The Draft CBME Curriculum for PG Clinical is being Circulated for Comments and Suggestions. The Suggestions are to be sent to RGUHS by mail to dcd.rguhs@gmail.com and copy to be mailed to Chairman BOS PG Clinical ravikdoc@gmail.com

MD PEDIATRICS POST GRADUATE SYLLABUS

Compiled by, DR. Prakash Wari Professor and HOD Department of Paediatrics KIMS, Hubballi.

<u>CHAPTERS</u>	<u>COMPETENCIES</u>
1) Epidemiology	 Definition Percentage distribution of adolescents worldwide and India Gender distribution
2) Normal Adolescent development	 Physical, Psychosocial, Emotional Sexual development.(Including Growth charts & SMR staging)
3) General health problems	
A) Approach to adolescent health	 Introduction to the HEEADSSS screening Introduction to Adolescent Friendly Health Services (AFHS) and the referral criteria Respecting patient privacy and maintaining confidentiality while dealing with adolescents Eliciting history, performing examination including Sexual Maturity Rating, growth assessments (using Growth Charts) and systemic examination including thyroid and
	 systemic examination including thyroid and breast examination Performing routine adolescent health check-up
B) Evaluation of common physical health problems	 Anemia Refractory error Headache Chronic medical conditions
C) Mental health problems	 Behavioral and psychological disorders Common adolescent eating disorders (Anorexia Nervosa, Bulimia) Sleep Disorders Depression, suicidal ideation Substance abuse and impact of media screening and referral Intellectual disability Impaired learning
4) Adolescent Nutrition	Common nutritional problemsShort statureObesity
DESRIBLE TO KNOW : 5) Adolescent Sexuality	 Menstrual problems, STDs & its prevention, Teenage pregnancy and contraception Sexual abuse Pelvis examination

- Health legislation and national policy on adolescence, and juvenile delinquency.
- Visit to adolescent clinic.
- Role of Pediatrician in adoption.
- Child labor act .

MD PEDIATRICS POST GRADUATE SYLLABUS

Compiled by, DR. Pavan Hegade Professor and HOD Father Muller medical college and Hospital Mangalore .

DRAFT

CANCER AND BENIGN TUMORS

SL No.	CHAPTER	COMPETENCY
1	Childhood & Adolescent cancers	 Epidemiology Molecular & Cellular biology Genes Syndromes Predisposing Principles of diagnosis Principles of Treatment
2	Leukaemia	 ALL Etiology Clinical manifestation Diagnosis & prognostic markers Treatment AML CML Iuvenile Myelomonocytic leukaemia Infant Leukaemia
3	Lymphoma	 Hodgkin Lymphoma Classification (Ann Arbors) Treatment Prognosis Non Hodgkins Subtypes Clinical manifestation Treatment

4	Brain Tumours in childhood	1. Syndromes associated with brain tumours
		2. Clinical manifestation
		3. Common posterior fossa tumours
		4. Diagnosis & management
5	Neuroblastoma	1. Epidemiology
		2. Pathology & Pathogenesis
		3. Clinical manifestation
		4. Syndromes associated with neuroblastoma
		5. Staging of neuroblastoma
		6. Treatment & prognosis
6	Neoplasm of the Kidney	Wilm's tumour
		* Staging
		* Differential diagnosis
		* Differential diagnosis* Syndromes associated
		 * Differential diagnosis * Syndromes associated * Prognosis & treatment
7	Benign Vascular Tumors	 * Differential diagnosis * Syndromes associated * Prognosis & treatment - Hemangioma
7	Benign Vascular Tumors	 * Differential diagnosis * Syndromes associated * Prognosis & treatment - Hemangioma - Lymphangioma & cystic hygroma

Desirable to know

- 1. Other Paediatric Renal tumours
- 2. Soft tissue sarcomas
- 3. Neoplasm of bone
- 4. Neoplasm of liver
- 5. Retinoblastoma
- 6. Gonadal & germ cell neoplasm7. Histocytosis syndrome of childhood
- 8. Rare tumours
 - Thyroid tumours
- Melanoma
- Nasopharyngeal Carcinoma.
- 9. HLA typing .

MD PEDIATRICS POST GRADUATE SYLLABUS

Compiled by, DR. B.C.YELAMALI Professor and HOD Department of Pediatrics SNMC, Bagalkot

CARDIO-VASCULAR SYSTEM

SECTION	COMPETENCY
1. EMBRYOLOGY & ANATOMY OF HEART	 Development of heart, development of aortic arch & thoracic aorta.
	2. Development of veins-SVC, IVC & coronary sinus.
	3. Blood supply of heart.
	4. Nerve innervations of heart & cardiac plexuses.
2. FETAL AND NEONATAL CIRCULATORY TRANSITION	1. Fetal circulation, physiology & pathophysiology of transitional circulation at birth.
	2. Persistent pulmonary hypertension of the neonate

3. INVESTIGATIONS IN CARDIOLOGY	 Advice & Interpretation of blood tests in cardiac diseases.
	2. Perform & Interpret pediatric ECG.
	3. Interpretation of Chest X-Ray in a cardiac case
	4. Cardiac chamber localization.
	 Interpretation of 2D Echocardiography report in treating cardiac cases.
	6. MRI, CT and Radionuclide studies
	7. Diagnostic & Interventional Cardiac Catheterization.
	1. Epidemiology
4. CONGENITAL HEART	2. Approach to congenital heart diseases
DISLASES	3. Acyanotic heart diseases- embryology, hemodynamic,
	clinical presentation, complications and management.
	a) Left to right shunt
	b) Obstructive lesion
	c) Regurgitant lesions.
	4. Cyanotic heart diseases- embryology, hemodynamics,
	clinical presentation, complications and management.
	b) CCHD with increased pulmonary blood flow.
	 Other congenital heart or vascular malformation Pulmonary hypertension

5. ACQUIRED HEART DISEASE	 Acute Rheumatic Fever Rheumatic heart disease Infective Endocarditis Prevention & Prophylaxis
6. CARDIAC ARRHYTHMIA	 SA Node and electric activity of cardiac chambers Disturbances of rate and rhythm of heart a) Sinus arrhythmias b) SVT c) VT d) Long QT syndrome e) Sinus node dysfunction & AV block Anti arrhythmic drugs
7. DISEASES OF MYOCARDIUM	 Cardiomyopathy Myocarditis
8. DISEASES OF PERICARDIUM	 Constrictive Pericarditis Acute pericarditis Tumors of heart

9. CARDIAC THEUREPEUTICS	 Cardiogenic shock/ Heart failure Pediatric heart and heart-lung transplantation
10. DISEASES OF PERIPHERAL VASCULAR SYSTEM	 Systemic Hypertension Diseases of blood vessels-Aneurysms & fistulae

DESIRABLE TO KNOW

- 1. Palliative surgeries in congenital heart disease.
- 2. Newer drugs in the management of congenital cardiac failure

MD PEADIATRICS POST GRADUATE SYALLABUS

CENTRAL NERVOUS SYSTEM

I CNS

CHAPTER	COMPETENCY
1.Examination, Localization of lesions	 Various components of the Neuro axis and general format of examination of the nervous system. Neurological examination of the neonate, infants till 2 years, children between 2-5 years and more than 5 years Principles of localization of lesions in the nervous system including false localizing signs
2.Neurogenetics and neuroimaging	 Various genetic tests available for testing How to choose the correct genetic test? 3 Applications of neuro sonogram, computed tomography and magnetic resonance imaging of brain in children
3. Investigations	 Cerebrospinal fluid examination, Age related changes and findings in various Neuro infections inflammatory conditions and metabolic conditions. Electroencephalogram- Basics and its use in clinical practice Nerve conduction studies, electromyography and evoked potentials (visual and brainstem evoked)
4. Congenital anomalies	 Development of the nervous system (embryology) Presentation and management of common congenital anomalies of the brain and spinal cord-neural tube defects, hydrocephalus, holoprosencephaly, malformations of cortical development, posterior fossa malformations
5. Seizures	 Definition of seizure, epilepsy, epilepsy syndrome, epileptic encephalopathy, developmental encephalopathy and developmental and epileptic encephalopathy Classification of seizures (Recent and old ILAE classification) Common cause of seizures in Children Febrile and non-febrile illness Seizures Common epileptic syndromes in children including west syndrome, Lennox Gastaut syndrome, benign childhood epileptic syndromes, Childhood absence epilepsy, Juvenile myoclonic epilepsy Investigations in a childhood with seizures Anti-seizure medications including newer anti-seizure medications. Principles of anti-seizure medication therapy and combining anti-seizure medications Non pharmacological treatment of seizures and epilepsy Status epilepticus: Definition, causes and treatment 10 Common non epileptic events in children

6. Headaches	 Common causes and approach to a child with headache Primary headaches in children with focus on migraine, tension headache Evaluation and treatment of headache including non- pharmacological treatments
7. Neurocutaneous disorders	 Developmental basis of neuro ectoderm and common neurocutaneous disorders in children like neurofibromatosis, tuberous sclerosis, Sturge-Weber syndrome, von Hippel Lindau syndrome Treatment including genetic counseling
8. Coma	 Definition of consciousness, minimal conscious state, coma, vegetative state 2Causes, evaluation and treatment of Coma 3 Raised intracranial tension and cerebral herniation syndromes
9. Brain death	1 Definition and criteria for brain death and brain stem death 2 Organ harvesting
10. Head Injury	 Minor and major traumatic brain Injury Evaluation including role of neuroimaging in traumatic brain injury Management of a child with traumatic brain injury
11. Neurodegenerative disorders	 Definition of terms like neurogenetic disorders, neurometabolic disorders, neurodegenerative disorders Common Grey and white matter disorders in children Approach and evaluation of neuro-degenerative disorders
12 Strokes in children	 Arterial ischemic strokes. Common causes, evaluation and treatment. Mineralizing angiopathy and arteriopathies (Transient cerebral arteriopathy and Moya moya syndrome to be covered Cerebral venous sinus thromboses. Causes, presentation and treatment Hemorrhagic strokes. Causes, presentation and acute management
13. Brain abscess	 Classification of brain tumors Common presentation of tumors-Supratentorial/ infratentorial and spinal cord tumors
14 Tumors	1Common presentation of tumors- Supratentorial/infratentorial and spinal cord tumors
15. Spinal cord disorders	 Applied Anatomy of spinal cord including the cross-sectional anatomy Causes, presentation and management of transverse myelitis (idiopathic, Myelin oligodendrocyte glycoprotein related and neuromyelitis optica spectrum spectrum disorder). Acute flaccid myelitis: causes, presentation and treatment

16. Neuroinfections	 1 Acute bacterial meningitis: Causes, presentation and treatment 2 Chronic meningitis-including tubercular meningitis and fungal meningitis- presentation, investigations and treatment 3 Other bacterial infections like rickettsial infections, lyme's disease, neurobrucellosis 4 Acute viral meningoencephalitis including herpes encephalitis 5 Parasitic infections- cerebral malaria, neurocysticercosis 6 Human immunodeficiency virus and brain including HIV encephalopathy 7 Other infections like SSPE (sub acute sclerosing panencephalitis), CNS rabies
17. Neuroinflammation	 1 CNS inflammatory demyelinating disorders- Acute Demyelinating Encephalomyelitis (ADEM), NMOSD (neuromyelitis optica spectrum spectrum disorder), Bickerstaff's brainstem encephalitis, acute cerebellitis, clinically isolated syndrome 2 Autoimmune encephalitis
18 Movement disorders	 Definition and classification of movement disorders (hyperkinetic and hypokinetic disorders) Common causes and treatment of chorea, athetosis, dystonia, tremors, myoclonus and tics
19 Cerebellar disorders	 1Applied anatomy of cerebellum and clinical manifestations 2 Acute post-infectious cerebellar ataxia: Causes, presentation and treatment of cerebellar 3 Approach to a child with acute ataxia disorders 4Causes and approach to chronic progressive and non-progressive ataxia
20 Cerebral Palsy	 Definition Classification of cerebral palsy- Anatomical, physiological, functional classification of cerebral Presentation and diagnosis palsy and causes Co-morbidities in cerebral palsy Principles of management of cerebral palsy. Medical and non-medical management of cerebral palsy
21 Global developmental delay, intellectual disability (GDD/ID)	 Definition of GDD/ID and causes Intelligence assessment and grading of disability Presentation and diagnosis Co-morbidities with GDD/ID Principles of management of GDD/ID

