MGM INSTITUTE OF HEALTH SCIENCES

(Deemed to be University u/s 3 of UGC Act, 1956)
Grade 'A' Accredited by NAAC
Sector-01, Kamothe, Navi Mumbai -410 209
Tel 022-27432471, 022-27432994, Fax 022 -27431094
E-mail: registrar@mgmuhs.com; Website :www.mgmuhs.com

COMPETENCY BASED MEDICAL EDUCATION

(CBME)

(with effect from 2021-2022 Batches)

Curriculum for

Doctor of Medicine

Paediatrics

Approved as per AC-42/2022, Dated 26/04/2022

Amended History

1. Approved as per AC - 42/2022, [Resolution No. 10.3]; Dated 26/04/2022.
2. Amended upto AC - 42/2022, [Resolution No. 3.44], [Resolution No. 3.48] Dated 26/04/2022 (Incorporated at the end of syllabus).

Annexure-72 of AC-42/2022

MGM University of Health Sciences
P.G. Curriculum (CBME)
MD Pediatrics

PG Curriculum
MD Pediatrics

The infrastructure and faculty will be as per MCI guidelines.

1. Goals

The goal of Post graduation (MD) course in Pediatrics is to produce a competent pediatrician who:

- Recognizes the health needs of neonates, infants, children and adolescents and carries out professional obligations in keeping with principles of National Health Policy and professional ethics;
- Has acquired the competencies pertaining to pediatrics that are required to be practiced in the community and at all levels of health care system;
- Has acquired skills in effectively communicating with the child, family and the community;
- Is aware of the contemporary advances and developments in medical sciences as related to child health;
- Is oriented to principles of research methodology; and
- Has acquired skills in educating medical and paramedical professionals.

2. Objectives

At the end of the MD course in Pediatrics, the student should be able to :

- Recognize the key importance of child health in the context of the health priority of the country;
- Practice the specialty of Pediatrics in keeping with the principles of professional ethics;
- 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;
- Recognize the importance of growth, nutrition and development as the foundation of Pediatrics; and help each child realize her/his optimal potential in this regard;
- Take detailed history, perform complete physical examination including neuro-development and behavioral assessment and anthropometric measurements of the child and make clinical diagnosis;
- Perform relevant investigative and therapeutic procedures for the pediatric patient;
- Interpret important imaging and laboratory results;
- Diagnose illness in children based on the analysis of history, physical examination and investigative work up;
- Plan and deliver comprehensive treatment for illness in children using principles of rational drug therapy;

- Plan and advise measures for the prevention of childhood disease and disability.
- Plan rehabilitation of children suffering from chronic illness and handicap, and those with special needs;
- Manage childhood emergencies efficiently;
- Provide comprehensive care to normal, 'at risk' and sick neonates;
- Demonstrate skills in documentation of case details, and of morbidity and mortality data relevant to the assigned situation;
- Recognize the emotional and behavioral characteristics of children, and keep these fundamental attributes in focus while dealing with them;
- Demonstrate empathy and humane approach towards patients and their families and respect cultural needs.
- Demonstrate communication skills of a high order in explaining management and prognosis, providing counseling and giving health education messages to patients, families and communities;
- 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;
- Demonstrate competence in basic concepts of research methodology and epidemiology;
- Facilitate learning of medical/nursing students, practicing physicians, para-medical health workers and other providers as a teacher-trainer;
- Play the assigned role in the implementation of national health programs, effectively and responsibly;
- Organize and supervise the desired managerial and leadership skills;
- Function as a productive member of a team engaged in health care, research and education.

3. Syllabus

Theory

- Approach to important clinical problems
  - Growth and development.
    Short stature, obesity, precocious and delayed puberty, developmental delay, impaired learning.
  - Neonatology.
    Normal newborn, low birth weight newborn, sick newborn.
  - Nutrition.
    Lactation management and complementary feeding, protein energy malnutrition (underweight, wasting, stunting) and micronutrient and vitamin deficiency, failure to thrive.
  - Cardiovascular.
    Murmur, cyanosis, congestive heart failure, systemic hypertension, arrhythmia, shock.
  - GIT and liver.

Acute, persistent and chronic diarrhea, abdominal pain and distension, ascites, 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 with and without localizing sign, recurrent infections, nosocomial infections.
- Renal
  Hematuria/dysuria, bladder/bowel incontinence, voiding dys-functions, inguinoscrotal swelling, renal failure (acute and chronic).
- Hematooncology.
  Lymphadeno-pathy, 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, ambi-guous genitalia,obesity, short stature.
- Skin/Eye/ENT.
  Skin rash, pigmentary 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. speech disorders.

