is in good shape, gives good contact and eats well. He is not yet sitting entirely without help, but does roll over.

What is the best management of this boy?

A Written referral to Paediatric Outpatients for assessment
B Emergency admission to the Paediatric department
C Routine follow up at the Mother and Child Clinic and new doctor’s appointment if it gets worse
D Follow up with the general practitioner (GP) in a week

47 What is the most characteristic finding by microscopy of a peripheral blood smear in a child with haemolytic uremic syndrome?

A Dominating amount of small erythrocytes
B Presence of monocytes is evident
C Presence of hypersegmented granulocytes is evident
D Presence of fragmented erythrocytes is evident

48 The GP sees a 26-year old patient with a swelling in the left scrotum and believes it is a hydrocele testis. The GP uses a torch and send light through scrotum. Findings support the suspicion of a hydrocele testis.

Which investigation or referral should the doctor order next?

A Referral to a specialist in urology to investigate for a hydrocele.
B CT testis to exclude a spermatocele
C Ultrasound of the scrotum to verify the diagnosis.
D Urinary dip-stick to check for an ascending urinary tract infection.

49 A 73-year old man, who is a retired ship’s mechanic, has been diagnosed with a muscle-invasive bladder cancer at transurethral resection (TUR-b). He is otherwise healthy. Investigation with CT scan of the abdomen/pelvis and an x-ray of the thorax has not demonstrated any signs of metastases.

What treatment should this patient have?

A New transurethral bladder resection (TUR-b) within 4-6 weeks
B Either radical cystoprostatectomy or radiotherapy
C Intravesical immunotherapy with a 6-week Bacille Calmette-Guérin (BCG) induction course
D Cystoscopy control in 3 months

50 A 3.5 cm tumor has been found in the upper pole of the right kidney of a 62-year-old man. He has hypertension and type II-diabetes, but is otherwise healthy.

What is the recommended treatment for this finding?

A "Wait and see" observation
B Partial nephrectomy
C Radical nephrectomy
D Chemotherapy
A 16-year-old boy has spent his summer holidays in Greece and has had unprotected sexual intercourse. He comes to the emergency room with severe pain in the left testicle which began a few hours ago. He says that he has had several days of discharge from the urethra. On examination the patient has intense pain on palpation of the whole left testicle and epididymis.

Blood tests show: CRP 7 mg/L (ref. 0-5), B-Leucocytes 5.1 x 10^9/L (ref. 4.1-9.8)

What will You do?

A. You order a Doppler ultrasound of the scrotum
B. You perform a swab from the urethra to exclude infection with Gonorrhoea and give the patient antibiotic treatment with oral Ciprofloxacin
C. You suspect infection with Chlamydia and start a 7-day course of the antibiotic Doxycyclin
D. You perform a swab from the urethra to exclude infection with Gonorrhoea and give the patient a single-dose treatment with Penicillin

You have recently taken over as the GP for a man aged 70 years old. In his medical records you find that 8 years ago he was investigated for asymptomatic microscopic haematuria using cystoscopy and CT of the urinary tract. The patient is now contacting you because of problems with urination at night. He has to get up 3 times at night and his sleep is affected. You examine the patient and find an enlarged prostate; perform a urine dipstick test and find 2+ for blood. What do you do next with this finding?

A. Patients older than 70 years of age should be investigated with CT of the urinary tracts and cystoscopy only if they have macrohaematuria. You offer medical treatment for BPH.
B. Since the patient has already been investigated for microscopic hematuria you consider this as adequate even though it is a few years ago. Urination problems in his age are probably caused by an enlarged prostate and you offer medical treatment for this.
C. As he now has symptoms from the urinary tract, you refer the patient for a new three-phase CT and cystoscopy at the Urology Outpatient Clinic.
D. You plan to check the urine 3 times at 3-4 weeks' interval. If the haematuria goes away there is no need for further investigation.

Regarding NSAID (non-steroidal anti-inflammatory drug) treatment of kidney stones, which of the following statements is the most correct:

A. NSAIDs increase the urine production by inhibiting the prostaglandin synthesis and thereby increase the likelihood of spontaneously passing a kidney stone.
B. NSAIDs increase the circulation to the kidneys by inhibiting the synthesis of prostaglandins and thereby increase the likelihood of spontaneously passing a kidney stone.
C. NSAIDs analgetic effect is a result of inhibition of the prostaglandin synthesis.
D. If the patient has normal creatinine and potassium levels the kidney function is normal in both kidneys.

