

«Core curriculum» in Pediatrics

The COVID-19 pandemic poses extraordinary challenges to the teaching of clinical medicine. In order to mitigate some of these challenges, the teachers of Pediatrics at the University of Oslo hereby present a “core curriculum” as a guidance for students’ self-studies.

We underline that this “core curriculum” should be properly understood as a tool only to facilitate reaching the learning goals – it is not a legally binding definition of what is necessary to know (and not know) within the field of pediatrics. In addition to this list, we advise the students to use the recommended textbooks as a guidance for central pediatric topics.

The list is divided in three parts. Part A is an overview of overarching topics in pediatrics. Part B is an overview of central clinical presentations, symptoms and signs in Pediatrics; ie., this part corresponds to what you may encounter as a clinical doctor working with children. Part C is an overview of the most important pediatric diseases, organized according to organ systems. Both parts are construed according to the disease panorama and the organization of health care in Norway – thus, it might be less applicable to other countries.

A. Overarching topics in Pediatrics

Normal physiology

- Transition from intrauterine to extrauterine life
- Homeostatic capacity in children – the ability to compensate for homeostatic challenges – pediatric “frailty”.

Normal development

- Body growth and growth charts
- Milestones in the development of gross and fine motor skills
- Milestones in emotional, cognitive and behavioral development
- Puberty

Nutrition

- Nutritional needs of newborns
- Healthy diet throughout childhood,
- Challenges with different dietary restrictions - veganism and other

Communication

- Principles of communication with children at different ages
- Communication with parents/caretakers

Ethics, law, social issues

- Ethical challenges related to premature delivery and neonatal medicine
- Children’s autonomy and legal rights
- Parent’s role in decision making
- Cross-cultural challenges
- Childhood maltreatment and child protection services
- Ethical challenges with withdrawing treatment

B. Clinical presentations, symptoms and signs in Paediatrics

General

- Fever
- Acutely reduced general condition
- Chronically reduced general condition/failure to thrive
- Reduced or increased linear growth/abnormal weight gain and loss
- Reduced physical performance
- Fatigue
- Loss of balance
- Dehydration
- Disturbances of electrolytes and acid-base-balance
- Nutritional deficiencies
- Obesity
- Abnormal puberty (early/delayed)

Newborn period/early infancy

- Respiratory disturbances (apnea, rapid respiration)
- Irritability
- Abnormal skin color (cyanosis, jaundice, paleness, plethoric, brownish, etc.)
- Colic
- Dysmorphic features
- Abnormal birth weight (small and large for gestational age)
- Prematurity
- Flaccidity/hypotonia
- Failure to thrive

Cardiovascular system

- Cardiac murmur
- Cyanosis/"blue lips"
- Chest pain
- Syncope
- Palpitations

Respiratory system

- Running nose
- Rapid respiration
- Strenuous respiration
- Cough (acute and chronic)
- Stridor
- Wheezing
- Hyperventilation

Digestive system

- Diarrhea
- Vomiting
- Abdominal pain (acute, chronic, recurrent)
- Constipation

- Increased abdominal circumference
- Encopresis

Urinary and kidney system

- Micturition disturbances (enuresis, incontinence, dysuria, polyuria)
- Hematuria
- Proteinuria

Skin

- Skin hematomas
- Rashes
- Edema
- Wounds
- Altered skin color

Musculoskeletal system, nervous system, sensory organs

- Limping
- Jerks/seizures (including febrile seizures)
- Headache
- Neck stiffness
- Neck tumor
- Delayed motor development
- Intellectual disability
- Abnormal head circumference
- Reduced consciousness
- Eye redness
- Strabismus
- Hearing loss

C. Pediatric diseases

Diseases of the blood

- Anemia (iron deficiency, haemolytic, other)
- Idiopathic thrombocytopenic purpura
- Deficits of coagulation

Diseases of the heart

- Non-cyanotic congenital heart defects
- Cyanotic congenital heart defects
- Duct-dependent heart defects
- Heart failure