❖ Disorders

Definition, epidemiology, etiopathogenesis, presentation, complications, differential diagnosis, and 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 labor room and resuscitation, low birth weight, prematurity, newborn feeding, 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 systemic illnesses (celiac disease, hepatobiliary disorders, nephrotic syndrome), parenteral and enteral nutrition in neonates and children.

- Cardiovascular.
  Congenital heart diseases (cyanotic and acyanotic), rheumatic fever and rheumatic heart disease, infective endocarditis, arrhythmia, diseases of myocardium (cardiomyopathy, myocarditis), diseases of pericardium, systemic hypertension, hyperlipidemia in children.
- Respiratory.
  Congenital and acquired disorders of nose, infections of upper respiratory tract, tonsils and adenoids, obstructive sleep apnea, congenital anomalies of lower respiratory tract, acute inflammatory upper airway obstruction, foreign body in larynx, trachea and bronchi, subglottic stenosis (acute and chronic), trauma to larynx, neoplasm of larynx and trachea, bronchitis, bronchiolitis, aspiration pneumonia, GER, acute pneumonia, recurrent and interstitial pneumonia, suppurative lung disease, atelectasis, lung cysts, emphysema and hyperinflation bronchial asthma, pulmonary edema, bronchiectasis, pleural effusion, pulmonary leaks, mediastinal mass.
- 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's 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.
- Nephrologic 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 ure-thral valves, hydronephrosis, voiding dysfunction, enuresis, undescended testis, Wilm's tumor, fluid-electrolyte disturbances.
- Neurologic disorders.
  Seizure and non seizure paroxysmal events, epilepsy and epileptic syndromes of childhood, meningitis (pyogenic and TBM), brain abscess, coma, acute encephalitis and febrile encephalopathies, Guillain-Barre syndrome, neurocysticercosis and other neuro-infestations, 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 tumors, malformations, Neurocutaneous syndrome, Neurodegenerative disorders, head injury
- Hematology and oncology.

Deficiency anemia, hemolytic anemia, aplastic anemia, pancytopenia, disorders of hemostasis, thrombocytopenia, blood component therapy, transfusion related infections, bone marrow transplant/ stem cell transplant, acute and chronic leukemia, myelodysplastic syndrome, Hodgkin disease, non-Hodgkin's lymphoma, neuroblastoma, hypercoagulable states, transfusion related problems.

- Endocrinology.
  Hypopituitarism/hyperpituitarism, Diabetes insipidus, pubertal disorders, hypo and hyperthyroidism, hypo- and hyperparathyroidism, adrenal insufficiency, Cushing's syndrome, adrenogenital syndromes, diabetes mellitus, hypoglycemia, short stature, failure to thrive, gonadal dysfunction and intersexuality, pubertal changes and gynecological disorders.
- Infections.
  Bacterial, viral, fungal, parasitic, rickettssial, 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, cardiorespiratory arrest, respiratory failure, congestive cardiac failure, acute renal failure, status epilepticus, fluid and electrolyte disturbances and its therapy, acid-base disturbances, poisoning, accidents, scorpion and snake bites. Management of arrythmia, ARDS, Hepatic encephalopathy, CRF, DKA, poisoning (including OPC) near drowning, status asthmaticus .
- 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, post-diphtheritic palatal palsy, acute/chronic tonsillitis/adenoids, allergic rhinitis/sinusitis, foreign body.
- Skin diseases
  Exanthematous illnesses, vascular lesions, pigment disorders, vesicobullous disorders, infections: pyogenic, fungal and parasitic; Steven-Johnson syndrome, eczema, seborrheic dermatitis, drug rash, urticaria, alopecia, icthyosis.
- Eye problems.
  Refraction and accommodation, partial/total loss of vision, cataract, night blindness, chorio-retinitis, strabismus, conjunctival and corneal disorders, retinopathy of prematurity, retinoblastoma, optic atrophy, papilledema.
- 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, autism.
- Social pediatrics.

National health programs related to child health, child abuse and neglect, child labor, adoption, disability and rehabilitation, rights of the child, national policy of child health and population, juvenile delinquency.