A 67-year-old man seeks medical advice because of a 1 centimeter large lesion on the glans penis close to the transition to the prepuce. What is the most frequent localisation of penile cancer metastases? (Remember the embryological development)

A. Retroperitoneal lymph nodes in the abdomen
B. Lymph nodes in the groin
C. Retroperitoneal lymph nodes in the pelvis
D. Lymph nodes in the mediastinum
55
A 65-year-old man, is previously healthy and has had no previous difficulty with passing urine. In connection with knee replacement surgery he received spinal anaesthesia. The operation was difficult and prolonged. Postoperatively, the patient complained of very frequent urination in small portions and incontinence. Urine dipstick test was negative. What type of incontinence is most likely in this patient?

A Overflow incontinence
B Stress incontinence
C Mixed incontinence
D Urge incontinence

56
A 25-year-old man has had type 1 diabetes for nine years. Since he was 18 years old he has only occasionally turned up to planned medical check-ups because he feels perfectly healthy. He uses insulin, he almost never has symptoms of low blood sugar and does not measure his blood sugar very often. At an ophthalmologist check-up a year ago retinopathy grade 1 was discovered. He now comes to his general practitioner (GP) for a check-up. On clinical examination, he has a blood pressure of 114/88 mmHg, he is slim and in good general condition. Normal findings on examination of the heart and lungs.

Lab results:
Creatinine 87 micromol/l (ref.:60-105 micromoles/L)
Glucose 8,2 mmol/l (ref.:4,0-6,0)
HbA1c 9,8% (ref.:4,3-5,6%)
Urine strip/dipstick test: albumin +, u-albumin/creatinine ratio: 20 mg/mmol (ref.: <2.5 mg/mmol)

How are we to understand the condition and what is it most important to do now?

A Findings are consistent with early diabetic kidney damage. Good glycaemic control is the most important measure to prevent permanent kidney damage, and is also the main preventive measure against retinopathy.
B Findings are consistent with established diabetic nephropathy. The most important treatment measure is to start an ACE-inhibitor or angiotensin II receptor antagonist.
C The finding of low-grade albuminuria has little prognostic importance for the development of permanent kidney damage. As long as he has normal blood pressure and normal kidney function no further measures are necessary.
D Findings are not typical for diabetic kidney damage, he should be referred to a nephrologist for a kidney biopsy.

57
Anna (60 years) is admitted to hospital due to poor general condition. On admission she has a s-creatinine of 490 µmol/L (reference: 45 - 90 µmol/L) and s-potassium of 6.4 mmol/L (reference: 3.6 - 4.6 mmol/L).

Which of the following alternatives should the doctor initiate?

A Start glucose-insulin infusion to treat the hyperkalaemia.
B Start Calcium Resonium (calcium polystyrene sulfonate) to increase excretion of potassium through the large intestine.
C Insert a groin catheter and start haemodialysis to treat the kidney failure.
D Insert a urinary catheter to ensure drainage and start isotonic NaCl to initiate diuresis and reduce the hyperkalaemia.
58
A 55-year-old man with known chronic renal disease stage 3, is admitted to hospital with general weakness, severe fatigue, nausea and general body itching. He has noted decreased urine production over the last few days. He has just had gastroenteritis with diarrhoea and vomiting. He has known hypertension and use lisinopril (ACE inhibitor) and furosemide (loop diuretic). On clinical examination you find dry mucous membranes, the ECG shows sinus tachycardia, pulse 115/min.
Blood pressure is 105/66 mmHg.
Blood tests show the following:
Haemoglobin 11.0 g/dl (13.4 to 17.0 g/dL)
Leucocytes 5.3x10⁹/L (4.1 to 9.8x10⁹/L)
Creatinine 560 μmol/L (60-105 μmol/L)
s-potassium 7.6 mmol/L (3.6 to 4.6 mmol/L)
s-sodium 134 mmol/L (137 - 145 mmol/L)
ECG: sinus tachycardia, high pointy T-waves
Which first step is the right thing to do?
A  Continue with the ACE inhibitor and give intravenous 0,9% NaCl.
B  Discontinue the ACE inhibitor and diuretic and give intravenous 0,9% NaCl and intravenous glucose-insulin.
C  Contact the dialysis doctor and arrange to start dialysis tomorrow.
D  Discontinue the ACE inhibitor and diuretic and give intravenous 0,9% NaCl