II - NEUROMUSCULAR

CHAPTER	COMPETENCY
1. Evaluation, investigations	1 Presentation, evaluation and investigation in a child with neuromuscular illness in infancy, childhood and adolescence
2. Muscular Dystrophies, Congenital Myopathy	 Definition of congenital myopathy and muscular dystrophies Treatment of muscle disorders including role of physiotherapy and gene therapies Presentation and treatment o f Duchenne and limb girdle muscular dystrophies
3 Metabolic myopathies	 Endocrine Myopathies Myopathies in glycogen storage disorders and lipid metabolic defects
4 Neuromuscular transmission abnormalities	1Congenital myasthenic syndromes: Causes, presentation and treatment 2 Acquired myasthenia gravis: Causes, presentation and treatment
5 Spinal muscular atrophies	 Definition, classification and presentation of SMA Diagnosis of SMA including genetic diagnosis Management including gene therapies for SMA
6 Disorders of peripheral nerve	 1 Acquired peripheral neuropathies including GB syndrome: Causes, presentation and treatment 2 Congenital and genetic peripheral neuropathies – Hereditary motor sensory neuropathies (HMSN): Causes, presentation and treatment 3 Disorders of autonomic nervous system 4 Birth brachial plexus injuries
7 Cranial neuropathies	1 Bell's Palsy: Causes, presentation and treatment 2 Post-infectious acute cranial neuropathies
8 Floppy Infant	 Causes of a floppy infant Evaluation and investigations of a floppy infant

III - METABOLIC DISORDERS

CHAPTER	COMPETENCY
1 Definition and classification	 1 Definition of inborn errors of metabolism (IEM 2 Small molecule and large molecule disorders 3 Disorders of intermediary metabolism: Common conditions including their presentation, evaluation and treatment Small molecule and large molecule 4 Disorders of energy production/utilization: Common conditions including their presentation, evaluation and treatment disorders 5 Disorders of complex molecules (cellular organelles): Common conditions including their presentation, evaluation and treatment 6 Common clinical presentations of IEMs in neonate, infancy and childhood 7 Investigations in a child with suspected IEM (Basic and advanced) including metabolic autopsy Treatable IEMs

DESIRABLE TO KNOW

- 1. Enzyme replacement therapy.
- 2. Genetic counselling of metabolic diseases.
- 3. Antisense oligonucleotides.

MD PEDIATRICS POST GRADUATE SYLLABUS

Compiled by, DR. SHARAD AGARKHEDKAR Professor and HOD Department of Pediatrics DY Patil Hospital, PUNE.

NATIONAL PROGRAMMES

NATIONAL PROGRAMS-UNIVERSAL IMMUNIZATION PROGRAMME AND NATIONAL IMMUNIZATION PROGRAMME

Sr No	Competencies	Activities planned	Teaching learning method	Assessment	Certification required YES/NO
1	Explain the components of Universal immunization programme and national immunization programme	Classroom/ E learning class Visit to immunization clinic/paediatric OPD Urban health centre visit/RHTC	Lecture Demonstration at Skill laboratory Observation	Written test/viva Log book	
2	Explain epidemiology of vaccine preventable diseases	Classroom/ E learning class Visit to immunization clinic/pediatric OPD Urban health centre	Lecture Demonstration at Skill laboratory	Written test/viva Log book	
3	Vaccine description/classifi cation Strain used/dose/route/sid e effects/	Classroom/ E learning class Visit to immunization clinic/paediatric OPD Urban health centre visit/RHTC	Lecture Demonstration at Skill laboratory Observation	Written test/viva Log book	
4	Define cold chain and discuss the methods of safe storage and handling of vaccines.	Classroom/ E learning class Visit to immunization clinic/paediatric OPD Urban health centre visit/RHTC	Lecture Demonstration at Skill laboratory Observation	Written test/viva Log book	

5	Discuss immunization in special situations – HIV positive children, immunodeficiency, preterm, organ transplants, those who received blood and blood products, splenectomised children, adolescent, travellers	Classroom/ E learning class Visit to immunization clinic/pediatric OPD Urban health centre visit/RHTC	Lecture Demonstration at Skill laboratory Observation	Written test/viva Log book	
6	Assess patient for fitness for immunization and prescribe an age appropriate immunization schedule.	Classroom/ E learning class Visit to immunization clinic/paediatric OPD Urban health centre visit/RHTC	Lecture Demonstration at Skill laboratory Observation	Written test/viva Log book	Yes
7	Educate and counsel a patient for immunization	Bedside clinic	Demonstration at as standardised patient Observation	DOAP Logbook	Yes
8	Demonstrate willingness to participate in the National and sub national immunisation days.	Visit to immunization clinic/paediatric OPD Urban health centre visit/RHTC	Demonstration as standardised patient Observation	DOAP Logbook	
9	Describe the components of safe vaccine practice- Patient education/counselli ng; adverse events following immunization, safe injection practices, documentation and Medico-legal implications	Classroom/ E learning class Visit to immunization clinic/paediatric OPD Urban health centre visit/RHTC	Lecture Demonstration at Skill laboratory Observation	Written test/viva Log book	
10	Observe the handling and storing of vaccines	Visit to immunization clinic/paediatric OPD Urban health centre visit/RHTC	Observation	Written test/viva Log book	

11	Documents Immunization in an immunization record	Visit to immunization clinic/paediatric OPD Urban health centre visit/RHTC	Demonstration in OPD Observation	Log book	
12	Observe the administration of UIP vaccine	Visit to immunization clinic/paediatric OPD Urban health centre visit/RHTC	Demonstration in OPD Observation	Log book	
13	Demonstrate the correct administration of different vaccines in a mannequin	Visit to immunization clinic/paediatric OPD Urban health centre visit/RHTC	Demonstration at Skill laboratory	Log book	
14	Practice Infection control measures and appropriate handling of the sharps,	Classroom/ E learning class Visit to microbiology laboratory/HIC programme/immunizatio n clinic/paediatric	Lecture/Observation	Written test/viva Log book	
15	Explain the term implied consent in Immunization services	Classroom/ E learning class	Demonstration as standardised patient Observation	Written test/viva Log book	FMT/Commu nity medicine
16	Enumerate available newer vaccines and their indications including Pentavalent pneumococcal, rotavirus, JE, typhoid IPV & HPV	Classroom/ E learning class Visit to immunization clinic/paediatric OPD	Demonstration OPD/Observation	Written test/viva Log book	
17	Implement National Health Programs, effectively and responsibly	Visit to immunization clinic/paediatric OPD Urban health centre visit/RHTC	Demonstration as standardised patient OPD/Observation	Written test/viva Log book	Community medicine
18	Organize and supervise the desired managerial and leadership skills	Visit to immunization clinic/paediatric OPD Urban health centre visit/RHTC	Demonstration as standardised patient OPD/Observation	Written test/viva Log book	Community medicine
19	Function as a productive member of a team	Visit to immunization clinic/paediatric OPD Urban health centre visit/RHTC	Demonstration as standardised patient OPD/Observation	Written test/viva Log book	Community medicine

20	Should get involved in health care research and education.	Visit to immunization clinic/paediatric OPD Urban health centre visit/RHTC	Demonstration as standardised patient OPD/Observation	Written test/viva Log book	Community medicine
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DESIRABLE TO KNOW :

1. Newer Vaccines (Dengue and Covid)



MD PEADIATRICS POST GRADUATE SYALLABUS

Compiled by, Dr. VIJAY KULKARNI Professor&HOD Department of Paediatrics SDMCMS&H Sattur Dharwad

ENDOCRINOLOGY

CHAPTER	COMPETENCY
1. GROWTH ASSESSMENT	 Growth chart plotting (WHO/IAP, Syndrome Specific) Short Stature, evaluation & management
2. THYROID DISORDERS	 Embryology of thyroid Congenital hypothyroidism and newborn screening Acquired hypothyroidism Hyperthyroidism Goiter evaluation
3. ADRENALS	 CAH (Congenital adrenal hyperplasia) Addison's disease Cushing disease Steroid therapy Pheochromocytoma with endocrine hypertension evaluation
4. DIABETES MELLITUS	1 - Type 1 Diabetes mellitus 2 - Type 2 Diabetes mellitus 3 – Monogenic diabetes
5. APPROACH TO HYPOGLYCEMIA	
6. METABOLIC BONE DISEASE	 1 - Normal mineral metabolism 2 - Hypocalcemia / hypercalcemia 3 - Rickets (nutritional / non-nutritional) 4 - Magnesium disorders 5 Parathyroid disorders
7. DISORDERS OF HYPOTHALAMO- PITUITARY AXIS	 Hypopituitarism and management GH (Growth hormone) deficiency & treatment
8. PUBERTY	 Physiology of puberty Precocious and delayed puberty
9. DSD (DISORDERS OF SEX DEVELOPMENT)	1 - Normal sex development 2 - Approach to DSD

10. CHILDHOOD OBESITY & METABOLIC SYNDROME	
11. DISORDERS OF WATER, ELECTROLYTES & ACID BASE HOMEOSTASIS	 1 - Diabetes insipidus 2 - SIADH (Syndrome of inappropriate ADH secretion) 3 - Renal tubular acidosis
12. POLYGLANDULAR ENDOCRINE SYNDROME	
13. ENDOCRINE CONSEQUENCES OF SYSTEMIC DISORDERS	 In survivors of childhood cancer In thalassemia children

DESIRABLE TO KNOW

GENETIC EVALUATION OF INHERITABLE ENDOCRINE DISORDERS-

- 1 Karyotyping
- 2 Next generation sequencing (NGS)
- 3 Deletion / Duplication analysis
- 4 Clinical exome/ genome sequencing

HORMONAL ASSAYS

- 1 . Method and Collection for Hormonal Assays
- 2. Chemi-luminescence immunoassay (CLIA)
- 3. LC-MS/MS (Liquid chromatography tandem mass spectrometry

MD PEDIATRICS POST GRADUATE SYLLABUS

Compiled by, DR. Prakash Wari Professor and HOD Department of Paediatrics KIMS, Hubballi.