- Genetics.
  Chromosomal disorders, single gene disorders, multifactorial/polygenic disorders, genetic diagnosis, and prenatal diagnosis, gene therapy and genetic counselling.
- Orthopedics.
  Major congenital orthopedic deformities, bone and joint infections: pyogenic, tubercular, and common bone tumors.
- Vaccine preventable diseases/all vaccines including newer vaccines.
- Miscellaneous
  Inborn errors of metabolism, allergic disorders.
- Clinical

Practical

- History and examination.
  History taking including psychosocial history, environmental immunization 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, developmental evaluation, communication with children, parents, health functionaries and social support groups; and genetic counseling.
- Bedside procedures
  - ✦Monitoring skills: Temperature recording, capillary blood sampling, arterial blood sampling.
  - ✦Therapeutic skills: Hydrotherapy, nasogastric feeding, endotracheal intubation, cardiopulmonary resuscitation (pediatric and neonatal), administration of oxygen, venepuncture and establishment of vascular access, administration of fluids, blood, blood components, parenteral nutrition, intraosseous fluid administration, intrathecal administration of drugs, common dressings, abscess drainage and basic principles of rehabilitation.
  - ✦Investigative skills: Lumbar puncture, ventricular tap, bone marrow aspiration and biopsy, pleural, peritoneal, pericardial and subdural tap, biopsy of liver and kidney, collection of urine for culture, urethral catheterization, suprapubic aspiration.
  - ✦Bedside investigations.
    Hemoglobin, TLC, ESR, peripheral smear staining and examination, urine: routine and microscopic examination, stool microscopy including hanging drop preparation, examination of CSF and other body fluids, Gram stain, ZN stain, shake test on gastric aspirate.
  - ✦Interpretation of

X-rays of chest, abdomen, bone and head; ECG; ABG findings; CT/MRI scan and other investigation relevant to Pediatrics.

✦Understanding of

common EEG patterns, audiograms, ultrasonographic abnormalities and isotope studies.

❖ Basic Sciences

Embryogenesis of different organ systems especially heart, genitourinary system, gastrointestinal tract, applied anatomy of different organs, functions of kidney, liver, lungs, heart and endocrinal glands. Physiology of micturition and defecation, placental physiology, fetal and neonatal circulation, regulation of temperature (especially newborn), blood pressure, acid base balance, fluid electrolyte balance, calcium metabolism, vitamins and their functions, hematopoiesis, hemostasis, bilirubin metabolism. Growth and development at different ages, puberty and its regulation, nutrition, normal requirements of various nutrients. Basic immunology, biostatistics, clinical epidemiology, ethical and medicolegal issues, teaching methodology and managerial skills, pharmacokinetics of commonly used drugs, microbial agents and their epidemiology.

❖ Community and Social Pediatrics

National health nutrition programs, nutrition screening of community, prevention of blindness, school health programs, prevention of sexually transmitted diseases, contraception, health legislation, national policy on children, adolescence, adoption, child labor, juvenile delinquency, government and non-government support services for children, investigation 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, investigation of an outbreak in a community.

4. Teaching Program

General Principles

Acquisition of practical competencies being the keystone of postgraduate medical education, postgraduate training should be skill oriented.

Learning in postgraduate program is essentially self-directed and primarily emanating from clinical and academic work. The formal sessions are meant to supplement this core effort.

Teaching Sessions

❖ Clinical case discussions :

- ➢ PG bed side
- ➢ Teaching rounds
- ➢ Mock Examination

❖ Seminars/Journal club

❖ Statistical meetings : weekly/monthly, clinico pathological meet

- ❖ Mortality meetings
- ❖ Perinatal meetings
- ❖ Interdepartmental Meetings : Pediatric Surgery, Obstetrics, Skin, pathology, SPM, Pharmacology, Radiology
- ❖ Others – Guest lectures/vertical seminars/Central Stat meets.

Teaching Schedule:

In addition to bedside teaching rounds in the department, there should be daily hourly sessions of formal teaching. The suggested teaching schedule is as follows:

1. Journal club/Seminar alternate week	Once a fortnight
2. Seminar	Once a fortnight
3. case discussion	Once a week
4. Statistics and mortality meet (NICU AND PICU)	Once a fortnight
5. Statistics (including OPD,speciality OPD, ward)	Once a month
6. Thesis meet/ Intradepartment meet to monitor progress by PG residents for administrative training.	Once a month
7. Interdepartmental meet (cardiology, neurology, radiology, pharmacology, microbiology, statistics etc)	Once a month
8. Perinatology meet with department of Obstetrics and Gynae including statistics discussing any neonatal death/topic	Once a month
9. bed side case and communication skills on the pattern of University examination.	Once a week
Central session (CPC, guest lectures, integrated student seminars, grand round, sessions on basic sciences, biostatistics, research methodology, teaching methodology, health economics, medical ethics and legal issues,NALS/NRP ,PALS).	Once a week

Note:

- ❖ All sessions should be attended by the faculty members
- ❖ All teaching sessions should be assessed by the consultants at the end of session and marks are considered for internal assessment.

