

Screening questions for 6th year medical students
1st Department of Pediatrics, Semmelweis University

(Their proper answer is the condition for the continuance of the exam)

- 1) Imaging modality of choice when evaluating a child for infantile hypertrophic pyloric stenosis: **ultrasonography.**
- 2) Typical age of intussusception in infants: **3 months - 3 years**
- 3) What are the two typical anamnestic features of acute appendicitis? **First epigastric and paraumbilical pain, later the pain is localized on the right lower abdominal quadrant.**
- 4) Standard imaging modality of polytraumatized patients: **acute CT.**
- 5) Most common cause of acute abdomen in children: **appendicitis.**
- 6) What is two-stage splenic rupture? **Splenic rupture occurs in two stages. Initial subcapsular hematoma formation may have only mild symptoms, later second stage may occur after hours or days, and is usually characterized by the rapid development of shock, as the spleen and mesentery tend to bleed rapidly and copiously.**
- 7) Which is the most common cause of strangulation ileus? **Incarcerated hernia.**
- 8) The most common cause of transfusion-requiring hematochezia, without abdominal pain and without diarrhea: **Meckel's diverticulum**
- 9) You find a high GGT in a patient with ulcerative colitis, what should you think about? **Sclerosing cholangitis.**
- 10) What are the typical characteristics of perianal fissures in Crohn's disease? **Not in the midline, deep, not painful.**
- 11) What is the first therapeutic choice in Crohn's disease? **Exclusive enteral nutrition.**
- 12) What kind of gas is insufflated during laparoscopy? **CO₂**
- 13) What is the official name of the spring-loaded insufflation needle used to create pneumoperitoneum for laparoscopic surgery? **Veress-needle**
- 14) In case of thoracic empyema after drainage or thoracoscopy, what kind of method is used in order to dissolve the thick, highly viscous pleural fluid (pus)? **Fibrinolysis/urokinase/streptokinase**
- 15) What are the two most frequent chest deformities? **Pectus excavatum and pectus carinatum.**
- 16) What are typical signs of bacterial otitis externa? **Pain and/or tenderness of the tragus.**

- 17) What are the 4 most important indications of adenotomy? **Recurrent infections of the upper respiratory tract, recurrent otitis media, inhibition of nasal breathing, obstructive sleep apnea.**
- 18) The most frequent pathogen of sinusitis and otitis media? **Str. pneumoniae.**
- 19) In which cases of middle-ear inflammatory disease should we suggest tympanostomy tubes (Grommet)? **Chronic serous otitis media and/or chronic dysfunction of the Eustachian tube.**
- 20) What is the most frequent pathogen in urinary tract infections? **E. coli.**
- 21) What are the typical abnormalities in urine analysis in glomerulonephritis? **Red blood cells and red blood cell cylinders. Proteinuria can also appear.**
- 22) What is the most frequent cause of hypertension before the adolescent age? **Kidney disease.**
- 23) Which is the most frequent glomerulonephritis type? **IgA nephropathy.**
- 24) What kind of antihypertensive drug would you recommend in hyperkinetic hypertension? **Beta-blocker.**
- 25) What is the prognosis of West-syndrome or infantile spasm? **Usually poor.**
- 26) What is the essential criterion of cerebral palsy? **Non-progressive, residual brain injury.**
- 27) Which bacterium is the most frequent cause of childhood pneumonia? **Str. pneumoniae.**
- 28) What are the two main components of the home treatment of pseudocroup? **Rectal steroid, inhalation of (*fresh*) cool air.**
- 29) What is the most common cause of acute cough? **Viral infection.**
- 30) What is the significance of Holzkecht sign? **Airway foreign body aspiration.**
- 31) What is the most common cause of cough ongoing since birth which presents always during feeding? **Tracheoesophageal fistula.**
- 32) What percentage of the mortality is caused by accidents in Hungary in children older than 1 year? **36-40%, this is the main cause of death in children older than 1 year.**
- 33) What is the prognosis of juvenile absence epilepsy? **Usually particularly favorable.**
- 34) What can prevent coronary artery disease (aneurysm) in Kawasaki syndrome? **IVIG.**
- 35) What is the most serious complication of neonatal lupus erythematosus? **Congenital heart block - third-degree (complete) atrioventricular block.**
- 36) What is the most serious complication of juvenile idiopathic arthritis? **Macrophage activation syndrome (MAS).**

