

**2019 - IID - MD4043 - eksamen 3**  
**Eksamensdato: 2019-12-16**

1

You work as an intern in the countryside far from the nearest hospital. A 27-year old woman attends with sparse vaginal bleeding and slight pelvic discomfort. She has given birth to one child, had one ectopic pregnancy five years ago for which she was treated conservatively, and she has had one legal abortion. Her last period was five weeks ago. Urine HCG is positive. At gynaecological examination you find no signs of vaginal bleeding; there is some motion and palpation tenderness of the uterus. She has no abdominal peritoneal irritation. What is the most correct next step?

- A You ask her to come back in a week, or earlier if the pain increases, and to not leave the area  
*This is insufficient due to the risk of rupture of a possible ectopic pregnancy*
- B X You send her to the Gynaecology Outpatients Clinic as an emergency care, and agree that she organises the transport herself  
*Because she has previously had an ectopic pregnancy, she has an increased risk of a new ectopic pregnancy, and should have a vaginal ultrasound and gynaecological examination with a specialist in addition to serum HCG measurement. The symptoms and findings are not so alarming that she has to be transported by helicopter*
- C You send her by helicopter to the nearest hospital with a Gynaecology Department  
*She does not currently have symptoms that indicate severe intra-abdominal bleeding.*
- D You measure serum HCG today and in 2 days and recommend that she does not leave the area  
*It is correct to measure her serum HCG, but this is not sufficient.*

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2

En 30 år gammel kvinne har tidligere hatt dyp venetrombose i høyre legg. Hun brukte blodfortynnende i en periode, men ikke lenger nå. Hun trenger prevensjon og du vurderer å sette henne på gestagen-p-piller (desogestrel).

Du slår opp i WHO sine guidelines der det fins 4 nivåer av fordeler versus risiko ved bruk av de ulike prevensjonsmidlene.

Hva vil mest riktig vurdering for forskrivning av gestagen-p-piller til denne kvinnen?

- A X Bruk av metoden har flere fordeler enn risiko  
*Rett svar.*  
*Se: [http://www.who.int/reproductivehealth/publications/family\\_planning/9789241547710/en/](http://www.who.int/reproductivehealth/publications/family_planning/9789241547710/en/)*
- B Risiko overstiger vanligvis fordelene ved å bruke metoden  
*Se: [http://www.who.int/reproductivehealth/publications/family\\_planning/9789241547710/en/](http://www.who.int/reproductivehealth/publications/family_planning/9789241547710/en/)*
- C Ingen restriksjoner i bruk av metoden  
*Se: [http://www.who.int/reproductivehealth/publications/family\\_planning/9789241547710/en/](http://www.who.int/reproductivehealth/publications/family_planning/9789241547710/en/)*
- D Det er en uakseptabel helserisiko ved bruk av metoden  
*Se: [http://www.who.int/reproductivehealth/publications/family\\_planning/9789241547710/en/](http://www.who.int/reproductivehealth/publications/family_planning/9789241547710/en/)*

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3

What is the most important reason for the decreasing prevalence of cervical cancer over the last 40 years?

- A Increasing use of oral contraceptives  
*Hormones do not affect the prevalence of cervical cancer.*
- B Vaccination against human papillomavirus (HPV)  
*HPV vaccination started in 2009. The effect of this is not yet measurable.*
- C Increasing use of condoms  
*The condom protects to a certain degree against HPV infection, but not completely.*
- D X Cytology screening  
*The National Screening Programme started in Norway in 1990, but as early as the 1970s "wild screening" was extensively carried out in Norway, i.e. large numbers of cervical cytology samples were taken. All countries that have introduced screening programmes have demonstrated a reduction in the prevalence of cervical cancer.*

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4

Human papillomavirus (HPV) is a known cause of the development of cervical cancer. More than 200 different genotypes of the virus have been identified.

Which types are believed to cause most cases of cervical cancer?

- A X** HPV types 16 and 18  
*Types 16 and 18 cause about 70% of all the cervical cancers.*
- B** HPV types 31 and 33  
*These types are called "high-risk types other than 16 and 18", but are not the most common cause of cervical cancer.*
- C** HPV types 6 and 11  
*These cause condylomas, not cancer.*
- D** HPV types 45 and 52  
*These types are called "high-risk types other than 16 and 18", but are not the most common cause of cervical cancer.*

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5

A 29-year-old woman is being investigated for infertility. Her husband's sperm sample is normal. Laparoscopy with blue dye has revealed patent Fallopian tubes. She says she has a 25-day menstrual cycle.

What should she do to ensure she has the greatest likelihood of becoming pregnant?

- A** Have intercourse 3 days in a row after a urine dipstick shows positive for ovulation (ovulation test)  
*She should preferably have intercourse on the three days prior to ovulation*
- B** Have intercourse 3 days in a row after a temperature rise of 0.5 degrees (daily temperature measurement)  
*The body temperature increases after ovulation and there is a greater probability of becoming pregnant before ovulation. (The egg is alive and can be fertilised for a maximum of 12-24 hours after ovulation.)*
- C** Have intercourse on days 14 - 18 of her menstrual cycle  
*The egg can only be fertilised up to 12 to 24 hours after ovulation. Day 15 and day 16 are most probably too late for a woman who has a regular 25-day cycle.*
- D X** Have intercourse on days 9 - 13 of her menstrual cycle  
*Studies reveal that intercourse during the 5-6 days prior to and including the day of ovulation is necessary to become pregnant. The sperm cells should already be present in the uterus or Fallopian tubes when the egg is released. This answer thus gives the highest probability of becoming pregnant for somebody with a menstrual cycle of 25 days.*

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6

A 32-year-old man seeks help for primary infertility. It becomes apparent that he has azoospermia (no sperm in the ejaculate). You measure his testosterone levels to be low.

Which other hormone analysis (serum) is the most useful when investigating the cause of azoospermia in this man?

- A** TSH (thyroid stimulating hormone)  
*A thyroid hormonal dysfunction is hardly the cause of azoospermia.*
- B X** FSH (follicle stimulating hormone)  
*Low FSH levels indicate (as in women) that the cause is hypogonadal hypogonadism, i.e. the signal from the hypothalamus/pituitary is absent.  
High FSH levels indicate a production failure locally in the testis, and that the pituitary tries to compensate by increasing the secretion of FSH.  
Normal FSH level indicates an obstructive cause (for example the absence of the vas deferens, infection, the man has undergone surgical sterilisation.)*
- C** AMH (anti-Müllerian hormone)  
*Important during the embryological period because the presence in male fetuses contributes to regression of the Müllerian ducts (i.e. prevents boys from being born with a uterus and vagina). As far as we know, AMH is not important in spermiogenesis or absent spermiogenesis.*
- D** Oestradiol  
*Female sex hormone. Higher levels of oestradiol are seen in obese men, but is hardly the cause of a total lack of sperm production (azoospermia)*

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7

You are the GP for a 21-year-old woman who has come to your surgery for help. Her age of menarche was 16 years, and she had periods about once a month for 3-4 years. Since then she has had total amenorrhoea. She is very underweight.

What is the most probable cause of this condition?

- A Hypergonadotropic hypogonadism (i.e. high FSH, high LH and low oestradiol)  
*Not probable. Hypergonadotropic hypogonadism as in premature ovarian failure/premature menopause is extremely rare in women aged 21 years.*
- B Normogonadotropic condition (i.e. normal FSH and LH)  
*Is seen in genital malformations such as absent development of the Mullerian systems (e.g. imperforate hymen and Rokitansky) and partly also in PCOS, but both are less likely in this case than hypo hypo due to anorexia, since she already has had periods (that is, secondary amenorrhoea).*
- C X Hypogonadotropic hypogonadism (low FSH, low LH and low oestradiol)  
*Yes, the most probable diagnosis is anovulation which is seen, for example, in severely underweight individuals. Here, the cause is central (hypothalamic) inhibition of the pulsed GnRH secretion and, consequently, the levels of pituitary gonadotropins are too low to stimulate ovulation.*
- D Pregnancy, i.e. positive serum and urinary hCG (human chorionic gonadotropin)  
*Improbable (though not impossible) that the woman is pregnant with such a long period of amenorrhoea.*

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8

A 73-year old woman comes to you in general practice. She complains of frequent urination and a sensation of urinary tract infection.

Urine dip-stix test: Negative.

What is the most correct for you to do next to investigate this patient?

- A Refer the patient directly to a urologist. In the referral you describe the patient's symptoms and the urine test findings.  
*This is not correct because it is important to be able to investigate some issues in general practice first, i.e. you first perform a clinical examination that includes a gynaecological examination.*
- B Give the patient local estrogens and give her an appointment for follow-up in 1 month.  
*This is a good option, but prior to this you still need to perform a gynaecological examination in order to detect any tumours or considerable genital prolapse. At the same time you will get an impression of the level of oestrogen in the mucous membranes.*
- C Send the urine for culture and start trial treatment with antibiotics while awaiting the results of culture.  
*This is not correct; you should exclude any other cause of frequent urination by performing a clinical examination (which includes a gynaecological examination).*
- D X Perform a gynaecological examination with speculum examination.  
*This is the correct answer because you then will be able to see whether a tumour, genital prolapse, or atrophic mucous membranes, for example, could be present, which could cause the patient's problems. You can then refer to a specialist, if necessary, after you have done your examinations.*

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9

The patient is a 19-year-old woman in gestational week 27 in her first pregnancy. The pregnancy has until now progressed normally. The patient is admitted to hospital with regular contractions, 4 contractions every 10 minutes, on your shift as the specialist registrar in the Department of Obstetrics and Gynecology.

You measure her cervix and find it is short at 20 mm (normally 40 mm).

What is the recommended treatment in her situation?

- A X** Administer betamethasone (Celestone Chronodose®) and oxytocin antagonist atosiban (Tractocile®)

*Correct answer. Betamethasone assist lung maturation and has in several RCTs been shown to reduce neonatal morbidity and mortality. Oxytocin antagonist (for example, atosiban) is administered routinely in this situation with ongoing contractions to delay the birth 1-2 days to achieve a full effect of betamethasone.*

- B** Administer betamethasone (Celestone Chronodose®) and recommend bed rest

*Not enough, even though betamethasone leads to lung maturation. Adding Oxytocin antagonist to reduce uterine contractions can give you enough time for the betamethasone induced lung maturation to work.*

- C** Administer progesterone and recommend cervical cerclage (cervical ring) on the following day

*She is too many weeks pregnant for this to be successful; cerclage is normally performed early in the second trimester, at about 13-14 weeks, and should not be performed after week 26*

- D** Administer progesterone and wait to see if the frequency of contractions increases

*Not recommended*

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10

The patient is a 27-year-old woman who has previously been healthy, and is in week 12 of her second pregnancy. In the first pregnancy she had mild pre-eclampsia. She complains to you, her GP, of a headache that she has had for the last few days.

At examination you find BP 150/93 and urine dipstick shows albumin +1.

What is the best way to clarify the situation?

- A** Blood tests for Hb, thrombocytes, ASAT, ALAT, LD, urate, creatinine

*Taking blood tests to investigate pre-eclampsia is not indicated in week 12.*

- B X** 24-hour measurement of BP and a new urine sample

*Correct answer. The patient is pregnant in week 12, so pre-eclampsia is therefore improbable this early in pregnancy, but rather a condition of pregnancy induced hypertension. To exclude incidental findings it is therefore necessary to perform a 24-hour BP measurement and a second check-up of the urine test.*

- C** Blood tests for Albumin, INR, fibrinogen, antithrombin, haptoglobin

*Taking blood samples for investigating HELLP are not indicated in week 12.*

- D** New urine sample for microscopy

*The woman is previously healthy so there is no strong suspicion of chronic kidney disease.*

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11

What is the most important reason for screening for HbA1c in the first trimester?

- A** The early identification of pregnant women who have gestational diabetes

- B X** The early identification of pregnant women who have type 2 diabetes

*HbA1c provides information on the s-glucose level over the previous 6-8 weeks. The objective is the early detection of type 2 diabetes that was not known prior to the pregnancy.*

- C** The early identification of pregnant women who have the highest risk of fetal malformations due to high s-glucose

- D** The early identification of pregnant women who have the highest risk of having large babies

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12

What can we investigate using NIPT (non-invasive prenatal testing)?

- A We can investigate placental function  
*This is not a test for placental function*
- B X We can perform trisomy diagnostics  
*Using NIPT, we can investigate the free fetal DNA in the mother's blood and in this way test for fetal trisomies.*
- C We can investigate the probability of a pre-term birth  
*No, this test tells us nothing about a pre-term birth*
- D We can investigate whether the fetus is growth restricted  
*No, this is incorrect*

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13

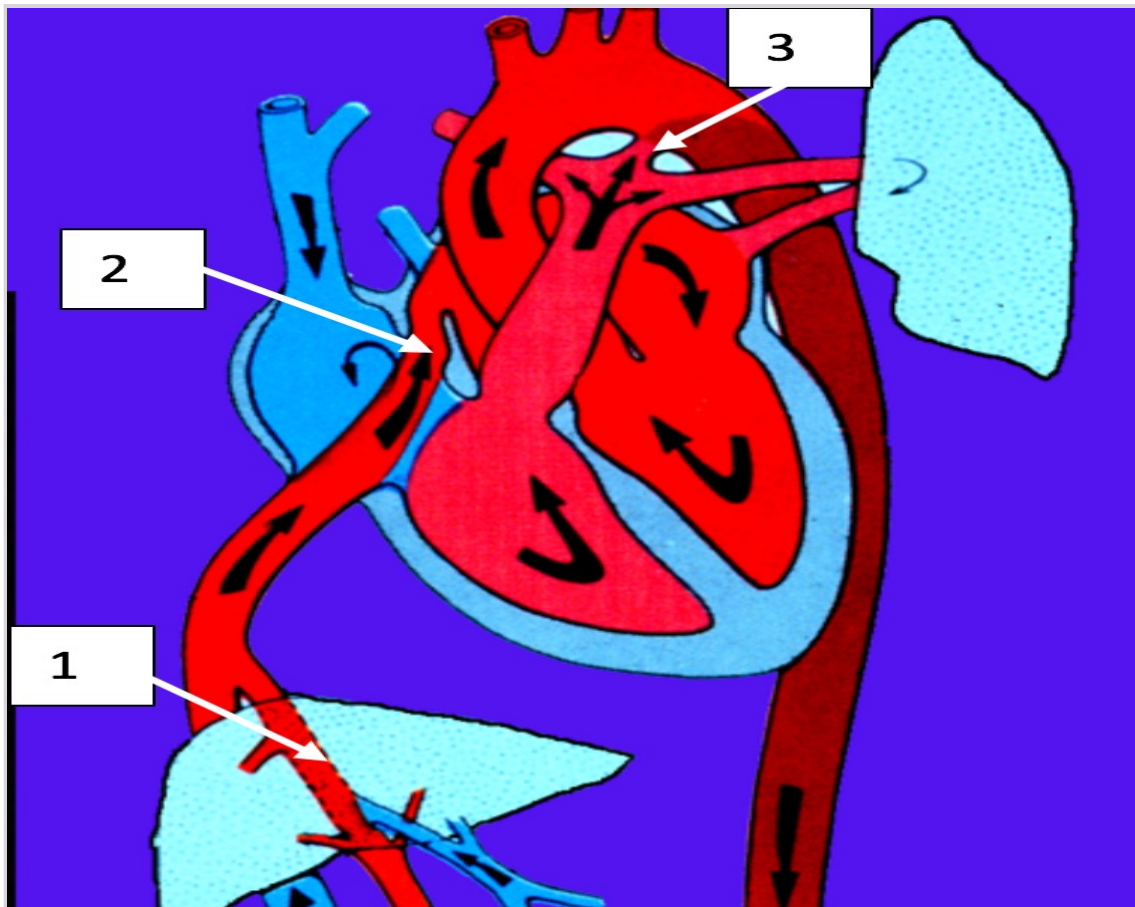
During a delivery, what is the most probable cause of discoloured (green-yellowish) amniotic fluid?

- A Post-term pregnancy  
*Discoloured amniotic fluid can occur, but is not a sign of post-term pregnancy.*
- B Placental abruption  
*The amniotic fluid can be bloody*
- C X Threatening fetal asphyxia  
*The fetus can pass meconium due to episodes of oxygen deficiency. The amniotic fluid becomes discoloured. Is an uncertain sign of asphyxia*
- D Infection

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14

The blood passes three important shunts during the development of the fetus. What are the correct names of the three shunts shown in the image?





- A X** 1: ductus venosus  
2: foramen ovale  
3: ductus arteriosus  
*Oxygenated blood comes to the fetus via the umbilical vein, but some is shunted past the liver through the ductus venosus, thereafter from the right atrium through the foramen ovale to the left atrium, and the last shunt connects the pulmonary artery directly with the descending aorta.*
- B** 1: ductus venosus  
2: tricuspid valve  
3: ductus arteriosus
- C** 1: ductus arteriosus  
2: foramen ovale  
3: ductus venosus
- D** 1: splenic vein  
2: foramen ovale  
3: ductus arteriosus
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**15**

Which of the four Ts is the most common cause of bleeding post-partum?

- A X** T for tonus - uterine atony  
*about 70% of post-partum bleeding*
- B** T for tissue - placental remains  
*about 20% of post-partum bleeding*
- C** T for tears - injuries/tears in the cervix or vagina  
*about 10% of post-partum bleeding*
- D** T for thrombin - coagulation problems  
*about 1% of post-partum bleeding*
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**16**

The patient is a 38-year-old woman who gave birth to her third child 5 months ago. Even though she still breastfeeds, her periods have returned. Her periods are heavy. Hb is 10.4 g/dL (reference: 11.7-15.3 g/dL). You measure her blood pressure which is 140/95. Which contraceptive method do you most preferably recommend here?

- A** Contraceptive vaginal ring  
*The contraceptive vaginal ring is a combined contraceptive, and you should be careful giving such medication when the patient has increased BP.*
- B** Progestogen-only pill  
*This contraceptive is a good second alternative, since it both reduce heavy bleeding (although possible a little higher risk than the hormon IUD of irregular bleedings) and can be used also when increased BP*
- C** Copper IUD (intrauterine device)  
*May instead of reducing, rather increase her heavy bleedings*
- D X** Hormonal IUD (intrauterine device)  
*This contraceptive method both reduce the heavy menstrual bleeding and can be used even when increased BP. Is simple to adminstrate with minimal user failure, that is, the best possible alternative here.*
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17

The patient is pregnant in week 33. She is asymptomatic, but has been found to have growth of ca. 10 000 CFU/mL of group B streptococci in her urine.  
How would you as her GP best follow this up?