5. Postings

The postgraduate student should rotate through all the clinical units in the department.

Neonatology (including perinatology):	6-9 months
Intensive Care:	6-9 months
Emergency:	3 months
Pediatric ward (including outpatient dept): theunits.	15-18 months with rotation in both
Community posting	3 months

6. Thesis

- Every candidate should carry out work on an assigned research project under the guidance of a recognized Postgraduate Teacher; the project shall be written and submitted in the form of a Thesis.
- Every candidate should submit thesis plan to the University within nine months from the date of admission.
- Thesis should be submitted to the University six months before the commencement of theory examination i.e. for examination May/June session, 30th November of the preceding year of examination and for November/December session 31st May of the year of examination.
- The student should identify a relevant research question; (ii) conduct a critical review of literature; (iii) formulate a hypothesis; (iv) determine the most suitable study design; (v) state the objectives of the study; (vi) prepare a study protocol; (vii) undertake a study according to the protocol; (viii) analyze and interpret research data, and draw conclusions; (ix) write a research paper.

7. Assessment

All the PG residents will be assessed daily for their academic activities and also periodically.

General Principles

- The assessment is valid, objective, and reliable.
- It covers cognitive, psychomotor and affective domains.
- Formative, continuing and summative (final) assessment is also conducted in theory as well as practicals/clinicals. In addition, thesis is also assessed separately.

Formative Assessment

The formative assessment is continuous as well as end-of-term. The former is be based on the feedback from the senior residents and the consultants concerned. End-of-term assessment is held at the end of each semester (upto the 5th semester). Formative assessment will not count towards pass/fail at the end of the program, but will provide feedback to the candidate.

Internal Assessment

The performance of the Postgraduate student during the training period should be monitored throughout the course and duly recorded in the log books as evidence of the ability and daily work of the student. Marks should be allotted out of 100 as followed.

Sr. No.	Items	Marks
1.	Personal Attributes	20
2.	Clinical Work	20
3.	Academic activities	20
4.	End of year theory examination	20
5.	End of year practical examination	20

1. Personal attributes:

- **Behavior and Emotional Stability:** Dependable, disciplined, dedicated, stable in emergency situations, shows positive approach.
- **Motivation and Initiative:** Takes on responsibility, innovative, enterprising, does not shirk duties or leave any work pending.
- **Honesty and Integrity:** Truthful, admits mistakes, does not cook up information, has ethical conduct, exhibits good moral values, loyal to the institution.
- **Interpersonal Skills and Leadership Quality:** Has compassionate attitude towards patients and attendants, gets on well with colleagues and paramedical staff, is respectful to seniors, has good communication skills.

2. Clinical Work:

- **Availability:** Punctual, available continuously on duty, responds promptly on calls and takes proper permission for leave.
- **Diligence:** Dedicated, hardworking, does not shirk duties, leaves no work pending, does not sit idle, competent in clinical case work up and management.
- **Academic ability:** Intelligent, shows sound knowledge and skills, participates adequately in academic activities, and performs well in oral presentation and departmental tests.
- **Clinical Performance:** Proficient in clinical presentations and case discussion during rounds and OPD work up. Preparing Documents of the case history/examination and progress notes in the file (daily notes, round discussion, investigations and management) Skill of performing bed side procedures and handling emergencies.

3. **Academic Activity:** Performance during presentation at Journal club/ Seminar/ Case discussion/Stat meeting and other academic sessions. Proficiency in skills as mentioned in job responsibilities.

4. **End of year theory examination** conducted at end of 1st, 2nd year and after 2 years 9 months

5. **End of year practical/oral examinations** after 2 years 9 months.

Marks for **personal attributes** and **clinical work** should be given annually by all the consultants under whom the resident was posted during the year.

Marks for **academic activity** should be given by the all consultants who have attended the session presented by the resident.

The Internal assessment should be presented to the Board of examiners fordue consideration at the time of Final Examinations.