59
A 52-year-old man contacts you because he has developed swelling in both legs, right up to the knees, and has increased five kilograms in weight. Blood pressure is 135/80 mmHg, s-creatinine is 79 micromol/L (60-105).
A  Heart failure
B  Nephrotic syndrome
C  Deep venous thrombosis (DVT)
D  Nephritic syndrome

60
Anne (42 years) is previously healthy. She now comes to her general practitioner (GP) because she has felt unwell for the last 7 days. Light headache. At clinical examination you find blood pressure 180/110 mmHg and perhaps slightly reduced power of the left upper limb. Previously her husband felt that Anne had slightly slurred speech, but you cannot find this today. Which decision is the most accurate?
A  She has to be urgently admitted to hospital to exclude development of a stroke
B  You have to check her blood pressure, blood tests and clinical condition tomorrow, and then start anti-hypertensive treatment with an ACE inhibitor or a low-dose thiazide
C  She has to be urgently admitted to hospital to exclude development of a stroke or a hypertensive crisis
D  She must be admitted to hospital urgently in order to decrease the blood pressure with intravenous medication (labetalol, beta+alpha blocker) to a level around 140/75 mmHg within the next 12 hours.
61
Anna (78 years) has had hypertension for many years. She has been treated with a moderate dose calcium channel blocker (amlodipine 5 mg x 1) and a small dose of a diuretic (hydrochlorothiazide 12.5mg x 1), and her blood pressure has been fine around 140/90 mmHg. At today’s check-up the blood pressure is much higher even after prolonged rest and repeated measurements: 190/105 mmHg. She feels in good shape except that she has a little headache and wants to go home.
Which assessment is the most accurate?
A. She seems a bit stressed and you arrange for a new check-up in 2 months
B. You have to order blood and urine tests (electrolytes, creatinine, glucose, cholesterol etc.), increase the dose of both her medications to the maximum, and arrange for a check-up in 3-4 days
C. You should add an ACE-inhibitor and arrange for a check-up in 4-5 weeks
D. She has to be admitted to the hospital medical ward because of a hypertensive crisis

62
Kristoffer (27 years) has been followed up at the general practitioner’s office (GP) because his blood pressure has been 155/95 mmHg on several occasions. Kristoffer is somewhat overweight (BMI 29), he is a smoker, and does not exercise. Kristoffer has no known heart disease, lung disease or other medical problems. He uses no regular medication, except that he six months ago started with hydrochlorothiazide 25 mg x 1 with which he has no complaints. The blood pressure has dropped to 140/85 mmHg. He has now been to a check-up with a colleague of yours while you have been on leave, and you see now that your colleague suggests some changes in the treatment regimen.
Which of the following statements is most accurate:
A. You should change the treatment to a calcium channel blocker or an ACE inhibitor.
B. The blood pressure is not optimally treated and you should add a beta blocker in low dose.
C. You should measure the C-peptide level to investigate if the patient is in danger of developing diabetes.
D. Electrolytes should be measured to investigate for side-effects and possibly in order to discover, and correct, any electrolyte deficiencies present.

63
A man has type 2 diabetes and chronic kidney disease; moderately reduced kidney function with an estimated GFR of 41 mL/min/1.73 m2. He is treated for hypertension and hyperlipidemia and has had a myocardial infarction with stent insertion.
What is the treatment goal for HbA1c for this patient according to the Norwegian guidelines for diabetes 2016?
A. HbA1c < 7% (53 mmol/mol)
B. HbA1c around 7% (53 mmol/mol)
C. HbA1c between 7% and 8% (53 - 64 mmol/mol)

64
Lise is a 70-year-old woman who recently got a distal radius fracture when she stumbled on the floor. She was referred to a bone density measurement showing T-score -2.7 in the lumbar spine and -3.0 in the femoral neck. She has previously been healthy and takes no regular medication.
Which is the first choice in treating this patient, in addition to calcium and vitamin D supplements?
A. Zoledronate (intravenous bisphosphonate)
B. Denosumab (antibody to RANKL)
C. Oestrogen/progestogen
D. Alendronate (oral bisphosphonate)
A 35-year-old woman starts with a thyreostatic medication (Neo-Mercazole/Carbimazole 10 mg x 3) because of Graves' disease, with a free thyroxine level of 42 pmol/L (reference range 12.0-22.0 pmol/L), thyroid stimulating hormone (TSH) <0.01 mIU/L (reference range 0.27-4.20 mIU/L) and elevated levels of TSH receptor antibody. After 3 weeks, she contacts you as her general practitioner (GP) because she has a fever around 39 degrees Celsius and a sore throat. You have no endocrinologist to consult with.

What will you do?

