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Learning objectives paediatrics (Stand WiSe22/23)

Kinderheilkunde 7M1602-7M1606 und 7M1627 und Kinderchirurgie 7M1630

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The student should be knowledgeable in the following topics of paediatrics...

1 Block practical course

- take a structured medical history.
- perform a structured and complete physical examination.
- present the patient in a structured manner.
- present the patient's clinical picture and therapy.
- to write a structured and informative doctor's letter.

2 Endocrinology

- Correctly measure and weigh children: Record body length, sitting height, arm span, head circumference, body weight.
- Assessment of measurement data: Percentile curves, growth and development.
- Definition of terms: normal range, short stature, tall stature, growth rate, target size range
- Growth disorders: Aetiology, pathogenesis of primary and secondary factors, diagnosis and therapy.
- Puberty: physiology of puberty, chronological sequence, Tanner stages,
- Pathology of puberty: partial developments, real - central, pseudo - peripheral
- Diagnosis of pubertal disorders and their therapy

3 Gastroenterology

- List differential diagnoses to chronic diarrhoea, procedure in case of failure to thrive
- explain the clinical manifestation of coeliac disease, as well as the diagnostic and therapeutic measures
- explain the clinic, diagnosis and therapy of acute gastroenteritis
- differentiate between the various forms of jaundice
- explain the term postenteric syndrome
- apply percentile curves and somatograms

4 Nutrition

- disease-associated malnutrition
- Reasons for the need for adequate nutrient intake in childhood
- Malnutrition (causes, manifestation, consequences)
- Classification of infantile failure to thrive
- Nutrition therapy (indications, diagnosis, procedure, principles)
- Nutrition in infancy (1st half-year, 5th-7th month, 10th-12th month)
- Breastfeeding (effects, procedure, advantages, maternal intake during breastfeeding)
- Supplements
- Infant formulas
- Supplementary food

5 Immunology

- Main groups of the IUIS 2017 immunodeficiency classification
- Warning signs for primary immunodeficiencies according to the AWMF guideline (Register No. 112-001)
- Biomarkers of SCID newborn screening
- Clinic, diagnostics and therapy of antibody deficiency syndromes

6 Infectiology

- explain the diagnostic procedure in cases of suspected increased susceptibility to infection
- explain the pathogenesis, clinic, diagnosis and therapeutic measures of urinary tract infections
- explain the pathogenesis, clinical picture, diagnosis and therapeutic measures of meningitis / CNS infection
- explain the pathogenesis, clinic, diagnosis and therapeutic measures of pneumonia
- explain important principles of rational antibiotic use in paediatrics
- name important terms of infectiology as well as essential aspects of pre-analytics
- explain clinical warning signs of severe infections

7 Vaccinations

- list the recommended vaccinations in the first 2 years of life
- explain the clinical manifestation and complications of the most important childhood diseases (measles, mumps, rubella, varicella...)

8 neonatal sepsis

Main learning objectives

- Prenatal risk factors of neonatal sepsis
- Neonatal sepsis early onset - late onset
- Pathogen spectrum
- Pathophysiology of sepsis
- Urinary tract infection in infancy workup

Secondary learning objectives

- Gestational diabetes
- Newborn screening
- Adrenogenital syndrome
- Screening

9 Cardiology

Learning objectives (main lecture):

- Paediatric cardiology propaedeutics:
- physical examination of the child (inspection/palpation/excultation) with special emphasis on cardiovascular diseases

- typical clinical signs of the most common paediatric cardiological diseases such as Kawasaki syndrome and similar inflammatory diseases, endocarditis, myocarditis, left and right heart failure
- Special paediatric cardiology:
- typ. Clinical and instrumental findings as well as basic principles of drug, interventional and surgical therapy for the most common simple congenital heart defects: atrial septal defect, ventricular septal defect, persistent ductus arteriosus, aortic isthmus stenosis, aortic and pulmonary stenosis, AV channel
- complex heart defects:
- Basic knowledge regarding complex vitiation/critical heart defect with PDA-dependent pulmonary or systemic perfusion, basic knowledge regarding univentricular function, Fontan circulation, prognosis of complex vitiation.
- Acquired cardiovascular diseases:
- Basic knowledge regarding diagnosis and therapy of arterial hypertension, acute and chronic inflammatory diseases with involvement of the cardiovascular system and cardiomyopathies.

10 Paediatric surgery

- Complete surgery, NG to adolescents
- Children are not just little adults
- Own clinical pictures
- Special physiology and anatomy
- Increased risks during operations
- Favourable conditions for healing
- Surgical specialists
- Child-friendly environment

11 Neonatology

- Overview and history of neonatology
- Explanation of terms
- Epidemiology and quality of care in Germany and Europe
- Ethical aspects of neonatology
- Limit of viability
- Important intrauterine and extrauterine physiological processes of perinatal adaptation
- Important clinical pictures in neonatology (respiratory distress syndrome, bronchopulmonary dysplasia)
- Initial assessment and initial care of the newborn infant

12 Infant examination course

- explain and carry out the procedure of an infant examination in contrast to that of older children
- assess the most common findings of the infant examination (assessment of breathing, circulation, digestion, nutritional status, signs of infection and malformations)

- perform an orienting neurological examination and apply the classification into central versus peripheral disorders and muscular clinical pictures
- be able to name the most common clinical pictures in this age group and to assign the corresponding symptoms.
- Nephrology
- Urinary transport disorders and urinary tract infections
- Glomerular diseases (glomerulonephritis, PSH nephritis, IgA-N, minimal change GN, poststreptococcal GN, SLE, Alport)
- Tubulopathies (Bartter syndrome, Fanconi tubulopathy)
 - Acute and chronic renal failure

