SRIMANTA SANKARADEVA UNIVERSITY OF HEALTH SCIENCES

DIPLOMA COURSE

Diploma in Pediatric Medicine
Goal

At the end of the training, the learner should:

- Be able to recognize the health needs of infants, children and adolescents and carries out professional obligations in keeping with principles of National Health Policy and professional ethics.
- Acquire the competencies pertaining to pediatrics that are required to be practiced in the community and at all levels of health system.
- Acquire skills in effectively communicating with the child, family and the community.
- Be aware of the contemporary advances and developments in medical sciences as related to child health.
- Acquire skills in educating medical and paramedical professionals.

Objectives

At the end of the course, the learner will be able to:

1. Recognize the key importance of child health in the context of the health priority of the country.
2. Practice the speciality of Pediatrics in keeping with the principles of professional ethics.
3. Identify social, economic, environmental, biological and emotional determinants of child and adolescent health, and institute diagnostic, therapeutic, rehabilitative, preventive and promotive measures to provide holistic care to children.
4. Recognize the importance of growth and development as the foundation of Pediatrics; and help each child realize her/his optimal holistic care to children.
5. Take detailed history, perform full physical examination including neurodevelopmental and behavioral assessment and anthropometric measurements in the child and make clinical diagnosis.
6. Perform relevant investigative and therapeutic procedures for the pediatric patient.
7. Interpret important imaging and laboratory results.
8. Diagnose illness in children based on the analysis of history, physical examination and investigate work up.
11. Plan rehabilitation of children suffering from chronic illness and handicap, and those with special needs.
12. Manage childhood emergencies efficiently.
13. Provide comprehensive care to normal, 'at risk' and sick measures.
14. Demonstrate skills in documentation of case details, and the morbidity and mortality data relevant to the assigned situation.
15. Recognize the emotional and behavioral characteristics of children, and keep these fundamental attributes in focus while dealing with them.
16. Demonstrate empathy and human approach towards patients and their families and keep their sensibilities in high esteem.
17. Demonstrate communication skills of a high order in explaining management and prognosis, providing counselling and giving health education messages to patients, families and communities.
18. Develop skills as a self-directed learner, recognize continuing educational needs; use appropriate learning resources and critically analyze relevant published literature in order to practice evidence-based pediatrics.
19. Facilitate learning medical/nursing learners, practicing physicians, paramedical health workers and other providers as a teacher-trainer.
20. Play the assigned role in the implementation of National Health Programmes, effectively and responsibly.
21. Organize and supervise the desired managerial and leadership skills.
22. Function as a productive members of a team engaged in health care, research and education.
Syllabus

General guidelines: During the training period effort must always be made that adequate time is spent in discussing child health problems of public health importance in the or particular region.

APPROACH TO IMPORTANT CLINICAL PROBLEMS

Growth and development: Short stature, obesity, precocious & delayed puberty, development delay, impaired learning.

- Neonatology: Normal newborn, low birth weight newborn, sick newborn.
- Nutrition: Lactation management & complimentary feeding, protein energy malnutrition (underweight, wasting, stunting) and micronutrient deficiencies, failure to thrive.
- Cardiovascular: Murm, cyanosis, congestive heart failure, systemic hypertension, arrhythmia, shock.
- GIT and Liver: Acute, persistent and chronic diarrhea. Abdominal pain and distension, ascitis, vomiting, constipation, gastrointestinal bleeding, jaundice, hepatosplenomegaly and chronic liver disease, hepatic failure and encephalopathy.
- Respiratory: Cough / chronic cough, noisy breathing, wheezy child, respiratory distress, hemoptysis.
- Infections: Acute onset pyrexia, prolonged pyrexia with and without localizing sign, recurrent infections, nosocomial infections.
- Hemato-oncology: Lymphadenopathy, anemia, bleeding.

Neurology: Limping child, convulsions, abnormality of gait, intracranial space occupying lesion, paraplegia, quadriplegia, large head, small head, floppy infant, acute flaccid paralysis, cerebral palsy and other neuromotor disability, headache.

Endocrine: Thyroid swelling, ambiguous genitalia.

- Skin/Eye/ENT: Skin rash, pigmented lesions, pain/discharge from ear, hearing loss, epistaxis, refractory errors, blindness, cataract, eye discharge, redness, squint, proptosis.
- Miscellaneous: Habit disorders, hyperactivity and attention deficit syndrome, arthralgia, arthritis, multiple congenital anomalies.
DISORDERS: (Definition, epidemiology, etiopathogenesis, presentation, complications, differential diagnosis, treatment).

- Growth and development: Principles of growth and development, normal growth and development in childhood and adolescence, deviations in growth and development, sexual maturation and its disturbances.