A Reduce the dose of Neo-Mercazole (Carbimazole) to 10 mg x 2. Order blood tests including white blood cell count and differential count.

B Change over to another thyreostatic medication: Propylthiouracil. Order blood tests, including a white blood cell count and differential count.

C Discontinue Neo-Mercazole (Carbimazole). Order blood tests, including a white blood cell count and differential count. Do not start any new thyreostatic medication for the time being.

A 48-year-old man contacts you because he, after a week of flu symptoms, for the last 4-5 days has been sweating, had palpitations and a tremor. He has a clammy skin and is very tender on palpation of the thyroid gland, which is evenly enlarged without firm parts. No ophthalmopathy. Blood pressure is 140/72 mmHg, pulse 92/min regular.

Blood test results:

<table>
<thead>
<tr>
<th>Patient</th>
<th>Reference range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemoglobin in blood</td>
<td>13,6 g/dL</td>
</tr>
<tr>
<td>C-reactive protein</td>
<td>82 mg/dL</td>
</tr>
<tr>
<td>Leucocytes</td>
<td>14,5 x 10^9/L</td>
</tr>
<tr>
<td>Free thyroxine (FT4)</td>
<td>41 pmol/L</td>
</tr>
<tr>
<td>Thyroid stimulating hormone (TSH)</td>
<td>&lt;0,01 mIU/L</td>
</tr>
<tr>
<td>TSH receptor antibody (anti-TSH receptor, TRAS)</td>
<td>1,0 IU/L</td>
</tr>
</tbody>
</table>

You think the most likely diagnosis is subacute thyroiditis, but is unsure whether it can be Graves' disease because TRAS is just bordering on a positive value. Which investigation can be useful to separate subacute thyroiditis from Graves' disease in this patient?

A MRI of the thyroid gland

B Ultrasound scan of the thyroid gland

C Thyroid scintigraphy with uptake testing
A 44-year-old woman got a concussion after a fall. A CT scan of the brain and an MRI of the pituitary showed a surprising find of a large pituitary macroadenoma. The tumor grew into the cavernous sinus on the left and superiorly. There was only 1 mm to the optic chiasma. The pituitary stalk was a bit difficult to identify, but deviated sharply to the right. Upon questioning, it turns out that the patient has not had menstruation for a few years. She uses no regular medication. Endocrine tests showed:

- Prolactin 1368 mIU/L (upper reference limit 420 mIU/L), IGF-1 32 nmol/L (reference range 12-33 nmol/L), FSH 2.0 IU/L (premenopausal reference range 2-12 IU/L, postmenopausal reference range 12-40 IU/L), LH 2.3 IU/L (premenopausal reference range 2-12 IU/L, postmenopausal reference range 12-40 IU/L), cortisol 223 nmol/L (samples taken at 10.30) (reference area morning cortisol 280 - 740 nmol/L), TSH 4.8 mIU/L (reference range from 0.2-3.8 mIU/L) and free T4 13.2 pmol/L (reference range 10.8-20.4 pmol/L).

What kind of pituitary adenoma is most likely in this patient?

A TSH-producing pituitary adenoma
B Prolactinoma (prolactin producing pituitary adenoma)
C Acromegaly (growth hormone producing pituitary adenoma)
D Non-functional pituitary adenoma

You diagnose diabetes mellitus in a 35-year-old man. His body mass index is 35 kg/m2. In a fasting serum sample the C-peptide concentration is 2.2 nmol/L (reference range: 0.3-2.4 nmol/l) and the glucose concentration is 8 mmol/L (reference range: 4.0-6.0 mmol/l). There are no detectable antibodies against glutamic acid decarboxylase (GAD) or protein tyrosine phosphatase (IA-2). His parents both got diabetes when they were 60-70 years old. Which type of diabetes is most likely?

A Diabetes mellitus type 1
B Maturity onset diabetes of the young (MODY)
C Diabetes mellitus type 2
D Latent autoimmune diabetes in adults (LADA)

A 42-year-old married and slightly overweight man is the managing director of medium sized company which is currently in a downsizing process. In recent months he has developed erectile dysfunction. He consults his doctor who orders blood tests. There are normal values for FSH, LH, ACTH, cortisol, growth hormone, IGF-1 and euthyroid metabolic tests. Testosterone is around the lower reference value, and prolactin is about 800 mIE/L (ref.range: 86-324 mIE/L). The doctor thinks this is striking and orders an MRI scan of the pituitary showing an adenoma, 4 mm in diameter, in the middle of the pituitary gland. When the doctor informs the patient about this finding it emerges that the patient was very stressed the morning of the blood tests because he had to catch an important meeting. What is the most likely cause of the patient's problems and the relevant findings?

