

PEDIATRICS

(Revised)

Course Content

Area	Topic	Must know	Desirable
Vital Statistics	Definition and overview of Pediatrics with special reference to age-related disorders. Population structure, pattern of morbidity and mortality in children.	+	
	Maternal, perinatal, neonatal, infant and preschool mortality rates. Definition, causes, present status and measures for attainment of goals.	+	
	Current National programs such as ICDS, RCH, Vitamin A prophylaxis, UIP, Pulse polio, ARI, Diarrhea Control Program, IMNCI etc.	+	
	Other National programs		+
Growth and Development			
	Normal growth from conception to maturity.	+	
	Anthropometry: measurement and interpretation of weight, length/height, head circumference, mid-arm circumference. Use of weighing machines, infantometer	+	
	Interpretation of Growth Charts: Road to Health card and percentile growth curves	+	
	Psychological and behavioral problems	+	
	Approach to a child with developmental disabilities	+	
	Abnormal growth patterns-failure to thrive, short stature	+	
	Growth patterns of different organ systems such as lymphoid, brain and sex organs	+	
	Normal pattern of teeth eruption.	+	
	Principles of normal development	+	
	Important milestones in infancy and early childhood in the areas of gross motor, fine motor, language and personal-social development. 3-4 milestones in each of the developmental fields, age of normal appearance and the upper age of normal.	+	
	Preventable causes and assessment of developmental retardation	+	
	Measurement and interpretation of sitting height, US:LS ratio and arm span.	+	

	Sexual maturity rating		+
	Age-independent anthropometric measurement-principles and application.	+	
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Nutrition			
	Normal requirements of protein, carbohydrates, fat, minerals and vitamins for newborn, children, adolescents, and pregnant and lactating mother. Common food sources.	+	
	Breastfeeding—physiology of lactation, composition of breast milk, colostrum, initiation and technique of feeding. Exclusive breastfeeding - Definition and benefits. Characteristics and advantages of breast milk. Hazards and demerits of prelacteal feed, top milk and bottle feeding. Feeding of LBW babies. Problems in breastfeeding, BFHI, IMS Act	+	
	Complementary feeding, National Guidelines on Infant and Child Feeding (IYCF).	+	
	Assessment of nutritional status of a child based on history and physical examination	+	
	Protein energy malnutrition - Definition, classification according to IAP/Wellcome Trust/WHO, acute versus chronic malnutrition. Clinical features of marasmus and kwashiorkor. Causes and management of PEM including that of complications. Planning a diet for PEM.	+	
	Vitamins-Recognition of vitamin deficiencies (A, D, K, C, B-Complex). Etiopatho-genesis, clinical features, biochemical and radiological findings, differential diagnosis and management of nutritional rickets and scurvy. Hypervitaminosis A and D	+	
	Characteristics of transitional and mature milk (foremilk and hind milk). Prevention and management of lactation failure and feeding problems.	+	
	Definition, causes and management of obesity	+	
Immunization			
	National Immunization Programme	+	
	Principles of Immunization. Vaccine preservation and cold-chain	+	
	Types, contents, efficacy storage, dose, site, route, contra-indications and adverse reactions of vaccines — BCG, DPT, OPV, Measles, MMR, Hepatitis B and Typhoid: Rationale and methodology of Pulse Polio Immunization	+	
	Investigation and reporting of vaccine preventable diseases. AFP (Acute Flaccid	+	