- A** Treat her with oral phenoxymethylpenicillin now  
*If < 100 000 CFU/mL she should not have antibiotics (if only asymptomatic), but plan to treat her with benzylpenicillin iv. during the birth.*  
*See the Norwegian Association of Obstetrics and Gynaecology, treatment guidelines in Obstetrics for 2014 (in Norwegian):*  
<https://legeforeningen.no/Fagmed/Norsk-gynekologisk-forening/Veiledere/Veileder-i-fodselshjelp-2014/Gruppe-B-streptokokker-hos-gravide-og-fodende/>
- B** Do not treat her now, but take a new sample in 2-3 weeks
- C** Treat her with oral pivmecillinam now
- D X** Do not treat her now, but plan to treat her with benzylpenicillin iv. during the birth  
*If < 100 000 CFU/mL she should not have antibiotics (if only asymptomatic), but rather plan for her to be treated with benzylpenicillin iv. during delivery.*  
*See the Norwegian Association of Obstetrics and Gynaecology, treatment guidelines in Obstetrics for 2014 (in Norwegian):*  
<https://legeforeningen.no/Fagmed/Norsk-gynekologisk-forening/Veiledere/Veileder-i-fodselshjelp-2014/Gruppe-B-streptokokker-hos-gravide-og-fodende/>
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18

A 40-year old woman has contacted you as a GP due to some diffuse complaints in her upper abdomen. You have sent her for a CT scan of the abdomen. According to the CT report, there are multiple round tumours in the uterus compatible with uterine leiomyomas, each of which is between 2 cm and 6 cm in diameter. She has no complaints in the the pelvic area.  
How do you best deal with this situation?

- A** You refer her for an MRI of the abdomen/pelvis since MRI is better than CT for assessing the malignancy risk of uterine leiomyomas  
*It is correct that MRI is beter than CT for assessing the malignancy risk of uterine leiomyomas, but it is a waste of resources as the malignancy risk is very small (about 1%), and even an MRI cannot definitely exclude it.*
- B** You plan annual follow up of the patient to assess whether the myomas increase in size  
*As long as the patient does not have any symptoms, and the patient does not want to become pregnant, there is no need for a treatment - therefore, there is no need for a follow-up either.*
- C** You refer her to a specialist (gynaecologist) to evaluate whether hysterectomy should be performed because you expect the leiomyomas to increase in size until the menopause  
*As long as the patient does not have symptoms, there is no need for (preventive) surgery or other actions*
- D X** You inform the patient of the findings and tell her to contact a doctor if her periods get heavier or she gets pelvic pressure symptoms  
*These could be symptoms of uterine leiomyomas or growth of these. Uterine leiomyomas are common accidental findings in an abdominal CT scan. It is good to inform the patient about the findings, but all patients with such findings can not be referred or treated, especially when no symptoms.*
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19

A 35-year-old woman attends your GP surgery because of very heavy periods. The woman has given birth to three children and does not want any more. Between the births she has used the contraceptive pill, but is not using any form of hormonal contraception at the moment because she believes she does not tolerate any form of hormones. The woman has a BMI of 29 kg/m<sup>2</sup>.

You perform a gynaecological examination with normal findings. You have taken blood samples that reveal an Hb of 11.5 (ref. 11.7-15.3 g/dL).

What should you rather try first to help this woman?

- A Refer her to a specialist for endometrial ablation  
*This is a possibility, but is somewhat more invasive than a hormonal IUD. And relatively young age, with the risk of relapsing bleeding problems during the 15-17 years before the expected time for menopause.*
- B X Suggest trying a hormonal IUD (intrauterine device)  
*One would try the simplest first. Even though she has not tolerated one type of contraceptive pill, it is possible that she will tolerate a different one well, or a hormonal IUD*
- C Suggest trying a copper IUD (intrauterine device)  
*A copper IUD generally does not reduce the amount of bleeding*
- D Prescribe iron tablets/mixture and encourage her to be physically active  
*Iron will presumably improve her Hb somewhat, but will not help her heavy periods.*

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20

You have a pregnant woman with PCOS in for check-up in week 24. She has acanthosis nigricans. She is wondering what this is.

The best explanation is:

- A Pigment spots in the face that occur during pregnancy in women with PCOS as a sign of insulin resistance
- B X Thickening and pigmentation of the skin in the neck area, vulva, and armpits as a sign of insulin resistance  
*Acanthosis nigricans is a non-pregnancy-related skin change found in both men and women with insulin resistance. Women with PCOS often have insulin resistance, and acanthosis nigricans is seen in them.*
- C Dark pigmentation of the skin in the armpits and in the neck area as a sign of increased androgens in women with PCOS
- D A dark line in the middle of the tummy that occurs physiologically during pregnancy, particularly in women with a lot of pigment

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21

A 5-year-old boy attends the medical centre together with his mother. The mother says that the boy sleeps little and restlessly; he is very active, and strongly resists change; he will only wear one specific pair of trousers, and easily gets into conflict with other children and is clumsy. He has had these problems for many years. Which diagnosis group do you suspect?

**A X** Neuropsychiatric disorders

*Neuropsychiatric disorders is the most correct answer. The vignette describes sleep problems, hyperactivity, rigidity, and social and motor problems which are common symptoms of neuropsychiatric disorders. Behavioural disorders at 5 years of age normally involve a lot of defiance but not only in changing situations, and are not typically associated with sleep and motor problems.*

**B** Behavioural disorders

*Neuropsychiatric disorders is the most correct answer. The vignette describes sleep problems, hyperactivity, rigidity, and social and motor problems which are common symptoms of neuropsychiatric disorders. Behavioural disorders at 5 years of age normally involve a lot of defiance but not only in changing situations, and are not typically associated with sleep and motor problems.*

**C** Anxiety disorders

*Neuropsychiatric disorders is the most correct answer. The vignette describes sleep problems, hyperactivity, rigidity, and social and motor problems which are common symptoms of neuropsychiatric disorders. Behavioural disorders at 5-years of age normally involve a lot of defiance but not only in changing situations, and are not typically associated with sleep and motor problems.*

**D** Depressive disorders

*Neuropsychiatric disorders is the most correct answer. The vignette describes sleep problems, hyperactivity, rigidity, and social and motor problems which are common symptoms of neuropsychiatric disorders. Behavioural disorders at 5-years of age normally involve a lot of defiance but not only in changing situations, and are not typically associated with sleep and motor problems.*

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22

A 17-year-old girl meets you at your GP office. She is troubled by episodes that occur almost weekly. These episodes can last from 5 to 20 minutes, and are accompanied by loss of memory. During them she is uncontactable, distant, does not fall, but sometimes other people have observed that she has cramps in one arm. From previous contact with the girl you know that she has had a turbulent childhood with an alcoholic mother and violent father. She moved to a foster home when she was 8, was raped by a neighbouring boy when she was 14, and in periods has been badly bullied at school. She now lives in a bedsit, attends upper secondary education and works on Saturdays in a bakery. Most episodes occur when she is at school, e.g. when she is taking tests or making a presentation. You suspect dissociative disorder. What would be the first thing you do to help this patient?

**A** Refer her for MRI of caput, EEG and Child and Adolescent Psychiatry for assessment and treatment of a psychological disorder

*The patient has severe symptoms, and even if you suspect dissociative disorder, it would be correct to first exclude a somatic cause of the episodes. It may later be relevant with a referral to BUP, informative blood tests and securing a better place to live, but will not be the first priority in this case.*

**B X** Refer her for MRI of caput, EEG and assessment by a neurologist to exclude somatic disorders

*The patient has severe symptoms, and even if you suspect dissociative disorder, it would be correct to first exclude a somatic cause of the episodes. After this, it may be relevant with a referral to BUP, informative blood tests and securing a better place to live, but will not be the first priority in this case.*

**C** Take informative blood samples, refer her for EEG, and give her an appointment for follow-up in 2 weeks

*The patient has severe symptoms, and even if you suspect dissociative disorder, it would be correct to first exclude a somatic cause of the episodes. It may later be relevant with a referral to BUP, informative blood tests and securing a better place to live, but will not be the first priority in this case.*

**D** Contact the local authorities/ child welfare system to secure a better place to live and better care

*The patient has severe symptoms, and even if you suspect dissociative disorder, it would be correct to first exclude a somatic cause of the episodes. It may later be relevant with a referral to BUP, informative blood tests and securing a better place to live, but will not be the first priority in this case.*

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23

According to recent research, what factors are important for intergenerational transmission of attachment patterns?

- A X** The parents' attachment pattern is transferred to the children, mediated by the parents' sensitivity and moderated by the parents' stress and the child's vulnerability  
*The parents' own attachment pattern is a moderate predictor of their child's attachment. All factors described in the correct answer must be included to enable an explanation of all causes of the transference.*
- B** It is more probable that a child will develop insecure attachment to its parents if the parents have a disorganised attachment to their care givers  
*The parents' own attachment pattern is a moderate predictor of their child's attachment. All factors described in the correct answer must be included to enable an explanation of all causes of the transference.*
- C** Researchers have not found evidence for intergenerational transference of attachment  
*The parents' own attachment pattern is a moderate predictor of their child's attachment. All factors described in the correct answer must be included to enable an explanation of all causes of the transference.*
- D** The strongest predictor of secure attachment patterns is the parents' attachment to their parents, mediated through the parents' sensitivity  
*The parents' own attachment pattern is a moderate predictor of their child's attachment. All factors described in the correct answer must be included to enable an explanation of all causes of the transference.*
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24

8-year-old Siri's mother contacts you with the following concerns: Over the last months, Siri has stopped eating sausages because she is afraid it can get stuck in her throat. She changes her socks several times a day because she is afraid she may have stepped into something nasty on the floor. When she comes home from school, she changes all her clothes because she thinks her room will get dirty if she sits in there with her "school clothes" on. If a friend comes to visit, she does not let them go into her room. Her mother thinks she takes far too long in the shower. She says that it all started after they were given information about swine flu at school. What treatment would you start or how would you advise the mother?

- A X** Refer the patient to the Child and Adolescent Psychiatric outpatient clinic (BUP) for investigation and cognitive therapy for obsessive-compulsive disorder.  
*The vignette describes obsessive thoughts and compulsive actions with functional failure and significant avoidance behaviour. Cognitive therapy is recommended as first-line treatment of obsessive-compulsive disorder. Epidemiological studies show that obsessive-compulsive symptoms become chronic in the majority of those affected. The vignette describes typical symptoms for obsessive-compulsive disorder, and no clear psychotic symptoms.*
- B** Reassure the parents and provide psychoeducation that such symptoms are not uncommon in children of this age and they will disappear by themselves.  
*The vignette describes obsessive thoughts and compulsive actions with functional failure and significant avoidance behaviour. Cognitive therapy is recommended as first-line treatment of obsessive-compulsive disorder. Epidemiological studies show that obsessive-compulsive symptoms become chronic in the majority of those affected. The vignette describes typical symptoms for obsessive-compulsive disorder, and no clear psychotic symptoms.*
- C** Refer the patient to the CAP unit as she may be developing psychosis  
*The vignette describes obsessive thoughts and compulsive actions with functional failure and significant avoidance behaviour. Cognitive therapy is recommended as first-line treatment of obsessive-compulsive disorder. Epidemiological studies show that obsessive-compulsive symptoms become chronic in the majority of those affected. The vignette describes typical symptoms for obsessive-compulsive disorder, and no clear psychotic symptoms.*
- D** Start medicinal treatment with SSRI  
*The vignette describes obsessive thoughts and compulsive actions with functional failure and significant avoidance behaviour. Cognitive therapy is recommended as first-line treatment of obsessive-compulsive disorder. Epidemiological studies show that obsessive-compulsive symptoms become chronic in the majority of those affected. The vignette describes typical symptoms for obsessive-compulsive disorder, and no clear psychotic symptoms.*
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25

A mother attends your GP surgery with her 5-year-old boy. She is very concerned about her son's situation in nursery school. She experiences him to be a very smart boy; she mentions that he knows more about outer space than she does, and he has already taught himself to read. She says that he functions well at home; he is a very good boy and busy with his things, and requires little activation by his parents. She says that as a family, they like fixed routines and rarely have visitors. She says it can be very difficult when they have to go out; that he only wants to sit in his room and read about outer space. In addition, the nursery school have said they are concerned about him because of a lot of anger and conflicts if he can't do what he wants, that he is not interested in playing with the other children. The boy is reading a book while the mother is talking. He does not take part in the conversation and does not make eye contact. He suddenly recites in a loud and monotone voice about the mini-planet Pluto, but does not appear interested in what you or his mother think about this. How would you help the boy?

- A Offer medicinal treatment for behavioural problems  
*Autism spectrum disorder is a chronic condition requiring good understanding and early adaptation to ensure the best possible development of the child; therefore it is correct to refer for diagnostic investigations and treatment with BUP.*
- B Wait and see because the boy is smart and will probably mature socially  
*Autism spectrum disorder is a chronic condition requiring good understanding and early adaptation to ensure the best possible development of the child; therefore it is correct to refer for diagnostic investigations and treatment with BUP.*
- C Refer to local authority for parenting guidance  
*Autism spectrum disorder is a chronic condition requiring good understanding and early adaptation to ensure the best possible development of the child; therefore it is correct to refer for diagnostic investigations and treatment with BUP.*
- D X** Refer to the Child and Adolescents Psychiatry outpatient clinic for investigation and treatment for autism spectrum disorders  
*Autism spectrum disorder is a chronic condition requiring good understanding and early adaptation to ensure the best possible development of the child; therefore it is correct to refer for diagnostic investigations and treatment with BUP.*

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26

As a doctor in general practice, a 17-year-old girl has an appointment in your office. She lives alone in a bedsit, has little money and says she has a poor conscience because she eats large amounts of food for some meals. For example, she can eat 5-6 sandwiches, half a chocolate cake (from the oven tray) and quite a bit of ice-cream in one meal. She has no control when she eats so much, and because she doesn't want to put on weight, she vomits after over-eating, perhaps 4-5 times a week. When she is at home at the weekends, she uses laxative pills so that her parents don't notice anything. Examination reveals the following: Weight 60 kg, height 170 cm, BP 100/70, pulse 70, and normal blood tests. Which diagnosis do you consider to be the most correct?

- A Unspecified eating disorder  
*The correct answer is Bulimia nervosa. She is not underweight, does not have any restrictions in regard to food or fatty food, and there is no information on endocrine disturbances. Because she meets the criteria for Bulimia nervosa, she does not have atypical bulimia nervosa or unspecified eating disorder.*
- B X** Bulimia nervosa  
*The correct answer is Bulimia nervosa. She is not underweight, does not have any restrictions in regard to food or fatty food, and there is no information on endocrine disturbances. Because she meets the criteria for Bulimia nervosa, she does not have atypical bulimia nervosa or unspecified eating disorder.*
- C Atypical bulimia nervosa  
*The correct answer is Bulimia nervosa. She is not underweight, does not have any restrictions in regard to food or fatty food, and there is no information on endocrine disturbances. Because she meets the criteria for Bulimia nervosa, she does not have atypical bulimia nervosa or unspecified eating disorder.*
- D Anorexia nervosa  
*The correct answer is Bulimia nervosa. She is not underweight, does not have any restrictions in regard to food or fatty food, and there is no information on endocrine disturbances. Because she meets the criteria for Bulimia nervosa, she does not have atypical bulimia nervosa or unspecified eating disorder.*

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27

An 8-year-old boy and his parents attend the GP surgery, saying that the boy has big problems concentrating, particularly in regard to homework. The boy is very restless, he cannot sit still at the table or at his desk at school.

Which diagnostic mapping is important?

- A** ADHD, problems with hearing, epilepsy, thyroid gland, anxiety, mood disorders, behavioural disorder and personality disorder  
*In addition to neuropsychiatric and psychological problems, as well as underlying somatic causes, it is important to map neglect and trauma. Personality disorder is not assessed in an 8-year-old child.*
- B X** ADHD, problems with hearing, epilepsy, thyroid problems, behavioural disorder, neglect, trauma, anxiety and mood disorders  
*ADHD is the probable diagnosis, but it is important to exclude an underlying problem or other differential diagnosis.*
- C** ADHD, behavioural disorder, autism, tic disorder, attachment disorder, anxiety, obsessive-compulsive disorder and mood disorders  
*In addition to neuropsychiatric and psychological problems, it is important to map underlying somatic causes, neglect and trauma.*
- D** ADHD, problems with vision, migraine, behavioural disorder, neglect, trauma, anxiety and mood disorders  
*It is necessary to exclude psychiatric or somatic causes of the symptoms. In regard to somatic problems it is relevant to map problems with hearing, epilepsy and thyroid gland, and not problems with sight or migraine with the given symptoms.*

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28

You have a 14-year-old boy in your office who has been investigated and treated at the Child and Adolescent Psychiatry outpatient clinic and diagnosed with autism (high functioning). He has support in school and his parents are in a support group for parents with children with autism. The parents say that the boy is very depressed particularly because he does not have contact with anyone in the free periods at school and feels that he does not have any friends. They have tried to do lots of things themselves, have good contact with the school, and the son is involved in after school activities such as the chess club. But they don't feel it helps his mood. The parents are asking for antidepressant drug treatment. The father was depressed a couple of years ago and felt he benefitted greatly from this.

Which is the best evidence-based type of antidepressant for depression in children (from 8 years of age) and adolescents?

- A** Amitriptylin i.e. Tricyclic antidepressants, e.g. Sarotex®  
*Not indicated. In addition, it is highly toxic in the event of an overdose.*
- B** Citalopram (Cipramil®)  
*Used occasionally for adolescents with depression because it is fast acting; however, research results are not consistent.*
- C** Any of the SSRI compounds  
*Not all SSRI preparations are approved for depression in children as young as 8 years*
- D X** Fluoxetine (Fontex®)  
*Correct. This is the only SSRI approved for children as young as 8 years against depression. Several studies provide evidence that fluoxetine has an effect on depression in adolescents.*

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29

A teenager has made an appointment with you. You last saw him 6 months ago. Then he was depressed about breaking up with his girlfriend. You gave him support and comfort and at follow-up 14 days later he was through the crisis. Now he attends saying that he is still depressed and is moody, irritable, unable to feel happy and worrying about the break-up which he believes was his fault. He has been absent from school a lot and wants help. What is the most important aspect of treating an adolescent who has been depressed for a long time (> 6 months)?

- A Change the maintaining stressing factors in the family  
*Important, but not sufficient*
  - B X Cognitive behavioural therapy or short-term psychodynamic therapy, and perhaps medical treatment if no effect after 4-6 weeks, as well as changing stressing environmental factors.  
*Correct. Treatment of depressed adolescents is multimodal and requires intervention in regard to actual symptoms, maintaining factors and prevention of new episodes.*
  - C Long-term psychoanalytic therapy which focusses on internal psychological conflicts.  
*Is used, but there is no documented evidence that this treatment has an effect.*
  - D Medical treatment  
*Not sufficient*
- 

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30

You are the school doctor for years 1-10 and are wondering whether there is a difference in the incidence of depression for children and adolescents. Sometimes more girls, and at other times more boys, appear to contact the school nurse or you for depressive problems. You are involved in a planning group which is to look at preventive psychosocial measures for the school and you want to be updated.

Is there a gender difference in the incidence of depression in children and adolescents?

- A The incidence of depression for girls is higher in childhood, and for boys is higher in adolescence.  
*This is incorrect.*
- B X The incidence of depression for girls and boys is the same in childhood, and is higher for girls in adolescence.  
*Correct answer.*
- C The incidence of depression for girls and boys is the same both in childhood and adolescence.  
*Incorrect answer*
- D The incidence of depression is higher for girls than boys, during both childhood and adolescence.