A The patient has a non-functional pituitary adenoma that puts pressure on the pituitary stalk and gives hyperprolactinaemia which in turn gives hypogonadism. This is the cause of the patient's erectile dysfunction.
B The patient's erectile dysfunction is not secondary to pituitary disease or endocrine disturbances, but most likely related to high levels of pressure at work and possibly problems in his marriage.
C The patient has a pituitary microadenoma that produces both prolactin and growth hormone. The erectile dysfunction is a sign of incipient acromegaly.
D The patient has a microprolactinoma which is the cause of the increased prolactin level, the tendency for a low testosterone level and the erectile dysfunction.
70
A 24-year-old man is referred to an endocrine outpatient clinic because of low levels of testosterone. Until recently he exercised for many hours per week. At the consultation he appears muscular. Blood test results from a few days back show:
Testosterone 2.8 nmol/L (reference range from 7.0-32.0 nmol/L), FSH 1.3 IE/L (ref: 2.0-12.0 IE/L), LH <1.0 IE/L (ref: 2.0-12.0 IE/L), SHBG 48 nmol/L (reference range 22-138 nmol/L).
What is the most likely diagnosis?
A  Kallman syndrome (a type of congenital hypogonadotropic hypogonadism)
B  Abuse of anabolic steroids
C  Prolactinoma
D  Large pituitary tumour with destruction of normal pituitary tissue

71
A 42-year-old man has received 13 weeks of treatment with prednisolone because of subacute thyroiditis. Before starting treatment free thyroxine was 41.2 (reference range 12.0-22.0) pmol/L and thyroid-stimulating hormone (TSH) was undetectable (<0.01 mIE/L) (reference range 0.27-4.20 mIE/L). Prednisolone was decreased from the starting dose of 40 mg daily and discontinued 2 weeks before this check-up with you. The patient now feels a little sluggish and tired. Free thyroxine (FT4) is now 11.1 pmol/L, TSH is 5.30 mIE/L, CRP has normalised and both anti-TPO (thyroid peroxidase) and TSH receptor antibodies are negative. The patient does not have enlargement of the thyroid gland. Blood pressure 125/75 mmHg, pulse 62/min regular.
Do you want to initiate further treatment? Possibly what?
A  You think that there is no need for further treatment at this time, but the thyroid blood tests should be checked in 2-4 weeks.
B  You think that the patients has hypothyroidism, which requires treatment, and you start Levaxin (levothyroxine).
C  You think that the illness is poorly controlled and restart the prednisolone treatment, but in a low dose: 5 mg daily.

72
You meet a patient at the general practitioner’s (GP) office, she is a 47-year-old woman. She is somewhat overweight, has previously given birth to two children, and is previously healthy. She explains that she has noticed a lump in the left breast. It is not tender on palpation. She has had it for 2-3 weeks. She wonders what this is and whether it is dangerous. There is nothing to remark upon on inspection. On examination, there is a palpable lump in the relevant area, 2-3 cm in diameter, and it is not easy to palpate its exact borders. It is uncertain whether there is an enlarged lymph node in the left axilla or not.
Which steps should you implement?
A  Order general blood tests to see if there is any pathology.
B  Refer the patient to a breast diagnostic unit/outpatient clinic.
C  Assess the patient in 2 weeks to see if the lump disappears.
D  Try to aspirate fluid from the cyst.

73
A 27-year-old woman from a healthy family is at the general practitioner’s (GP) office today. She gave birth to a child nine months ago. She has felt a lump in one of her breasts. She noticed it a few days ago. On palpation, there is a well defined tumour in the upper lateral quadrant in the right breast. The tumour is freely movable. There is no tenderness on palpation and no discoloration of the skin. What is the most probable diagnosis?
A  Breast cancer
B  Breast abscess
C  Cyst
D  Fibroadenoma
The patient is a 33-year-old woman from a healthy family. She sees you, as her general practitioner (GP), because she has noticed a lump anteriorly and somewhat inferiorly on her neck. The lump moves when she swallows, and it is not tender. On palpation there might be enlarged lymph nodes laterally. Her thyroid blood tests are normal.

What diagnosis is most likely?

A  Medial neck cyst/thyroglossal cyst
B  Parathyroid adenoma
C  The lump is part of a goitre
D  Cancer of the thyroid gland

Patients with cervical cancer are investigated with radiological imaging before treatment. What is the main intention of this investigation?