- 37) Which muscles are affected in juvenile polymyositis? **Proximal muscles of the limbs.**
- 38) What is typical for the embryonic form of extrahepatic biliary atresia? **Usually other malformations are associated (situs inversus polysplenia, etc).**
- 39) When can we expect the onset of symptoms of Wilson disease? **After 4-5 years of age.**
- 40) What is the typical feature of stool in biliary atresia? **Clay-colored (acholic) stool.**
- 41) What kind of diseases are included in `atopic march` and in which order? **Atopic dermatitis - food allergy asthma bronchiale - allergic rhinitis.**
- 42) What is the frequency of food allergy in childhood according to the parents and in the reality (after elimination and re-challenge)? **Approx. 7-10%, and 1-2 %, respectively.**
- 43) What is the gold standard diagnostic tool for IgE mediated food allergy? **Double blind oral food challenge**
- 44) How much is the minimum serum IgA concentration when the tissue-transglutaminase (TTG) antibody or the endomysial antibody (EMA) can be positive in celiac disease? **0.2 g/l**
- 45) What is the diagnostic basis of endocarditis? **Blood culture and echocardiography.**
- 46) What are the upper airway infections that should be treated with antibiotics? **Streptococcus angina, acute otitis media and acute bacterial sinusitis.**
- 47) What is the diagnostic basis of erythema migrans? **The fact of tick bite and the clinical picture: growing erythema, which is more than 5 cm in diameter.**
- 48) What is the ideal age for closing the soft palate defect? **Between 9 and 18 months.**
- 49) What is the most likely diagnosis in the following case: patient with polyuria, polydipsia with positive urine glucose and acetone test? **Diabetes mellitus.**
- 50) Patient with typical symptoms has a 18,2 mmol/l blood sugar level in the afternoon. What is to be done? **Direct the child to a pediatric diabetic center immediately.**
- 51) What kind of hormonal changes are seen in the salt wasting form of congenital adrenal hyperplasia due to deficiency of 21-hydroxylase? **Insufficient glucocorticoid and mineralocorticoid secretion, excessive androgen secretion.**
- 52) How does the mother iodine deficiency influence the newborn's thyroid function? **It results in temporary primary hypothyroidism.**
- 53) Which is the most common adrenocortical enzyme defect? **The defect of the 21-hydroxylase enzyme.**
- 54) You detect low blood sugar level in an infant who has normal temperature and hepatomegaly. What disease do you think of? **Type I. glycogenosis - von Gierke disease.**
- 55) What are the most typical histologic findings in ulcerative colitis? **Crypt abscesses.**