	Paralysis) surveillance.		
	Special vaccines like <i>H. influenzae</i> b, Pneumococcal, Hepatitis A, Chicken pox, Meningococcal, Rabies	+	
Infectious Diseases			
	Epidemiology, basic pathology, natural history, symptoms, signs, complications, investigations, differential diagnosis, management and prevention of common bacterial, viral and parasitic infections in the region, with special reference to vaccine-preventable diseases: Tuberculosis, poliomyelitis, diphtheria, whooping cough, tetanus including neonatal tetanus, measles, mumps, rubella, typhoid, viral hepatitis, cholera, chickenpox, giardiasis, amebiasis, intestinal helminthiasis, malaria, dengue fever, AIDS, Leptospirosis, Chickengunya	+	
	Rational management of fever, PUO	+	
	Kala-azar, leprosy, chlamydia infection		+
Hematology	Causes of anemia in childhood. Classification based on etiology and morphology	+	
	Epidemiology, recognition, diagnosis, management and prevention of nutritional anemia-iron deficiency, megaloblastic	+	
	Clinical approach to a child with anemia with/without lymphadenopathy and/or hepatosplenomegaly	+	
	Epidemiology, clinical features, investigations and management of thalassemia	+	
	Approach to a bleeding child	+	
	Diagnosis of acute lymphoblastic leukemia and principles of treatment	+	
	Clinical features and management of hemophilia, ITP, and aplastic anemia	+	
	Diagnosis and principles of management of lymphomas	+	
	Types, clinical features and management of acute hemolytic anemia		+
Respiratory system			
	Clinical approach to a child with cyanosis, respiratory distress, stridor, wheezing. Significance of recession, retraction.	+	
	Etiopathogenesis, clinical features, complications, investigations, differential diagnosis and management of acute upper respiratory infections, pneumonia with emphasis on bronchopneumonia, bronchiolitis, bronchitis. Acute and chronic otitis media	+	
	Etiopathogenesis, clinical features, diagnosis, classification and management of bronchial asthma. Treatment of acute severe asthma	+	
	Pulmonary tuberculosis- infection versus disease, difference between primary and post-primary	+	

	tuberculosis. Etiopatho-genesis, diagnostic criteria in children versus adults. Diagnostic aids - technique and interpretation of Mantoux test and BCG test. Radiological patterns, chemoprophylaxis and treatment including the DOTS schedule		
	Diagnosis and management of foreign body aspiration	+	
	Pathogenesis, clinical features and management of pneumothorax, pleural effusion and empyema.	+	
	Multidrug resistant tuberculosis, bronchiectasis, cystic fibrosis.		+
Gastrointestinal tract			
	Clinical approach to a child with jaundice, vomiting, abdominal pain, bleeding, hepatosplenomegaly	+	
	Acute diarrhea disease - Etiopathogenesis, clinical differentiation of watery and invasive diarrhea, complications of diarrheal illness. Assessment of dehydration, treatment at home and in hospital. Fluid and electrolyte management. Oral rehydration, composition of ORS	+	
	Clinical features and management of acute viral hepatitis, causes and diagnosis of chronic liver disease; neonatal cholestasis	+	
	Features and management of liver failure	+	
	Common causes of constipation		+
	Gastroesophageal reflux, GI bleeding, portal hypertension	+	
	Persistent diarrhea, Reye's syndrome, Celiac disease, malabsorption syndrome		+
	Drug induced hepatitis		+
	Abdominal tuberculosis, Wilson's disease		+
Central Nervous System			
	Clinical approach to a child with coma, convulsions, mental retardation	+	
	Clinical diagnosis, investigations and treatment of acute pyogenic meningitis, encephalitis and tubercular meningitis. Neurocysticercosis	+	
	Seizure disorders - Causes and types of convulsions at different ages. Diagnosis, categorization and management of epilepsy (broad outline). Febrile convulsions - definition, types, management	+	
	Causes, diagnosis and management of cerebral palsy	+	
	Acute flaccid paralysis - Differentiation between Polio and Guillain-Barre syndrome		
	Microcephaly, hydrocephalus, rheumatic chorea	+	