- Neonatology: Perinatal care, normal newborn, care in the labour room and resuscitation, low birth weight, prematurity, newborn feeding, common transient phenomena, respiratory distress, apnea, infections, jaundice, anemia and bleeding disorders, neurologic disorders, gastrointestinal disorders, renal disorders, malformations, thermoregulation and its disorders, understanding of perinatal medicine.

- Nutrition: Maternal nutritional disorders: impact on fetal outcome, nutrition for the low birth weight, breast feeding, infant feeding including complementary feeding, protein energy malnutrition, vitamin and mineral deficiencies, trace elements of nutritional importance, obesity. Adolescent nutrition, nutritional management in diarrhea, nutritional management of systematic illnesses (celiac disease, hepatobiliary disorders, nephrotic syndrome), parental and enteral nutrition in neonates and children.

- Cardiovascular: Congenital heart diseases (cyanotic and acyanotic), rheumatic fever and rheumatic heart disease, infective endocarditis, arrhythmias, disease of myocardium (cardiomyopathy, myocarditis), diseases of pericardium, systemic hypertension, hyperlipidemia in children.


- Gastrointestinal and liver diseases: Diseases of mouth, oral cavity and tongue. Disorders of deglutition and esophagus, peptic ulcer disease, H. pylori infection, foreign body, congenital pyloric stenosis, intestinal obstruction, malabsorption syndrome, acute and chronic diarrhea,
Irritable bowel syndrome, ulcerative colitis, hirschsprung disease anorectal malformations. Liver disorders: hepatitis, hepatic failure, chronic liver disease Wilson's disease, Budd Chiari syndrome, metabolic diseases of liver, cirrhosis, and portal hypertension.

- **Genitourinary disorders**: Acute and chronic glomerulonephritis, nephrotic syndrome, hemolytic uremic syndrome, urinary tract infection, VUR and renal scarring, renal involvement in systemic diseases, renal tubular disorders, congenital and hereditary renal disorders, renal and bladder stones, posterior urethral valves, hydronephrosis, voiding dysfunction, undescended testis, Wilms's tumor, fluid – electrolyte disturbances.

- **Neurologic disorders**: Seizure and non seizure paroxysmal events, epilepsy and epileptic syndromes of childhood, meningitis, brain abscess, coma, acute encephalitis and febrile encephalopathies, Guillain Barre syndrome, neurocysticercosis and other neuroinfestations, HIV encephalopathy, SSPE, cerebral palsy, neurometabolic disorders, mental retardation, learning disabilities, muscular dystrophies, acute flaccid paralysis and AFP surveillance, ataxia, movement disorders of childhood, CNS tumour, malformations.


- **Endocrinology**: Hypopituitarism/hyperpituitarism, diabetes insipidus, pubertal disorders, hypo and hyperthyroidism, hypo and hyperparathyroidism, adrenal insufficiency, Cushing's syndrome, adrenogenital syndromes, diabetes mellitus, short stature, failure to thrive, gonadal dysfunction and intersexuality, pubertal changes and gynecological disorders.

- **Infections**: Bacterial, viral, fungal, parasitic, rickettsial, mycoplasma, pneumocystis carinii infections, chlamydia, protozoal and parasitic, tuberculosis, HIV, nosocomial infections. Control of epidemics and infection prevention.

- **Emergency and critical care**: Emergency care of shock, cardiopulmonary arrest, respiratory failure, congestive cardiac failure, acute renal failure, status epilepticus, fluid and electrolyte disturbances and its therapy, acid – base disturbances, poisoning, accidents, scorpion & snake bites.
- **Immunology and Rheumatology**: Arthritis (acute and chronic), connective tissue disorders, disorders of immunoglobulins, T and B cell disorders, immunodeficiency syndromes.
- **ENT**: Acute and chronic otitis media, conductive/sensorineural hearing loss, diphtheria: tonsillar, nasal, post – diphtheritic palatal palsy, acute/chronic tonsillitis/adenoids, allergic rhinitis/sinusitis.
- **Skin diseases**: Exanthematous illnesses, vascular lesions, pigment disorders, vesicobullous disorders, infections: pyogenic and fungal and parasitic, Steven Johnson syndrome, eczema, seborrhea dermatitis, drug rash, urticaria, alopecia, ichthyosis.
- **Eye problems**: Refraction & accommodation, partial/total loss of vision, cataract, night blindness, chorioretinitis, strabismus, conjunctival & corneal disorders, ROP, retinoblastoma, optic atrophy, papilloedema.
- **Behavioral and psychological disorders**: Rumination, pica, enuresis, encopresis, sleep disorders, habit disorders, breath holding spells, anxiety disorders, mood disorders, temper tantrums, attention deficit hyperactivity disorder, infantile autism.
- **Social Pediatrics**: National Health Programmes related to child health, child labour, adoption, disability and rehabilitation, rights of the child, National Policy of Child Health and population, juvenile delinquency.
- **Genetics**: Chromosomal disorders, single gene disorders, multifactorial disorders/polygenic, genetic diagnosis and prenatal diagnosis.
- **Orthopedics**: Major congenital orthopedic deformities, bone and joint infections, potts' spine and common bone tumours.