- 56) Name at least 5 extraintestinal abnormalities in celiac disease: **hepatitis, osteoporosis, arthritis, isolated iron deficiency, Duhring-disease (dermatitis herpetiformis).**
- 57) What is the definition of “graft versus leukemia”? **Immunologic attack of donor cells against patient’s leukaemic cells after allogeneic bone marrow transplantation.**
- 58) What is haploidentical transplant? **Half matched HLA antigen stem cell transplant (from usually a family member).**
- 59) What does allogeneic stem cell transplant mean? **The patient (recipient) gets hemopoietic stem cells from another person (donor).**
- 60) What glucose levels are diagnostic for diabetes mellitus? **Fasting blood glucose level higher than 7 mmol/l, or more than 11.1 mmol/l during oral glucose tolerance test (OGTT).**
- 61) Which are the 4 presenting symptoms of diabetes mellitus? **Polyuria, polydipsia, loss of weight with good appetite, fatigue-weakness.**
- 62) What are the most common associated diseases in patients with type 1 diabetes mellitus? **Celiac disease and Hashimoto thyroiditis.**
- 63) What is the most modern therapeutic method of type-one diabetes? **Insulin pump with an integrated glucose sensor.**
- 64) How much insulin should be given in diabetic ketoacidosis? **0.05-0.1 U/kg/h**
- 65) Since the introduction of expanded screening, how many congenital metabolic diseases are screened routinely? **26.**
- 66) The final therapy of biliary atresia is liver transplantation. There is a surgical bridging therapy before transplantation. What is the name of this operation? **Kasai porto-enterostomy.**
- 67) How often should be a baby breastfed? **On-demand.**
- 68) When is it suggested to give cow’s milk for children? **After 12 months of age.**
- 69) How does the breast milk’s protein content relate to the cow’s milk protein content? **One third.**
- 70) For how long do the primitive reflexes exist normally? **Till 9 months of age.**
- 71) What are the diseases which can be easily diagnosed and followed up by cranial ultrasound? **Brain hemorrhage and hydrocephalus.**
- 72) For how long can we see the shadow of the thymus on the thoracic X-ray? **Till 3 years of age.**
- 73) What radiological examinations can be done to diagnose VUR? (Name three!). **MCU (Micturating cystourethrogram), Sono-cystography, Dynamic kidney-scintigraphy.**

- 74) How can you diagnose perforation in a critically ill baby with necrotizing enterocolitis if you can not move him/her in the incubator? **Horizontal X-ray from side position while the baby is lying on the back.**
- 75) In which part of the bone does osteomyelitis start? **In the metaphysis.**
- 76) How can bowel passage be established in case of high (proximal) anus atresia? **With the creation of a sigmoidostoma.**
- 77) How long to wait after surgery before bathing? **7-8 days.**
- 78) What is chicken pox (varicella) reactivation called? **Herpes zoster.**
- 79) What is the sixth disease? **Exanthema subitum, roseola infantum.**
- 80) Which is the contagious disease that causes severe fetal injuries in 80 percent of its cases? **Rubella.**
- 81) Name at least five examples, where pulse oximetry is not informative! **Carbon-dioxide intoxication, methemoglobinemia, severe anemia, cardiac failure, cold extremities.**
- 82) Define paradoxical breathing! **The chest moves inward, and the abdomen moves outward during inhalation, and vice versa.**
- 83) How do we give oxygen to a conscious patient who is breathing spontaneously? **Through a face mask with reservoir, with high flow oxygen (10-15 l/min).**
- 84) How does the concentration of protein and glucose of CSF change in bacterial meningitis? **Protein concentration is increased, glucose concentration is decreased.**
- 85) Name of the two most common pathogen of newborn meningitis! **Streptococcus agalactiae, E. coli.**
- 86) What affects the sensitivity of blood culture? **The amount of blood drawn within 24 hours per feverish periods.**
- 87) Name the condition of infants associated with abdominal pain in which bowel movements are preceded by tension and crying lasting for about 10 minutes? **Infantile dyschezia**
- 88) Pathogen causing neonatal infection that can be identified by maternal vaginal secretion screening. **Streptococcus agalactiae. (group B Streptococcus, GBS)**
- 89) The amount of single fluid bolus required to treat septic shock: **20ml/kg.**
- 90) Most common endocrine disorder causing growth retardation: **Thyroid dysfunction – hypothyroidism.**
- 91) What does precocious puberty mean in case of girls? **If the secondary sexual characteristics appears before the age of 8 years**