GENETICS

CHAPTERS	COMPETENCIES
1) The Genetic Approach in Paediatric Medicine	To understand the importance of Genetics in Pediatric practice
2) The Human Genome	Assess Human Genome
3) Pattern of Genetic Transmission	Classify Pattern of genetic inheritance
4) Cytogenetics	Importance of Types of Genetic Testing
5) Chromosomal Disorders	Pattern of chromosomal abnormalities
6) Morphogenesis and Dysmorphogenesis	Dysmorphology and morphological syndromes
7) Prevention of Genetic Disorders	Genetic counseling

<u>CHAPTER</u>	<u>COMPETENCIES</u>		
1. Genetic Approach to rare and Undiagnosed Diseases	Genetic approach to Rare disease		
2. Therapy for Genetic Disorders	Role of Gene therapy		
3. Next generation Sequencing.			
DESIRABLE TO KNOW			
<u>Optional</u>			
1)Workshop/symposium on Genetic disorders2) Visit to genetic centers / labs			

MD PEADIATRICS POST GRADUATE SYALLABUS

Compiled by, Dr. S. SRINIVASAN Rtd. HOD and Professor Department of Paediatrics JIPMER, Pondicherry PHYSICAL GROWTH & DEVELOPMENT OF CHILDREN

ASSESSMENT OF NEUROCOGNITIVE,NEUROSENSORY MOTOR DEVELOMENT IN NEONATES, INFANTS, CHILDREN &ADOLESCENTS

COGNITIVE	COMPETENCIES
MUST KNOW:	SKILLS
1) Explain &Define the term	1) A) To assess accurately and
– DEVELOPMENT in	plot the age related growth and
maturation & functioning of	development parameters in
various organ systems	nationally recommended
involved in neuromotor,	standard growth and
sensory and cognitive	developmental charts (age and
functions- CNS, PNS,	sex matched).
Special Sensory organs (B) to calculate midparental
visual, auditory, speech) from	height, plot and project it to
stage of conception to	the final expected height in
completion of adolescent stage	relation to MPH.
2) Select & Use accepted	c) to calculate BMI from
standard "Age appropriate	weight and height of the
Developmental testing	children using Adolphe Quelet
inventories" routinely in opd	formula (Bodyweight in
& wards	kilogram divided by height in
3) Appreciate the value of &	meters squared), plot in the
Identify "High Risk"	BMI chart and identify normal
Pregnancies and neonates "At	weight, underweight and
risk "Neonates - Preterms,	obese children and adolescents.
VLBW& IUGR babies,	2) To interpret and identify
Neonates with HIE,	normally developing children
intracranial bleeding, birth	with vision, hearing, speech and
trauma ,significant jaundice,	neurocognitive and neuromotor
seizures, sepsis, shock,	development

hypoglycemia, neurocranial & spinal, ear, ocular and syndromic anomalies ,etc.

- 4) Learn to "Perform" correctly relevant physical examination of neonates(preterm, term & post term), assess the gestational age using standard, accepted physical morphological and neurological status- (Ballard Maturation Assessment Score, AmielTison angles)
- 5) Familiarise by practice the routine use of 51-items of Trivandrum Development Screening Chart for children of 0-6 y [TDSC (0-6 y)] during the 3 year training period both in normal children in opd or special clinics at specific months after birth and at specific time periods in those infants "At Risk" and born to high risk pregnant mothers (hydramnios, polyhydramnios, APH, twin or triplet, in vitro fertilisation, previous abortions, still births, neonatal deaths, babies born with genetic and chromosomal disorders, etc)
- 3) To suspect, identify, confirm with usage of age appropriate developmental checklist, diagnose with concerned specialist at the earliest encounter an abnormally developing child (Autistic child, ADHD kids, Children with defective vision, hearing and speech delay, other Developmental, Psychological and Behavioral disorders)
- 4) To elicit appropriate history & physical examination to find out the time & type of onset, course, the underlying cause (Biologic - Ethnic, genetic, familial,

psychosocial/emotional, nutritional, metabolic, immunological, infective, inflammatory, malignant, & other conditions)

- 5) To Diagnose & Discuss Differential Diagnosis
- 6) To plan (Basic& advanced, newer lab. Investigative work up)), obtain, read and interpret cost effective investigative and algorithmic plan
- 7) To communicate empathetically with parents and adolescents regarding the possibility of a developmental

- 6) Recognize & refer for early evaluation those infants with delay in developing social smile, visual contact & fixation, vacant stare, not uttering audible cooing vocal sounds before 6 months like ooh, eee, aah in response to mother, does not react to mother's overtures and speech (vision, hearing and speech problems)
- 7) Recognize children with neuromotor delay, regression and abnormal posture and movement by appropriate history of attainment of gross and fine adaptive motor milestones
- 8) Recognize at the earliest from history, physical examination children with major behavioral problems like Autism & Hyperactive Attention Deficit Disorders
- 9) Recognize other behavioral deviations – eating disorders like rumination, pica, anorexia nervosa, bruxism, compulsive overeating, etc., elimination disorders like enuresis and encopresis, sleep disorders, thumb sucking, genital

disorder/ problems, the need for investigations, prognosis and need for continued care and therapy.

- 8) To help parents to get free financial support from Government agencies or voluntary agencies for frequent therapeutic consultations and sessions and hearing restorative surgeries.
- 9) To refer children at the earliest opportunity to appropriate specialists as the case may to get the best result and prevent an advanced state where therapy would be of no or limited use.

 manipulation, addictions, delinquency, anxiety and compulsive anxiety neurosis, depression, etc 10) Be aware of and able to narrate and apply theories of psychological development from infancy to adulthood (Piaget's 4 stages of cognitive development, Sigmund freud's psychoanalytical sexual theory, Erikson's 8 stages of theory of psychosocial development. 	
Recommended Learning ,Teaching an log book the freque	nd training activities -to be entered in ency and duration
Seminars for PG students in groups	2 /year on any one of the above G&D problems
Journal clubs	2-4 per year on G&d related publications
Case Presentations	2 per student / year /pg on children with Gd related problems like FTT, SS, Tall Stature, Precocious or Delayed Puberty etc
School Visits for PGs	Growth -weight, Height, BMI, of one section of a class for each student and follow up over the next 21/2 years
Log Book	Recording of 5 or more cases of various developmental disorders in
	children seen by individual PG send their response to psychological and pharmacological therapy
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Dissertation or Thesis & Publish	Case series of specific Developmental problems

PHYSICAL SOMATIC GROWTH	
Cognitive	COMPETENCIES
 HURT KNOWE Definition of the terms "Growth" and "Development" of a child from the time of a conception till completion of linear growth marking the end of adolescence. Time period of successive stages of G&D Ovular & Embryoni Fetal =arthy, mid & late Nonatal Infancy - Concept of First 1000 Days. Brarly childhood (- 6 years) Preadbescent & Otodler 1-3 yrs: Preadbescent & Adolescent =Early, mid & Late Ormal Growth in terms of weight, length or height, head & midarm circumfreences at different age periods, growth velocity, mid arms pan vs height, upper segment : lower segment ratios from birth till adolescent period Aronatal & Post neonatal - Infants & Preadolescent and Adolescent Growth & Development / Junicous Factors (with examples) affecting G & D Genetic; b) Nutritional; c) Endocrinal (Hormones) & Other Growth and Maturation Factors, d) Environmental; o) Toxins & Drugs; () Infections & Systemic illness ; g) Immunological; h) Psychosocial & Emotional; and i) Secular trends Basic Principles / Laws governing Growth & Development - Crowth & Development and its correlation to chronological age and height age and their functioning in bys and gifts with secondary sexual features. Algorithm approach and plan relevant diagnosis workup of all growth related problems to soly and microcephaly, short and tall statures, precocious and delayed phetry. Disorders of Status Offferent Gifts, Status Principles / Laws Browth and Branchards Status (With Scondary, Sustan Edures). Algorithm approach and plan relevant diagnosis workup of all growth related problems like FTT, UNDERWEIGHT, SAM, OBESITY, SHORT STATURE, TALL STATURE ETC. 	<section-header><section-header><section-header><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></section-header></section-header></section-header>
Recommended Learning ,Teaching and training activitie	s -to be entered in log book the frequency and duration
Seminars for PG students in groups	2 /year on any one of the above G&D problems
Journal clubs	2-4 per year on G&d related publications

Case Presentations	2 per student / year /pg on children with Gd related problems like FTT, SS, Tall Stature, Precocious or Delayed Puberty etc
School Visits for PGs	Growth -weight, Height, BMI, of one section of a class for each student and follow up over the next 21/2 years
Log Book	Recording of 5 or more cases of G&D issues in children seen by individual PGs
Training MBBS MEDICAL UGs in wards /OPD	Demonstrating the correct method of positioning the neonates, children, adolescents and taking the needed anthropometric indices -weight, length or Height using stadimeter, , Head /Midarm circumferences, US-LS Ratios, testicular volume using Prader'sorchidometer , etc



Compiled by, DR. B.C.YELAMALI Professor and HOD Department of Pediatrics SNMC, Bagalkot

GYNAECOLOGICAL PROBLEMS

SECTION	COMPETENCY
1. MENSTRUAL PROBLEMS	 Dysmenorrhea Premenstrual Syndrome Amenorrhea Abnormal Uterine Bleeding
2. VULVOVAGINITIS	 Vulvitis Vaginitis Vulvovaginitis
3. DEVELOPMENTAL ANOMALIES	 Vulvovaginal anomalies. Mullerian anomalies. Gonadal anomalies.
4. GYNAECOLOGIC CARE IN A CHILD WITH SPECIAL NEEDS	 Sexuality and sexual education Abuse. Pelvic examination. Menstruation. Contraception.
5. BREAST DISORDERS	 Breast pain. Nipple discharge Development & appearance of breast. Mass in the breast.

6. HIRSUTISM AND POLYCYSTIC OVARIES	1. Polycystic ovary syndrome (PCOS).
7. NEOPLASMS	 Ovarian Carcinoma. Endometriomas. Uterine Carcinoma. Vaginal adenocarcinoma. Cervical carcinoma. Papnicolaou (Pap) Test.
8. ATHLETIC PROBLEMS	 Menstrual problems. Osteopenia. Eating disorders.
9. GYNAEC IMAGING	 Abdominal Ultrasonogram. CT Abdomen. MRI Mammography

Compiled by, DR. PrakashWari Professor Department of Paediatrics KIMS, Hubballi.

<u>CHAPTERS</u>	<u>COMPETENCIES</u>
1) Hematopoietic system	 Discuss the development of hematopoietic system/hemostasis/immunology
2) Anemias of inadequate production	 Approach to Nutritional anemia (Iron,Vit-B12,Folic acid) Discuss the definition; Classification and etio-pathogenesis, demonstrate clinical features and lab investigations of Nutritional anemia (Iron,Vit-B12,Folic acid) and its management
3) Hemolytic anemia	 Approach to Hemolytic anemia Discuss the definition; Classification and etio-pathogenesis, demonstrate clinical features and lab investigations, radiological features of Hemolytic anemia and its management
4) Polycythemia	• Discuss the definition; Classification and etio-pathogenesis and approach to polycythemia

5) Pancytopenias	 Approach to pancytopenia Discuss the definition; Classification and etio-pathogenesis, demonstrate clinical features and lab investigations of Pancytopenia and its management Discuss the definition; Classification and etio-pathogenesis, demonstrate clinical features and lab investigations of Inadequate production / bone marrow failure anemia
6) Blood component transfusions	 Discuss about blood and component transfusion Optional – visit to blood bank to understand regarding component therapy
7) Hemorrhagic and thrombotic diseases	 Approach to bleeding disorder Discuss the definition; Classification and etio-pathogenesis, demonstrate clinical features and lab investigations and approach to thrombotic disorder and its management Discuss the definition; Classification and etio-pathogenesis, demonstrate clinical features and lab investigations of common disorders of hemostasis and it management
8) The spleen	 Approach to spleenomegaly +/- Anemia +/- Adenopathy Discuss the definition; Classification and etio-pathogenesis and approach to splenomegaly / spleenic trauma Splenectomy – Indications , Vaccination prior to splenectomy , OPSI

9) The lymphatic system	• Discuss the definition; Classification and etio-pathogenesis and approach to lymphadenopathy
10) Bone marrow transplant	• Discuss the definition; Classification and etio-pathogenesis and approach to BMT and stem cell transplantation

DESIRABLE TO KNOW

1. Visit to bone marrow transplant unit .



Compiled by, Dr. SUDHA RUDRAPPA Professor&HOD MMC ,Mysuru.