*This is correct only during adolescence. Before puberty the prevalence is the same.*

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31

What is the best treatment for a 5 cm distal symptomatic ureteral stone in a healthy patient who we know has had this stone for 4 weeks without spontaneous passage?

- A X Ureteroscopy with spinal anaesthetic or general anaesthetic.  
*75% of stones smaller than 5 mm pass spontaneously. Here, conservative treatment has been tried without success. URS is indicated for stones below the mid-section of the ureter because the bone structure in the pelvis makes ESWL unsuitable. Dilation of the ostium can cause permanent reflux and is not suitable treatment.*
  - B Pharmaceutical treatment with Tamsulosin and wait a further 4 weeks for spontaneous passage.
  - C ESWL (Extracorporeal shock wave lithotripsy) under sedation
  - D Dilation of the ureteral ostium under local anaesthetic, insertion of a JJ stent, and check-up after 1 week.
- 

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32

Small contrast-enhanced tumours in the kidney (SMR <3 cm) are increasingly found with imaging diagnostics due to the increasing number of procedures (CT). How would you manage the following situation: An 83-year-old woman who lives in a care home because she has become a little forgetful has had a CT because of pain in her stomach which has been shown to be caused by constipation. She takes anticoagulants after a heart attack in 2015, statins and antihypertension medication. You are her GP. The CT report also describes a 2 cm contrast-enhanced tumour in the left kidney. At review it can be seen that it was present 5 years ago and then measured 1.5 cm.

- A Patient and next of kin are informed and she is offered radical nephrectomy under general anesthetic.  
*Surgical treatment is not recommended because of the slow growth and small tumour size*
- B Patient and next of kin are informed and the patient is followed up with a new CT in 6 months.  
*If the tumour is to be followed up, it will be to measure the rate of growth - which we already know is slow.*
- C X Patient and next of kin are informed and one recommends no further follow-up.  
*Surgical treatment is not recommended because of the slow growth and small tumour size. If the tumour is to be followed up, it will be to measure the rate of growth - which we already know is slow. In cases of high age and comorbidity, the most correct action is no further follow-up*
- D Patient and next of kin are informed; the anticoagulant is discontinued and partial kidney-sparing surgery is recommended.  
*Surgical treatment is not recommended because of the slow growth and small tumour size.*

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33

Kristian (75) is admitted with pain in the left flank of the abdomen, intermittent in character. Chills, temperature 39,9°C, and his general condition is affected. Urine dipstick shows pyuria (3+), nitrite (2+) and hematuria (3+). CT urinar tract without contrast shows severe hydronephrosis on the left side and dilated urether down to a 10 mm concrement at level L5. The right kidney is atrophic.

Hgb	12,1 g/dl	Normal: 13,4-17,0 g/dl
CRP	260 mg/l	Normal: <5 mg/l
Kreatinin	400 mikromol/l	Normal: 60-105 mikromol/l

Which is the most correct treatment?

- A Solely sepsis treatment (antibiotics)  
*Solely sepsis treatment is not the optimal treatment in cases of obstructive pyelonephritis/pyonephrosis/urosepsis*
- B Sepsis treatment and insertion of a JJ stent (ureter stent) on the left side  
*Sepsis treatment and insertion of a JJ stent (ureter stent) on the left side would be a good option if there is no possibility of performing emergency help nephrostomy*
- C X Sepsis treatment and employment of ultrasound guided percutaneous nephrostomy on the left side  
*Correct answer: Sepsis treatment and performing ultrasound guided percutaneous nephrostomy on the left side will ensure adequate antimicrobial therapy and at the same time optimal drainage of a probable pyonephrosis due to an obstructive stone in the ureter. Nephrostomy provides optimal drainage, better than a JJ stent*
- D Sepsis treatment combined with ureteroscopy and removal of the ureteral concrement  
*Acute ureteroscopy with stone removal in obstructive urosepsis should be avoided because instrumentation in the urinary tract could exacerbate the infection.*

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34

A 45-year old woman, previously healthy, contacts you because of macrohematuria lasting several days. She has not had a temperature and says her general health is good. Not on any regular medications. She has smoked about 20 cigarettes daily over the last 20 years. Blood tests reveal normal values for haemoglobin, thrombocytes, leukocytes, creatinine and liver enzymes. C-reactive protein (CRP) 52 (<5 mg/L). CT urinary tract reveals a contrast-enhancing tumour that fills the entire lower calyx in the left kidney. Left-sided ureteroscopy with biopsy confirms the suspicion of urothelial cancer in the lower calyx. Normal findings at urethrocystoscopy. Which treatment would you offer this patient?

- A Left-sided radical nephrectomy
- B X Radical nephroureterectomy on the left side  
*In urothelial tumours, both the kidney and ureter on the affected side are removed because there is a high risk of tumour cells in the ureter which can therefore not be left, as it can in nephrectomy for kidney tumours where this is not a problem.*
- C Robot-assisted resection of lower renal pole, including lower calyx group on the left side
- D Cisplatin-based chemotherapy (4 cycles)

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35

You are the on-duty intern at the emergency ward at a small local hospital in Northern Norway. 15-year-old Eirik comes in on Saturday morning with pain in the right half of his scrotum. He awoke with the pain about 3 hours earlier. Examination reveals that he is quite clearly affected by the pain. The right scrotum is enlarged and the scrotum contents are pulled up towards the outer inguinal opening and very difficult to palpate due to the pain. The on-duty surgeon and radiologist are both on-call at home.

Which course of investigation and treatment do you believe is the best?

- A You give the patient analgesics and take blood samples to see whether the patient has an infection.  
*Blood tests cannot distinguish between testicular torsion and epididymitis.*
- B You give the patient analgesics and call the on-duty radiologist for ultrasound of the testis because you are unsure whether the diagnosis is testicular torsion or epididymitis. Since only 3 hours have passed you have plenty of time to investigate.  
*Torsion must be suspected in this age group and surgery scheduled as soon as possible to reduce any damage to the testicular tissue.*
- C X You give analgesics and refer the patient for emergency surgery on the scrotum.  
*In this situation, you must strongly suspect acute testicular torsion based on the medical history and clinical examination. Surgical exploration of the right-side scrotum with detorsion of any torsion should take place within 5-6 hours from start of symptoms. If torsion is present, it must be detorsioned and both testicles must be fixed because both testicles will have the same congenital defect that predisposes for torsion.*
- D You give analgesics and order blood tests. A broad spectrum antibiotic is given immediately because in this age group one would expect epididymitis to be the most probable diagnosis.  
*Epididymitis is not common in this age group*

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36

As a junior doctor at a hospital, you see a young man referred because of a palpable hard and enlarged right testicle.

You suspect testicular cancer. Where would you first expect to find metastases?

- A The lymph nodes in the pelvis are the first site for metastases.  
*Lymphatic drainage first passes retroperitoneally.*
- B X** The retroperitoneal lymph nodes are the first site for metastases.  
*Lymphatic drainage from the testicles goes first retroperitoneally to the lymph nodes that follow the vena cava and abdominal aorta. Metastases are most often found just below the renal artery as the first site.*
- C The lungs are the first site for metastases.  
*The retroperitoneal lymph nodes are the first site for metastases.*
- D The lymph nodes in the groin are the first site for metastases.  
*Lymphatic drainage passes in the funicle and intra-abdominally.*

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37

One of your patients has been treated with radical prostatectomy for prostate cancer. You are now responsible for his follow-up and are to follow the patient with blood tests twice a year. The patient is 60 years old. His PSA was 9.76 prior to surgery. He now attends for one year follow-up and blood tests reveal a PSA of 0.1.

He has recently had a urinary tract infection and was treated effectively with antibiotics. How do you evaluate this PSA value?

- A The PSA value is as expected after radical prostatectomy and a urinary tract infection  
*see above*
- B The value is within the normal range for a person in their 60s.  
*PSA must be 0*
- C X** The PSA value is too high.  
*A value of 0.1 can indicate recurrence of prostate cancer. A new test is recommended after 4-6 weeks and if the value is 0.2, the patient must be referred to a specialist for further investigation. If the value is still 0.1, a new test after 1-2 months.*
- D The PSA value is as expected after radical prostatectomy.  
*PSA must be <0.1*

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38

When a man has been diagnosed with prostate cancer, the aggressiveness of the prostate cancer is decisive for further treatment. This can be a difficult decision where the purpose is to minimise both under- and overtreatment while including the patient in the decision.

What is correct on treatment of prostate cancer:

- A In cases of demonstrated asymptomatic metastatic disease, the first choice should be immediate bilateral orchidectomy to reduce the testosterone level.  
*Immediate bilateral orchidectomy is only indicated in cases of suspected medulla compression or if patients with metastatic prostate cancer prefer this to an LHRH analogue every 3rd month.*
- B Radical prostatectomy reduces prostate-specific mortality to a greater extent than radical radiotherapy.  
*These two treatment modalities are considered to be equal until the results of an ongoing prospective randomised study are available.*
- C X** In cases of demonstrated low-risk prostate cancer, active surveillance should be offered to the patient.  
*Because of the side effects with radical treatment and the excellent 10-year prostate cancer-specific survival with low-risk prostate cancer, active surveillance should be the primary treatment offered. Active surveillance involves continuous follow-up, and treatment when the disease progresses.*
- D Radical treatment of prostate cancer, the purpose of which is to cure, includes neoadjuvant chemotherapy with subsequent radical prostatectomy.  
*Chemotherapy is not given prior to radical prostatectomy. Chemotherapy can be given in castration-resistant disease or as primary treatment with new-onset metastatic disease in combination with castration treatment.*

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39

Per (83 years old) with a history of heart attack undergoes TURP (transurethral resection of the prostate) due to micturition problems (LUTS). Pre-operative PSA (prostate specific antigen) is 5.0 ng/ml (normal range men >69 years: 0-6.5 ng/ml), and at digital rectal examination (DRE) the prostate is firm and elastic. Histology of the TURP resection reveals adenocarcinoma in 5% of the resected prostate tissue, with Gleason 3+3, score 6.

Which treatment plan would you recommend for this patient?

- A Hormone therapy
- B X** No active treatment unless the patient develops symptoms  
*Because of his age and comorbidity the patient has no risk of dying from low-risk prostate cancer that has been diagnosed at TUR-P. He should not be placed under active surveillance because he does not have an expected lifetime of 10 years, and he cannot have treatment if there is progression. Treatment is only indicated when symptoms are present.*
- C Robotic-assisted radical prostatectomy
- D Curative radiotherapy

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40

Resistant hypertension is defined as a blood pressure above 140/90 (or other treatment goals) in spite of the patient taking 3 or more antihypertensives.

What is the most common "fault" in the treatment of these patients?

- A They have an undiagnosed renal artery stenosis
- B They are being treated with too low doses of the medication
- C They are lacking an aldosterone receptor blocker (e.g. Spirix)
- D X** They are lacking a diuretic  
*Salt and fluid retention is an important part of most hypertension conditions, at least when they are as severe/advanced as in this case. Many studies have shown that patients lack a diuretic and that starting on this has a good effect.*

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41

Hypertension is an important risk factor for a variety of cardiovascular complications. The strength of the relationship between high blood pressure and the various complications is however somewhat varied.

For which complication does high blood pressure have the highest relative risk?

- A X** Severe renal failure  
*This is a rare complication, but the relative risk (i.e. the association) is very high because very few people with normal blood pressure get severe renal failure (e.g. the risk increases from 0.1% amongst normotensive to 1% amongst people with hypertension i.e. RR=10)*
- B Cardiac infarction
- C Cerebral stroke (infarction and bleeding)
- D Peripheral vascular disease

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42

A 25-year-old man contacts you because over the last few days his urine has been dark red when he has urinated. He also describes that at the moment he has a slight fever and a sore throat. He has no pain at micturation or otherwise. Moreover, he says that he notices that his urine is often red when he has a sore throat or mild symptoms of a cold. Two years ago at an incidental urine investigation with his GP, he was shown to have 1+ for blood using a urine dipstick.

You perform a urine dipstick and find the following: Albumin 1+, Glucose negative, Blood 4+, Leukocytes 1+, Nitrite negative.

Which of the following alternatives is the most probable cause of the urine findings.

**A X** IgA glomerulonephritis

*Patients with IgA glomerulonephritis can typically have macroscopic haematuria during mild throat infections. They can also often incidentally be diagnosed with microscopic haematuria.*

**B** Urinary tract infection

*Urinary tract infections in men give symptoms in the urinary tract and also leukocyturia*

**C** Minimal change glomerulopathy

*Minimal change glomerulopathy primarily has pronounced albuminuria (nephrotic syndrome)*

**D** Post-streptococcal glomerulonephritis

*Post-streptococcal glomerulonephritis gives haematuria two to three weeks after a streptococci throat infection*

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43

A 48-year-old woman goes to her GP because she feels tired and slightly shortness of breath. Her blood pressure is normal. She does not have diabetes and does not take any medication. Laboratory tests give the following results:

Hb 9.4 g/dl (12.5-15.5), K 4.2 mmol/L (3.5-4.5), creatinine 88 micromol/L (45-90), u-dipstick Albumin +, Blood ++, Leukocytes ++, Nitrite -

What is the most correct alternative for treating this patient?

**A** The anaemia is probably secondary to chronic disease, and the patient should therefore be followed up in 6 months to see whether it has improved.

**B** The patient has chronic kidney disease and should be referred to a nephrologist for investigation and probably started on erythropoietin injections.

**C X** The patient only has mildly to moderately reduced kidney function and she should be investigated for other causes of anaemia.

*Renal anaemia is rare in people with a mild to moderate reduction of renal function as in this patient. Other causes must therefore be investigated such as iron deficiency, etc.*

**D** The patient probably has renal anaemia, but Hb is >9.0 and it is therefore not necessary to start erythropoietin treatment yet.

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44

A 50-year-old lady who had a kidney transplant 5 years ago. She has had good transplant function. Over the last weeks she has become increasingly tired, can't be bothered to do much.

She is moderately short of breath, has a mild, dry cough, does not have oedema, and is afebrile.

Blood tests show CRP 35, unchanged creatinine levels, leukocytes in the normal range. Blood gasses show pO<sub>2</sub> 8.2kPa, normal pCO<sub>2</sub>.

What is the most probable condition here?

**A X** Pneumocystis jiroveci

*Most probable. Relatively frequent in transplantees, fits with low O<sub>2</sub> saturation, cough and lack of energy.*

**B** Bacterial pneumonia

*Fits poorly with low CRP and no fever*

**C** Rejection of the transplant

*Does not fit with unchanged creatinine levels*

**D** Overhydration

*Is not compatible with unchanged transplant function and no oedema*

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45

In which one of the following patients would you consider performing a renal biopsy to determine the basis for the patient's renal dysfunction?

(ref. values: eGFR: >90 mL/min/1.73m<sup>2</sup>, u-albumine/creatinine ratio < 2,5 mg/mmol creatinine)

- A A 21-year-old patient with 15 years of type 1 diabetes, evidence of proliferative retinopathy, an eGFR of 81 mL/min/1.73 m<sup>2</sup> and a urinary albumine/creatinine ratio of 230 mg/mmol.
- B X** A 41-year-old patient with type 2 diabetes with a 6-month history of reduction of eGFR from 67 mL/min/1.73 m<sup>2</sup> to 38 mL/min/1.73 m<sup>2</sup>, urinary albumine/creatinine ratio of 310 mg/mmol (increased from 30 mg/mmol 6 months ago) and hypertension requiring three antihypertensive agents.
- C A 54-year-old patient with type 2 diabetes with proliferative retinopathy, urinary albumine/creatinine ratio of 380 mg/mmol and eGFR of 28 mL/min/1.73 m<sup>2</sup>.
- D A 44-year-old patient with type 2 diabetes, with a stable eGFR of 42 mL/min/1.73 m<sup>2</sup> and a urinary albumine/creatinine ratio of 130 mg/mmol and 1+ hematuria on a dipstick test with microscopic confirmation but no dysmorphic red blood cells seen.

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46

Anne (45-years old) has had hypertension grade 1 (BP about 150-155/95) for the last two years. She does not have high cholesterol levels and does not smoke, and has not wanted treatment with drugs. Other diseases she has had include quite severe asthma, but she now functions well. She has switched from her regular GP and now comes to see you. You see that she has an s-creatinine of 85 µmol/L and urine dipstick shows protein 1+. You recommend starting medical treatment. Which medication should you use and why?

- A X** ACE inhibitors (e.g. lisinopril) at a moderate dose to dilate the efferent arterioles
- B Calcium channel blocker (dihydropyridine, e.g. amlodipine) at a moderate dose to dilate the afferent arterioles
- C Calcium channel blocker (dihydropyridine, e.g. amlodipine) at a moderate dose to contract the afferent arterioles and thus reduce the urinary protein
- D ACE inhibitor (e.g. lisinopril) at a moderate dose to dilate the afferent arterioles

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47

Kristoffer (22 years old) contacts the Emergency Unit because of pain in both upper arms over the last two days. He has previously been completely healthy and takes no medicines. He was doing hard training on Monday and Tuesday (CrossFit), but now feels unwell. He is nauseous and has pain in both upper arms (which are very tender after the training). Blood tests reveal the following: Hb 16.7 g/dL (ref. 13.4-17.0 g/dL), s-creatinine 266 µmol/L, K 4.9 mmol/L, CK 5600, s-Troponin T 88. What is the most probable diagnosis?

- A Acute heart infarction
- B X** Rhabdomyolysis and acute kidney damage
- C Incidentally discovered renal failure with electrolyte imbalance and effect on neuromuscular function
- D Dehydration after over-exertion with subsequent electrolyte imbalance

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48

A 76-year old man has had type 2 diabetes for more than 15 years. He has had two cardiac infarctions and a stroke. He is taking the following medications: Metformin 500 mg x 3, Lisinopril (ACE inhibitor) 20 mg, Albyl E 75 mg and Simvastatin 20 mg. He comes for routine follow-up with his GP. He is in good general health, but has slight sequelae from the stroke. Blood pressure 160/90, and he has mild leg oedema.

Lab. tests (ref. range in brackets):

Hb 12.6 (13.4 - 17.0 g/dL)

Na 138 (137 - 145 mmol/L)

K 5.8 (3.6 - 4.6 mmol/L)

creatinine 107 (60 - 105 µmol/L), eGFR 62

fasting glucose 7.6 (4.2-6.3 mmol/L)

HbA1c 6.8 (4.3-6.3%)

urine dipstick: albumin 2+, albumin/creatinine ratio in urine 120 (<3mg/mmol).

Which action is indicated and what is the justification?