8. Job Responsibilities

- **OPD** : History and work up of all cases and presentation to the consultants
  - This includes all the special clinics also
  - Documentation. OPD card and register completion and maintenance
- **Indoors :**
  - **PICU/NSCU & NICU/Emergency :** Sending investigations and fillinginvestigation forms
- **Ward :** History and work up of all cases
  - Starting initial management – Oxygen, IV antibiotics, fluids
  - Transport of sick patients
  - Preporation of weekly, monthly & annual statSending AFP reports.
- Performing procedures :
  - I/V cannulation
  - Lumbar puncture
  - Bone marrow examination
  - Plural tap, peritoneal tap, pericardial tap, central line insertion, renal biopsy,liver biopsy
- Examination of all patients and documentation in the files.
- Completion of files
- Preparation of typed discharge summary

9. Suggested Reading

Core Books & Reference Books

- Nelson Text book of Pediatrics
- Avery Text book of Neonatology
- Care of Newborn Meharban Singh
- Cloherty – Mannual of Neonatal Care
- IAP Text book of Pediatrics

Journals

- Indian J Pediatrics
- Indian Pediatrics
- Journal of Pediatrics
- Pediatric Clinics of North America
- Archives of Diseases of Childhood
-

Resolution No. 3.44 of Academic Council (AC-42/2022): Resolved to approve the modules for Communication Skill for Pediatric and Neonatal Advance Life Support and Skills for MD Paediatric for Practical from batch appearing in 2023 onwards. **[ANNEXURE-30]**

COMMUNICATION Scenario Checklists-STATION 1-

TYPE OSCE

TIME-10 MIN

Marks offered out of 25

These are checklists used in the communication skill workstation in MD exam. They include instructions about the clinical situation, the prompt given to exam going students before the examination began, steps that should have been completed, and prompts to be given by the instructor during the course of examination.

The scenarios include

.

These scenarios are as guidelines and examiners can make additional scenarios based on current knowledge

Q: 1

DATA

AMAR came to your OPD CLINIC concerning his 10- month- old boy Mohammed.

TASK

Amar has some questions about vaccinations. Talk to him and answer his questions in the next 5 minutes.

Suggested communication skill checklist of vaccination of a 10- month-old child

	Tasks	Marks expected	Marks obtained
	Greet father/child and introduce yourself		
	Maintain appropriate eye contact/body language throughout		
	Q Can I give my child measles vaccine if he received blood transfusion 3 weeks ago? A: No, you should wait at least 3 months		
	Q: Can I give my baby DTP which he missed at 6 months? A: Yes, DTP is an inactivated vaccine which is not affected by antibody containing product (blood)		
	Q: Can I give blood transfusion after measles vaccine or should I wait? A: No, you should wait for 2 weeks		

	Q: Can I give my 10-month-old child Rotavirus vaccine? A: No, Rotavirus vaccine is not approved for children older than 32 weeks		
	Q: Can I give my pregnant wife MMR vaccine to protect her against measles and the fetus against congenital rubella? A: No, live vaccines should not be administered to women known to be pregnant		
	Q: My son ALAP , 3-year-old had leukemia, can I vaccinate AMAR his missed dose of TOPV? A: No, OPV should not be given if an immunosuppressed person is in the household		
	Q Can I give AMAR his missed dose of measles? A: Yes, MMR may be given when an immunosuppressed person lives in the same house		
	Q: AMAR has low grade fever and mild diarrhea, can I vaccinate him? A: Yes, Children with mild acute illnesses, such as low-grade fever, upper respiratory infection (URI), colds, otitis media, and mild diarrhea, should be vaccinated on schedule		
	Q: AMAR is on augmenten for otitis media, can he receive measles vaccine? A: Yes, Antibiotics do not have an effect on the immune response to most vaccines		
	Ask the father if he has any more question and thank him for this counseling		

2.

DATA A young newly graduated pharmacist hesitate to vaccinate his 3- month-old baby because, he heard that oral polio vaccine may cause permanent paralysis in the recipient

TASK In the next few minutes alleviate this father concern and answer his questions

Suggested communication skill checklist of vaccination of a 3- month-old infant with TOPV