INFECTIOUS DISEASES

CHAPTER	COMPETENCY
1. DIAGNOSTIC MICROBIOLOGY	1. Specimen Collection
	 Tests for Bacterial Infection Tests for viral Infection Tests for Fungal infection
	5. Tests for parasitic infection
2. MICROBE AND PAEDIATRICS HEALTH	1. Childhood development of micro biome and physiologic development
	2. Contribution of micro biome in disease
	3. Therapeutic manipulator of microbiome
3 PREVENTIVE MEASURERS	1. Immunization Practice
	2. Infection prevention and control.
	3. Health advice for children travelling internationally.

4.FEVER	 Fever Fever without focus Fever in immuno -compromised. Infection associated with medical devices
5.BACTERIAL INFECTION	 Gram Positive bacteria Gram Negative bacteria Anaerobic bacteria Anaerobic bacteria Mycobacterial infection Rickettsial infection Mycoplasmal infection Spirochital infection Chlamydial infection
6.VIRAL INFECTION	 RNA Viruses DNA Viruses HIV & AIDS



9.PRINCIPLES OF MANAGEMENT OF	1. Antibacterial therapy
INFECTIONS	2. Antiviral therapy
	3. Antifungal therapy
	4. Antiparasitic therapy
	5. Antimicrobial Resistance
10.NATIONAL PROGRAMS ON	1. RNTCP
INFECTIOUS DISEASES	2. ARI Control Programs
	3. National Deworming Day Program
	4. National Vectorborn disease control
	program

DESIRABLE TO KNOW

- 1. Drug Resistance Testing.
- 2. Principles of Combination drug therapy.

Compiled by, Dr. PRAVEEN BAGALKOT Professor Department of Paediatrics SDMCMS&H, Sattur, Dharwad

CHAPTER - MEDICO LEGAL ASPECTS OF PAEDIATRICS

COMPETENCY

- 1. Duties and obligations of doctor
- 2. Doctor patient relationship
- 3. New consumer protection act 2019
- 4. Ethical issues in medical practice
- 5. Communication skills
- 6. Record maintenance
- 7. Consent
- 8. Medical negligence
- 9. Medicolegal issues in pediatrics practice
- 10.Legal issues in immunisation

Reference:

- 1) Text book on medico legal issues related to various subspecialty by jaypee publication
- 2) Medical negligence and compensation by Dr Jagdish Singh Jaipur,
- 3) Medical negligence by Dr Mahesh Baldwa

Courtesy by Dr. Rajkumar Marol Professor & President , Medico legal chapter. IAP, Karnataka.

Compiled by, Dr. GURUPRASAD Professor Department of Neonatology, JJMMC

Dr. SATISH T.S. Assistant Professor Department of Pediatrics, SDMMC

CHAPTER	COMPETENCY
1. Neonatal resuscitation	 Institute and lead neonatal resuscitation and stabilization Knowledge and practical skills of latest NRP guidelines Attending Basic and advanced NRP course
2. Prenatal diagnosis and fetal assessment	 Gestational age assessment Prenatal diagnosis of fetal disease Assessment of fetal well-being Fetal growth assessment Significance of Fetal ultrasonography anatomical findings Prevention of fetal disease Fetal therapy Genetic counseling
3. High risk pregnancies	 Factors associated with high risk pregnancies Maternal condition affecting fetus and neonates Maternal medication and teratogens exposure Evaluation and management of Hydrops Fetalis Gestational Diabetes and Infant of diabetes mother
4. Assessment of the newborn and care of well newborn	 Assessment of the newborn history and physical examination Admission criteria to NICU Transitional care of newborn Routine care of newborn Routine medication Discharge preparation Follow up of well newborn
5. High risk newborn	 Anticipation and evaluation of high risk newborn Maturational assessment of gestational age(New Ballard score) Gestational age and birth weight classification Evaluation and management of IUGR/SGA Large for gestational age Post term infant

NEWBORN COMPLIED

6. Multiple Births	 Classification of twin pregnancies Fetal and neonatal complications of twin pregnancies Outcomes in twin pregnancies
7. Extremely and very preterm infants	 Risk factors for preterm birth Prenatal consultation and antenatal counseling Antenatal steroids Care of preterm infants in NICU Morbidities and mortality of preterm infants Adverse reactions to drugs administered to preterm infants
8. Moderate and late preterm infants	 Care of moderate and late preterm infants Morbidities and mortality
9. Developmentally supportive care	 Assessment of neonatal stress responses Goal of developmentally supportive care Developmentally supportive environment Developmentally supportive care practices
10. Thermoregulation	 Thermoneutral environment Causes and prevention of neonatal hypothermia Working knowledge and application of radiant warmers and incubator
11. Kangaroo mother care	 Components of KMC Benefits of KMC Implementation of KMC in the hospital
12. High risk infants Discharge and follow up	 Discharge readiness and discharge preparation Importance of follow up care Identifying high risk infants needing follow up Components of follow up program and follow up protocol Early intervention program

13. Neonatal transport	 Competent at retrieval and transport of the sick newborn baby
14.Decision making and ethical dilemma	 competent in the basic ethics of newborn, including the recognition and practice of treatment at the threshold of viability, end-of-life care decisions
15. Congenital anomalies and genetic disease	 Recognize common congenital anomalies, to investigate babies with such lesions Use literature and database searches to identify rare conditions and communicate such information to parents.
16. Nutrition	 Importance and principles of neonatal nutrition Provide parenteral and enteral nutritional support to well and sick newborns Identifying and managing common complications of parenteral nutrition
17. Breast feeding	 Importance of breastfeeding Supporting for successful breastfeeding Managing common breastfeeding problems Care and handling expressed breast milk Maternal medication and breastfeeding
18. Fluid and electrolyte management	 Assessment of fluid and electrolyte status Manage fluid balance in NICU Approach to disorders of electrolytes and fluid balance Metabolic acid base disorders
19. Hypoglycemia and hyperglycemia	 Operational threshold for management of neonatal hypoglycemia Screening for hypoglycemia Measurement of blood glucose Management of asymptomatic and symptomatic hypoglycemia Diagnosis and evaluation of refractory and prolonged hypoglycemia practices for prevention of hypoglycemia

20. Abnormalities of serum calcium and serum magnesium	 Approach and management of hypocalcaemia Approach and management of hypercalcaemia Approach to disorders of magnesium
21. Neonatal hyperbilirubinemia	 Risk assessment ,management and follow up of newborn babies based on their hour specific bilirubin values Evaluation of neonatal hyperbilirubinemia Principles and administration of phototherapy Competent at doing exchange transfusion Bilirubin toxicity Approach and management of neonatal cholestasis
22. Necrotizing enterocolitis	1. Identifying, evaluation and management of necrotising enterocolitis
23. Neonatal kidney disease	 Clinical and laboratory assessment of kidney function Antenatal and postnatal management of antenatal hydronephrosis Congenital anomalies of kidney and urinary tract (CAKUT) - evaluation Evaluation and management of acute kidney injury Neonatal hypertension Urinary tract infection
24. Respiratory care	 Indication and hazards of oxygen therapy Application and working knowledge of pulse oximetry Non invasive ventilation- Application and working knowledge of CPAP,HFNC Indication,various modes,monitoring of invasive ventilation Ventilator manipulation to improve oxygen and ventilation Principles of gentle ventilation Disease specific ventilation strategies Adjunct to mechanical ventilation Complication of mechanical ventilation

25. Apnea	 Identifying and classifying apnea Evaluation and management of apnea
26. Transient tachypnea of newborn	1. Evaluation and management of transient tachypnea
27. Respiratory distress syndrome	 Diagnose and management of Respiratory distress syndrome Administration of surfactant
28. Bronchopulmonary Dysplasia	 Measures to prevent bronchopulmonary dysplasia Diagnosis and management of Bronchopulmonary dysplasia
29. Meconium Aspiration Syndrome	1. Care of neonates with meconium aspiration syndrome
30. Persistent pulmonary hypertension	 Perinatal circulatory transition Diagnosis and management of PPHN
31. Pulmonary Haemorrhage	1. Evaluation and management of pulmonary hemorrhage
32. Pulmonary air leaks	 Recognition of pulmonary air leaks Insertion of chest tube
33. Shock	 Recognizing shock in neonates Initiating therapy to address type of shock and maintaining haemodynamic stability

34. Cardiac disoders	 Recognizing neonates with congenital heart disease Interpretation of Pulse oximetry screening test and hyperoxia test Stabilisation and transport of neonate with critical congenital heart disease Evaluation and emergency treatment of neonates with Arrhythmia Pharmacology of sympathomimetic amines,PGE1,Phosphodiesterase inhibitors
35. Haematology	 Indication and administration of PRBC, FFP, Platelets, cryoprecipitate Managing transfusion associated side effects Diagnostic work up and treatment of bleeding infant Diagnostic work up and management of anemia in neonate Screening, diagnosis and management of polycythemia Diagnostic approach and management of neonatal thrombocytopenia
36. Immunity and Infectious disease	 Development of immunity and the vulnerability of the newborn to infection. Diagnostic, evaluation, prevention, management of congenital infections- CMV,HSV,varicella,parvovirus,Rubella,syphilis ,Toxoplasmosis Prevention of mother to child transmission of HIV Prevention of perinatal transmission of HBV,HCV Evaluation and management of symptomatic and a symptomatic infant at risk of early onset sepsis Prevention, evaluation and management of late onset sepsis Neonatal tetanus Fungal infections in neonates Prevention ,Evaluation and management of congenital tuberculosis Infection control practices ,Antibiotic stewardship

37. Neurology	 Diagnosis, management and prognosis of Intracranial hemorrhage in neonates Intraventricular hemorrhage- screening, grading, diagnosis, management and prognosis Management of post haemorrhage ventricular dilation following IVH Peri ventricular leukomalacia Perinatal asphyxia Neuroprotective strategies-Theurapeutic hypothermia Neonatal seizures Neural tube defects
38. Orthopaedic problems	 Congenital muscular torticollis Congenital and infantile scoliosis Developmentally dysplasia of hip-screening Deformities of foot Osteopenia of prematurity
39. IEM	 Evaluation of a newborn with suspected IEM Newborn screening
40. Endocrine	 Evaluation of a newborn with suspected DSD Interpretation and management of newborn thyroid screening
41. Surgical emergencies	 Surgical conditions presenting in the fetus Diagnosis of postnatal surgical disorders Preoperative and postoperative management
42. Skin care	 Neonatal skin care guidelines Transient cutaneous lesion in neonatal period
43. Retinopathy of prematurity	 ROP screening Classification, diagnosis and treatment of ROP

44. Miscellaneous	 Birth injuries Preventing and treating pain and stress among neonates in NICU Screening of hearing loss in high risk neonates
45. Neonatal procedures	 Blood drawing IV canulation Lumbar punctures Intubation UVC/UAC Exchange transfusion PICC line Chest tube insertion Peritoneal dialysis
46. Communication skills and counselling	 skills in communication with parents and staff Breaking bad news, handling perinatal death and discussing prognosis with parents.
47. Ward organisation and management skills	 Setting and administration of NICU unit Leading clinical rounds

DESIRABLE TO KNOW

- 1. Performing neonatal ECHO.
- 2. Performing neonatal USG cranium.