Diseases of the airways and lungs

- Upper respiratory tract infections (otitis, pharyngitis/tonsillitis, acute laryngitis)
- Lower respiratory tract infections (bronchiolitis, pneumonia)
- Asthma
- Foreign body
- Malacias
- Bronchiectasis
- Chronic rare lung diseases
- Cystic fibrosis

Allergic diseases

- Allergic rhinitis/conjunctivitis
- Atopic dermatitis/eczema
- Food allergy
- Anaphylaxis
- Venom/drug allergy

Diseases of the digestive organs

- Cleft palate
- Gastroesophageal reflux/gastroesophageal reflux disease
- Pyloric stenosis
- Gastroenteritis (viral, bacterial)
- Peritonitis
- Biliary atresia
- Food intolerance (including cow's milk and lactose intolerance)
- Intestinal parasites
- Coeliac disease
- Inflammatory bowel disease
- Irritable bowel syndrome
- Intussusception
- Mesenteric adenitis
- Appendicitis
- Meckel's diverticulum
- Hirschprung's disease
- Viral hepatitis

Diseases of the kidneys and urinary tract

- Congenital anomalies of the kidney and urinary tract (CAKUT)
- Urinary tract infection/acute pyelonephritis
- Vesicoureteral reflux
- Nephrotic syndrome
- Nephritic syndrome
- Enuresis and incontinence
- Renal failure (acute and chronic)
- Hypertension

Endocrine diseases

- Diabetes mellitus
- Adrenal gland dysfunction
- Consequences of steroid treatment/iatrogenic Cushing syndrome
- Hypothyreosis
- Hyperthyreosis
- Rickets
- Pubertas praecox
- Delayed puberty/hypogonadism
- Growth hormone deficiency
- Obesity

Diseases of the nervous system

- Epilepsy
- Migraine and other headache disorders
- Cerebral palsy
- Hydrocephalus
- Cerebral stroke
- CNS infections (meningitis, encephalitis, others)
- Neuroinflammatory disorders (acute disseminated encephalomyelitis, Guillan-Barré-syndrome)
- Neuromuscular disorders
- Head trauma
- Narcolepsy

Diseases of the sensory organs

- Acute conjunctivitis
- Congenital cataract
- Deafness

Diseases of the musculoskeletal system

- Infectious osteomyelitis/arthritis
- Juvenil rheumatoid arthritis
- Congenital hip dysplasia
- Calvé-Legg-Perthes syndrome

Diseases of the skin

- Urticaria

- Skin infections (warts, molluscum contagiosum, hand-foot-mouth disease, bacterial skin and soft tissue infections, fungal infections)
- Skin infestations (scabies, lice)
- Haemangiomas

Diseases of the genitalia

- Testicular torsion
- Cryptorchidism
- Hypospadias
- Epispadias
- Phimosis
- Balanitis
- Congenital malformation of genitalia/intersex

General infectious diseases

- Exanthema subitum
- Measles
- Varicella (chicken-pox) and herpes zoster
- Roseola infantum
- Septicemia
- Scarletina
- Influenza
- Coronavirus disease 2019 (COVID-19)
- Mononucleosis
- Herpes simplex
- HIV
- Borreliosis

Diseases related to immune dysfunction

- Kawasaki's syndrome
- Henoch-Schönlein's purpura
- Primary immune deficiencies

Malignancies

- Leukemia and lymphoma
- CNS tumors
- Other solid tumors

Psychosocial disorders

- Anxiety/depression
- Autism
- Behavioral problems
- Child abuse/maltreatment
- Eating disorders

Genetic syndromes/conditions

- Down syndrome
- Turner syndrome
- DiGeorge syndrome (22q11-del.)
- Marfan syndrome

Diseases in newborn period

- Premature delivery; short and long-term complications
- Asphyxia
- Meconium aspiration
- “Wet lungs”
- Respiratory distress syndrome
- Hypoglycemia
- Hyperbilirubinemia
- Intrauterine growth retardation
- Neonatal septicemia and other infections
- Inborn errors of metabolism (as a group, no specific diagnoses)

Miscellaneous

- Poisoning (paracetamol, iron, alcohol)
- Chronic fatigue syndrome/Myalgic encephalomyelitis (CFS/ME)