	Tasks	Marks expected	Marks obtained
	Greet father/child and introduce yourself		
	Maintain appropriate eye contact/body language throughout		
	Poliomyelitis is a crippling disease with no curable treatment		
	There are two poliovirus serotypes (P1and P3) and BOPV contain the 2 serotypes of vaccine virus		
	Immunity to one serotype does not produce significant immunity to the other serotypes. Immunity from oral poliovirus vaccine is probably lifelong		
	BOPV is highly effective in producing immunity to poliovirus. A single dose of BOPV produces immunity to all TWO vaccine viruses in approximately 50% of recipients. Three doses produce immunity to all two poliovirus types in more than 95% of recipients		
	One case of vaccine-associated paralytic polio(VAPP) occurred for every 2 to 3 million doses of TOPV administered.Chances withBOPV are still less.		
	VAPP is more likely to occur in persons 18 years of age and older than in children		
	VAPP is much more likely to occur in immunodeficient children than in those who are immunocompetent		
	FATHER QUESTIONS Q: Is there any available procedure for identifying persons at risk to develop paralytic disease after BOPV A: No, There is no procedure available for identifying persons at risk of paralytic disease, except excluding older persons and screening for immunodeficiency		
	Q: Does immunoglobulin in human milk interfere with vaccine virus A: No		
	Q: Does vaccine virus transmit to contacts A: Yes		
	Q: For how long vaccine virus shedded in stool of recipient? A: Up to 6 weeks		
	Ask the father if he has any more question or concern and thank him for this counseling		

Q 3.DATA You are a newly graduate specialist Pediatrician in a maternity hospital, you are evaluating a 6–hours-old boy , product of cesarean section for an old primigravida with gestational diabetes, , during routine exam you find systolic murmur, CXR shows narrow upper mediastinum, echo cardiography shows D-TGA with small ASD and PDA. His O2 saturation is 92% in room air, active and feeding well. You asked the couple to attain your room.

TASK Explain the echo findings and answer their concerns.

Suggested communication skill checklist (breaking bad news) of CHD in precious newborn

	Tasks	Marks expected	Marks obtained
	Greet father/child and introduce yourself		
	Maintain appropriate eye contact/body language throughout		
	Ask about job of mother and its level of education & Show sympathy and understanding of their questions		
	Start to explain the baby had congenital heart disease, Use paper and pen (diagram) to explain the findings,(we have 2 parallel circulations, exchange depends on a small canal) tell them we need to act right now so we can maintain the baby life		
	Parents will object saying, the baby is well, no complaint, even his O2 sat. is >90% You start to explain again that we need to act as early as possible before the small canal close, at that time it is too late to interfere		
	Parents: How much you are sure doctor? Actually we are lucky to pick the case early, the clinical picture and CXR goes with the echo findings		
	Parents: From where he got this thing doctor? Is it related to mother condition at pregnancy? You answer NO , actually most of CHD had no clear cause, , gestational diabetes can cause some changes in the heart but not a CHD		
	Parents will say O K , what you will do? We will take the baby to intensive care unit, we will start to measure his vital signs, we will give him medication to keep that canal opened		
	Explain the side effect of that medication, can cause hypotension, apnea in 10% so we may go for ventilation We will call the cardiac center and arrange with them the next step		
	Explain that the next step will be arranged after 2nd evaluation by pediatric cardiologist, in case of confirmation ,they will do some opening her (put your pin on IAS)by a balloon, it needs only small opening here; the femoral area; to do it)		
	Parents may ask about further next step Be ready to tell them, he will be elected to do cardiac surgery later on, the timing usually arranged between cardiac surgeon and pediatric cardiologist		
	Parents: When you will start to act doctor? Right now		
	Ask the parents if they have any more questions or concern and thank them for their counseling		

Q.4.

DATA You are senior house officer in outpatient duty, you are evaluating a referred case from health center with a cardiac murmur, the referred letter is like this(A 4- year- old female child with URTI, she is thriving well, no cyanosis or clubbing, has a grade II vibratory systolic murmur, at LLSB, not radiating, with normal S1 S2) You confirmed these findings

TASK You need to explain the nature of the finding to the mother first, and whether the baby will need additional investigations or not.

Suggested communication skill checklist (innocent murmur) in a 4- year-old girl

	Tasks	Marks expected	Marks obtained
	Greet father/child and introduce yourself		
	Maintain appropriate eye contact/body language throughout		
	Show sympathy and understanding of her questions		
	Use paper and pen (diagram) to explain the findings Explain that the heart is hollow structure composed of 4 rooms contains walls and valves and sound can happen when blood pass through its structures or valves		
	Explain that these sounds can be non pathological (are seen commonly in your practice) and pathological		
	Explain why the sound with her baby is non pathological (thriving well, quality of murmur, no cyanosis….etc.)		
	Explain that no need for further investigations Other investigations will add nothing more to what discovered in examination, it can give some unwanted effects like radiation in CXR and sedation in ECHO 8.Explain that the sound can still be heard, can be increased or decreased in intensity with fever, URTI… etc so no need to worry		
	Ask the mother if she had other concerns or questions Summarize the counseling and thank the mother		

Q.5.