Compiled by, Dr. Aparna Iyengar Professor Department of Paediatric Nephrology

Dr . Anil Vasudev Professor Department of Paediatric Nephrology

St. John's National Academy of Health sciences , Bangalore .

CHAPTER	COMPETENCY
1. Structure and function of kidney	 To have adequate Knowledge about anatomy of kidney and development of glomerular function/ tubular functions performed by different parts of the tubule (acidification, tubular transport of solutes, concentration, dilution) To understand normal renal physiology of fluid, electrolyte, and acid base homeostasis To Interpret various laboratory investigations performed to assess glomerular and tubular function of kidneys To use various formulas to calculate estimated GFR To be proficient in the methodology and interpretation of Urinalysis
2. Evaluation of common symptoms of renal disease	To know the approach to evaluation of: • Hematuria • Proteinuria • Hypertension • Polyuria • Rickets (non-nutritional) • Voiding disturbances • Antenatal hydronephrosis
3. Procedures	To be aware of the indications, procedural steps and complications of renal biopsy To be able perform acute peritoneal dialysis
4. Developmental disorders	 To have knowledge of the : Classification of developmental disorders and applied embryology of developmental disorders Diagnosis of congenital anomalies of the kidney and urinary tract during antenatal period and evaluating the child after birth.

5. Glomerular diseases Nephrotic syndrome	 To have the knowledge of: Pathophysiology of Nephrotic syndrome Diagnosis and treatment of first episode of nephrotic syndrome Treatment of edema in nephrotic syndrome Diagnosis and management of complications of nephrotic syndrome Diagnosis and initial evaluation of steroid resistant nephrotic syndrome Indications for renal biopsy and genetic testing Immunization strategy in child with nephrotic syndrome Definitions and principles of using steroid -sparing medications in nephrotic syndrome and its indications Identify secondary (non-minimal change) causes of nephrotic syndrome Approach to evaluation and treatment of congenital nephrotic syndrome To have the knowledge of the: Etiology and pathophysiology of post-infectious glomerulonephritis (PIGN) Conservative management of child with PIGN and identifying life threatening complications Indications for renal biopsy Differential diagnosis of child presenting with features of acute glomerulonephritis Approach to follow up of a child with PIGN
8. Lupus nephritis	 To be able to: Diagnose and classify (histopathology) lupus nephritis Diagnose a flare in lupus nephritis Have an understanding of the principles of management of child with lupus nephritis
9. Haemolytic uremic syndrome	 To have the knowledge of the: Classification of HUS and pathophysiology of STEC and atypical HUS Diagnostic criteria for HUS and laboratory evaluation Management of STEC associated HUS Treatment protocol of atypical HUS
Inherited basement disorders	To be aware of the aetiology of basement membrane disorders and their clinical features

Tubular disorders	
Renal tubular acidosis	 Io have the knowledge of: Classification, etiology and pathophysiology of renal tubular acidosis (RTA) Clinical features and laboratory/genetic evaluation for diagnosis of RTA Specific treatment and supportive care in child with RTA Classification and pathophysiology of Bartter
Bartter syndrome	 syndrome Clinical features and laboratory/genetic evaluation for diagnosis of Bartter syndrome Treatment in Bartter syndrome Classification and pathophysiology of diabetes insisidus (DD)
Diabetes insipidus	 Clinical features and laboratory (including water deprivation test) and genetic evaluation for diagnosis of DI Protocol for management of DI
Renal rickets	 Common causes of renal rickets and their presenting features Diagnostic approach to a child with renal rickets Treatment of renal rickets
Acute Kidney Injury	 To have the knowledge of: Etiology and pathophysiology of acute kidney injury (AKI) Diagnosis and staging of AKI by KDIGO, AKIN and p-RIFLE criteria Role of laboratory investigations and imaging in child with AKI Management of fluid in child with AKI
	 Modifying drug dosing in child with AKI Symptomatic management of child with AKI Identifying common complications of AKI Indications for dialysis in child with AKI Prevention of AKI
Chronic Kidney Disease	 To have an understanding of : Etiology of chronic kidney disease (CKD) Definition and staging of CKD by KDIGO criteria Clinical presentation in child with CKD Laboratory evaluation of child with CKD Principles of conservative management of child with CKD including nutritional management and immunization List complications of CKD Enumerate treatment options for child with end-stage kidney disease Indications for dialysis in child with CKD Modality of dialysis in CKD and its limitations Indications and advantages of transplant in child

Lower urinary tract abnormalities	To have the brands los of
Urinary tract infection	 It have the knowledge of: Etiology, risk factors and consequences of urinary tract infection (UTI) in a child Clinical presentation in child with UTI Diagnosis of UTI Treatment of UTI based on age of presentation Follow up evaluation of child with UTI Indications and choice of antibiotics for antibiotic prophylaxis Prevention of UTI To be able to counsel parents and child with UTI
Vesicoureteric reflux	 To be aware of the: Pathophysiology of Vesicoureteric reflux (VUR) Causes and clinical presentation of child with VUR Diagnosis and grading of VUR Conservative management of child with VUR Indications for surgical interventions in child with VUR
Obstructive uropathy Dysfunctional voiding	 Planning a follow up of child with VUR Outcome of VUR To have adequate knowledge of the : Etiology of obstructive uropathy Clinical presentation of child with obstructive uropathy Diagnosis of obstructive uropathy Definition, clinical features of voiding dysfunction Evaluation of child with voiding dysfunction Principles of treatment of voiding dysfunction
Hypertension	 To understand the: Etiology and pathophysiology of hypertension in children Definition, staging and diagnosis of hypertension Approach to evaluation of child with hypertension Principles of pharmacotherapy in hypertension Clinical presentation of child with hypertensive urgency and emergency Immediate evaluation and treatment of a child with hypertensive emergency
Nephrolithiasis	 To have the knowledge of the: Etiology and diagnosis of nephrolithiasis in children Approach to evaluation of stone disease in children Metabolic work up of child with stone disease Principle of treatment of stone disease Indications for surgical intervention in child with stone disease

Nocturnal enuresis	 To have the knowledge of the: Definition and pathophysiology of nocturnal enuresis Diagnosis of nocturnal enuresis Principles of behavioural and pharmacotherapy in children with nocturnal enuresis
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DESIRABLE TO KNOW

- 1. Role of erythropoietin in Anemia of CKD.
- 2. Role of biomarkers in AKI.



Compiled by, Dr. ROOPA BELLAD Professor Department of Paediatrics JNMC, Belagavi

MD PAEDIATRICS POSTGRADUATE CURRICULUM NUTRITION

SL NO ·	ΤΟΡΙϹ	COMPETENCY The student should be able to (K/S/A/P)
1	Nutritional Requirements- Water, energy, proteins, CHO, Fats, Minerals, Vitamins	 Describe the age related nutritional needs of infants, children and adolescents including micronutrients and vitamins(K)
2	Nutrition Assessment	 Describe the tools and methods for assessment and classification of nutritional status of infants, children and adolescents(K) Elicit ,document and present an appropriate nutritional history and perform a dietary recall(S) Calculate the age related calorie requirement in Health and Disease and identify gap(S) Assess and classify the nutrition status of infants, children and adolescents and recognize deviations(S)
3	Infant and Child Feeding	5. Discuss the National Infant and young child feeding guidelines

4	Breast Feeding Human Lactation Management BFHI	 Discuss the physiology of lactation(K) Awareness on the cultural beliefs and practices of breast feeding(K) Describe the composition and types of breast milk and discuss the differences between cow's milk and Human milk(K) Discuss the advantages of breast milk(K) Observe and counsel the correct technique of breast feeding and distinguish right from wrong techniques(S) Perform breast examination and identify and manage common problems during lactation such as retracted nipples, cracked nipples, breast engorgement, breast abscess(P) Educate mothers on ante natal breast care and prepare mothers for Lactation(A/C) Educate and counsel mothers for best practices in Breast feeding options (K) Discuss alternative feeding options (K) Discuss the various strategies to promote breast feeding practices in the community Discuss the baby friendly hospital initiatives(K) Participate in Breast Feeding Week Celebration(A)
5	Complementary feeding	 Define the term Complementary Feeding(K) Discuss the principles and guidelines , the initiation, attributes, frequency, techniques and hygiene related to Complementary Feeding including IYCF(K) Enumerate and discuss the common complimentary foods(K) Elicit history on the Complementary Feeding habits(S) Counsel and educate mothers on the best practices in Complimentary Feeding(A/C) Counsel mothers on the initiation, attributes, frequency, techniques and hygiene related to Complementary Feeding(A/C)

6	Feeding through 1 and 2nd years	1.Discuss the feeding principles ,types in the second year of life(K)
7	Diet for later childhood and Adolescent	2. Discuss appropriate diet in health and disease of school going children and adolescents(K)
8	Nutrition Values of Indian Foods, Recipes	3. Explains the Calorific value of common Indian foods(K)
9	Nutritional Disorders Obesity	 4. Describe the common etiology, clinical features and management of obesity in children 5. Discuss the risk ensures h features have the risk ensures h features have the risk ensures have the ri
		5. Discuss the risk approach for obesity and discuss the prevention Strategies
		 6. Perform Assessment of a child with obesity with regard to eliciting history including physical activity, charting and dietary recall 7. Perform Examination including calculation of BMI, measurement of waist hip ratio, identifying external markers like acanthosis, striae, pseudogynaecomastia etc
		 Calculate BMI, document in BMI chart and interpret Discuss criteria for referral

10	Protein Energy Malnutrition	 Define and describe the etio-pathogenesis, classify including WHO classification, clinical features, complication and management of Severe Acute Malnourishment (SAM) and Moderate Acute Malnutrition (MAM) 	
		2. Outline the clinical approach to a child with SAM and MAM	
		 Assessment of a patient with SAM and MAM, diagnosis, classification and planning management including hospital and community based intervention, rehabilitation and prevention Identify children with under nutrition as per IMNCI criteria and plan Referral Counsel parents of children with SAM and MAM Enumerate the role of locally prepared therapeutic diets and ready to use therapeutic diets 	
11	Vitamin Deficiencies and Excess	1.	Discuss the RDA, dietary sources of Vitamin A and their role in Health and
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		2.	disease Describe the causes, clinical features, diagnosis and management of Deficiency /
		3.	excess of Vitamin A Identify the clinical features of dietary
		4.	Diagnose patients with Vitamin A
			deficiency, classify and plan Management
		5.	Discuss the Vitamin A prophylaxis program and their
		6	Recommendations Discuss the RDA, dietary sources of
		0.	Vitamin D and their role in Health and
		7	disease
		/.	diagnosis and management of Deficiency /
			excess of Vitamin D (Rickets and
		Q	Hypervitaminosis D) Identify the clinical features of distance
		0.	deficiency of Vitamin D
		9.	Assess patients with Vitamin D deficiency, diagnose classify and plan management
		10.	Discuss the role of screening for Vitamin D deficiency
		11.	Discuss the RDA, dietary sources of
			Vitamin E and their role in health and disease
		12.	Describe the causes, clinical features,
			diagnosis and management of deficiency of Vitamin E
		13.	Discuss the RDA, dietary sources of Vitamin K and their role in health and
			disease
		14.	Describe the causes, clinical features,
			deficiency of Vitamin K
		15.	Discuss the RDA, dietary sources of
			disease
		16.	Describe the causes, clinical features,
			diagnosis and management of deficiency of B complex Vitamins



12	Micro-nutrient Malnutrition	 21. Discuss the RDA, dietary sources of Iron and their role in health and disease 22. Describe the causes, diagnosis and management of Fe deficiency 23. Identify the clinical features of dietary deficiency of Iron and make a Diagnosis 24. Interpret hemogram and Iron Panel 25. Propose a management plan for Fe deficiency anaemia 26. Discuss the National anaemia control program and its Recommendations 27. Discuss the RDA , dietary sources of Iodine and their role in Health and disease 28. Describe the causes, diagnosis and management of deficiency of Iodine 29. Identify the clinical features of Iodine deficiency disorders 30. Discuss the National Goiter Control program and their Recommendations 31. Discuss the RDA, dietary sources of Calcium and their role in health and disease 32. Describe the causes, clinical features, diagnosis and management of Ca Deficiency 33. Discuss the RDA, dietary sources of Magnesium and their role in health and disease 34. Describe the causes, clinical features, diagnosis and management of Magnesium Deficiency
13	Nutrition in Special situations – LBW, Premature, IEM, Chronic illness, Surgery, Critically ill child Athletic Diet	 Discuss and describe the nutritional requirements and management in LBW/preterm babies Discuss and describe the nutritional requirements and management in IEM Discuss and describe the nutritional requirements and management in critically ill child Discuss and describe the nutritional requirements and management in special situations like chronic illness ,IEM and surgery.