	Intracranial space occupying lesions, infantile hemiplegia		+
	Neuroblastoma		+
Cardiovascular system			
	Clinical features, diagnosis, investigation, treatment and prevention of acute rheumatic fever. Common forms of rheumatic heart disease in childhood. Differentiation between rheumatic and rheumatoid arthritis	+	
	Recognition of congenital acyanotic and cyanotic heart disease. Hemodynamics, clinical features and management of VSD, PDA, ASD and Fallot's tetralogy	+	
	Recognition and management of congestive cardiac failure and cyanotic splls in infants and children	+	
	Diagnosis and management of bacterial endocarditis, pericardial effusion, myocarditis		+
	Hypertension in children-recognition, etiology, referral		+
Genitourinary system			
	Approach to a child with proteinuria/hematuria	+	
	Etiopathogenesis, clinical features, diagnosis, complications and management of acute post-streptococcal glomerulonephritis and nephrotic syndrome	+	
	Etiology, clinical features, diagnosis and management of urinary tract infection - related problems	+	
	Etiology, diagnosis and principles of management of acute renal failure	+	
	Hemolytic-uremic syndrome	+	
	Renal and bladder stones		+
	Causes and diagnosis of obstructive uropathy in children		+
	Diagnosis and principles of management of chronic renal failure		+
Endocrinology			
	Etiology, clinical features and diagnosis of diabetes and hypothyroidism, and goiter in children	+	
	Delayed and precocious puberty		+
Neonatology			
	Definition - live birth, neonatal period, classification according to weight and gestation, mortality rates	+	
	Delivery room management including neonatal resuscitation and temperature control	+	
	Etiology, clinical features, principles of management and prevention of birth asphyxia	+	
	Birth injuries - causes and their recognition	+	
	Care of the normal newborn in the first week of life. Normal variations and clinical signs in the	+	

	neonate		
	Breastfeeding - physiology and its clinical management	+	
	Identification of congenital anomalies at birth with special reference to anorectal anomalies, tracheo-esophageal fistula, diaphragmatic hernia, neural tube defects	+	
	Neonatal jaundice: causes, diagnosis and principles of management	+	
	Neonatal infection - etiology, diagnosis, principles of management. Superficial infections, sepsis	+	
	Low birth weight babies - causes of prematurity and small-for-date baby, clinical features and differentiation. Principles of feeding and temperature regulation. Problems of low birth weight babies.	+	
	Identification of high risk/sick newborn (<i>i.e.</i> , detection of abnormal signs - cyanosis, jaundice, respiratory distress, bleeding, seizures, refusal to feed, abdominal distension, failure to pass meconium and urine	+	
	Transportation of a sick neonate	+	
	Recognition and management of specific neonatal problems-hypoglycemia, hypo-calcemia, anemia, seizures, necrotizing enterocolitis, hemorrhage	+	
	Common intra-uterine infections		+
Pediatric Emergencies			
	Status epilepticus	+	
	Status asthmaticus / Acute severe asthma	+	
	Shock and anaphylaxis	+	
	Burns	+	
	Hypertensive emergencies	+	
	Gastrointestinal bleeding	+	
	Comatose child	+	
	Congestive cardiac failure	+	
	Common poisonings, scorpion sting and snakebite	+	
	Drowning	+	
	Acute renal failure	+	
Fluid-Electrolyte			
	Principles of fluid and electrolyte therapy in children	+	
	Pathophysiology of acid-base imbalance and principle of management	+	
Genetics	Principles of inheritance and diagnosis of genetic disorders, Down's syndrome	+	
Behavioral Problems			

	Breath holding spells, nocturnal enuresis, temper tantrums, pica, refusal to feed	+	
	Learning disabilities, Autism		+
Pediatric Surgical Problems	Diagnosis and timing of surgery of cleft lip/palate, hypospadias, undescended testis, tracheo-esophageal fistula, hydrocephalus, CTEV, umbilical and inguinal hernia, anorectal malformations, hypertrophic pyloric stenosis		+
Therapeutics	Pediatric doses, drug combinations, drug interactions, age specific choice of antibiotics, <i>etc</i>		+
Adolescent Medicine	Changes during adolescence, factors affecting adolescent health	+	
IMNCI	Management of a Young child below 2 months		
	Management of a child between 2 mo-5 yr of age		