A  To assess pelvic lymph node metastasis
B  To assess the tumour volume
C  To distinguish early operable disease from advanced non-operable disease
D  To assess the CIN grade

A 14-month-old boy comes to the emergency department with acute onset of pain in the right iliac fossa five hours ago. The pain lasts a few minutes before it subsides, then there is a 5-15 minute break before the pain comes back. The boy vomited 3 times and appears lethargic. There is no fever and a normal CRP. He is distinctly tender on palpation in the right iliac fossa, and the abdomen seems somewhat distended. Some jelly-like mucous comes from the rectum.

Which imaging studies are the first choice?

A  Ultrasound of the abdomen + CT scan of the abdomen
B  Ultrasound of the abdomen + MRI of the abdomen
C  Ultrasound of the abdomen + abdominal x-ray
D  Ultrasound of the abdomen + PET of the abdomen

Symptoms of ovarian cancer are often noticed only when the disease has broken through the surface of the ovary and into the abdominal cavity or other organs. How should one assess this using imaging preoperatively?

A  PET of the pelvis + transvaginal ultrasound
B  MRI of the pelvis + transvaginal ultrasound
C  Transabdominal ultrasound
D  CT scan of the thorax/abdomen/pelvis

A 72-year-old man is investigated because of the first incidence of macroscopic haematuria. An ultrasound scan taken in conjunction with non-specific abdominal pain two years ago showed a 5 cm thin-walled cyst without septae in the lower pole of the left kidney. Cystoscopy performed now is normal.

Which further plan is the most appropriate?

A  No further investigation is necessary. The haematuria is most likely caused by the kidney cyst, and this is a benign condition.
B  Ultrasound scan as an outpatient in 3 months to see if the cyst has changed
C  Urography to find any potential pathology in the kidneys and urinary tracts
D  Three-phase CT scan of the kidneys and urinary tracts, to find any potential pathology in the kidneys and urinary tracts
A 26-year-old man goes to the emergency room because of pain in the scrotum. The pain came on gradually over the past 2-3 days, but has increased in severity for the last 24 hours. On clinical examination there is clearly redness and swelling, and pain on attempted palpation of the testicles. CRP 80 (normally < 5). Which imaging modality is best suited to investigate this problem?

A  CT scan of the scrotum  
B  Ultrasound scan of the scrotum  
C  X-ray of the scrotum  
D  MRI of the scrotum

What is the main intention with the first phase of a three-phase CT scan taken to investigate haematuria?

A  To find kidney tumours  
B  To find tumours in other locations than the kidneys or urinary tracts  
C  To find concretions in the kidneys or urinary tracts  
D  To find tumours in the collecting system and ureter

A 69-year-old man was investigated with an ultrasound scan of the kidneys and urinary tracts because of mild renal impairment (eGFR 50 (> 61 mL/min/1.73 m²)) and microscopic haematuria (1+ on urine strip/dipstick test). The ultrasound scan showed: "Normally sized kidneys with normal echogenisity, a cyst without septae, diameter 4 cm, in the right kidney. Dilated left renal pelvis and proximal ureter. Enlarged prostate gland. 50 ml residual urine after bladder emptying." What is most worrisome about this answer?

A  Residual urine  
B  Dilated left renal pelvis  
C  Enlarged prostate gland  
D  The cyst in the right kidney

You have sent a 15-year-old girl to an MRI of the head due to prolonged migraine. The result of the investigation says that the pituitary is slightly enlarged with some protrusion/bulging of the upper pituitary contour, height 9 millimeters. What is the most likely explanation for this finding?

A  Physiological enlargement in puberty  
B  Lymphocytic hypophysitis  
C  "Rathke's Cleft" cyst  
D  Pituitary adenoma

X-ray of the thorax is the most common X-ray investigation in children. How large is the dose of radiation in such an investigation?

A  50 mSv (corresponds to 10 x annual background radiation in Norway)  
B  5 mSv (the same as the annual background radiation in Norway)  
C  0.05 mSv (to the dose from cosmic radiation in a plane flying from Norway to New York)  
D  0.00005 mSv (a thousandth of the cosmic radiation in a plane flying from Norway to New York)
A 54-year-old woman has a possible tumour in her right breast. On mammography calcifications were seen in the lesion. The picture shows a section of the tumour (HES; 100x). The diagnosis is ductal carcinoma in situ (DCIS).