- A** Add Angiotensin-2-receptor blockers to Lisinopril (which is already at the maximum dose) to reduce the albuminuria further.  
*No definite benefit has been demonstrated by combining ACE inhibitors and ARB, and there is a danger of hyperkalemia. His potassium is already high and he is therefore particularly susceptible to this.*
- B X** Increase antihypertensive treatment, initially with supplementation of thiazide. Good blood pressure control is important in preventing further cardiovascular events and delaying progression of renal damage.  
*Good blood pressure control is important to slow the development of renal damage and to reduce the CV risk. He has oedema, therefore thiazide will be a good choice. Thiazide alone can exacerbate glycaemic control in diabetics. In combination with other antihypertensive agents this negative effect is not significant.*
- C** Add insulin during the daytime and continue Metformin at unchanged dose because good glycaemic control is important to slow the progression of renal damage and the risk of cardiovascular events.  
*He is already strictly controlled with HbA1c 6.8, and supplementing insulin will increase the risk of hypoglycaemic episodes and is associated with higher mortality in older people with multimorbidity. Good glycaemic control is primarily known to reduce the occurrence of microvascular complications, but not necessarily cardiovascular events.*
- D** Change the diabetes treatment to insulin, because Metformin is contraindicated in impaired renal function.  
*Metformin is not contraindicated in stage 2 renal failure. It is debated as to the GFR at which Metformin should be contraindicated, but it is generally agreed that Metformin should not be given at GFR < 30.*

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49

A 57-year-old woman with known hypertension comes to her GP because she has felt increasingly tired and lacking energy over the last weeks. Blood tests taken the same day at 14.00 give the results presented below:

Analysis	Unit	Reference range	Result (Flag)
B-Haemoglobin	g/dL	11.7-15.3	13.9
S-Albumin	g/L	36-45	36
S-Calcium	mmol/L	2.15-2.51	2.84 (H)
S-PTH (Parathyroid hormone)	pmol/L	1.6-6.9	16.1 (H)
S-Phosphate	mmol/L	0.85-1.50	0.67 (L)
S-Cortisol	nmol/L	Morning: 142 - 651. Evening: about 50% of morning level	131
S-Thyroid peroxidase (TPO) antibodies	kU/L	<35	8
S-Free T4	pmol/L	12.0-22.0	15.1
S-TSH (Thyroid stimulating hormone)	mIU/L	0.27-4.20	4.30

Which condition is the most compatible with this clinical picture and analysis results?

- A Primary hypoparathyroidism  
*high PTH*
- B Primary hypothyroidism  
*TSH only slightly elevated and FT4 normal*
- C Primary adrenal failure  
*s-cortisol is not particularly low*
- D X Primary hyperparathyroidism  
*high PTH and calcium*

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50

The analysis results from venous samples from a number of patients are presented below. Presuming that any control tests will give the same results:

**How many of these samples meet the diagnostic criteria for diabetes mellitus?**

- b-HbA1c: 63 mmol/mol
- fp-glucose: 7.9 mmol/L
- b-HbA1c: 43 mmol/mol
- fp-glucose: 11.9 mmol/L
- p-glucose after glucose load: 8.9 mmol/L
- fp-glucose: 6.4 mmol/L
- p-glucose after glucose load: 11.9 mmol/L
- b-HbA1c: 107 mmol/mol
- p-glucose after glucose load: 11.4 mmol/L

Reference range:

fp-glucose: 4.2-6.3 mmol/L

b-HbA1c: 28-40 mmol/mol

Explanations:

b: blood

p: plasma

fp: plasma, fasting patient

after glucose load: sample taken 2 h after peroral glucose load with 82.5 g glucose monohydrate

- A X 6  
*criteria*  
*fp-glucose:  $\geq 7.0$  mmol/L*  
*b-HbA1c:  $\geq 48$  mmol/mol*  
*2h OGTT:  $\geq 11.1$  mmol/L*
- B 3
- C 5
- D 4

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51

In type 2 diabetes, which antidiabetic can be given in end-stage renal disease?

**A X** Insulin and DPP4 inhibitor

*Insulin can be used in severely impaired kidney function, even though the half-life will be prolonged. DPP4 inhibitor can be safely given with all stages of kidney failure, even though some should be given at a reduced dose to patients with end-stage renal disease.*

**B** Insulin and SGLT2 inhibitor

*SGLT2 inhibitor has no glucose-reducing effect in end-stage renal disease.*

**C** SGLT2 inhibitor and GLP1 analogue

*SGLT2 inhibitor has no glucose-reducing effect in end-stage renal disease, and GLP1 analogue is not recommended in severely impaired renal function.*

**D** SGLT2 inhibitor and DPP4 inhibitor

*SGLT2 inhibitor has no glucose-reducing effect in end-stage renal disease.*

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52

A 35-year old woman visits her GP because of increasing tiredness and loss of weight over the last months. She thinks her skin is darker than normal at this time of year (Nov). Her GP measures her blood pressure.

What sodium and potassium levels would you expect?

**A** high sodium, high potassium

**B** high sodium, low potassium

**C** low sodium, low potassium

**D X** low sodium, high potassium

*Based on her medical history the patient has primary adrenal failure, and the lack of aldosterone will give this electrolyte pattern.*

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53

A 49-year-old woman has had autoimmune hyperthyroidism (Graves' disease) for 1 year. She is being treated only with thyrostatics (carbimazole). For the last 6 months her free thyroxine (FT4) has been within the reference range (11.6-19.1 pmol/L) and thyroid stimulating hormone (TSH) has been around 1.0 mIU/L (ref. 0.24-3.78 mIU/L). This last month she has felt tired and apathic, with weight loss 4-5 kg, slight nausea and dizziness. Blood pressure 90/60. Normal renal function, serum sodium 136 mmol/L (ref. 137-145 mmol/L) and potassium 4.3 mmol/L (ref. 3.6-4.6 mmol/L). Free thyroxine is now 16.6 pmol/L and TSH is 0.97 mIU/L. What would you look for specifically at clinical examination?

**A** Whether she has a buffalo hump

*Not correct. The medical history and findings in this patient indicate hypocortisolism, not hypercortisolism. Buffalo hump is seen in many patients with hypercortisolism (Cushing's disease).*

**B** Whether she has particularly coarse facial features

*Not correct. The medical history and findings in this patient indicate hypocortisolism, not high levels of growth hormone. Particularly coarse facial features can be seen in patients with high levels of growth hormone (acromegaly).*

**C** Whether she has endocrine ophthalmopathy

*Not correct. We already know that she has Graves' disease, and in this disease up to 50% of the patients have (some degree of) endocrine ophthalmopathy. But whether she has endocrine ophthalmopathy or not is not relevant for the current problems (tiredness, dizziness, nausea, weight loss) when the metabolic results lie within the normal range (i.e. her hyperthyroidism is adequately treated).*

**D X** Whether she has hyperpigmentation

*Correct answer. Patients with one autoimmune disease have an increased risk of other autoimmune diseases. The medical history and findings in this patient indicate hypocortisolism. In primary hypocortisolism (around 90% with autoimmune cause in Norway) the patients have high ACTH levels and the production of ACTH stimulates the melanocytes in a complex manner. It is therefore typical that the patients become hyperpigmented. This patient's condition is compatible with autoimmune polyglandular syndrome type II (APS II). APS II always involves primary hypocortisolism (Addison's disease) in combination with disease of the thyroid and/or type 1 diabetes.*

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54

An 81-year-old woman with dementia has hyperthyroidism with free thyroxine (FT4) 27.2 pmol/L (reference range 11.6-19.1 pmol/L) and thyroid stimulating hormone (TSH) <0.01 mIU/L (ref. 0.24-3.78 mIU/L). TSH receptor antibody is 1.0 (ref. <1.5 IU/L) and scintigraphy shows a toxic adenoma in the lower left pole. She has urinary incontinence and lives in a care home. She has few symptoms and no angina pectoris. Which treatment would you recommend?

**A** Surgical treatment

*Not the most correct answer. Surgery should be avoided if possible in such an old patient with dementia. Low dose thyrostatics can be given as long-term treatment of toxic adenoma in the elderly for whom treatment with radioactive iodine or thyroidectomy is not recommended.*

**B** Radioactive iodine treatment

*Not the most correct answer. In toxic adenoma, the first-line treatment is radioactive iodine (RAI), but this patient has dementia and is incontinent, and is unable to cooperate optimally during the treatment. The radioactive isotope is excreted in the urine. Radioactive urine soiling should be avoided because it can increase the risk for the staff in the care home (particularly pregnant staff).*

**C X** Low dose thyrostatics

*The most correct answer. In toxic adenoma, the first-line treatment is radioactive iodine (RAI), but this patient has dementia and is incontinent, and is unable to cooperate optimally during the treatment. The radioactive isotope is excreted in the urine. Radioactive urine soiling should be avoided because it can increase the risk for the staff in the care home (particularly pregnant staff).*

*<http://legemiddelhandboka.no/Terapi/5217> : Tyreostatika i lavdose kan også gis som langtidsbehandling ved toksisk knutestruma hos gamle personer, der behandling med radioaktivt jod eller tyreoidektomi ikke anbefales. [Low dose thyrostatics can also be given as long-term treatment of toxic adenoma in the elderly for whom treatment with radioactive iodine or thyroidectomy is not recommended]*

**D** Non-selective betablocker

*Not the most correct answer. Betablockers only alleviate symptoms. Like many elderly with hyperthyroidism, she has few symptoms of hyperthyroidism, and she does not have angina pectoris. Low dose thyrostatics will be able to normalise the level of FT4 and can be given as long-term treatment of toxic adenoma in the elderly for whom treatment with radioactive iodine or thyroidectomy is not recommended.*

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55

A 54-year-old woman with hyperthyroidism with free thyroxine (FT4) 34.2 pmol/L (reference range 11.6-19.1 pmol/L) and thyroid stimulating hormone (TSH) <0.01 mIU/L (ref. 0.24-3.78 mIU/L). Thyrotropin receptor antibody (TSH receptor antibody) is 10.9 (ref. <1.5 IU/L). She has exophthalmus and presumed periorbital oedema. She is troubled by palpitations, tremors and sweating. What would be your first choice of treatment?

**A** Thyrostatics and selective betablocker

*Not the most correct answer. Thyrostatics (carbimazole, propylthiouracil) are normally the first-line treatment in Europe for autoimmune hyperthyroidism (Graves'), as in this patient. But in addition she needs (for a period) a non-selective betablocker for the palpitations, tremor and sweating.*  
<http://legemiddelhandboka.no/Terapi/5217>

**B X** Thyrostatics and non-selective betablocker

*The correct answer. Thyrostatics (carbimazole, propylthiouracil) are normally the first-line treatment in Europe for autoimmune hyperthyroidism (Graves'), as in this patient. But in addition she needs (for a period) a non-selective betablocker for the palpitations, tremor and sweating.*

**C** Radioactive iodine and selective betablocker

*Not the correct answer. Thyrostatics (carbimazole, propylthiouracil) are normally the first-line treatment in Europe for autoimmune hyperthyroidism (Graves'), as in this patient. Radioactive iodine should not be given to this patient primarily because she has exophthalmus and periorbital oedema. In addition she needs (for a period) a non-selective betablocker for the palpitations, tremor and sweating.*

**D** Radioactive iodine and non-selective betablocker

*Not the correct answer. Thyrostatics (carbimazole, propylthiouracil) are normally the first-line treatment in Europe for autoimmune hyperthyroidism (Graves'), as in this patient. Radioactive iodine should not be given to this patient primarily because she has exophthalmus and periorbital oedema. In addition she needs (for a period) a non-selective betablocker for the palpitations, tremor and sweating.*

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56

A 53-year-old man has had type 2 diabetes for 5 years; he uses metformin, otherwise no medication. No heart disease, normal kidney function, normal blood pressure, does not smoke. HbA1c 7.0% (53 mmol/mol; ref.: 28-40). Fasting se-cholesterol 5.2 mmol/l (ref.: 3.3-6.9), LDL cholesterol 3.4 mmol/l (ref.: 1.5-5.1) HDL cholesterol 1.23 mmol/l (ref.: 1.00-2.70), triglycerides 1.39 mmol/l (ref.: 0.45-2.60).

**A X** He should start on cholesterol-lowering treatment.

*Correct answer. The national guidelines for treatment of diabetes 2018 states the following: Statin treatment is recommended for all people with diabetes aged 40-80 years without known cardiovascular disease (primary prevention) if LDL cholesterol exceeds 2.5 mmol/l or when the overall risk is high.*

*<https://helsedirektoratet.no/retningslinjer/diabetes/seksjon?Tittel=legemidler-til-forebygging-av-2682#kolesterolsenkende-behandling-som-primærforebygging-ved-diabetes-type-1-og-2sterk-anbefaling>*

**B** He does not need cholesterol-lowering treatment, but it should be started if se-cholesterol >6.9 mmol/l

*Incorrect answer. The national guidelines for treatment of diabetes 2018 states the following: Statin treatment is recommended for all people with diabetes aged 40-80 years without known cardiovascular disease (primary prevention) if LDL cholesterol exceeds 2.5 mmol/l or when the overall risk is high. (Note that the reference range and intervention threshold are not the same.)*

**C** He does not need cholesterol-lowering treatment now, but it should be started if he develops angina pectoris.

*Incorrect answer. The national guidelines for treatment of diabetes 2018 states the following: Statin treatment is recommended for all people with diabetes aged 40-80 years without known cardiovascular disease (primary prevention) if LDL cholesterol exceeds 2.5 mmol/l or when the overall risk is high.*

**D** He does not need cholesterol-lowering treatment, but it should be started when HbA1c >8% (64 mmol/mol).

*Incorrect answer. The national guidelines for treatment of diabetes 2018 states the following: Statin treatment is recommended for all people with diabetes aged 40-80 years without known cardiovascular disease (primary prevention) if LDL cholesterol exceeds 2.5 mmol/l or when the overall risk is high. The HbA1c level is not relevant in this assessment.*

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57

You are the GP for a 37-year old man with recently diagnosed type 2 diabetes. He is otherwise healthy and has normal renal function. He uses metformin 500 mg x 2 with no side effects. What is the target HbA1c in this patient?

**A** HbA1c around 53 mmol/mol (7%)

*Not the most correct answer. The treatment target for most patients is an HbA1c around 53 mmol/mol (7%) but in some patients, particularly younger and newly diagnosed patients who relatively easily achieve the treatment target by changing lifestyle and perhaps taking 1-2 medicines, lower treatment targets may be appropriate (e.g. HbA1c around 48 mmol/mol (6.5%))*

**B X** HbA1c around 48 mmol/mol (6.5%)

*Correct. The treatment target for most patients is an HbA1c around 53 mmol/mol (7%) but in some patients, particularly younger and newly diagnosed patients who relatively easily achieve the treatment target by changing lifestyle and perhaps taking 1-2 medicines, lower treatment targets may be appropriate (e.g. HbA1c around 48 mmol/mol (6.5%))*

*Source: National guidelines for diabetes 2018*

*<https://helsedirektoratet.no/retningslinjer/diabetes/seksjon?Tittel=blodsukkersenkende-behandling-og-behandlingsmal-3295#behandlingsmal-for-hba1c-ved-diabetes-type-2sterk-anbefaling>*

**C** HbA1c between 53-64 mmol/mol (7.0-8.0%)

*Not correct. The treatment target for most patients is an HbA1c around 53 mmol/mol (7%) but in some patients, particularly younger and newly diagnosed patients who relatively easily achieve the treatment target by changing lifestyle and perhaps taking 1-2 medicines, lower treatment targets may be appropriate (e.g. HbA1c around 48 mmol/mol (6.5%))*

**D** HbA1c between 64-75 mmol/mol (8.0-9.0%)

*Not correct. The treatment target for most patients is an HbA1c around 53 mmol/mol (7%) but in some patients, particularly younger and newly diagnosed patients who relatively easily achieve the treatment target by changing lifestyle and perhaps taking 1-2 medicines, lower treatment targets may be appropriate (e.g. HbA1c around 48 mmol/mol (6.5%))*

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58

A 57-year-old woman has pituitary failure after surgery for a pituitary adenoma. She is substituted with cortisone, growth hormone and thyroxine, and takes Levaxin (levothyroxine) 100 microg daily. Tests taken 3 months after starting Levaxin reveal free thyroxine (FT4) 16.2 pmol/L (reference range: 11.6-19.1 pmol/L) and thyroid stimulating hormone (TSH) 0.1 mIE/L (ref.: 0.24-3.78 mIE/L). She feels well and has no particular symptoms. Is there any reason to change the substitution dose of thyroid hormone?

- A X** No. There is no reason to change the Levaxin dose.  
*Correct answer. She has central hypothyroidism and that is the reason her TSH is low. In central hypothyroidism, TSH cannot be used to monitor the Levaxin dose; instead, the level of FT4 is used, and her FT4 level is within the reference range.*
- B** Yes, the Levaxin dose should be reduced.  
*Not correct. She has central hypothyroidism and that is the reason her TSH is low. In central hypothyroidism, TSH cannot be used to monitor the Levaxin dose; instead, the level of FT4 is used, and her FT4 level is within the reference range. <http://legemiddelhandboka.no/Terapi/5217>*
- C** Yes. The Levaxin dose should be increased.  
*Not correct. She has central hypothyroidism and that is the reason her TSH is low. In central hypothyroidism, TSH cannot be used to monitor the Levaxin dose; instead, the level of FT4 is used, and her FT4 level is within the reference range.*
- D** Yes. She should have triiodothyronine (T3) in addition to Levaxin  
*Not correct. Her FT4 is within the reference range, and there are no signs that the substitution dose is too low. The combination of T3 and Levaxin (T4) is not recommended in addition neither in Europe nor the US. She has central hypothyroidism and that is the reason her TSH is low. In central hypothyroidism, TSH cannot be used to monitor the Levaxin dose; instead, the level of FT4 is used.*

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59

You are the GP for a woman aged 57 with recently diagnosed type 2 diabetes (T2D). She is otherwise healthy. When should she be examined for diabetic polyneuropathy?

- A** She should be examined for diabetic polyneuropathy 5 years after the diagnosis of T2D and thereafter annually  
*Incorrect answer. Patients with T2D should be examined for diabetic polyneuropathy at the time of diagnosis because they could already have microvascular complications. Patients with diabetes type 1 (T1D) should be examined for diabetic polyneuropathy 5 years after the diagnosis of T1D and thereafter annually*
- B X** She should be examined for diabetic polyneuropathy at the time of diagnosis and thereafter annually  
*Correct answer. Patients with T2D should be examined for diabetic polyneuropathy at the time of diagnosis because they could already have microvascular complications.*
- C** She should be examined for diabetic polyneuropathy 2 years after the diagnosis of T2D and thereafter annually  
*Incorrect answer. Patients with diabetes type 2 should be examined for diabetic polyneuropathy at the time of diagnosis because they could already have microvascular complications.*  
*Source: National guidelines for diabetes 2018*  
<https://helsedirektoratet.no/retningslinjer/diabetes/seksjon?Tittel=diabetisk-fot-og-nevropati-2681#undersøkelse-og-diagnostikk-av-nevropati-og-identifisering-av-pasienter-med-risiko-for-fotsårsterk-anbefaling>
- D** She should be examined for diabetic polyneuropathy 10 years after the diagnosis of T2D and thereafter annually  
*Incorrect answer. Patients with T2D should be examined for diabetic polyneuropathy at the time of diagnosis because they could already have microvascular complications.*

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60

A 66-year-old woman visits her GP because of acute back pain after falling on the ice. 5 years ago she had a low energy fracture in the radius, and she was diagnosed with osteoporosis by bone density measurement. After this she started treatment with Alendronate one per week tablets and Calcigran forte. She has now been referred for X-ray of the spinal column which reveals two new compression fractures. Bone density measurement reveals a T-score of -4.1 SD in the lumbar vertebrae, -3.5 in the femur and -2.5 in the total hip. The bone density has dropped since the last measurement. Blood tests reveal satisfactory values.

