

**PEDIATRICS**  
**SUMMER SEMESTER 2018/ 2019**  
**IV YEAR**  
**ENDOCRINOLOGY / NEPHROLOGY**

**Basic literature:**

1. Nelson - Essentials of Pediatrics, Edited by R. Kleigman, K.J. Marcante, H.B. Jenson, R.E. Behrman. 6<sup>th</sup> ed 2010 section 23
2. Illustrated Textbook of Paediatrics, Edited by T. Lissauer, G. Clayden 2012
3. Seminars and lectures

**Seminars (5h):**

1. Endocrine system in children. (1h)
2. Short stature. (1h)
3. Overweight and obesity. (1h)
4. Disorders of the thyroid gland and the pituitary gland. (1h)
5. Disorders of the adrenal gland. (1h)

**Classes (40h):**

**ATTENTION!!!**

**The sequence of topics may change during the semester according to the schedule for Pediatrics. Due to the wide range of material we recommend earlier preparation.**

**A test, which covers the subject from basic literature, seminars and lectures, will be taken before every practical exercises.**

**Classes will take place in the Regional Children's Specialized Hospital, Żonierksa 18a street Children's Hospital on the Wards according to the class schedule.**

## **ENDOCRINOLOGY**

### **What should the students know before the beginning of the endocrinology course?**

Basic knowledge of the anatomy, physiology and pathology of the endocrine glands, disorders of the carbohydrates, lipids, proteins metabolism, water and electrolytes homeostasis, the role of the insulin, glucagon, thyroid hormones, growth hormone, parathormone, calcitonin, adrenalin, cortisol, testosterone and estrogens.

A test from the material which covers the subject matter on the basis of obligatory textbooks, seminars and lectures will be taken before the practical classes.

### **TOPIC 1: History taking and physical examination of the children with suspicion of the endocrine disorders**

Assessment of the physical development of the children (Tanner scale). Assessment of the nutrition of the children. Measurements of the waist and hips circumference. BMI assessment. Practical using of the percentile charts.

#### **Calcium and phosphorus homeostasis dysfunction, rickets.**

### **TOPIC 2: Disorders of the stature. Short and tall stature – causes, symptoms, diagnostic pathways and treatment**

Management pathways of the children with disorders of the stature. Additional tests in children with tall and short stature.

Management of the child with the short stature. Assessment of the growth. Bone age.

Causes of the short stature: the most common organic disorders of the CNS causing growth hormone deficiency, medications, endocrine disorders (CAH), genetic (Turner syndrome) and metabolic disorders (mucopolisaccharidoses), systematic disorders (chronic renal disease)

Somatotropin hypopituitarism – national treatment program.

Child with suspicion of the metabolic disease – diagnostics pathways. FAS – fetal alcohol syndrome.

Case report discussion.

### **TOPIC 3: Disorders of the thyroid gland. Hypothyroidism, hyperthyroidism. Thyroid nodules**

Causes, symptoms, diagnostics pathways of the disorders of the thyroid gland. Additional test in thyroid disorders.

Examination of the patients with thyroid disorders – medical history taking, physical examination, discussion about diagnosis – interpretation of the laboratory tests, making final diagnosis and management plan.

Case report discussion.

#### **TOPIC 4: Obesity metabolic syndrome**

History taking and examination of the patient suspected of obesity and metabolic syndrome.

Genetic syndromes related with obesity.

Discussion about diagnosis – interpretation of the laboratory tests, making final diagnosis and management plan.

Treatment of the obesity in children. Case report discussion.

Patient report – prepared by the students. Final assessment of the students.

### **NEPHROLOGY**

#### **What should the student know before the begging of the pediatric nephrology course?**

Anatomy, physiology and pathology of the kidney and urinary tract.

1. A test related to practical classes (the material covering the topic of practical classes and seminars on the basis of obligatory textbooks and lectures) will be taken during the classes.
2. Medical history will be discussed with an assistant on the last day of the block.

#### **TOPIC 1: Urinary tract infections**

**Urinalysis** – standard results, the role and interpretation of the most common abnormalities, methods of urine collection.

**Urinary tract infections:** Definition: prevalence and etiology: risk factors, clinical manifestations and classification due to age: newborns and infants to 3 month, younger children from 3 months of age up to 3 years, older children. Pathogenesis and pathology. Diagnosis: laboratory tests and imaging tests. Diagnosis of recurrent UTIs. upper and lower urinary tract infections. Treatment of UTIs due to age, clinical type, prevention and prophylaxis, complications and prognosis.

Discussion on interesting patients hospitalized in the ward.

History taking and physical examination.

Participation in the medical round, specialist consultations, outpatient clinic.

#### **TOPIC 2: Nephrotic syndrome**

**Proteinuria** – the most common causes in children, transient proteinuria, functional proteinuria, orthostatic (postural) proteinuria, persistent proteinuria.

**Nephrotic syndrome:** definition, pathophysiology.

Idiopathic nephritic syndrome: epidemiology, prevalence and etiology. Pathology, clinical manifestations and signs. Diagnosis. Treatment (types of drugs, supportive treatment,

prevention of infections). Complications. Prognosis. Types of nephrotic syndrome due to corticosteroid therapy efficacy. Other types of nephrotic syndrome (e.g. secondary, congenital, other)

**SCHOENLEIN-HENOCH PURPURA:** definition, etiology and pathogenesis, clinical manifestation, diagnosis, treatment.

Discussion on interesting patients hospitalized in the ward.

History taking and physical examination.

Participation in the medical round, specialist consultations, outpatient clinic.

### **TOPIC 3: Voiding disorders, enuresis nocturna**

Physiology of voiding, diuresis according to age: etiology and epidemiology of voiding disorders in children: clinical manifestations: urine incontinence according to ICCS. Definition of nocturnal enuresis primary/ secondary nocturnal enuresis, diagnostic studies for nocturnal enuresis: treatment of nocturnal enuresis.

Discussion on interesting patients hospitalized in the ward.

History taking and physical examination.

Participation in the medical round, specialist consultations, outpatient clinic.

### **TOPIC 4: CAKUT = congenital anomalies of the kidney and urinary tract**

Definition of **CAKUT**: etiopathology and epidemiology; clinical manifestations, indications for diagnosis of CAKUT: the role of prenatal US in diagnosis of CAKUT: the most common congenital anomalies of the kidney and urinary tract: hydronephrosis, posterior urethral valves, polycystic kidney disease, renal agenesis, renal hypoplasia/dysplasia, diagnostic studies: treatment of CAKUT:

**VESICoureteral Reflux** definition of **VUR**: etiopathology and epidemiology of VUR: clinical manifestations of VUR: international classification of vesicoureteral reflux: diagnostic studies for VUR: treatment of VUR: complications of VUR.

Discussion on interesting patients hospitalized in the ward.

History taking and physical examination.

Participation in the medical round, specialist consultations, outpatient clinic.