14	TPN	1.	Discuss and describe the TPN in children

- 1. Nutritional dermatosis .
- 2. Food fortification.
- 3. Food safety.



Compiled by, Dr. Manjunath swamy R Associate Professor Department of Paediatrics SIMS, Shimoga



CHAPTER	COMPETENCY
1. Anatomy and Embryology of Eye:	 Visual & Pupillary Pathways anatomy with lesions at various levels Lens development Developmental Disorders of the Eye
2. Refractive Errors of Eye	1.Myopia 2.Hypermetropia 3.Amblyopia
3. Diseases of Conjunctiva	 1.Conjunctivitis, etiology and types with treatment 2.Ophthalmia Neonatorum 3.Trachoma 4.Allergic Conjunctivitis
4. Cornea	1.Congenital Anomalies 2.Corneal Opacities
5. Uvea	1.Uveal inflammations of childhood 2.Congenital Anomalies of Uveal Tract
6. Lens	1.Anatomy and congenital anomalies of lens 2.Congenital and Developmental Cataract 3.Cataract Surgery in children and various associated complications
7. Glaucoma	1.Aqueous production and drainage pathways2.Developmental Glaucomas and associated anomalies3.Surgical options of childhood glaucomas and complications

8. Retina	1.Congenital and developmental disorders of Retina2.Retinoblastoma
	3.Retinopathy of Prematurity

9. Neurophthalmology	1.Papilloedema causes of childhood 2.Congenital color blindness
10. Squint	 1.Anatomy of EOM 2.Congenital causes of Various Nerve palsies (3,4 and 6) 3.Visual Physiology, Amblyopia and Nystagmus 4.Binocular Single Vision and Development of Vision milestones
11. Lids and Lacrimal Apparatus	 1.Anatomy 2.Congenital Anomalies of Lids 3.Common childhood lid infections and infestations 4.Hardiolum 5.Congenital Dacryocystitis
12. Orbit	<i>1</i>.Anatomy and various developmental anomalies2.Preseptal cellulitis and orbital cellulitis3.Proptosis causes in children
13. Ocular Injuries in Children	
14. Ocular Manifestations of Systemic Diseases	1.Vit A deficiency and XerophthalmiaAIDS, Tuberculosis, Toxoplasmosis2.Ocular Abnormalities in trisomies
15. Childhood Blindness causes and prevention	

- 1. Approach to red eye.
- 2. Ophthalmological manifestations of Autoimmune diseases.
- 3. Surgical management of refractive errors .
- 4. Corneal dystrophy.



Compiled by, Dr. Manjunath swamy R Associate Professor Department of Paediatrics SIMS, Shimoga.

ORTHO

SECTI ON	MUST KNOW	DESIRABLE TO KNOW
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1. Genetic	1.Blount disease.	1. Macrodactyly.
	(genu varum)	2. Hammer toe
	2.knock Knee	3. Mallet toe
	(Genu vulgum)	4. Hair tourniquet syndrome
	3.Hallus Vulgus.	5. Embryology of bone development
	4.polydactyly	6. Poland syndrome
	5.syndactyly.	7. Holt -Oram syndrome
	6.symbrachydactyl	8. Dancing pancytopenia syndrome
	y	9. Thrombocytopenia absent radius
	7. Hereditary	syndrome
	spastic paraparesis	10. Tibial Aplasia.
	8.DMD (Duchenne	11. Ataxia syndromes(Friedreich ataxia)
	muscular	12. Rett syndrome
	dystrophy)	13. Becker/Emery-dreifuss/limb-
	9.Achondroplacia	girdle/fascio-scapulohumeral dystrophies.
	10.spondyloepiphys	14. Myotonic dystrophy
	e al dysplasia	15. Myotonia congenital
	11. Cliedocranial	16. Polymyositis/Dermatomyositis
	dysplasia	17. Progressive fibrosis of quadriceps
	12.Multiple	18. Stickler dysplasia
	epiphyseal	19. Chondrodysplasia
	dysplasia	20. Achondrogenesis
	13.osteogenesis	21. Hypochondriacs
	imperfecta	22. Craniosynostosis
	14.Marfan	23. Apert syndrome
	syndrome	24. Mandibulofacial dysostosis
	15.Neurofibromato	25. Oculomandibulofacial syndrome
	sis	26. Kliepple-feil syndrome
	16.Erlers-Danlos	27. Homocysteinuria
	syndrome	28. Mucopolysaccharidosis
	17.Arthrogryposis	29. Downs syndrome
	multiplexa.	30. Diastrophic dysplasia
	18Haemophilia	31. Osteopetrosis
	19.sickle cell	32. Camurati-Engelmann disease
	disorder	33. Osteoporosis
		34. Osteopathic striata
		35. Melorheostosis
		36. Caffey disease
		37. Pyknodysostosis
		38. Idiopathic osteolysis
		39. Nail patella syndrome
		40. Fibrodysplacia ossificans progressia

2. Congenital	Torticollis. Scoliosis Syndactyly Polydactyly	 1.Radial ray deficiency 2.Larsen syndrome 3.Discoid meniscus 4. Tibial hemimelia





3. Development al	 cerebral palsy. DDH(developmental dysplasia of hip). perthes Disease. Slipped capital femoral epiphysis. Flexible flat foot(PES planovulgus). Madelung deformity 	
4. Traumatic	osgood-Schlatter disease. Birth injuries Clavicle#	 Larsen-johansson disease pes anserinus bursitis. Hallus Rigidus.



Femur# 4.Subangual exostosis. 5.Birth Humerus# injuries Plastic Medial physical separation(pseudodislocation) deformation AC joint dislocation Torus Osteochondrosis of fracture Elbow/calcaneus/tibia/vertebrae/l (Buckle) Greenstick unate/ta lus fracture pelvic fracture knee injuries ligament and Physical injuries meniscal injuries (salter-harris Tillaux fracture 10.Ankle classification) fractures 11.knee fractures Supracondyla 13.Talar fractures 14.calcaneus fractures 15.fracture of 5th base r fracture of humerus MT 16. Monteggia fractures Both bone fracture forearm Galeazzi fracture VIC (Volkmann ischemic contracture) Hip dislocation Neck of femur fracture Shoulder dislocation Radial head /neck fracture Distal end of radius fractures Elbow dislocation Condyle fractures of humerus medial/lateral



5. Tumour	ABC(aneurysmal bone cyst) UBC(unicameral bone cyst) Osteoid osteoma GCT(giant cell tumour) Haemangioma of bones Epiphyseal osteomyelitis (eosinophilic granuloma) Osteogenic sarcoma Fibrous dysplasia Ewing's sarcoma Osteoblastoma Adamantinoma	Histiocytosis X Neuroblastoma Campanacci disease ollier disease & maffuci syndrome Chondromyxoid fibroma Trevor disease
	Lymphoma Myositis ossificans Chondrosarcoma Enchondroma Hereditary multiple exostosis. Primary synovial chondromatosis Pigmented vilonodular synovitis	
6. Metabolic/ Endocrine	Rickets Renal osteodystrophy Hypo/Hyper phosphatasia Hypothyroidism Idiopathic juvenile osteoporosis Osteogenesis imperfecta Hypo/Hyper parathyroidism Pseudohypoparathyroidis m Hypervitaminosis D/A Scurvy GH deficiency	

Infective	TB arthritis (joints) HIP,KNEE,SPINE & SHOULDER Acute Osteomyelitis Chronic Osteomyelitis 4)	Fungal infections of bones(actinomycetes) Purpura fulminans
8. Inflammatory	Acute Transient synovitis of Hip. Juvenile Rheumatoid arthritis (juvenile idiopathic arthritis) juvenile ankylosing spondylitis. psoriatic arthritis	SLE Rheumatic fever Sarcoidosis Lyme disease Juvenile Dermatomyositis.
9. Imaging	1.X-Rays- Normally Bone 2.MRISoft tissue CT scanSolid organs and Bone. USG- Swelling, access and infections contrast studies & Bone scan	
10. Others	1.Idiopathic scoliosis	

	 Kyphosis- infection(TB), Trauma and metabolic (osteoporosis,osteomalac ia, parathyroid and Rickets) 3.postural kyphosis. 4.scheuermann kyphosis Neuromuscular,post radiation,neoplastic,infec tion and collagen diseases. Genu vulgum (Secondary) 7.Bowing of Tibia 8.prediction of leg length inequality in imature child. 9.Rieter syndrome. 	
11. Spine	Spina Bifida Meningomyelocele Spine injuries Atlantic axial dislocation Odontoid fractures DLS sine injuries (Traumatic/Motor vehicle accident/fall from height) Spinal cord injuries(upper motor/lower motor neuron injuries)	spondylolisthesis slipped vertebral apophysis 3.lumbar disk herniation 4. Transitional vertebra syndrome

12.Neurogeni c	Poliomyelitis Birth injuries (brachial plexus injuries) Erbs paralysis Klampake paralysis Cavus foot. Neuropathic joint(charcot) Spinal muscular dystrophy GB syndrome Foot drop/ peroneal nerve palsy	1.spinal dysmorphism 2.myesthenia gravis	

Desirable to know : 1. Surgical management of Rickets .

Compiled by, Dr. NALINI BHASKARANAND Rtd. HOD of Department of Paediatrics KMC Manipal .

CHAPTER	COMPETENCY
1. Psychological Disorders	Be familiar with the various problems at different ages
	Be able to use the following scales: Vanderbilt ADHD Diagnostic Rating scale for ADHD MCHAT in toddlers for ASD HEADSSS Screening Interview for psychosocial risk assessment in adolescence Knowledge of signs and symptoms of Autism in preschool child and early referral to a multidisciplinary Rehabilitation centre. Develop an ability to guide parents and clarify their doubts. Knowledge of diagnostic criteria for ADHD and ability to suspect and refer psychiatrist for definitive treatment and behaviour modification Aim: facilitate early referral for intervention Be able to provide support to the caregivers and clarify doubts during follow up Reinforce need for continuing rehabilitation
2.Vegetative disorder	Rumination -Identify and suggest behavioural treatment strategies Pica Identify treatable causes ,and specific treatment Encopresis-rule out underlying chronic
	constipation/neurological cause and appropriately treat
	Enuresis-Primary vs Secondary and treatment strategies.