**Which description is consistent with this diagnosis?**

A  Intraductal proliferation of large, atypical epithelial cells with considerable variation in nuclear size and shape, mitoses and central necrosis. Disruption of the basement membrane is not seen.

B  Widespread, diffuse invasive growth of small, relatively similar, atypical epithelial cells making up rows or strings between the collagen fibres in the stroma.

C  Irregular glandular structures consisting of atypical epithelial cells. Myoepithelial cells are not seen, and there are only a few mitoses.

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A 60-year-old woman had an hysterectomy because of post-menopausal bleeding. The picture shows a histological section of the myometrium (HE, 200x enlargement).

**What is the diagnosis?**
A 30-year-old man goes through a surgical procedure because of a testicular tumour. The cut surface is macroscopically homogenous. Below you see a picture of the tumour (HE, 200x enlargement)

**What is the diagnosis?**

A. Metastasis from a squamous cell carcinoma
B. Atypical endometrial hyperplasia
C. Endometrioid adenocarcinoma
D. Adenomyosis
A pregnant woman close to term is admitted due to influenza symptoms and fever. After a short time she develops contractions, and gives birth to a lifeless baby that is resuscitated but dies a short time after birth. The foetal surface of the placenta is greenish and discoloured, and at microscopic investigation of the lungs on autopsy of the baby, granulocytes are found to be present in the alveoli. What will be the most probable findings at microscopic examination of the placenta?

A. Major infarctions  
B. Chorioamnionitis  
C. Extensive haemorrhages  
D. Velamentous umbilical cord insertion

The thyroid gland may be affected by several types of cancer. What are the two most common subtypes?

A. Poorly differentiated carcinoma and papillary carcinoma  
B. Papillary carcinoma and medullary carcinoma  
C. Follicular carcinoma and angiosarcoma  
D. Papillary carcinoma and follicular carcinoma
89 A young woman has been diagnosed with a tumour in the true (lesser) pelvis. The tumour is located next to the uterus. It is roundish oval in shape with its greatest diameter being approximately 13 cm. Before it is sent to the pathologist the tumour is cut through. The tumour is compact with a white, swirly and homogenous cut surface.

What is the most likely diagnosis?

A Fibroma  
B Teratoma  
C Adenocarcinoma  
D Lymphoma

90 A 52-year-old woman contacts you because of irregular vaginal bleeding. She tells you that she stopped menstruating when she was 50 years old.

How will you deal with this situation?

A Take a cytological sample from the cervix.  
B Give her a prescription of progestins to stop the bleeding.  
C Comfort her and tell her that it is common with some bleeding for the first years post-menopause.  
D Refer her to a gynaecologist for further assessment.

91 Which type of tumour in the adrenal glands have its origin from chromaffin cells?

A Neuroblastoma  
B Adenocarcinoma  
C Pheochromocytoma  
D Adenoma

92 A dilution series of an antibiotic in a liquid nutrient medium/broth is inoculated with a standardised amount of E.coli bacteria. After incubation at 37 degrees C for 24 hours the result is ready to be interpreted.

What is the interpretation of the analysis?  
(Textbox in the picture: "Growth control without antibiotic")
A. MBC for the antibiotic is 2 mg/L
B. MIC for the antibiotic is 2 mg/L
C. The E.coli is resistant to the antibiotic
D. The MIC for the antibiotic is 8 mg/L

93. Which statement is correct regarding dipslide agar culture?

A. Only primary and secondary pathogenic species will grow on dipslide agar culture.
B. After incubation at 37 degrees C in the doctor’s office, positive cultures can be sent for identification and resistance determination.
C. The method is suitable for, and has a high sensitivity for, detecting anaerobic bacteria.
D. The agar can be sent in the mail directly after testing and the receiving laboratory has to culture the test immediately.

94. There are several different methods for determining the bacterial sensitivity to antibiotics. Which method is used in this picture?
A  Agar gradient diffusion test
B  Agar diffusion test
C  MBC-determination
D  Agar dilution

95
Which fungal species is only seen as an imported disease in Norway?

A  Trichophyton rubrum
B  Histoplasma capsulatum
C  Aspergillus fumigatus
D  Cryptococcus neoformans

96
A young Norwegian man recently had unprotected sex in Thailand and now fears that he has symptoms of HIV infection. What are the most common symptoms of acute HIV infection, and that you will ask the patient about?

A  Skin rash and stomach pain
B  Fever and enlarged lymph nodes
C  Weight loss and nausea
D  Joint pain and night sweats

97
A 45-year-old man with rheumatoid arthritis is starting treatment with rituximab (anti-CD20 antibody). You explain to him that he has an increased risk of getting hypogammaglobulinaemia (low levels of IgG) and that he therefore is more prone to infections. Which infections is he primarily more exposed to?