Which treatment is now indicated for this patient in combination with Calcigran forte?

A intravenous bisphosphonate (Aclasta)

B Oestrogen/progestogen

C X parathyroid analogue (teriparatide, Forsteo)

*Is indicated in severe osteoporosis when the effect of treatment is inadequate i.e. fractures and drop in bone density. Teriparatide has an anabolic effect on bone in contrast to the other osteoporosis medications which are resorption inhibitors. It must be applied for through Helfo.*

D denosumab (Prolia, antibody against RANKL)

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61

A 31-year-old woman has an appointment with you her GP after discovering a lump in her breast. She found it a week ago, and was immediately worried and wants to get it checked. There is no breast cancer in her immediate family. She is otherwise healthy and takes no medicines.

At clinical examination you palpate a well-defined solid, non-tender 2 cm tumour in the right breast in the upper lateral quadrant. It feels freely mobile against the skin and milk glands. You subsequently palpate relevant lymph glands with no findings.

What should you as her GP do and why?

A X The patient must be referred to a breast cancer diagnostic centre to clarify whether it is benign or malignant.

*Correct answer. There is a small risk of malignancy in this case based on age and examination findings. However, cancer cannot be excluded by clinical examination. Mammography and ultrasound should be performed and perhaps a biopsy.*

B Make an appointment in 1 month's time. If the tumour is still present, she must be referred to a breast cancer diagnostic centre.

*Incorrect answer. A tumour in the breast very rarely disappears over a month, and this observation time gives little information. It is probably not dangerous to wait a month, but if this is breast cancer, the patient would experience this additional time as stressful.*

C Only reassure the patient because the chances that it is malignant are very low in such a young patient

*Incorrect answer. It is correct that there is a small risk of malignancy in this case based on age and examination findings. However, cancer cannot be excluded by clinical examination. Mammography and ultrasound should be performed and perhaps a biopsy.*

D Refer for MRI mammography, because this is the best diagnostic imaging method in young patients

*Incorrect answer. MRI can be useful in some cases, but investigations start with mammography and ultrasound, if necessary. Biopsy will be considered. Further investigations are assessed in a multi-disciplinary team by the breast cancer diagnostics centre.*

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62

A 38-year-old woman has recently been diagnosed with papillary carcinoma in the thyroid. At ultrasound her lymph nodes did not have a pathological appearance. The patient is scheduled for surgery. She wants to know the prognosis for her disease. She is otherwise healthy and takes no medicines.

Which answer is most correct?

**A X** The prognosis is good, because the 5-year survival is statistically above 90%

*A general "rule" for cancer of the thyroid is that the prognosis is generally very good, so long as it is not an anaplastic carcinoma. Papillary carcinoma, such as this patient has, is the most common type of thyroid cancer, and has the best prognosis of the different forms of thyroid cancer. Her age is also an advantage because papillary thyroid cancer has a particularly good prognosis in young people (<40-45 years).*

**B** The prognosis is moderate, because the 5-year survival is statistically about 40-60%

*See the comment above for the correct answer.*

**C** The prognosis is poor, because the 5-year survival is statistically below 10%

*See the comment above for the correct answer.*

**D** It is not possible to speak about the prognosis based on the information provided

*Wrong*

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63

A 55-year-old woman has an appointment with you her GP because of what she considers to be excema on her right nipple. She has been bothered by itching and discomfort recently and it has spread slightly from the nipple into the areola. Over the last few days the woman has applied a moisturiser without any definite effect. Apart from this, she hasn't noticed anything in her left breast or right breast. There are no findings at clinical examination of the breasts and axillary lymph nodes apart from the skin changes. The woman otherwise feels well. She has followed the mammography programme and her next check-up is in 6 months.

What should you do for this patient?

**A** Prescribe cortisone ointment and make a new appointment in two weeks.

*Incorrect answer. The cause of the rash must be determined. The patient's medical history indicates Paget's disease, but excema is a relevant differential diagnosis. Trying a cortisone ointment for a presumed excema will delay treatment of any underlying breast cancer.*

**B** Wait for the results of the mammography screening she will have in about 6 months.

*Incorrect answer. The medical history strongly indicates Paget's disease and she must therefore be investigated for occult ductal carcinoma in situ.*

**C X** Refer her to the nearest breast cancer diagnostic centre.

*Correct answer. The medical history strongly indicates Paget's disease and she must therefore be investigated for carcinoma in situ or invasive cancer.*

**D** Refer to the nearest Dermatology Dept.

*Incorrect answer. The 2 most probable diagnoses are Paget's disease and excema. The most serious of these must have priority, and she must therefore be investigated first for Paget's disease. Referral to a Dermatology Dept could delay investigations for any underlying carcinoma in situ or breast cancer.*

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64

You are a doctor in the Breast and Endocrinology Outpatient Clinic. A woman comes in who has had mammography, ultrasound and biopsy of a lump that she discovered in one of her breasts. She is 44 years old. The lump measures 2cm both at clinical examination and at mammography. Otherwise clinical examination reveals completely normal findings, and ultrasound does not reveal any axillary lymph nodes with pathological appearance. Biopsy from the tumour revealed breast cancer. You inform her about the diagnosis and treatment.

What are the surgical options, and what should you recommend?

**A X** In the breast, the choice is between breast-conserving surgery or mastectomy, but in the axilla only sentinel node diagnostics is relevant. For this patient, the most relevant is breast-conserving surgery in addition to sentinel node diagnostics.

*Correct answer. Because metastases have not been demonstrated in the axilla, sentinel node diagnostics must be performed. The breast can be removed, but treatment is just as good with breast-conserving surgery. A 2-cm tumour is generally well-suited for breast-conserving surgery.*

**B** In the breast, the choice is between breast-conserving surgery or mastectomy, and in the axilla a choice can be made between axillary dissection and sentinel node diagnostics. For this patient, the most relevant is breast-conserving surgery and sentinel node diagnostics.

*Incorrect answer. It is correct that breast-conserving surgery and sentinel node diagnostics are the most appropriate, but it is not correct that one can choose axillary dissection in this situation.*

**C** In the breast, the choice is between breast-conserving surgery or mastectomy, but axillary dissection at which all lymph nodes at level 1 and level 2 are removed must be performed in the axilla. For this patient, the most relevant is breast-conserving surgery in addition to axillary dissection.

*Incorrect answer. It is correct that breast-conserving surgery is the most appropriate in the breast, but axillary dissection is not performed unless metastases are demonstrated in the axilla, or unless it is not possible to find sentinel nodes.*

**D** In the breast, only breast-conserving surgery is appropriate, but in the axilla there is a choice between sentinel node diagnostics or axillary dissection with removal of all lymph nodes at level 1 and level 2. For this patient, the most relevant is sentinel node diagnostics in addition to breast-conserving surgery.

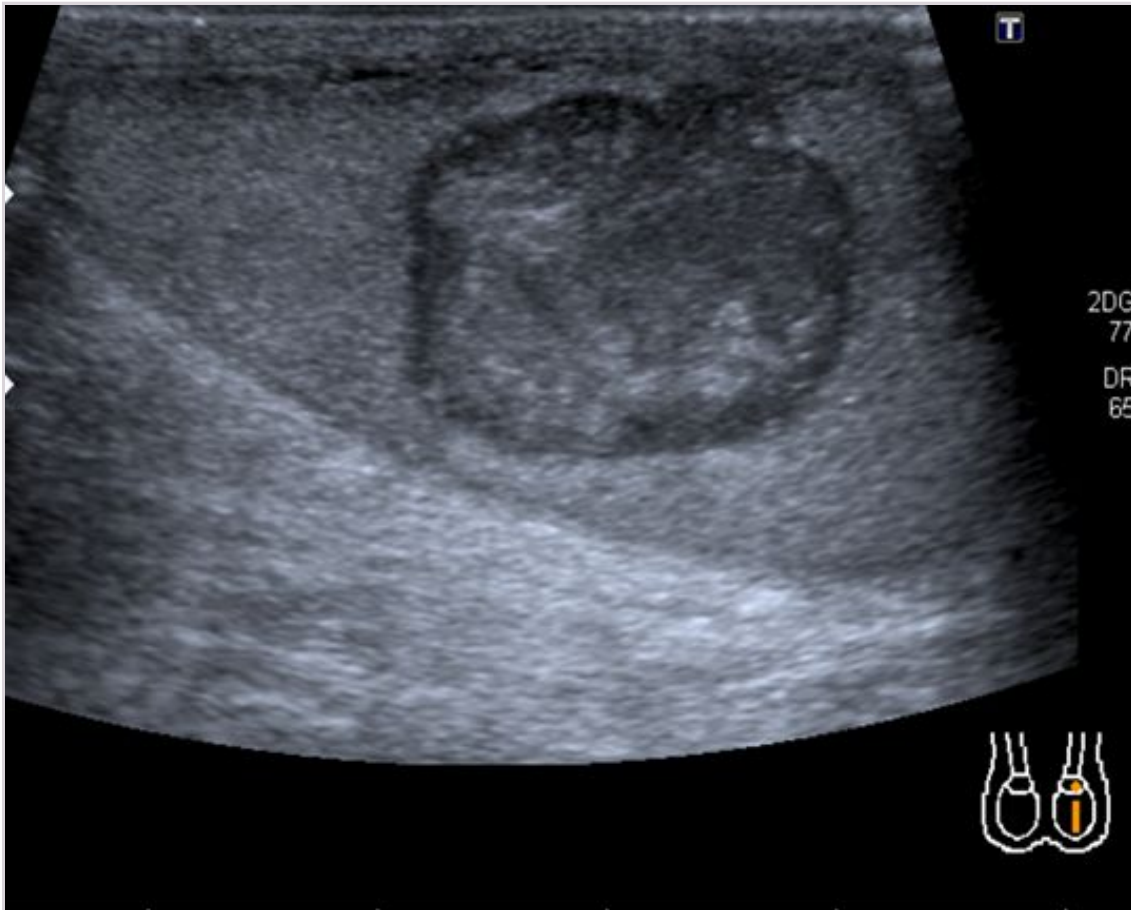
*Incorrect answer. It is correct that the most appropriate is breast-conserving surgery and sentinel node diagnostics, but it is not correct that breast-conserving surgery is the only choice in the breast. Neither is it correct that one can choose axillary dissection here. Axillary dissection is only performed if metastases have been demonstrated or where it is not possible to perform sentinel node diagnostics due to technical (surgical/anatomical) reasons.*

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65

A 32-year old man goes to his GP because of a swelling in his testicle that has developed over 6 months. It is not painful, but tender. Clinical examination reveals a definite swelling in the actual testicle. The GP refers to an imaging investigation as shown in the picture.

What is the most probable diagnosis?



- A Spermatocele
- B X** Testicular tumour
- C Testicular torsion
- D Epididymitis

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66

A 57-year-old woman has seen her GP and been diagnosed with high blood pressure. Based on her symptoms and the laboratory results, her GP wonders whether her high blood pressure is associated with chronic renal failure. Which imaging diagnostics is normally the first choice when investigating renal failure?

- A CT angiography of the renal arteries.  
*CT angiography is normally the second choice if a vascular cause is suspected.*
- B MRI angiography of the renal arteries.
- C X** Ultrasound kidneys.  
*Ultrasound is the first choice when looking at echo, differentiating between parenchyma and sinus, cortex, length, scarring and hydronephrosis.*
- D Renal scintigraphy

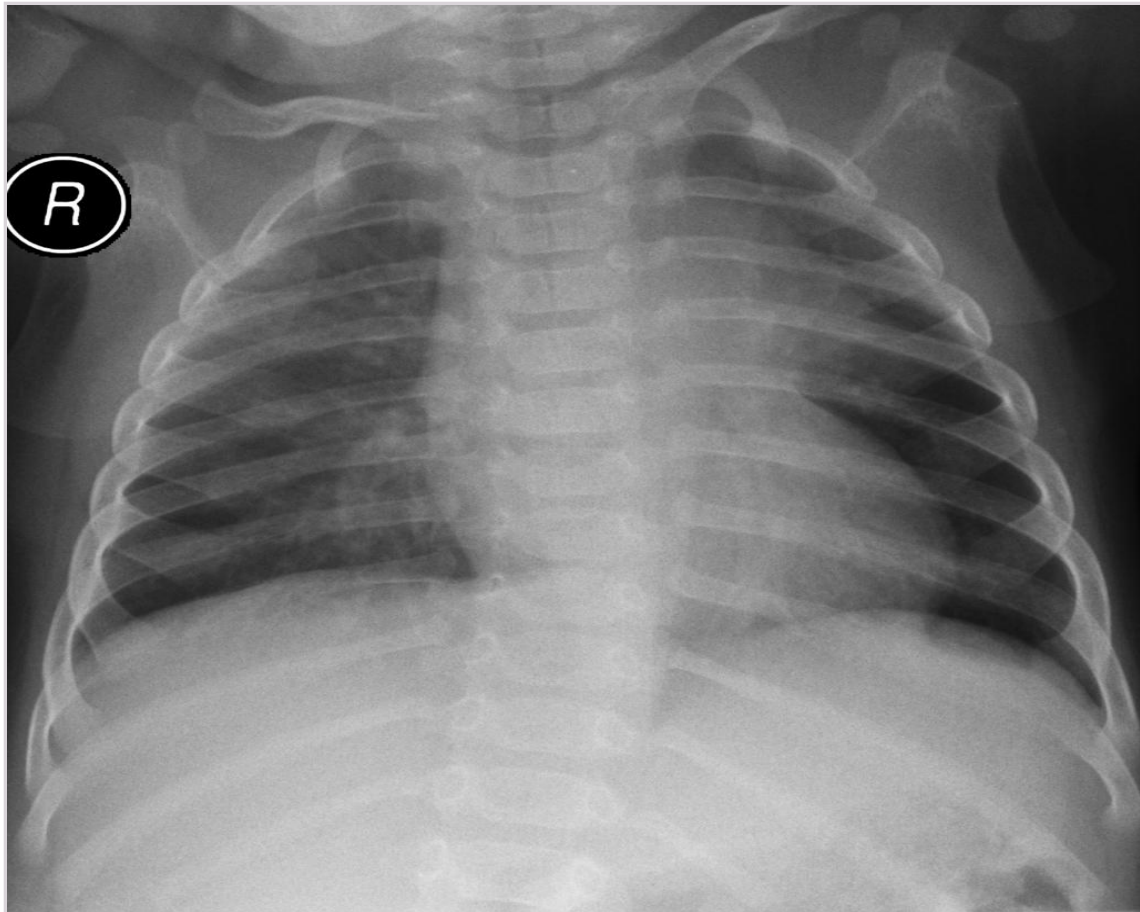
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67

As the registrar in the Paediatric Clinic you see a 6-month-old boy and his parents. Over the last weeks, he has been bothered by a non-productive cough in the evenings, but otherwise appears to be in fine form. At auscultation mucal sounds can be heard centrally. He is subfebrile; 38.1 degrees Celsius. CRP is slightly elevated at 31 (normal <5). An X-ray of the chest is ordered as part of the investigations.

What does the X-ray show?





**A** Round pneumonia infiltrate

**B X** Normal thymus

*A prominent thymus, but with normal appearance, which in this case appears as a well-defined mass in the upper mediastinum and with sharply defined borders in the left upper lung field. A common "incidental" finding in children in this age group. In tetralogy of Fallot, an overriding aorta is not normally seen at X-ray (would be positioned more anteriorly and just above VSD); up to 25% can have an additional anomaly with right-side aortic arch. Mediastinal, malignant masses are rare in this age group (teratomas, lymphomas). No biochemistry/fever that supports round pneumonia densities. In many cases, no changes are seen at X-ray (bronchitis, asthma, UPI); here one could also discuss whether an X-ray was indicated.*

**C** Enlarged aortic arch with tetralogy of Fallot

**D** A mediastinal mass suspected to be malignant

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68

A 63-year-old woman with newly diagnosed ovarian cancer of the mucinous type with carcinomatosis in the abdominal cavity is to be assessed for cytoreductive surgery and possibly HIPEC (hyperthermic intraperitoneal chemoperfusion).

**Which imaging diagnostic method is best suited in practice to assess the spread of the carcinomatosis?**

**A** Ultrasound

*Ultrasound is little suited for several reasons: Carcinomatosis is often difficult to distinguish from the other fatty tissue in the mesentery and omentum, and the changes one is looking for tend to be small. In addition, ultrasound has a very limited field-of-view, and is dependent on body composition and intestinal gas, for example.*

**B X** CT

*CT provides a good overview of all the organs in the abdominal cavity, with high soft-tissue contrast with intravenous contrast. This means one can find carcinomatosis of both focal and more diffuse varieties with a great degree of accuracy. In addition, CT is fast to perform and easily available in most places. However, very small carcinomatosis changes (typically <5 mm) can be overlooked.*

**C** PET

*PET alone has very low resolution, and does not give a good anatomical overview of small changes in the abdominal cavity. Therefore, it is often combined with either CT (PET-CT) or MRI (PET-MRI) for better resolution. CT alone is, however, sufficient for assessment of carcinomatosis, and in particular mucinous tumours often take up little FDG (fluoro-deoxyglucose).*

**D** MRI

*MRI can in principle reveal carcinomatosis almost as well as CT, but its limited field-of-view is a disadvantage when the entire abdominal cavity is to be examined. In practice, only either the pelvis or the upper abdomen can be examined at each investigation. MRI is also more sensitive than CT to movement/mobility factors which can greatly limit assessment of small changes along the peritoneum or in the omentum. In addition, MRI takes a long time, is more resource-demanding and affected by metal implants, claustrophobia, etc.*

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69

Vesicoureteral reflux (VUR) is a condition in which urine flows back from the bladder and up into the ureters and possibly to the renal pelvis. VUR is estimated to occur in 1-2% of all children.

**Which statement about VUR is correct?**

**A** Reflux has been demonstrated in 90% of children with urinary tract infections.

*Reflux has been demonstrated in 15-50% of children with UTI (international literature 25-40%).*

**B** Only the most severe grades of VUR (grades 4 and 5) are treated endoscopically or surgically, regardless of the presence of infections.

*Indication for endoscopic and surgical treatment must be assessed individually, in particular with high-grade VUR and especially with high-grade VUR and breakthrough infections.*

**C X** VUR is associated with other congenital urinary tract anomalies (e.g. duplex system and urethral valves).

*VUR can be an isolated anomaly or can be associated with other congenital urinary tract anomalies such as duplex kidneys/ureters (typically occurring reflux to the lower section), and obstructions in ureters or urethra.*

**D** Ultrasound without contrast reveals almost all cases of VUR and is important in the assessment of renal parenchyma and renal growth.

*Only ultrasound with intravesical contrast (SonoVue) can reveal VUR. The advantage is that there is no radiation. However, this method requires the user to have a lot of experience.*

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70

The background radiation in Norway is calculated to be between 4 and 5 mSV per person per year.

Which of the following imaging examinations gives a radiation dosage of the same magnitude?