13 Neuropaediatrics

- state the incidence, and prognosis of febrile convulsion in childhood
- state the incidence, localisation, age peak, therapeutic indication and prognosis of Rolando's epilepsy, absence epilepsy and juvenile myoclonus epilepsy
- name the incidence, symptoms, therapy and prognosis of acute and chronic migraine in childhood
- formulate the basic features of epileptological classification
- name the acute emergency care for a persistent seizure adequately for a 2-year-old child and for a 12-year-old child
- differentiate the education of parents after a febrile seizure with regard to fever reduction.
- neurology
- formulate the pathogenesis, clinical manifestation and therapy of cerebral palsy
- explain the principle of action of botulinum toxin
- state the value of sonography-guided injection of botulinum toxin
- to name the developmental milestones for sitting, walking freely, speech development.

14 developmental neurology

- explain the concept of developmental milestones as a screening tool in preventive medical examinations
- name the landmarks of child development
- describe the clinical manifestations, aetiology and accompanying symptoms of unilateral spastic cerebral palsy in childhood
- explain the genotype and phenotype of Prader-Willi syndrome
- recognise the clinical criteria for the underlying neuromuscular disease.

15 Rolandoepilepsy - Tutorial

- Febrile seizure: uncomplicated, complicated
- Semiology: focal vs. generalised tonic-clonic seizure
- Diagnosis and DD Seizure
- Hypoglycaemia, electrolyte shifts
- Haemorrhage, RF

- Encephalitis, meningitis
- Diagnosis, clinic and therapy of Rolandoepilepsy
- Emergency care epileptic seizure

16 Emergencies

- list the main emergency situations in paediatrics
- explain the clinical manifestation of croup syndrome and the diagnostic and therapeutic measures required
- explain the clinical manifestation of epiglottitis and the diagnostic and therapeutic measures required
- explain the emergency treatment of asthma attack
- explain the clinical manifestations and emergency treatment of childhood sepsis
- explain the clinical manifestations and emergency treatment of status epilepticus
- explain the clinical signs and emergency treatment of aspiration and airway obstruction
- explain the clinical manifestations and emergency treatment of anaphylaxis
- recognise the critically ill child

17 Haemastoseology

Learning objectives:

- Dealing with the coagulation screening tests
- Diagnosis and therapy of haemorrhage in children
- Diagnosis and therapy of thrombosis in children
- to list the indications for coagulation screening in children
- explain the laboratory constellation, therapy and preventive measures for vitamin K deficiency
- explain the frequency, causes, clinical signs and therapy of thrombosis in children
- list the special features of coagulation in childhood (age-dependent standard values for screening tests and for individual factors)
- to name neonatal haemorrhages without coagulation disorders
- to identify the congenital severe coagulation disorders

18 Paediatric haematology/oncology

- define the prognosis of oncological diseases in childhood
- list and structure the differential diagnosis of pallor, fever, bleeding signs
- list and structure the differential diagnosis of lymph node swelling
- explain the clinic, diagnosis and therapeutic measures for the most important haematological diseases (leukaemias, Hodgkin's and non-Hodgkin's lymphomas).

19 Non-Hodgkin's lymphoma

Learning objectives - Informative and analytical:

- Symptom "abdominal pain in childhood and adolescence" versus differential diagnosis "acute abdomen".
- Taking a history of abdominal pain with regard to history, modalities, intensity, pain character and clinical examination of abdominal pain

- Apparative examination for unclear abdominal pain: ultrasound, advanced radiological diagnosis (contrast imaging, CT, MRI), diagnostic laparoscopy
- Invagination: symptoms with clinical pattern recognition, diagnosis, therapy
- Non-Hodgkin's lymphoma: classification, symptoms, staging, therapy

Learning objectives - Psychosocial:

- Particularities in dealing with the pubescent patient
- Consideration of the cultural background
- Informing an adolescent patient and his parents about a serious diagnosis

Learning objectives - Pattern recognition:

- Acute pressure pain in the right lower abdomen (suggests appendicitis, danger of misdirection)
- Acute illness of an otherwise always healthy adolescent (as an indication of oncological background)

20 Pulmonology

- list and classify the differential diagnosis of respiratory diseases in childhood (examples of congenital, infectious, genetic, immunological, parenchymal and respiratory regulation associated diseases)
- explain the predisposing factors, pathogenesis and therapeutic measures of bronchial asthma
- explain the symptomatology, diagnostic procedure, prognosis and complications of cystic fibrosis
- explain the main allergens and underlying mechanisms of type I allergy

21 metabolic diseases

- explain the diagnostic procedure for infantile hypoglycaemia
- explain the pathogenesis, symptoms, diagnosis and therapy of the most important metabolic diseases (phenylketonuria, MCAD, galactosemia)
- to list the most important diseases examined in newborn screening, to name the optimal time period for screening, to formulate the procedure in case of a positive result

22 Diabetes mellitus

Main learning objectives

- Differential diagnosis of abdominal pain in childhood with systemic history and examination
- Differential diagnosis of metabolic acidosis
- Pathogenesis of diabetes mellitus type 1 in differentiation from diabetes mellitus type
- Epidemiology of diabetes mellitus type 1
- Acute therapy of ketoacidosis / initial manifestation of diabetes

Secondary learning objectives

- Differential diagnosis of sec. enuresis diurna/nocturna
- Basics of the preparation of an insulin dose plan
- Psychosocial factors in the context of diabetes mellitus
- Diagnosis transmission using the example of diabetes mellitus