3.Sleep	Normal pattern at various ages, basic principles of healthy sleep Knowledge of Obstructive Sleep apnea, Insomnias of childhood, Parasomnias ,Narcolepsy
4. Habit Disorders	Knowledge of the distinguishing features of Tics, Stereotypies, Dystonia, chorea, Ballism, Myoclonus. Develop skills for observation and diagnosis Be able to advise and support parents
	Knowledge of diagnostic criteria for PANDAS and PANS.
5. Behavioural Disorders	Awareness of age specific behavioural disorders and develop an ability to counsel parents about handling the child. Be able to suspect a conduct disorder from history and refer to a psychiatrist for appropriate management's also counsel parents about parenting.
6. Poor School Performance	Be able to evaluate a child with poor school performance, r/o treatable cause like visual and hearing impairments . Refer to clinical psychologist for SLD evaluation and remediation.
7. Social Issues.	 Knowledge about the Central Adoption Resource Authority and formalities involved in the adoption process. Child Abuse: Knowledge of the various Types of child abuse ,POCSO Act 2012,Integrated Child Protection Scheme, Juvenile Justice Care and protection Act 2015

8. Chronic Illnesses	Be familiar with the varying conditions ,the co- morbidities associated with these ,their impact on the child and family including siblings.
	Be able to establish a good rapport with child and parents.
	Provide parents knowledge of the various ramifications of the illness and what to expect as the child grows.
	Knowledge of how to minimize †he effects with a long term aim reducing the suffering and keeping the child as comfortable as possible.
	Be aware of the various schemes available for financial assistance and guide and assist parents to avail the same.
	Mental Retardation: In addition to the above candidate should be familiar with treatable causes and have the skills to pick and intervene early
	Be able to detect co-morbidities early and appropriately intervene.

1.POCSO Act.

Compiled by, Dr. PAVAN HEGDE Professor and HOD Department of Paediatrics Father Muller Medical college Mangalore.

	CHAPTER	COMPETENCY
1	Evaluation of Rheumatic Disease	 Types of joints involved Number of joints involved Associated skin / systemic manifestations Examinations of bone & joint disorder (PGALS) Relevant investigations required For diagnosis For prognosis
2	Juvenile Idiopathic Arthritis	 Criteria for classification JLAR classification of JIA Clinical features & subtypes Diagnosis & differential diagnosis
3	SLE	 Etiology SLICC classification criteria for SLE / American college of Rheumatology Revised classifications Clinical manifestations of SLE Lab findings & antibodies associated with SLE Treatment, complications & prognosis Neonatal Lupus

4	Kawasaki	 Etiology & epidemiology Clinical & laboratory Criteria Findings ECHO findings & importance Diagnosis / differential diagnosis Treatment
5	Juvenile Dermatomyositis	 Pathogenesis Diagnostic criteria Clinical manifestation Diagnosis / Lab findings Treatment
6	Vasculitis syndromes	 Henoch-Schonlein purpura Polyarthritis nodosa & cutaneous poly arteritis nodosa Takayasu arteritis Other vasculitic syndromes
7	Scleroderma & Raynaud Phenomenon	 Classification Clinical manifestation Management
8	Musculo skeleton Pain syndrome	 Growing pains Conditions causing arthritis & extremity pain Conditions associated with arthritis
9	Reactive & Post infectious arthritis	 Etiology & pathogenesis Clinical manifestation & differential diagnosis Management

10 Good to know chapters	 Amyloidosis Sarcoidosis Behcet disease Sjogren syndrome
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- 1. Differential diagnosis of SOJIA.
- 2. Hereditary periodic fever syndromes
- 3. Fibromyalgia.
- 4. Erythromelalgia.

Compiled by, Dr. Mallikarjun H B Professor Department of Paediatrics MS Ramaiyya Medical college Bangalore .

Dr .Soumya . M Associate Professor Department of Paediatrics SDMMC , Dharwad.

INFANT AND YOUNG CHILD FEEDING (IYCF)

CHAPTER	COMPETENCY
1. Basics and Overview	 1 –Defining IYCF and objectives of IYCF. 2 –First 1000 days and its importance. 3 – Benefits of IYCF. 4- Intervention for promoting IYCF practices in health system. 5 – Training of service providers inhealth system. 6-supervsion, monitoring and evaluation of health care providers.
2. Breast Feeding	 1 –Breast Anatomy. 2 –Physiology of lactation and stages of lacto genesis. 3 –Initiations and technique of breast feeding. 4 –Exclusive breast feeding, definitions and benefits. 5 - Compaction of breast milk 6 – Colostrum and and its advantages. 7 - Advantages of breast feeding. 8 - Assessment of breast feeding. 9 – Problems associated with breast feeding and its management. 10 – Expressing breast milk. 11 – Cup feeding / spoon feeding. 12 – Hazards and demerits of pre-lactral feeds abd bottle feeding. 13 – Lactation failure and its management. 14 – Re-lactation. 15 –Formula feeding - dedications 16 –Contra indications for breast feeding. 17 - Not enough milk 18 - Barriers of breast feeding .

3. Complementary Feeding	 1 - Definition 2 -Sustaining breast feeding 3 -Energy Gap 4 -Importance of complementary feeding 5 -When and why to start complementary feeding 6 - Quality, variety, frequency and competency of Complementary feeding 7 - Foods to fill the energy gap 8 - Foods in fill the iron and micronutrient gap 10 - Feeding techniques 12 - Responsive feeding 13 - Key messages for complementary feeding
4. Feeding in Special Situations	 1 -HIV and Infant feeding 2 -Working mother and breast feeding 3 - Feeding during maternal illness 4 - Feeding duringillness of a child 5 - Feeding in a child with congenital anomalies (Cleft lip & Palate 6 - Feeding of LBW babies
5. National Programmes	 1 –Breast feeding week 2 – Baby friendly Hospital Initiative (BFHI) 3 –Infant milk substitute Act 4 –Human milk Banking
6. Feeding during 1 st of life	 1 –Breast feeding 2 - Complementary feeding 3 – Family pot feeding
7. Feeding during 2 nd year of life	1 – Breast feeding 2 –Complementary feeding 3 – Responsive feeding

Desirable to know:

- 1. Setting up of a Human Milk Bank
- 2. Preparation of home based food
- 3. Feeding Related problems and picky eating
- 4. 20 skill demonstration .

- 5. National guidelines enhancing optimal IYCF practices by GOI, MOHFW.
- 6. BPNI

References:

- 1. Nelson textbook of pediatrics 21st edition
- 2. Nutrition and child development 5th edition K E Elizabeth
- 3. Textbook of pediatrics- O. P. Ghai
- 4. Guidelines for enhancing optimal Infant and Young child feeding practice, NRHM-2013, GOI



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Dr. ASHWINI S Assistant Professor SDMCMS&H, Sattur, Dharwad

PEDIATRIC CRITICAL CARE

CHAPTER	COMPETENCY
1. The Acutely Ill child	1 Recognition & Evaluation of sick child 2 Emergency Medical services for children
 Emergency Care & Acute Management 	 Initial Stabilization Cardiopulmonary resuscitation Stabilization & report Recognition & Initial management of shock Rapid response system Port resuscitation care
3. Environmental Crises	 Multiple trauma Drowsing & Submersion injury Burn injuries & smoke inhalation Cold Injury Injuries from : Chemical, Biological, Radiological & Nuclear agent Mass casualty events Thermoregulation Attitude associated illness(Acute motion sickness)
4. Respiratory System	 Upper airway obstruction Status Asthmatics Acute Bronchiolitis Pneumonia & Empyema Acute Lung Injury & Acute Respiratory Distress Syndrome Chronic respiratory failure Sleep and breathing disorder Oxygen therapy

5. Central Nervous System	 Evaluation of comatose child Management of raised ICP Neurological Monitoring and imaging Neurosurgical & Neuro imaging in critical care Head and spinal cord trauma Abrasive head injury Status Epileptics Cerebrovascular disease & Stroke Hypoxic Ischemic Encephalopathy Metabolic encephalopathy in children Determination of Brain death & its legal aspect Acute Neuromuscular disease Chronic Neuromuscular disease Chronic Neuromuscular disease
6. Cardiovascular System	 Heart failure : Etiology, pathophysiology & Management Arrhythmias in critically ill children Cardio myopathy and myocarditis Cyanotic spill Pre-operative and post-operative care of pediatric cardiac surgical patient Pulmonary hypertension Syncope
7. Nutritional and gastro intestinal disorder	 Nutritional in critically ill children Emergencies & its Management in SAM children Refeeding Syndrome Secretary and motility issues of gastrointestinal tract The acute abdomen Gastro intestinal hemorrhages Acute liver failure and liver transplant Severe acute pancreatitis Management of diarrhea and dehydration

8. Renal, Endocrine and Metabolic disorder	 Adrenal dysfunction Disorders of Glucose homeostasis Disorders of water Sodium and potassium homeostasis Disorder of Calcium Magnesium and phosphate Acute kidney injury Chronic kidney disorders, dialysis and renal transplant Hypertensive crisis Inborn errors of metabolism Diabetic ketoacidosis Approach to arterial blood gases
9. Oncological & Hematological disorder	 Principles of blood & blood product transfusion Cancer therapy : Mechanism and toxicities Oncological emergencies and complications Hematological Emergencies Hematopoietic cell transplantation Co angulation issues in PICU
10. Immunological Disorders	 Immune deficiency disorders in PICU Immune System & Viral Illness Cytokine stroke & Hyper inflammatory Syndrome Immune modulation & Immune therapy in critically ill children
11. Infection Disorders	 Critical viral infection Dengue and other hematologic viral infection SIRS and bacterial sepsis International and emerging infection Nosocomial infections Opportunistic Infection Principles of Antimicrobial therapy
12. Poisoning and Envenomation	 General principles of Management of poisoning Orgono phosphorus poisoning Hydrocarbon poisoning paracetamol poisoning Heavy metal poisoning Iron poisoning Corrosive Poisoning Methemoglobinemia Scorpion string & Envenomation Snake bite and it management Dog bite and other bite wounds
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13. Sedation & Analgesia in PICU	 Sedation & Analgesia in the PICU Pharmacology of sedative and Analgesic agent Procedural sedation and Analgesia Neuromuscular blocking agent
14. Shock in Children	 Recognition & Management of shock types of shock : Hypovolemic , distribute cardiogenic an obstructive shocks Pediatric Septic Shock Inotropes an vasoactive agent
15. Mechanical Ventilator	 Assisted Ventilation in Children : Basic physiology & terminology Modes of ventilation Trouble shooting ventilation using ventilator graphics Weaning and extubation from mechanical ventilator Disease based ventilation strategy Setting of Mechanical Ventilator and care of Ventilated children

care unit 2 Arterial line insertion & monitoring 3 Central venous line and CVP monitoring 4 Endotracheal intubation & needle cricothyrotomy 5 Rapid sequence intubation 6 Tracheostomy 7 Chest tube and needle thoracocentesis 8 Pericordiocentesis 9 Peritoneal dialysis & hemodialysis 10 Ascitic tap	16. Procedures and Monitory in critical care unit	 Pulse oximetry and capnometry Arterial line insertion & monitoring Central venous line and CVP monitoring Endotracheal intubation & needle cricothyrotomy Rapid sequence intubation Tracheostomy Chest tube and needle thoracocentesis Pericordiocentesis Peritoneal dialysis & hemodialysis Ascitic tap
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IMPORTANT ASPECTS IN PEDIATRIC CRITICAL CARE UNIT :

- 1. Approach to Shock in Children
- 2. Approach to Comatose child
- 3. Approach to child with unknown poisoning
- **4.** Approach to child with unknown bite.
- 5. Approach electrolyte abnormalities in critical care setting.
- 6. Approach to child with inborn errors of metabolism in critical care unit

DESIRABLE TO KNOW :

ICU nephropathy.