A  Urinary tract infections
B  Respiratory tract infections
C  Meningitis
D  Skin and soft tissue infections
A young man has been traveling abroad and had unprotected sex with a prostitute four weeks ago. He wants an HIV-test and also want to know when this possibly becomes positive. What information do you give the patient about the HIV-test (Combo test)?

A. It is positive only after 3 months
B. It is positive within 1 week and almost always within 3 weeks
C. It is always positive within the first 2 weeks
D. It is usually positive with in 3-4 weeks and almost always within 6 weeks

A woman, who is pregnant in the 1st trimester, comes to your doctor's office and tells you that she has frequent urination and burning during urination. You interpret this as a urinary tract infection and decide to start with an antibiotic. Which antibiotic should you choose?

A. Amoxicillin (Imacillin)
B. Pivmecillinam (Selexid)
C. Trimethoprim (Trimetoprim)
D. Ciprofloxacin (Ciproxin)

A 30-year-old woman has been on holiday in Thailand. 5 days after returning home, she gets a high fever (40 °C), severe headache, especially retro-orbitally, and has intense muscle and joint pain. She has developed a maculopapular rash on the trunk the last day before she sees you. She says she got several mosquito bites at midday while she was on a shopping spree in town. What is the most likely diagnosis?

A. Malaria
B. Dengue fever
C. Rickettsiosis
D. Typhoid fever

Adrenergic receptors include several subtypes that have different tissue distribution and mediate various effects. Receptor subtypes can be blocked selectively, for example by providing a drug that blocks the beta₁-receptors. Which of the effects listed below do you expect when blocking this receptor subtype?

A. Reduced heart rate
B. Bronchial dilation
C. Peripheral vasodilatation
D. Tremor

Thyreostatic medications of the thioamide type (eg. Karbimazole) are used in the treatment of hyperthyroidism. Which feared side-effect is associated with the use of this class of drugs?

A. Agranulocytosis
B. Parkinsonism
C. Prolonged QT-interval
D. Central pontine myelinolysis
103
Elderly patients treated with ACE-inhibitors often use other drugs simultaneously. NSAIDs, metformin, warfarin and loop-diuretics are other drugs that are commonly used by the elderly.

Which of these drugs will it be particularly problematic to use concomitantly with an ACE-inhibitor in this patient group?

A. An NSAID  
B. Loop-diuretic  
C. Warfarin  
D. Metformin

104
A woman with bipolar disorder, who for several years have been treated with lamotrigine, comes to a routine outpatient check-up. She says that she is pregnant in the 4th month. A blood sample is analysed for serum concentration of lamotrigine. Although the lamotrigine dose is the same as before, the serum concentration is now much lower than in previous tests, only about 10% of what was measured in the last test before pregnancy.

What is the most likely explanation for this?

A. Increased cytochrome P450 activity because of pregnancy, and thus faster lamotrigine metabolism  
B. Dilution effect because of fluid retention (increased "total body water")  
C. The patient probably takes a food supplement which reduces the lamotrigine metabolism  
D. The patient does not take lamotrigine regularly anymore

105
Alpha₁-antagonists (alpha-adrenergic blockers) have an anti-hypertensive effect, but is not considered as a first-line therapy for medical anti-hypertensive treatment.

Which of the below conditions may constitute an additional indication for this drug group?

A. Ventricular extrasystoles (VES)  
B. Tachycardia  
C. Orthostatism  
D. Benign prostatic hyperplasia

106
The Women's Health Initiative (WHI) study, which was published in 2002, is considered by many as the definitive safety study on hormone replacement therapy (HRT) after menopause. WHI found that HRT increased the risk of a variety of diseases or conditions, but reduced the risk for others.

Mention two diseases or conditions that WHI has shown that HRT may protect against.

A. Dementia and colon cancer  
B. Dementia and osteoporosis  
C. Osteoporosis and endometrial cancer  
D. Colon cancer and osteoporosis

107
All NSAIDs (except low-dose aspirin) may have adverse cardiovascular effects by causing increase in blood pressure and deterioration of heart failure. Most NSAIDs also lead to an increased risk of thromboembolic heart disease.

Which of the following NSAIDs is not associated with an increased risk of such thromboembolism?

A. Diclofenac  
B. Celecoxib  
C. Ibuprofen  
D. Naproxen