**SKILLS**

- **History & Examination**: History taking including psychosocial history, physical examination including fundus examination, newborn examination, including gestation assessment. Thermal protection of young infants, nutritional anthropometry and its assessment, assessment of growth, use of growth chart, SMR rating, develop mental assessment, communication with children, parents, health functionaries, social support groups, family tree and genetic counselling.
- **Bed side Procedure**:
  a) **Monitoring skills**: Temperature recording, capillary blood sampling, arterial sampling.
  b) **Therapeutic skills**: Hydrotherapy, nasogastric feeding, endotracheal intubation, cardio-
pulmonary resuscitation (Pediatric and neonatal), administration of oxygen, venepuncture and establishment of vascular access, administration of fluids, blood, blood components, parenteral nutrition, intraosseous fluid administration, intra-thecal administration of drugs. Common dressings and abscess drainage and basic principles of rehabilitation.

c) **Investigative skills**: Lumbar puncture, ventricular tap, bone marrow aspiration, pleural, peritoneal, pericardial and subdural tap, Biopsy of liver and kidney. Collection of urine for culture, urethral catheterization, suprapubic aspiration.

- **Bed Side Investigations**: Hemoglobin, TLC, ESR, peripheral smear, staining, examination, urine routine and microscopic examination, stool microscopy, hanging drop, examination of CSF and other body fluids, gram stain, ZN stain, shake stain test on gastric aspirate.
- **Interpretation of**: Plain X-ray chest, abdomen, bone, head; ECG, ABG report, CT scan.
- **Understanding of**: Common EEG patterns, audiograms, USG abnormalities and isotope studies.


- **COMMUNITY AND SOCIAL PEDIATRICS**: National Health Nutrition Programmes, nutrition screening of community, prevention of blindness, School Health Programmes, prevention of sexually transmitted diseases, contraception, health legislation, national policy on children, adolescence, adoption, child labour, juvenile delinquency, government and non government support services for children, investigations of adverse events following immunization in the community, general principles of prevention and control of infections including food borne, waterborne, soil borne and vector borne diseases, investigations of an outbreak in a community.
GENERAL PRINCIPLES

- Acquisition of practical competencies being the keystone, the training should be skill oriented.
- Learning in the programme should be essentially self-directed and primarily emanating from clinical and academic work. The formal sessions are merely meant to supplement this core effort.

FORMAL TEACHING SESSIONS

In addition to bedside teaching rounds, at least 5 hours of formal teaching per week are a must. The departments may select a mix of the following sessions:

<table>
<thead>
<tr>
<th>Session</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>Journal Club/Medical Audit/Perinatal</td>
<td>Once a week</td>
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<tr>
<td>Seminar/Lecture</td>
<td>Once a week</td>
</tr>
<tr>
<td>Case Discussion</td>
<td>Twice a week</td>
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<tr>
<td>Interdepartmental case/seminar</td>
<td>Once a week</td>
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[Cardiology, Pediatrics, Surgery, etc.]

*Note:* Learners must participate in these sessions.

> Additional sessions on basic science, biostatistics, research methodology teaching methodology, health economics, medical ethics and legal issues related to pediatric practice are suggested.

ROTATIONS

The learner should rotate through all the clinical units in the department. In addition, following special rotations should be undertaken:

- Neonatology 6 months [maximum 9 months]
  (including perinatology)
- Intensive care/Emergency 3 months
Posting in Out Patient Services of the following specialties is recommended for the duration indicated below:

- Skin 12 hours (e.g. 3 hours/day for days or 2 hours/day for 6 days)
- Pediatric Surgery 24 hours (e.g. 3 hours/day for 8 days)
- Physical Medicine and Rehabilitation 12 hours (e.g. 3 hours/day for 4 days)
- Community 24 hours (e.g. 3 hours/day for 8 days)

Note: In addition the learners may be sent to allied specialties such as cardiology, neurology etc. depending on facilities available locally. It should be ensured that it must conform and focus on contents of curriculum for that area as provided in this document.

Option: The learners may be posted in tertiary hospital within or outside the state if training facilities in superspeciality areas of Pediatrics are not available in the institute. The period of training and the time schedule shall be decided by the Head of the Department of Pediatrics.