DATA

You are a third year board resident evaluating a 7- year -old girl with bed wetting every night, she is on that habit since she was diaper free 3 years ago, mother mentioned to you that her older son also complaining from similar problem, her anthropometric measures above 50 centile, her examination was unremarkable, Investigations were normal. She started her school this year, she feel embarrassed every day at morning. Mother needs a solution.

TASK Explain the condition to the mother, tell her your suggestions, and answer her questions.

Suggested communication skill checklist (Nocturnal enuresis) in a 7-year-old girl

1. Greet mother and introduce yourself

2. Maintain appropriate eye contact and body language with the mother

3. Show sympathy and understanding of her questions Use paper and pen (diagram) to explain the condition

4.Explain it is a case of nocturnal enuresis and it is a common problem that we see; by 5 years of age 7% of boys and 3% of girls have enuresis. The exact cause of enuresis is unknown but familial tendency with likely biologic (who much the sphincter is ready to control), emotional, and learning (influenced by the family action)factors play a role

5. We will start with (plan one), I hope it will be successful, it needs your cooperation and your daughter compliance, she also lessening to my plan and she want certainly to achieve success. 1. We will make charting with rewards for dry nights 2. Voiding before bedtime 3. Night awakening 2-4 hr after bedtime 4. These children also need ready access to school toilets 5. Make sure that her bowel habit is normal (no constipation) Contact me after 2 weeks to see how much this plan is effective

6. Please do not punish the child for bed wetting

7. If this plan fail ,we can use medications, we have hormone which reduce the urine during night, we can use it as tablets, but remember we have rare side effects, it can increase the water in the body reducing sodium salt in the boy, which can make seizure, also the disease can recur after discontinuing treatment

8. If this fails, we can use antidepressants like Imipramine 25 mg before sleep

9. Mother says thanks doctor I will go through your plans and I will be in contact with you every 2 weeks 10.You say: that is good, please call me at any time for help, I will be happy to respond to you

11. Greeting and closing

Q 6.

DATA You are a junior pediatrician in a teaching hospital, an 18- monthold baby boy with Kawasaki disease (KD) that had been diagnosed by evaluating team. His echo shows dilatation of left coronary artery (small aneurysm). A junior house officer working in the hospital, she is the aunt of the baby, had read about the disease and she has some concern and she wants to ask you some questions about the disease.

TASK Explain the nature of the disease, alleviate her worriness, and answer her questions.

Suggested communication skill checklist (Kawasaki disease) in an 18-month-old boy

1.Greet her by name (as you know her)

2.Maintain appropriate eye contact and body language with her Ask what she knows about the subject, start from where she ends

3.Use paper and pen (diagram) to explain the subject

4.Explain that KD is the leading cause of acquired heart disease in children, it is a vasculitis with a predilection for the coronary arteries, and approximately 20-25% of untreated patients experience coronary artery abnormalities, including aneurysms

5.Explain that the cause of KD remains unknown, but certain epidemiologic and clinical features support an infectious origin

6.Explain the possible echo findings

7.Explain the treatment , type and duration of each(2 g/kg of intravenous gammaglobulin (IVIG) and high-dose aspirin (80-100 mg/kg/day divided q6h) as soon as possible after diagnosis and, ideally, within 10 days of disease onset), The dose of aspirin is usually decreased from anti-inflammatory to antithrombotic doses (3-5 mg/kg/day as a single dose) after the patient has been afebrile for 48 hr

8.Explain the benefit of each treatment (aneurysms about 20% with aspirin alone and 2-4 % with both)

9.Explain the type of vaccination needed if long term aspirin therapy is considered (annual influenza and varicella vaccine)

10.Explain the need to change aspirin to another type of antiplatelet 6 weeks after varicella vaccination

11.Defer life attenuated vaccination 11 months after IVIG

12.Prognosis for KD ,majority returns to normal, 1-3% recurs, fatality <1%,small aneurysms most likely to regress (overall 50% will regress by 1-2 years)

13.Ask if there are other concerns , summarize ,thank, and closing

Q.7

DATA A young pharmacist mother brought her 2-month-old bottle-fed infant with prolonged and excessive crying for the last 4 weeks, he cries more than 4 hours each night without an apparent cause, she is anxious that her baby may have serious illness, the baby looks well, thriving well.