- A X-rays of the ankle  
*Dose <0.2 mSV*
- B X CT Thorax
- C X-rays of the thorax  
*Dose <0.1 mSV*
- D Ultrasound of the abdomen  
*No radiation*
- E Cerebral MR  
*No radiation*

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71

A 45-year old man comes to your general practice office and says he has an intermittent, intense pain that spreads from the middle of the lower back a little to the right of the waist and down towards the groin. The urine dipstick gives 3+ for blood.

Which imaging investigation is the first choice in further investigations?

- A X CT urinary tract low dose  
*These are classic symptoms of kidney stones/ureteral concretions. This is investigated using CT of the urinary tract low dose.*
- B Urography
- C Ultrasound urinary tract (kidneys/ureters/bladder)
- D CT Abdomen/Pelvis with intravenous contrast

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72

A 64-year-old man was diagnosed with a 28 mm cystic tumour posteriorly in the lower pole of the right kidney. This was removed 2 days ago, with partial kidney resection. He now has pain in the right side of his abdomen. P-creatinine has increased from 80 to 112 micromol/L and p-CRP has increased to 184 mg/L. An informative ultrasound scan reveals fluid in the right kidney. Using CT you want to investigate whether the fluid accumulation is due to urine. Which contrast phase will be the most useful?

- A X Excretory phase, which can reveal contrast leakage from the resection.  
*There is no problem giving intravenous contrast after renal surgery. If there is urine in the accumulated fluid, this will be due to leakage from the kidney collecting system where the resection has been performed: this can be displayed directly in the excretory phase when the urine in the collecting system is saturated with contrast.*
- B Precontrast phase, because you must not give intravenous contrast so soon after renal surgery.
- C Parenchymal phase, which gives the best anatomical overview.
- D Arterial phase, will show bleeding which is the the most important differential diagnosis.

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73

In breast cancer, the tumour must be graded by a pathologist and, based on certain criteria, the tumour is given histological grade I, II or III.

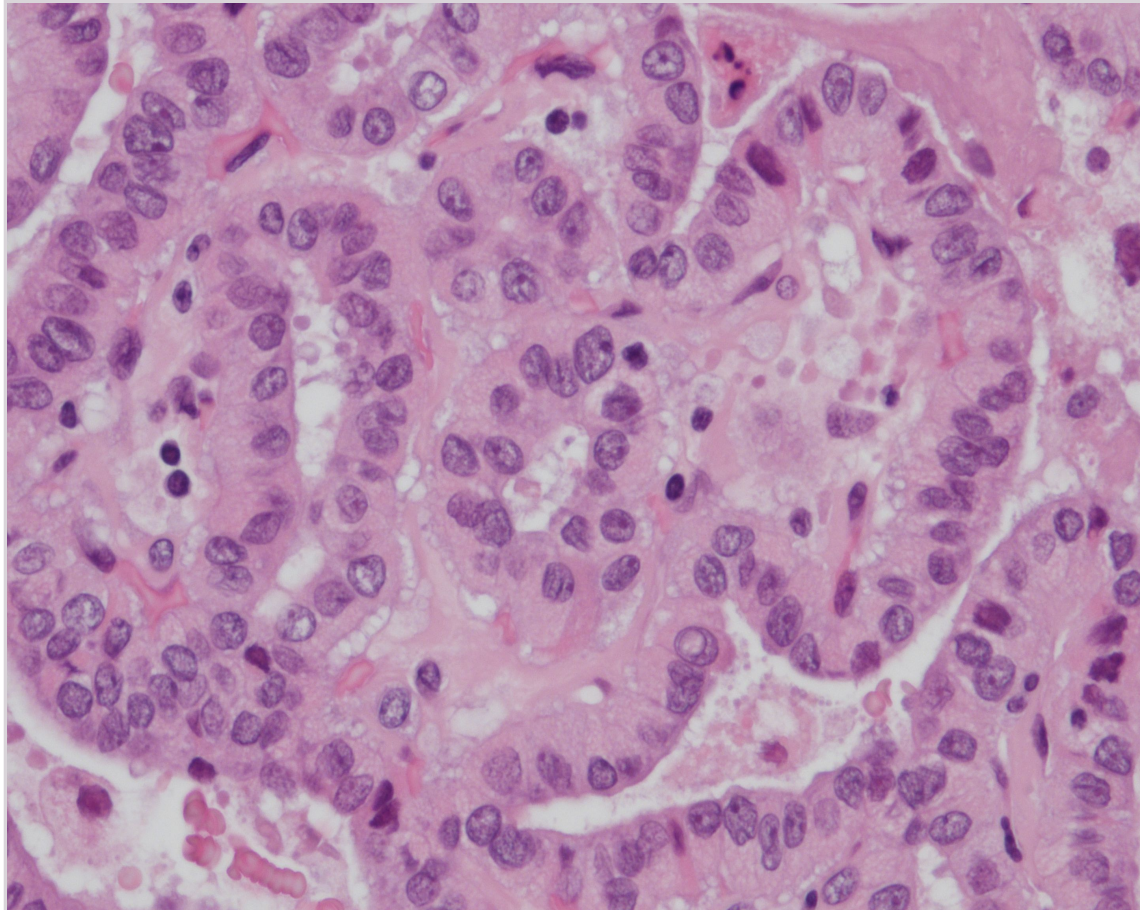
Which statement on histological grade is correct?

- A High grade indicates a high five- or ten-year survival rate
- B X Little solid tissue, few mitoses and few atypical cells give a low histological grade  
*Correct answer is: Little solid tissue, few mitoses and few atypical cells give a low histological grade. Tumours with a high grade are generally associated with a poorer prognosis than tumours with a low grade. Histological grade is determined by the number of mitoses, nuclear atypia, and percentage of gland-like structures (many gland-like structures → low grade). Biomarkers are not included in histological grading.*
- C The percentage of goblet cells is part of the histological grading
- D Various biomarkers are included in the histological grading

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74

A 38-year-old man has noticed a tumour in his left thyroid lobe. Hemithyroidectomy was performed. The image shows a histopathological section from the tumour (HES, 400x). More detailed investigation revealed the presence of the BRAF V600E mutation in the tumour tissue.



What is the most probable diagnosis?

- A Autoimmune thyroiditis  
*In autoimmune thyroiditis one would expect to see lymphocyte infiltrates, fibrosis and remains of follicles with oncocytic metaplasia.*
- B Thyroid cyst  
*A thyroid cyst generally contains copious cystic fluid, often with old bleeding and macrophages. It can be covered with a row of follicular epithelial cells.*
- C Hyperthyroidism  
*In hyperthyroidism, one would expect to see large, dilated follicles with colloid and copious "bubbles" along the interphase between the epithelium and colloid as an expression of increased activity.*
- D X Papillary carcinoma  
*The image displays parts of papillary structures. Some of the cell nuclei reveal longitudinal grooves or folds and in an inclusion (ground glass nucleus) can be seen in one nucleus. The image is most compatible with papillary carcinoma and the BRAF V600E mutation supports this diagnosis.*

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75

A 28-year-old woman has the following symptoms: Headache, loss of vision, fewer and irregular periods and nausea. She has also noticed secretion from both nipples. It is suspected that her symptoms may be caused by a tumour.

**Which diagnosis is the most probable?**

**A X** Pituitary adenoma

*Correct answer. The patient most probably has a prolactinoma.*

**B** Pheochromocytoma

*Incorrect answer. Pheochromocytoma results in increased secretion of hormones that regulate blood pressure. This can give a headache.*

**C** Glioblastoma

*Incorrect answer. Glioblastoma can cause changes in personality and headache, but not a changed hormone picture.*

**D** Meningioma

*Incorrect answer. Meningioma can cause changes in personality and headache, but not a changed hormone picture.*

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76

There are several types of ovarian tumours.

**Which statement on ovarian tumours is correct?**

**A** Low grade serous carcinomas develop primarily from the fimbriae of the tubes

**B X** High grade serous carcinomas are often associated with mutations in the TP53 gene

*High grade serous carcinomas often arise in intraepithelial lesions in the fimbriae of the tubes. Dysgerminomas are germinal cell tumours. High grade serous carcinomas are often associated with mutations in the TP53 gene.*

**C** Dysgerminomas are sex cord stromal tumours that occur most often in elderly women

**D** High grade serous carcinomas primarily arise in the cells that surround the oocytes

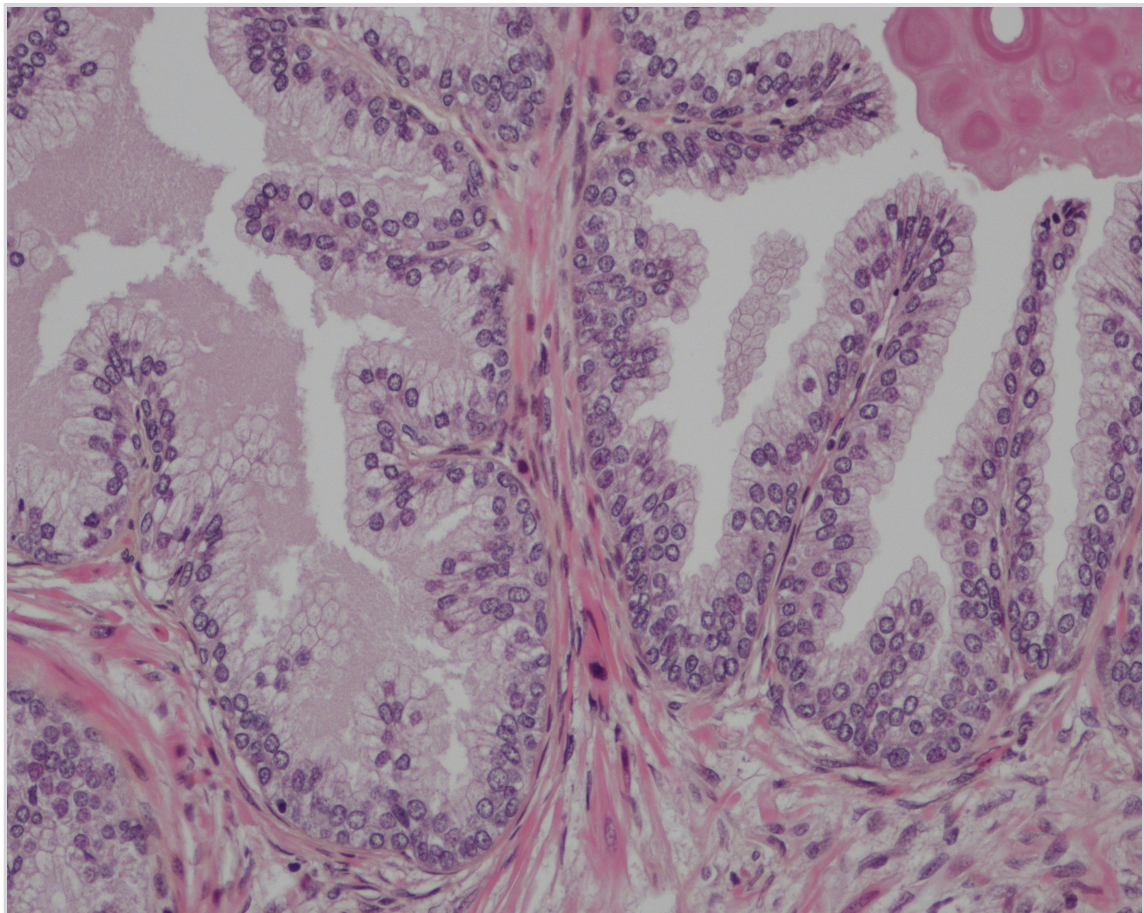
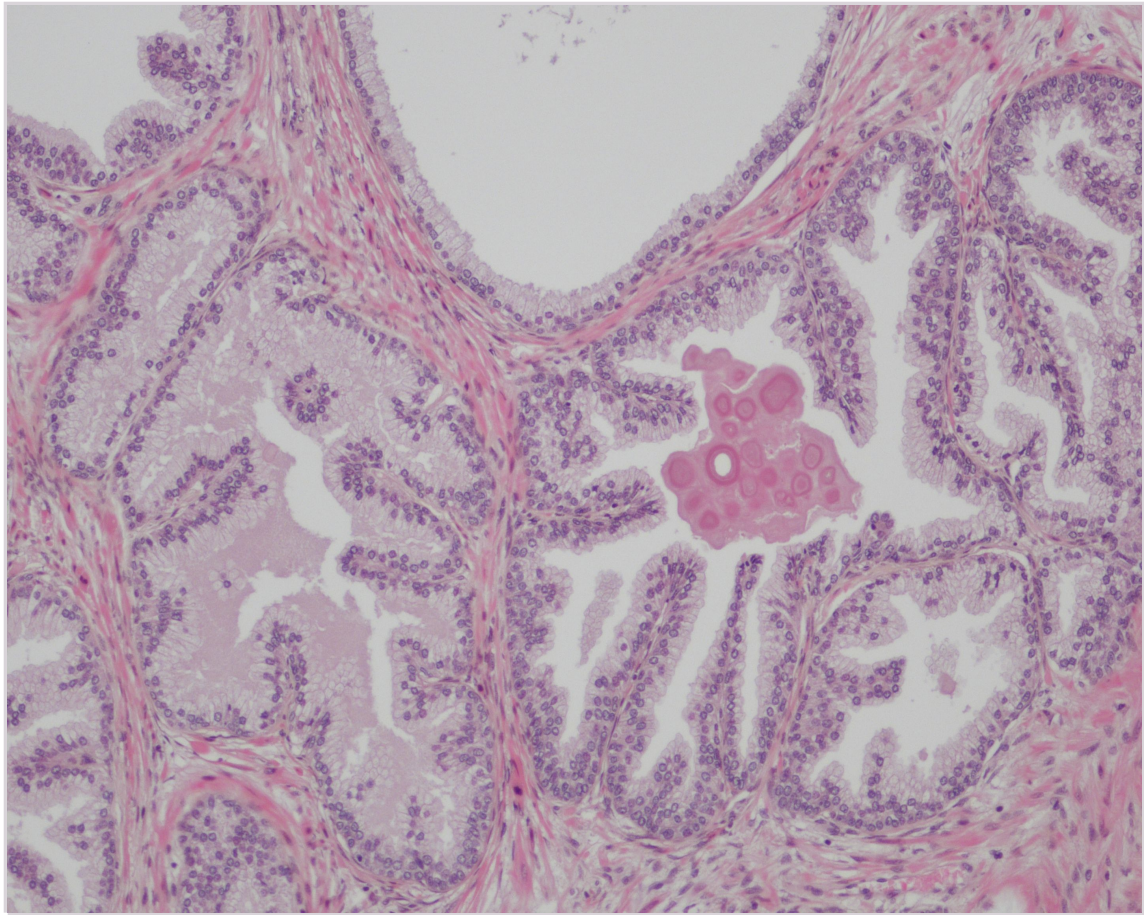
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77

A 65-year-old man has increasing problems with urination. At clinical examination, the physician finds an enlarged prostate. The images show histopathological sections from the patient's prostate (HES, 100x og 200x).





**What is the most probable diagnosis?**

- A** Prostatitis  
*There is no evidence of an inflammatory response in the tissue*
  - B X** Hyperplasia  
*The images show large, dilated gland structures. The epithelium is hyperplastic (there are more cells than normal), but they are not atypical. The epithelium forms single folds or finger-like structures covered by the hyperplastic epithelium. The cells have retained polarity. The nuclei are small and vary little in size or shape. In places, there are also cells that could be myoepithelial cells. There is no evidence of infiltrating growth.*
  - C** Normal prostate  
*Normal prostate glands are covered by a single row of epithelial cells towards the gland's lumen and a row of myoepithelial cells that lie between the luminal cells and the basal membranes. The complex image seen in this case is not seen in normal prostate tissue.*
  - D** Adenocarcinoma  
*The images show large, dilated gland structures. The epithelium is hyperplastic (there are more cells than normal), but they are not atypical. The epithelium forms single folds or finger-like structures covered by the hyperplastic epithelium. The cells have retained polarity. The nuclei are small and vary little in size or shape. In places, there are also cells that could be myoepithelial cells. There is no evidence of infiltrating growth.*
- 

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**78**

A young woman has been diagnosed with low grade dysplasia (CIN1) in the squamous epithelium in cervical biopsies. In the pathology report you read that human papillomavirus (HPV) is present in the sample.