- 92) What changes can we see in the urine sediment in typical pyelonephritis? **Leukocytes and bacteria**
- 93) In which chromosomal abnormality is duodenal atresia common? **Trisomy 21 (Down syndrome)**
- 94) What is the radiological sign of duodenal atresia? **„Double-bubble” sign**
- 95) What is the most important question in case of infants' functional gastroenterological complaints? **What is the baby's weight gain like? If the weight gain is adequate, organic damage is unlikely.**
- 96) What are the B-symptoms in lymphoma? **Fever, night sweats, weight loss.**
- 97) At what platelet count is there major risk of bleeding? **Below 10-20 G/l**
- 98) What to do in case of neutropenic fever? **Broad spectrum empiric antibiotic therapy after taking blood cultures.**
- 99) What are the tumor markers of neuroblastoma? **Serum neuron specific enolase, homovanillic acid in urine, vanillylmandelic acid**
- 100) What are the serum electrolyte deviation in case of tumor lysis syndrome? **Elevated potassium, phosphate and uric acid, decreased calcium.**
- 101) What are the alarming signs of retinoblastoma? What examinations are required? **Strabism, leukocoria, recurrent infections - ophthalmoscopic examination.**
- 102) What is the most common type of malignancy in childhood? **ALL.**
- 103) What are the symptoms of increased intracranial pressure? **Headache, vomiting in the morning, nuchal rigidity, setting-sun sign, focal neurological signs, bradycardia, high blood pressure, irritability, bulging fontanelle.**
- 104) What are the physical symptoms of anemia? **Fatigue, paleness, tachycardia, systolic heart murmurs.**
- 105) Treatment of tumor lysis syndrome? **Intravenous hyperhydration, rasburicase or allopurinol**
- 106) How does the total iron binding capacity change in case of anemia and inflammation? **Increased in anemia, decreased in inflammation.**
- 107) What is the treatment of immune thrombocytopenia (first- and second-line treatment.)? **IVIg, corticosteroid**
- 108) List the signs of dyspnea! **Use of respiratory accessory muscles, intercostal retraction, jugular retraction, nasal flaring, paradoxical breathing.**

- 109) List the signs of dehydration! **Dry, white tongue, sunken eyes, sunken fontanelle, cold extremities, decreased urine output, poor skin turgor, increased heart rate, low blood pressure**
- 110) At what age do the fontanelles close at the latest? **Posterior fontanelle: by 3 months, anterior fontanelle: by 18 months.**
- 111) What are the symptoms and laboratory signs of nephrotic syndrome? **Proteinuria, hypoalbuminemia, hyperlipidemia, oedema.**
- 112) What are the symptoms and laboratory signs of nephritic syndrome? **Hematuria, oedema, hypertension, uremia and oliguria.**
- 113) What factors are included in APGAR score? **Heart rate, respiratory rate, skin color, reflex irritability, muscle tone.**
- 114) Age limit of puberty? **Boys: 9-14 years. Girls: 8-13 years.**
- 115) What are the direct and indirect signs of appendicitis? **Direct sign: tenderness at McBurney point. Indirect signs: Blumberg, Rovsing, Obturator, Psoas signs.**
- 116) How can we estimate body weight between the ages of 2-8 years? **(2 x years) + 8.**
- 117) What is a percentile chart? **Percentile chart (growth or weight gain chart) shows the development of a child's height and weight. It helps relating children's weight or height to the normal distribution of healthy children of the same sex and age. It can also make clear if the development has slowed down (or accelerated).**
- 118) What does autologous stem cell transplantation mean? **A procedure in which a patient's healthy stem cells are collected from the blood or bone marrow before high dose chemotherapy stored, and then given back to the patient after treatment.**
- 119) What values define hypotension in childhood? **< 70+ 2 x years mmHg systolic blood pressure (above 10 years - 90 mmHg).**
- 120) What is the heart rate and respiratory rate of a healthy newborn? **Respiratory rate: 50-60/min, Heart rate: 120-140/min.**
- 121) Which cultured pathogen from throat swabs warrants antibiotic treatment? **Str. pyogenes.**
- 122) In case of maternal GBS positivity, up to what age can this bacterium cause disease in the baby? **Up to six months of age.**
- 123) What is the recommended empiric treatment of neonates with suspected sepsis? **Ampicillin + Gentamycin.**
- 124) What factors are included in croup score? **Sound of inhalation, stridor, cough, signs of dyspnea (nasal flaring, retractions), cyanosis.**