Compiled by, Dr. Piyush Gupta Professor, GTB hospital. New Delhi.

Dr. PRAVEEN BAGALKOT Professor Department of Paediatrics SDMCMS&H, Sattur, Dharwad

RESPIRATORY SYSTEM

SECTION	COMPETENCY	MUST KNOW	DESIRED TO KNOW
1. EMBRYOLOGY,AN ATOMY AND PHYSIOLOGY OF RESPIRATORY SYSTEM	 EMBRYOLOGY OF LUNGS Y CONGENITAL MALFORMATIONS OF URT Y CONGENITAL Y CONGENITAL Y PHYSIOLOGY OF LUNGS Y AND MECHANISM Y ANATOMY OF LUNG Y 		
2. DISORDERS OF URT	 EPISTAXIS ALLERGIC RHINITIS OTITIS MEDIA COMMON COLD AND ACUTE PHYRANGITIS SINUISITIS TONSIL AND ADENOIDS STRIDOR CROUP FOREIGN BODY 		
3. DISORDERS OF LRT	 BRONCHIOLITIS PNEUMONIA FOREIGN BODY GERD PULMONARY TB 		
4. PLEURAL DISEASE	 PARAPNEUMONIC EFFUSION EMPYEMA PNEUMOTHORAX AND AIR LEAKS 	Y Y Y	
	Y Y Y Y Y Y		

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5. CHRONIC RESPIRATORY DISEASE	 INTERSTITIAL LUNG Y DISEASE Y ALPHA TRYPSIN DEFICIENCY PRIMARY CILIARY DYSKINEASIA CYSTIC FIBROISIS BRONCHIECTASIS LUNG ABCESS OBSTRUCTIVE SLEEP APNEA VENTILATION ASSOCIATED PNEUMONIA NEOPLASM OF LARYNX AND TRACHEA MEDIASTINAL MASS 	
6. RECURRENT RESPIRATORY DISEASE	 PERSISTENT AND RECURRENT PNEUMONIA PULMONARY HAEMOSIDEROSIS 	
7. NEUROMUSCULAR DISORDER	• ACUTE FLACCID PARALYSIS WITH RESPIRATORY ARREST	
	 GB SYNDROME CONGENITAL MUSCULAR DYSTROPHIES 	
8. RESPIRATORY EMERGENCY	 FOERIGN BODY STATUS ASTHMATICUS B/L CHOANAL ATRESIA ACUTE EPIGLOTTIS PNEUMOTHORAX 	

9. POST GRDAUATE SKILLS	 ADVICE AND INTERPRETATION OF BLOOD TEST PERFORM AND INTERPRET SPIROMETRY INTERPRETATION OF CHEST X RAY VENTILATION GRAPHS AND MANAGEMENT PULMONARY FUNCTION TEST PLEURAL TAPPING
	PLEURAL TAPPING
	ICD INSERTION
	NEBULISATION
	/MDI
	ADMINISTRATI
	ON

DESIRABLE TO KNOW:

APPROACH TO STRIDOR IN CHILDREN

APPROACH TO RESPIRATORY DISTRESS IN CHILDREN

APPROACH TO RESPIRATORY FAILURE

APPROACH TO RECURRENT AND PERSISTENT PNEUMONIA

Compiled by, Dr. UDAYKUMAR Professor Department of Paediatrics ESI HOSPITAL , BANGALORE Dr. ASHWINI.S Assistant professor Department of Paediatrics SDMMC , Dharwad .

IMMUNOLOGICAL SYSTEM

CHAPTER	COMPETENCY
1. Basics of Immunology	 1Development of Immune system in child and its function. B- cell, T- cell, Phagocyte & NK cell developments and its function. Innate immunity. Adoptive Immunity. Immunotherapy.
2. Approach to Immunodeficiency	 When to suspect primary immunodeficiency Evaluation of child with suspected immun0 deficiency Laboratory evaluation
3. Primary defect of cellular immunity	 Di-george syndrome T- cell activation defect Chronic Mucoutaneous candidiasis Chromosome 22Q 11 deletion syndrome
4. Primary defect in antibody production	 X linked Agammaglobulinemia Common variable immuno deficiency selective IgA deficiency IgA subclass deficiencies Immunoglobulin heavy and light chain deletions Transient Hypogammaglobulinemia of infancy Class switch defect X linked lympho proliferative diseases

5. Disorders of phagocytic System	 Leukocyte e adhesion deficiency Chediak Higashi syndrome Myeloperoxidase deficiency Chronic granulomatous disease Disorders associated with Eosinophilia Abnormality of Monocyte, macrophage and dendritic cell function Leukopenia
6. Immunodeficiency affecting multiple cell types	 Severe combined immunodeficiency . Autoimmune lymphoproliferative syndrome . Immuno-dysregulation , polyendocrinopathy, enteropathy, X linked syndrome Cartilage hair hypoplasia. Wiskott Aldrich syndrome Ataxia – telangiectasia .
7. Disorders of complement system .	 Disorders of complement and lectin complement pathway. Disorder of alternate complement pathway. Disorders of Complement control protein. Secondary disorders of complement .
8 Hematopoietic stem cell transplantation.	 Principles and clinical indicators of hematopoietic stem cell transplantation. Hematopoietic stem cell transplantation from alternative sources and donors . Graft Versus host disease , rejection and veno-occlusive disease . Infectious complications of hematopoietic stem cell transplantation . Late effects of hematopoietic stem cell transplantation.

9. Human immunodeficiency	1. Epidemiology
	2. Mode of transmission and etio-pathogenesis
	3. clinical manifestations.
	4. Diagnosis and Management.
	5. Complication and opportunistic infection.

Desirable to know:

- 1. Immunotherapy
- 2. Approach to child with suspected immunodeficiency .
- 3. Evaluation of case of suspected immunodeficiency .

CHAPTER	COMPETENCY
1. Basics of Allergic disorders	 Allergy and immunological basis Diagnosis of Allergic disorder. Principles and treatment of allergic disorders .
2. Bronchial Asthma in children .	 Etiology and risk factor for development of asthma. Pathogenesis of asthma. Clinical manifestation and asthma patterns in childhood . Classification of asthma severity . Laboratory diagnosis of asthma. Treatment of asthma in children. Follow up of case of bronchial asthma Status asthmatics.
3. Common allergic disorders in children	 Allergic rhinitis Atopic dermatitis. Acute urticarial and angioedema.
4. Allergic reactions in children.	 Adverse Drug reactions . Food allergy and adverse reactions to food. serum sickness. Anaphylaxis . Insect allergy. Ocular allergy.

Desirable to know:

- 1. Acute management of Anaphylaxis .
- 2. Types of Hypersensitivity reaction.
- 3. Dress Syndrome.

Compiled by, Dr. Sharad Agarkhedkar Professor Department of Paediatrics DY Patil hospital, Pune.

Dr .Shriharsha l badiger Associate Professor Department of Paediatrics SDMCMS&H, Dharwad

DRAFT

DIGESTIVE SYSTEM

CHAPTER (DIGESTIVE SYSTEM)	COMPETENCY
1. DISEASES OF ORAL CAVITY	 CLEFT LIP . CLET PALATE DENTAL CARIES
2. DISORDERS OF ESOPHAGUS	 CONGENITAL ANOMALIES (TEF, RINGS, WEBS) MOTILITY DISORDERS OF ESOPHAGUS , ACHALASIA CARDIA GERD FOREIGN BODY INGESTION
3. STOMACH AND INTESTINE	 H. PYLORI INFECTIONS AND PEPTIC ULCER CONGENITAL PYLORIC STENOSIS ACUTE & CHRONIC DIARRHEA CYCLIC VOMITING SYNDROME APPROACH TO MALABSORPTION (CARBOHYDRATES, PROTEINS ,FATS) SURGICAL ABDOMEN (INTESTINAL OBSTRUCTION ,HIRSCHSPRUNGS DISEASE,APPENDICITIS,MECKELS DIVERITULAR PROBLEMS) APPROACH TO UPPER AND LOWER GI BLEEEDING INFLAMMATORY BOWEL SYNDROME / IRRITABLE BOWEL DISEASE
4. PANCREAS	 APPROACH TO ACUTE AND CHRONIC PANCREATITIS PNCREATIC FUNCTION TESTS

5. LIVER	
	1. VIRAL HEPATITIS
	2. APPROACH TO CHOLESTATIC
	JAUNDICE
	3. METABOLIC DISEASES OF LIVER (
	WILSONS DISEASE,
	GALACTOSEMIA,
	HEMOCHROMATOSIS)
	4. CHRONIC LIVER DISEASES
	5. AUTOIMMUNE HEPATITIS
	6. FULMINANT HEPTIC FAILURE .
	HEPATIC COMA
	7. CIRRHOSIS OF LIVER
	8. PORTAL HYPERTENSION
	&VARICEAL HEMORRHAGE, BUDD
	CHIARI SYNDROME
	9. LIVER TRANSPLANT - RECENT
	ADVANCES
6. PERITONEUM	1. APPROACH TO ASCITES
	2. PEROTINITIS

Compiled by, Dr. SudhaRudrappa Professor and HOD Department of Paediatrics MMC ,Mysuru.

Dr .Soumya M Associate Professor Department of Paediatrics SDM Medical college, Sattur, Dharwad.

THE SKIN

CHAPTER	COMPETENCY
1. Basics	1. Morphology of skin and its function
2. Evaluation of the patient and principles of therapy	 History and physical Examination Investigations- including invasive procedures. Therapies topical & systemic.
3. Approach to a child with fever with rash	 Maculo popular Vesicular Exfoliative Erythematous
4. Diseases of neonate	 Normal variants Ectodermal dysplasia's Infective etiology
5. Vascular disorders	 Vascular malformations Vascular tumors
6. Pigmented lesions	 Hyper pigmented lesions Hypo pigmented lesions
7. Vesiculobullous disorders	 Erythema multiforme Steven- Johnson syndrome TEN Epidermolysis bullosa DRESS
8. Eczematous disorders	 Contact dermatitis Seborrheic dermatitis Atopy
9. Photosensitivity	 Acute sunburn Diseases associated with photosensitivity
10.Disease of the Epidermis	1. Psoriasis
11. Diseases of the dermis	 Keloid Cutis laxa and associated syndromes

12. Diseases of subcutaneous tissues	 Erythema nodosum Panniculitis
13. Disorders of mucus membrane	 Mouth ulcers D/D's & Management Approach to child with white patch in mucus membrane
14. Disorders of keratinization	1. Ichthyosis& its variants
15. Disorders of appendageal structures	 Disorders of sweat Disorders of hair Disorders of nails
16. Infections & Infestations	1. Bacterial/Viral/Fungal/Protozoal
17. Nutritional deficiencies	
18. Drug Eruptions	
19. Paediatric Genodermatosis	
20. Scabies	
21. Skin manifestations of Kawasaki diseases and other vasculitis syndromes .	

Desirable to know:

- 1. Tumours of Skin.
- 2. Cutaneous manifestations in systemic diseases.
- 3. Cutaneous manifestations in Immuno-deficiency and malignancies.
- 4. Cutaneous manifestations in Inborn errors of metabolism.