**Which statement is correct?**

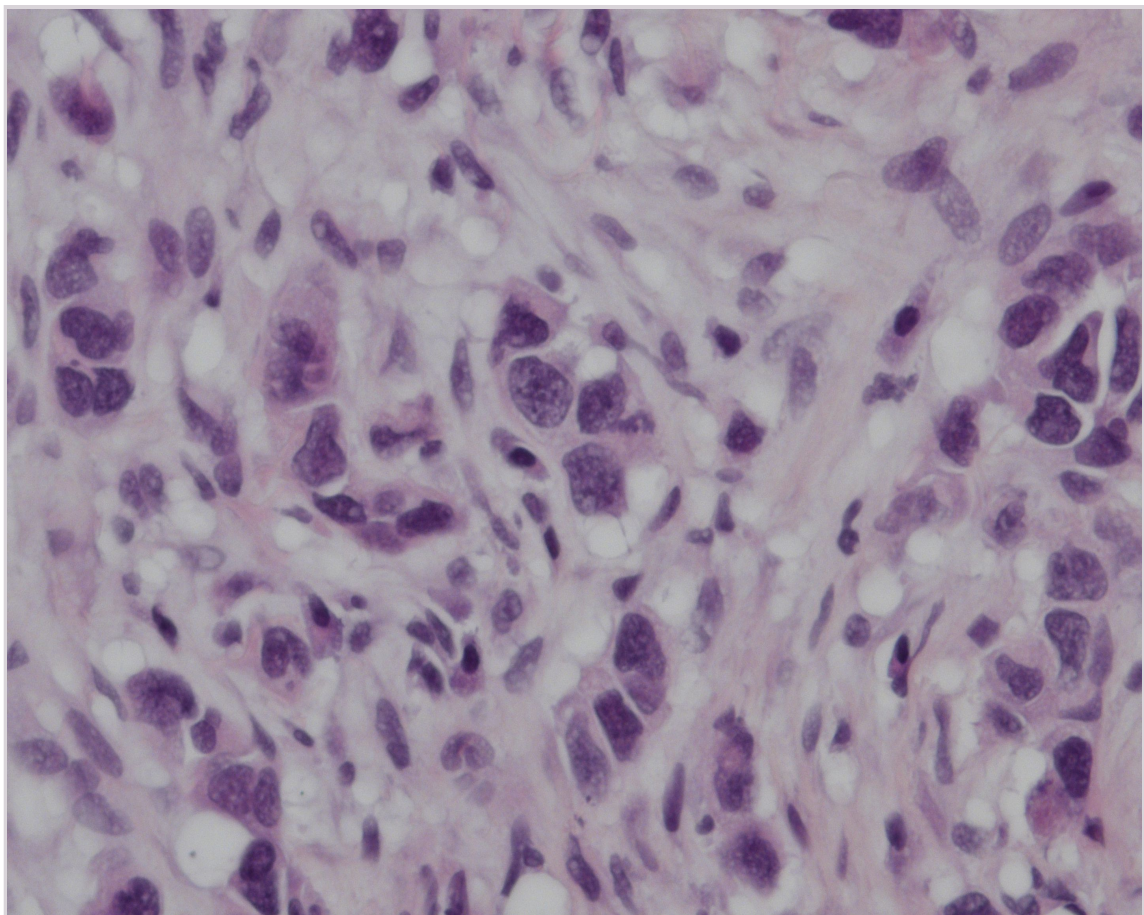
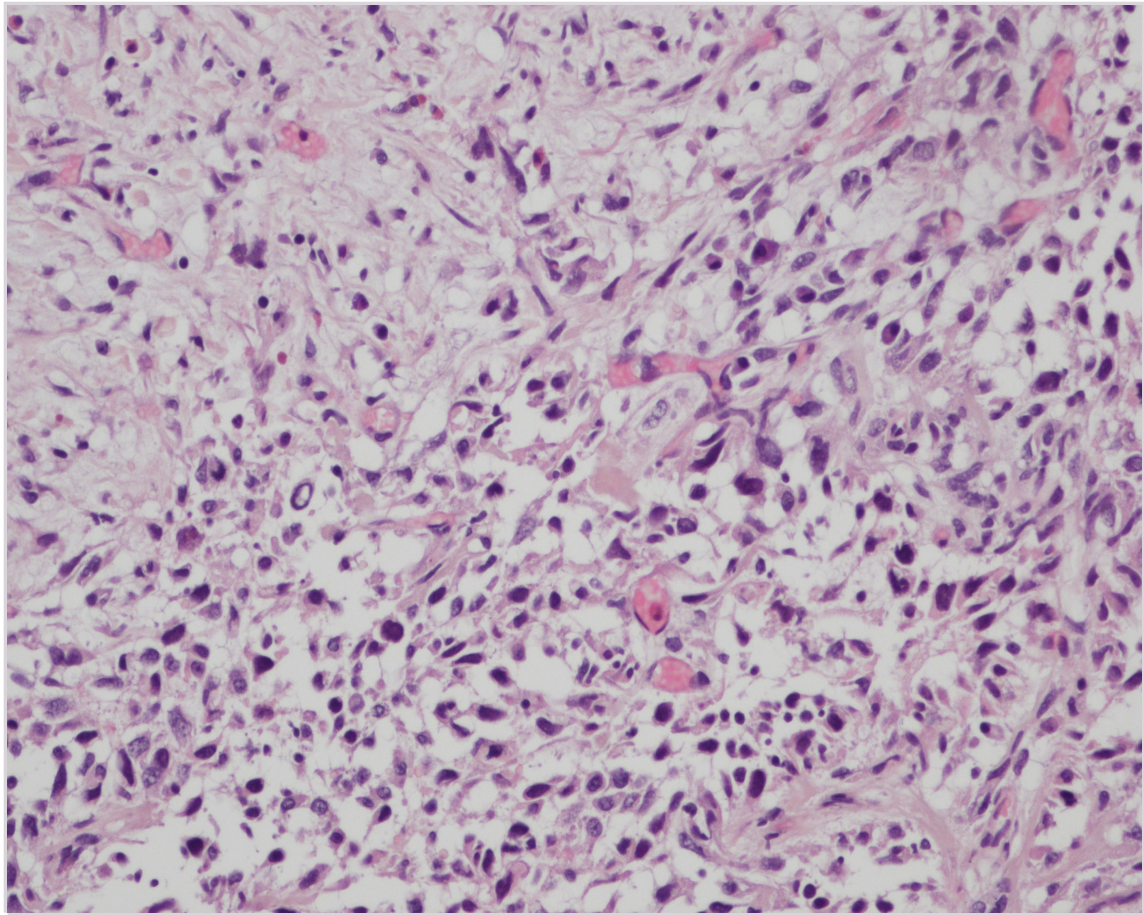
- A X** Low grade dysplasia in the squamous epithelium can be transient and should be checked only  
*Correct answer is: Low grade dysplasia in the squamous epithelium can be transient and should be checked. In low grade dysplasia in the squamous epithelium, atypia are seen in the lower third of the epithelium. Viral changes on the other hand are generally seen in the upper third. High grade dysplasia is associated with a higher risk of developing cancer than low grade dysplasia. HPV 16 and 18 are high risk HPV.*
  - B** Low grade and high grade dysplasia in the squamous epithelium have about the same risk of becoming malignant
  - C** In low grade dysplasia in the squamous epithelium, viral changes can be seen in the lower third of the epithelium
  - D** HPV 16 and 18 are classic examples of the low risk viruses of the HPV type in the cervix
- 

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**79**

A 56-year-old man has noticed macroscopic haematuria and increasing back pain. He is referred for cystoscopy and several biopsies are taken from a tumour in the bladder. The images show histopathological sections from the tumor (HES, 200x og 400x).





**What is the most probable diagnosis?**

- A X** High grade malignant urothelial carcinoma  
*Correct answer. The image is compatible with a high grade malignant urothelial carcinoma. Atypia are so extensive that it can be difficult to see that this has its origin in the urothelium. The tumour cells have infiltrated into the bladder wall and we see tumour-associated angiogenesis.*
  - B** Bladder wall mucous membrane with squamous metaplasia  
*There is no histological evidence for squamous metaplasia. The tumour cells are very undifferentiated.*
  - C** Chronic cystitis  
*The image shows cells with pronounced atypia and tumour-associated blood vessels. There is no evidence that this is a chronic inflammation.*
  - D** Papillary urothelial neoplasm of low malignant potential (PUNLMP)  
*PUNLMP is a non-invasive, exophytic tumour with little atypia and no sign of infiltrating growth.*
- 

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**80**

When describing histopathological changes in the kidney, terms such as segmental affection of renal tissue are used.

**What does such an affection imply?**

- A** Description of pathology in a glomerulus and associated proximal tubule
  - B** Description of pathology of glomeruli in a lobule
  - C** Description of pathology of only a certain percentage of glomeruli
  - D X** Description of pathology in a part of a glomerulus  
*Segmental affection means pathology in part of a glomerulus*
- 

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**81**

Which bacterial species is always considered to be the cause of disease when found in a clinical sample?

- A X** *Neisseria gonorrhoea*  
*Never considered to be part of normal flora.*
  - B** *Escherichia coli*  
*Part of the normal intestinal flora.*
  - C** *Haemophilus influenzae*  
*Asymptomatic colonisation in the upper respiratory tract is relatively common, particularly with non-encapsulated strains.*
  - D** *Neisseria meningitidis*  
*Colonisation in the upper respiratory tract is common in about 10% of healthy people, but can also be more widespread in certain epidemiological situations.*
- 

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**82**

When culturing urine samples, contamination at sampling is a frequent problem. Which sampling method gives the least contamination?

- A** Single-use catheter
  - B** Bag sample
  - C** Mid-stream sample
  - D X** Bladder puncture
- 

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83

Another doctor at the medical centre has requisitioned urine culture for a pregnant woman who has no symptoms of urinary tract infection and without a prior urine dipstick test. The culture results reveal growth of *E. coli*  $10^5$  CFU/ml, with the following resistance profile:

ampicillin I  
nitrofurantoin S  
mecillinam S  
trimetoprim S

What action do you take in the best response to this result?

- A Start antibiotic treatment with high-dose amoxicillin
- B X** Order a new urine sample for culture to see whether the finding can be replicated
- C Order a new sample to check the urine for leukocytes using a urine dipstick
- D File the results without taking any further actions

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84

A 30-year old male asylum seeker from Bangladesh says during his medical examination that he has had a cough for several weeks, has seen blood in his sputum, and that he lacks energy. At examination he appears emaciated. The doctor considers that he needs to be admitted to hospital for further diagnosis and treatment.

At admission, an X-ray is taken, which reveals an infiltrate apically in the right upper lobe. The on-duty doctor suspects a certain infection for which there is mandatory notification.

How should the suspected disease be notified?

- A The disease is notified anonymised to the Norwegian Institute of Public Health, without a copy to the District Medical Officer  
*This answer describes how to notify diseases in Group C. Diseases that are monitored in this way include influenza-like disease, genital chlamydia infection and carrier diseases, or infections with toxin-producing C. difficile.*  
<https://www.fhi.no/hn/helseregistre-og-registre/msis/meldingspliktige-sykdommer-i-msis/>
- B X** The disease must be notified with full patient identity to the Norwegian Institute of Public Health, with a copy to the District Medical Officer  
*Diseases with mandatory notification are divided into 3 groups: A, B and C. The medical history and findings at X-ray strongly indicate active tuberculosis, which as a group A disease with mandatory notification. Group A diseases with mandatory notification must be notified with full patient identity to the Norwegian Institute of Public Health, with a copy to the District Medical Officer.*  
<https://www.fhi.no/hn/helseregistre-og-registre/msis/meldingspliktige-sykdommer-i-msis/>  
<https://www.fhi.no/nettpub/tuberkuloseveilederen/utredning-og-behandling/08.-diagnostikk-av-klinisk-tuberkul/#85interferongamma-release-assays-igra>
- C The disease is notified without the patient's name and date of birth to the Norwegian Institute of Public Health, with a copy to the District Medical Officer  
*This answer describes how to notify diseases in Group B. Diseases that are monitored in this way include gonorrhoea, HIV and syphilis.*  
<https://www.fhi.no/hn/helseregistre-og-registre/msis/meldingspliktige-sykdommer-i-msis/>

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85

On duty in the Medical Department, you see a young man who has been a backpacker in rural 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 stool sample for culture of pathogenic intestinal bacteria and wait with antibiotics
- B Take a bone marrow aspirate sample for culture, and wait for the results before starting antibiotics
- C X** Take a blood sample for culture and start treatment with antibiotics  
*Blood culture is used to diagnose typhoid fever. Typhoid fever is a fatal disease and, if suspected, the patient must be started on antibiotics (ciprofloxacin or ceftriaxone) before you get the results from culture.*
- D Take a blood sample for the Widal test, and start treatment with antibiotics

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86

A young man has been traveling abroad and had unprotected sex with a prostitute four weeks ago. He wants an HIV test and also wants to know how long he has to wait before this would possibly be positive.

What information do you give the patient about the HIV test (Combo test)?

- A It is positive within 1 week and almost always within 3 weeks
- B X** It is usually positive within 3-4 weeks and almost always within 6 weeks  
*The combo test combines the detection of the HIV p24-antigen and the HIV antibody; it is usually positive within 3-4 weeks, and only exceptionally after 6 weeks*
- C It is positive only after 3 months
- D It is always positive within the first 2 weeks

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87

At your office in general practice, you get the results of urine culture for a patient with pyelonephritis. A pure culture of *E. coli* with  $10^5$  CFU/ml and the following sensitivity profile was found: ampicillin R, nitrofurantoin S, mecillinam S, trimethoprim S, imipenem S.

Which of the following medicines is best-suited to treat this patient in general practice?

- A Nitrofurantoin  
*Indicated only for lower urinary tract infection (UTI)*
- B X** Mecillinam
- C Ampicillin  
**E. coli* is resistant to ampicillin and therefore this medicine cannot be counted on to be effective*
- D Cefotaxime  
*Third generation cephalosporin is only available in injection form and is not suitable for use outside a hospital /institution.*
- E Trimethoprim  
*Indicated only for lower urinary tract infection (UTI)*

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88

You are the GP for a 28-year-old man who over the last few days has lacked energy and has diffuse general muscular pain and headache. He also has a back ache and severe pain in his face, and complains of severe pain behind his eyes and a blood taste in his mouth. Rectal temperature the same morning was 38.9 degrees. The patient takes no medication, and has no allergies. Last week he came back from a two-week holiday in North Africa. He visited several cities, and only stayed in urban areas. At clinical examination you find several small bleedings in the oral cavity mucous membranes. Examination of the heart, lungs and abdomen are unremarkable. No rash or other fluorescences. At the Family Centre you quickly get the results of the following blood tests:

Analysis	Value	Reference range
Hb	13 g/dL	13.4 - 17.0 g/dL
CRP	23	<5
Leukocytes	$3.1 \times 10^9 /L$	$4.0 - 11 \times 10^9 /L$
Thrombocytes	$450 \times 10^9 /L$	$145 - 390 \times 10^9 /L$

Which tropical infection is indicated by the patient's medical history and the present findings?

**A** Rickettsiosis

*90% of patients with rickettsiosis have a skin rash. Nor are there particular signs of eschar, and the patient has not slept in a tent, been on safari or other places where he could be particularly exposed to the tick that spreads rickettsia.*

*<https://www.fhi.no/nettpub/smittevernveilederen/sykdommer-a-a/flekktufus-og-andre-rickettsioser--/#symptomer-og-forloep>*

*[https://www.uptodate.com/contents/clinical-manifestations-and-diagnosis-of-rocky-mountain-spotted-fever?source=search\\_result&search=rickettsial%20infection&selectedTitle=2~63#H9](https://www.uptodate.com/contents/clinical-manifestations-and-diagnosis-of-rocky-mountain-spotted-fever?source=search_result&search=rickettsial%20infection&selectedTitle=2~63#H9)*

**B** Hepatitis A

*Hepatitis A has an incubation time of 2-6 weeks, normally 4 weeks. Typical symptoms of hepatitis include nausea, vomiting, dark urine, pale stools, stomach pain and icterus. The patient has none of these symptoms.*

*<https://www.fhi.no/nettpub/smittevernveilederen/sykdommer-a-a/hepatitt-a---veileder-for-helsepers/#inkubasjonstid>*

**C** Schistosomiasis

*Schistosomiasis normally starts after 1 month with fever, general pain, diarrhoea or itchy rash. Chronic problems with bloody urine, pain and a need to urinate normally arise after 3-6 months. The patient stayed in urban areas and thus has not waded in rivers or bathed in fresh water where infection with schistosomiasis is most prevalent.*

*<https://www.fhi.no/nettpub/smittevernveilederen/sykdommer-a-a/schistosomiasis---veileder-for-hels/>*

**D X** Dengue fever

*The patient has typical symptoms such as bleeding in the oral cavity and retroorbital pain as well as widespread muscle pain, headache and high fever. Dengue fever has a normal incubation time of 3-7 days and is most often contracted in urban areas. The fact that the patient has only been in urban areas also supports dengue fever as the most probable diagnosis. Leukopenia is also a typical finding.*

*<https://www.fhi.no/nettpub/smittevernveilederen/sykdommer-a-a/denguefeber---veileder-for-helseper/#om-denguefeber>*

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89

A 25-year old woman is admitted to hospital with fever and suspected malaria after a tour of East Africa. When she arrived at the hospital she developed renal and respiratory failure. Blood film (thin drop) reveals 10% parasitaemia with *Plasmodium falciparum*.

Which antimalarial drug should you rather use to treat this patient?

**A** Quinine

**B** Lariam (mefloquine)

**C X** Artemisinin

*The patient has a malignant malaria (*Plasmodium falciparum*) with high parasitaemia (>5%) and failure of several organs. The patient thus has a complicated malignant malaria and must be admitted to hospital for intravenous treatment. First-line treatment is artemisinin i.v. as this is the most effective drug. In addition, it gives fewer side effects than quinine (which is second-line treatment).*

**D** Malarone (atovaquone + proguanil)

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90

What effects can you expect if you give a medicine that stimulates beta-2 adrenergic receptors?

**A** Bronchial dilation, reduced tremors

**B X** Bronchial dilation, tremors

*Adrenergic stimulation gives bronchial dilation and tremors, which are primarily mediated via beta-2 receptors. Stimulating these receptors specifically with a drug could give the same effects.*

**C** Bronchial constriction, reduced tremors

**D** Bronchial constriction, tremors

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91

You are the GP for an overweight 63-year old woman who is a smoker and who was recently investigated for high blood pressure. You have diagnosed moderate essential hypertension and decided there is indication for antihypertensive treatment based on her total cardiovascular risk profile. She is otherwise quite healthy, but has gout with very occasional, but very painful attacks, and uses allopurinol for this. Now the time has come to choose a blood-pressure lowering drug.

**Of the different classes of blood-pressure lowering drugs there is one type that you should avoid. Which one is it?**

**A X** Thiazide diuretics

*Contraindicated, exacerbates gout - particularly at the high doses necessary if thiazide is to be used as monotherapy for moderately elevated blood pressure. If used, other undesirable metabolic effects must also be expected in such patients. Thiazide would therefore be a poor first choice.*

**B** Calcium antagonists

**C** ACE inhibitors

**D** Betablockers

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92

Calcium blockers are classified based on myocardial/vascular selectivity.

**Which drug in this class is most cardio-selective?**

**A** Amlodipine

**B** Diltiazem

**C** Nifedipine

**D X** Verapamil

*Correct answer*

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93

Contraceptive pills increase the risk of venous thromboembolic disease.

**What is the reason for this increased risk?**

**A** This is primarily an effect of progestogen

**B** This is not a hormone-dependent effect

**C** This is an effect mediated by both oestrogen and progestogen

**D X** This is primarily an effect of oestrogen

*Ref.: Norwegian National Formulary (legemiddelhandboka)*

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94

A patient is being treated with alendronate as indicated for osteoporosis.

**What is important to remember with oral administration of bisphosphonates?**

**A** The patient must lie down when taking the tablet

**B** The tablet is to be taken just after a meal

*The dose must be taken on a fasting stomach at least 6 hours after the last meal, and fasting should continue for 30 minutes after taking the tablet.*

**C X** The patient must sit or stand when taking the tablet

*to avoid the tablet getting stuck in the oesophagus. Danger of oesophagus irritation*

**D** The tablet is to be taken just before a meal

*The dose must be taken on a fasting stomach at least 6 hours after the last meal, and fasting should continue for 30 minutes after taking the tablet.*

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95

Propylthiouracil is used in the treatment of hyperthyroidism.

**What is the most important mechanism of action of this drug?**

- A X** Inhibits the synthesis of thyroid hormones and conversion of  $T_4$  to  $T_3$  in peripheral tissue  
*Ref.: The National Norwegian Formulary (legemiddelhandboka)*
- B** Inhibits the synthesis of  $T_4$  via inhibited release of thyroid stimulating hormone (TSH)
- C** Eliminates the effect of  $T_4$  and  $T_3$  by blocking the thyroid hormone receptor in peripheral tissue
- D** Inhibits the uptake of iodine in the intestine and increases elimination of iodine in the kidneys

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96

To varying degrees, peroral antidiabetic drugs can result in hypoglycaemia.

**For which drug group is the risk greatest?**

- A X** Sulfonylurea preparations such as glimepiride  
*This is the only drug group that works by increasing the release of insulin, and too much insulin results in hypoglycaemia*
- B** Biguanide derivatives such as metformin
- C** Dipeptidyl peptidase-4-inhibitors (DPP-4 inhibitor) such as sitagliptin
- D** Sodium-glucose cotransporter 2-inhibitors (SGLT2 inhibitors) such as empagliflozin

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97

A mother is solely breastfeeding her five-month-old baby. She must take a single dose of a medication to which the child should not be exposed. The medication is lipid soluble and has a half-life of 3 hours.

**What is the most correct way to manage this?**

- A** She should stop breastfeeding temporarily, and pump her milk and discard it for 6 hours after taking the medication; after this she can start breastfeeding again.
- B X** She should stop breastfeeding temporarily, and pump her milk and discard it for 15 hours after taking the medication; after this she can start breastfeeding again.  
*ref.: The Norwegian National Formulary (LM handboka)*
- C** She should discontinue breastfeeding altogether and give the child a breastmilk substitute.
- D** She does not need to take this into consideration, because the medication is fat soluble it will not pass into breastmilk

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98

A woman is being treated for urinary incontinence with darifenacin (an anticholinergic drug).

**What is this drug's mechanism of action?**

- A X** It blocks the peripheral muscarinic receptors which relaxes bladder smooth muscle  
*Ref.: The National Norwegian Formulary (legemiddelhandboka)*
- B** It blocks the peripheral beta-3 adrenergic receptors which relaxes bladder smooth muscle
- C** It stimulates the peripheral muscarinic receptors which relaxes bladder smooth muscle
- D** It stimulates the peripheral beta-3 adrenergic receptors which relaxes bladder smooth muscle

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99

Neuropathic pain is generally difficult to treat, and the pharmacotherapeutic strategies that we use for normal nociceptive pain are often inadequate. Instead, drugs such as tricyclic antidepressants (TCA), older antiepileptic drugs such as carbamazepine and valproate and newer antiepileptic agents such as pregabalin are being tried in neuropathies.

**Which of these drugs or groups of drugs must be dosed based on renal function?**

- A X** Pregabalin  
*Correct svar. Pregabalin is eliminated unchanged exclusively via the kidneys. The others are eliminated via the liver.*
- B** Valproate
- C** Carbamazepine
- D** Tricyclic antidepressants

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### 100

You are working as a foundation doctor at a family medical centre where the first patient of the day is a boy aged 5. The boy's father says that over the last months the boy has had a lot of infections. He now has a fever again, and the nursery school has noticed that he is paler than normal. You examine the boy and find that his general health is poor, he has multiple small glands in the neck and his tonsils are enlarged. Auscultation of his heart and lungs is normal. At examination of his abdomen you find hepatosplenomegaly. What would be the most correct action?

Test:	Result:	Reference range:
CRP	45 mg/l	<5 mg/L
Hb	7.9 g/dl	10.5-13.1 g/dl
Thrombocytes	122 x 10 <sup>9</sup> /l	228-435 x 10 <sup>9</sup> /l
Leukocytes	12.9 x 10 <sup>9</sup> /l	3.7-14.7 x 10 <sup>9</sup> /L
Pulse	90/min	70-110/min
Temperature	38.1°C	<37.5°C
Saturation	99%	>95 %
Respiratory rate	25/min	20-30/min

- A** You suspect an underlying immune system failure and decide to refer the patient to Outpatients at the nearest Paediatric Dept for further investigations
- B X** You suspect leukaemia and decide to admit the patient to the nearest Paediatric Dept. as emergency help.  
*Based on the medical history, and the results of the examinations and blood tests, acute leukaemia is indicated. He has been ill for some time and has an enlarged liver and spleen. In addition, two haematological cell lines show pathological values. This gives suspicion of leukaemia and he must be admitted as emergency help to the nearest Paediatric Dept. Immune system failure could also cause numerous infections, but does not necessarily explain hepatosplenomegaly, anaemia and thrombocytopenia. Enlarged tonsils can indicate a viral/bacterial infection; in particular EBV can give hepatosplenomegaly, but the supplementary information indicates a more serious disease.*
- C** You suspect a bacterial throat infection (streptococci) and decide to prescribe phenoxymethylpenicillin mixture and a new appointment in 2 days
- D** You suspect a viral infection (Epstein-Barr virus) and decide to send the patient home with information to observe him closely and give a new appointment in 2 days.

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### 101

A 2-year old boy was admitted to the local Paediatric Dept with a 4-day history of diarrhoea. In the last 24 hours, there was blood in his stool and he had stomach pain. He has previously been healthy and does not take any medicines. At clinical examination, his general health is poor and he is pale. Intestinal sounds are normal and his abdomen is soft. Blood tests taken at admission are presented in the table below. You decide to take a peripheral blood smear. What do you expect to find based on his current medical history?

Test:	Result:	Reference range:
CRP	32 mg/L	<5 mg/L
Hb	7.3 g/dl	10.5-13.1 g/dl
Thrombocytes	58 x 10 <sup>9</sup> /L	228-435 x 10 <sup>9</sup> /L
Leukocytes	13.1 x 10 <sup>9</sup> /L	3.7-14.7 x 10 <sup>9</sup> /L
Creatinine	45 mmol/L	15-31 mmol/L

- A Microcytic and hypochromic erythrocytes
- B Macrocytic and hyperchromic erythrocytes
- C X Fragmented erythrocytes

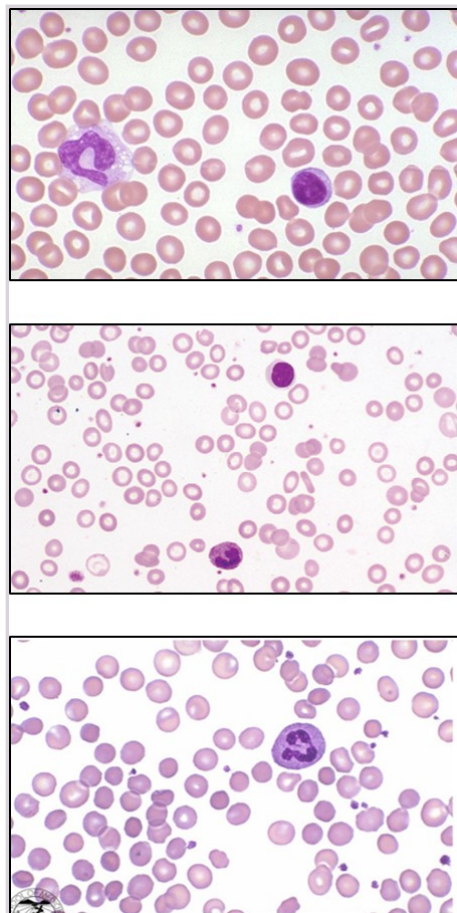
*Microcytic and hypochromic erythrocytes are most often seen in iron deficiency anaemia or thalassaemia. Macrocytic and hyperchromic erythrocytes are most often seen in folic acid or B12 deficiency. Normal erythrocytes can be seen in anaemia caused by bleeding, transient erythroblastopenia of childhood (TEC). Based on the medical history, HUS is suspected and one would expect to find fragmented erythrocytes (schistocytes) in a peripheral blood smear.*

- D Normal erythrocytes

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102

Here you can see an image from a peripheral blood smear from three different people (children). Which combination of conditions/disease is most correct?



- A X Normal blood smear, iron deficiency anaemia, hereditary spherocytosis.  
*Correct answer. One picture clearly shows small and pale erythrocytes (hypochromic, microcytic) typical for iron deficiency anaemia. The second image shows many erythrocytes with absent or very little central pallor compatible with spherocytes. The third image shows normal conditions.*
- B Normal blood smear, sickle cell anaemia, hereditary spherocytosis.
- C Normal blood smear, hemolytic uremic syndrome, hereditary spherocytosis.
- D Iron deficiency anaemia, thalassaemia, sickle cell anaemia  
*None of the images contain numerous typical target cells or typical sickle cells.*

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103

You are the doctor present at a high risk birth. When the baby is born it has a low pulse and is not breathing properly in spite of open airways and attempted stimulation. You start newborn resuscitation and after ventilating for 60 seconds, the pulse is still low at 63; after a further 60 seconds of effective ventilation you check the pulse and it is now at 72/min. What is the most correct next step?

**A X** Continue mask ventilation

*According to the flowchart for newborn resuscitation this is correct when the heart rate is above 60/min and ventilation is effective. Oxygen can be increased gradually according to clinical signs/saturation.*

**B** Intubate

**C** Start HLR 3:1

**D** Emergency administration of adrenaline

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104

Karoline (7 months old) has previously been healthy and not predisposed to atopy. She has a fever, nasal congestion and heavy breathing, and the last 24 hours she has been listless and will not breastfeed. When examined at the hospital she is pale, has a respiration rate 65/minute with subcostal and intercostal retractions. Capillary refill time <2 seconds and pulse 140/minute. Oxygen saturation 90%. Crepitations can be heard over both lungs on both sides with prolonged expiration. Blood tests reveal:

Blood test	Result	Ref. range
CRP	43 mg/L	<5 mg/L
Hb	10.8 g/dL	10.8–13.5 g/dL
Leukocytes	$7.8 \times 10^9$	$4.0\text{--}20.0 \times 10^9/\text{L}$
pH	7.30	7.35–7.45
pCO <sub>2</sub>	7.35–7.45	4.5–6.0
BE	-6	-3 - +3

She is given fluids and oxygen.

Which other treatment should she have?

**A X** Saline nasal drops, saline or racemic adrenaline inhalation

*The medical history is typical for acute bronchiolitis (without risk factors for asthma/atopy). This is the recommended treatment.*

**B** Saline nasal drops, saline or beta-2 agonist inhalation

**C** Penicillin, saline or racemic adrenaline inhalation

**D** Steroids, penicillin, saline or racemic adrenaline inhalation

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105

Erlend, 7 years old, comes to an emergency appointment at your general practitioner office after it felt as though a piece of bread got stuck in his chest at breakfast and his mother had to hit him on his back until it felt as though it had moved. His parents have recently divorced, and he has previously been healthy apart from mild atopic eczema and allergy to fur and birch pollen. At examination he is now in good general condition with no symptoms. His mother says that Erlend always eats slowly, chews properly and drinks a lot of water with his meals, and previously food has got stuck but never with such severe symptoms as this time. What do you do?

**A** Start him on PPI or H<sub>2</sub> blocker for suspected gastroesophageal reflux disease (GERD).

**B X** Refer to the Paediatric Dept for investigation of suspected eosinophilic oesophagitis.

*This is an anamnesis for eosinophilic oesophagitis with slow eating, dysphagia and known association with atopic disease.*

**C** Refer for X-ray of oesophagus/stomach/duodenum with contrast for suspected anatomical anomaly.

**D** Give advice and emotional support for suspected psychosomatic condition.

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106

At the general practice medical centre. Adrian is a 10-year-old boy with ADHD who is receiving treatment with a CNS stimulant. He is otherwise healthy, but has an appointment with you because he has had problems with bowel incontinence for a long time. There are "skid marks" in his pants every day, and sometimes considerable soiling with stools. He also has diurnal enuresis and nocturnal bedwetting. He seldom has an urge for a bowel movement and does not always feel when he has a bowel movement or that he soils his pants. His friends at school are beginning to make comments and his parents are very frustrated and want further investigations. What is the most probable correct thing to do next?

- A Reassure the parents and child saying that temporary bowel incontinence/encopresis and enuresis is common in children with ADHD.
- B Perform a rectal exploration and a neurological status for probable underlying neurological disease and consider referral to the Paediatric Dept
- C Requisition blood tests for coeliac disease, IBD and foodstuff allergies, and a gene test for lactose intolerance.
- D X** Take the medical history and investigate for probable chronic constipation and start treatment for this as necessary.

*Bowel incontinence (BI)/encopresis is strongly related to chronic constipation and should be considered as the most probable diagnosis here, and clearly requires treatment. BI/Encopresis can also be an isolated condition in a minority of people, but treatment of these is through the primary healthcare services. No information has been given that would make investigation with blood tests, etc. necessary.*

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107

A previously healthy 5-year-old boy comes to the emergency room at your GP office with a 3-day history of fever. You hear a grade II early systolic low frequency murmur in the mid and lower left sternal border with no radiation. This has not been heard previously at the regular check-ups at the mother and child healthcare clinics. Clinical examination indicates an upper respiratory track infection. What do you do next in regard to the murmur?

- A Admit the child for investigation for endocarditis
- B Refer to a Paediatric Cardiologist
- C X** Ask the GP to check the murmur when the child is well again
- D Admit the child for investigation for Kawasaki disease

*There is an URT infection present that explains the boy's fever and there is no information that indicates endocarditis or other cardiac disease. The murmur is probably physiological and audible now because he has an acute disease and the heart is working harder.*

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108

A 7-day-old baby is brought to the emergency reception with acute-onset of breathing problems. At clinical examination the baby is pale and cold sweating. Tachypnoea with subcostal and suprasternal retractions. No audible murmurs. No foreign sounds over the lungs. The inguinal pulse is not palpable. Which medical treatment would you consider to begin with?

- A X** intravenous prostaglandin
- B beta-agonist inhalation
- C intravenous antibiotics
- D racemic adrenaline inhalation

*The symptoms are of a ductal-dependent heart lesion, and prostaglandin keeps the ductus arteriosus open*

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109

A 26-month-old boy with known egg allergy. Fully vaccinated. Admitted with RSV bronchiolitis at 6 months of age. Cold and fever initially for 1 week, which has persisted with night cough and mucous retching the last 2 months. Is in nursery school where he is continually a little behind the other children during physical activity. You suspect asthma. What is the most appropriate action to take to clarify this?

- A Nasopharynx aspirate for viral infection  
*CT thorax can be a relevant investigation in treatment-resistant asthma, for malformations in the airways or chronic infection, but has no role in the primary diagnosis of asthma.*
- B X Clinical examination and medical history  
*For small children there are no objective criteria for bronchial hyperreactivity with reversibility (asthma). A good medical history must therefore be taken, with response to medicine. Clinical assessment of the child when it has problems breathing will be very helpful to distinguish between expiratory and inspiratory problems. Film during exacerbation can be useful.*
- C NO test  
*Not a test that can be used to diagnose asthma, but can be useful in cases of treatment resistance. Requires cooperation by the patient, from 6 years of age.*
- D Spirometry  
*Requires cooperation by the patient and cannot be performed before the age of 6*

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110

A 4-month-old boy. His father has allergy and eczema. Is fully breastfed. Dry and itchy rash, increasing over the last month, loose stools. You consider this to be atopic eczema. What do you do next?

- A X Can be allergy induced eczema. Refer to a specialist for investigation.  
*It is correct to investigate for food allergy, even though children with a predisposition to atopy can develop atopic eczema without demonstration of allergy*
- B Await further investigations and recommend that the mother stops using milk products and give an appointment for follow up.  
*This is probably milk protein allergy and should be investigated by a specialist to assess the need for milk-protein-free milk substitute.*
- C Await further investigations, is probably lactose intolerance. Recommend that the mother stops using milk products and give an appointment for follow up.  
*Lactose intolerance is not an allergic reaction and does not cause eczema.*
- D Investigate using a food panel (IgE panel in serum).  
*It is correct to investigate for food allergy, but IgE investigation should be directed at specific allergens based on clinical information. Interpretation of IgE results is a specialist task, particularly for children where the levels change with age.*

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111

Mother-child infection during pregnancy, birth and/or neonatally can be prevented through various measures, such as vaccination of the woman, vaccination of the newborn, administration of specific immunoglobulin to the newborn, antiviral treatment of the pregnant woman, antiviral treatment of the newborn, caesarian section, and avoidance of breastfeeding.

**For which of the microbes mentioned below is there no such preventive measure?**

- A Rubella virus  
*The mother can be vaccinated if she has not been immunised*
- B Hepatitis B virus  
*The child is vaccinated after birth to prevent vertical infection*
- C X Hepatitis C virus  
*There is no preventive measure against mother-child infection with HCV.*
- D Human immunodeficiency virus (HIV)  
*The mother can be given antiviral combination therapy to reduce the risk of infection*

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112

You are the GP for Ola, 5 years old, who attends with his father for a consultation. His father is worried about Ola's foreskin. He thinks it is tight and it is not possible to retract the foreskin to wash the glans. Ola does not have problems urinating and has not had any problems or complications with his tight foreskin. At examination you find a tight foreskin that appears physiological. What is the correct course of action?

- A Ola has a tight foreskin which will result in poor hygiene. You prescribe treatment with topical Dermovat to soften the foreskin and make it easier to retract
- B Ola has a tight foreskin which will result in poor hygiene and you refer him to a Paediatric Surgeon/Urologist for surgery
- C X** Ola has physiologically tight foreskin (phimosis). As he does not have any problems one can await spontaneous improvement in puberty  
*Physiological phimosis without complications is not to be treated*

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113

You are the doctor at the Mother and Child clinic. You examine a boy at his 6-month check-up. Examining the scrotum, you find a testicle in the scrotum on the left side. On the right side you cannot find a testicle in the scrotum or groin. What do you do next?

- A Conclude that boy is lacking the left testicle and take no further action.
- B X** Refer to a Paediatric Surgeon/Urologist  
*A suspected retained testis must be assessed by a Paediatric Surgeon/Urologist*
- C Wait for it to descend and give the boy an appointment for follow-up when he is 1-year-old

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114

Which of the following agents is the most probable cause of bloody diarrhoea?

- A Giardia Lamblia  
*a parasite that lives in the mucous membrane of the small intestine, can cause malabsorption and diarrhoea*
- B Staphylococcus aureus  
*can cause toxic gastroenteritis*
- C Rotavirus  
*can cause severe diarrhoea, normally watery*
- D X** Campylobakter  
*typically gives stomach ache and diarrhoea, bloody diarrhoea a little later in the course of the infection*

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115

You are working in the public Walk-In Clinic. A 3-year-old child comes in who has had clonic convulsions in his body. The child has a high fever and has previously been healthy. Which of the following supplementary information indicates that this should be treated as a complicated febrile seizure.

- A The episode lasted 5 minutes  
*Febrile seizures lasting more than 15 minutes are assessed to be complicated*
- B X** There was a new seizure after 4 hours.  
*Several seizures within 24 hours must be assessed to be a complicated febrile seizure*
- C None of these
- D The clonic convulsions were bilateral  
*Unilateral symptoms are assessed to be a complicated febrile seizure*

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116

At what age in Norway is the vaccine for the first childhood disease (morbilli) given?

- A 15 months and 15 years  
*15 years is incorrect*
  - B 12 months and 12 years  
*12 months is incorrect*
  - C 15 months and 8 years  
*8 years is incorrect*
  - D X 15 months and 12 years  
*15 months and 12 years (5th-6th grade) is correct*
- 

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117

You are the GP for a 13-year-old girl and get a telephone call from her mother. The mother says that, that morning, her daughter told her that two days earlier she had unprotected vaginal sex with a 17-year-old boy whom she knows. According to the mother, the girl had been a little in love with the boy, but she says she said no when he suggested sex. The mother is very worried and wonders what she should do.

- A X You say you will call a Paediatric Dept with an Assault Centre so that she can have an emergency examination the same day.  
*This is correct. In this case, it is essential to secure evidence of sexual assault and get emergency contraception.*
  - B You prescribe emergency contraception for the girl and give her a follow-up appointment in 2 weeks.  
*This would be totally inadequate.*
  - C You tell the mother that she must report her concern to the Child Welfare Services.  
*This is incorrect as the child appears to have a supportive family.*
  - D You give the mother and daughter an appointment with you for the next day.  
*This will be too late for securing trace evidence.*
- 

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Testen har 117 oppgaver. På utskriftstidspunktet var 0 oppgaver blitt trukket og det var gjort fasitendringer på 0 oppgaver.