TASK 1-Discuss your suggested strategies for managing colic in this infant.

2-Define infantile colic for the examiner and enumerate gastrointestinal identifiable causes of prolonged crying in infancy.

Suggested strategies for managing colic

1 Greet the mother

2 Maintain appropriate eye contact and body language with her

3 Because the baby is thriving well with no constitutional symptoms, most of the time there is no identifiable cause

4 No need for investigations

5 Change formula from cow's milk to soy-based or to hydrolysate

6 Change nipple or bottle, feed in an upright position with frequent burping

7 Supplemental daytime carrying or front carrier

8 Place car seat in a secure position on dishwasher or clothes dryer

9 Ride in the car

10 Change of scenery

11 Pacifier, Swing ,Belly massage ,Swaddling

12. Warm bath

13. Herbal tea , Sucrose

14. Simethicone

15. Parental support

16. Antispasmodics (should not be used secondary to risk of severe adverse effects)

17. Thank the mother and ask if she has any question

Definition of infantile colic The word "colic" is used broadly by parents and clinicians to refer to prolonged and excessive crying for no apparent reason during the first three months of life. The most widely accepted definition for colic (the Wessel criteria or "rule of three") is crying that lasts for more than three hours per day, occurs on more than three days per week, and persists for more than three weeks.

Gastrointestinal identifiable causes of prolonged crying in infancy are: 1. Intussusception 2. Constipation 3. Gastroenteritis 4. Anal fissures 5. Inguinal hernia 6. Gastroesophageal reflux 7. Volvulus

B) STATION 2
PEDIATRIC AND NEONATAL ADVANCED LIFE SUPPORT RESPONSE STATION

TIME :EACH STATION 10 MINUTES Marks offered out of 25

A) SAMPLE QUESTIONS Neonatal Resuscitation Scenario Checklists-

These are checklists used in the neonatal resuscitation workstation in MD exam. They include instructions about the simulation, the prompt given to exam going students before the simulation began, steps that should have been completed, and prompts to be given by the instructor during the resuscitation.
The scenarios include

cord prolapse
meconium aspiration
prematurity
placental abruption.

These scenarios are as guidelines and examiners can make additional scenarios based on current knowledge.

Cord Prolapse

Instructions: I will read the scenario out loud. Please indicate with your actions and say out loud what you will do to take care of this infant. I will not provide any feedback until the end of the scenario.

Prompt: "You are called to the delivery of a full-term infant whose mother just arrived at the hospital and was found to have a cord prolapse. The obstetricians are preparing for an emergency caesarean section. Please demonstrate how you will prepare for the birth."

	Done	Not Done	Comments
Prepares and checks necessary equipment *Prompt: "The infant is delivered. The infant is not crying and is limp."*	1		
Dries infant with towel or blanket, stimulates infant by rubbing back	1		
Assesses breathing and heart rate *Prompt: "The infant is not breathing. The heart rate is <100."*	2		
Recognizes need for bag/mask ventilation	2		
Begins bag/mask ventilation at 40-60 breaths/minute	2		
Assesses breathing and heart rate *Prompt: "The infant is not breathing and there is no chest rise. The HR is 80."*	1		
Takes ventilation corrective steps (adjust mask, repositions airway, suctions, opens mouth, increases pressure, consider alternative airway)	2		
Assesses breathing and heart rate *Prompt: "The infant is still not breathing. The heart rate is <60."*	1		
Recognizes need for chest compressions	1		
Begins chest compressions using appropriate technique	2		
Coordinates compressions with PPV (3:1 cycles)	1		
Recognizes need for intubation	1		
Intubates with appropriately-sized endotracheal tube	1		
Verifies appropriate endotracheal tube placement	1		
Assesses breathing and heart rate *Prompt: "The infant is still not breathing. The heart rate is now <60."*	1		
Recognizes need for epinephrine	1		
EITHER: **Draws up and gives appropriate dose of epinephrine via ETT**	1		
OR: **Prepares equipment for UVC and inserts UVC**	1		
Draws up and gives appropriate dose of IV epinephrine via UVC	1		

Assesses breathing and heart rate *Prompt: "The heart rate rises to >100. After several minutes, the infant begins to make occasional respiratory effort."*	1		

Meconium Aspiration

Equipment: Bag/mask, laryngoscope, endotracheal tube, meconium aspirator, suction, blankets

Instructions: I will read the scenario out loud. Please indicate with your actions and say out loud what you will do to take care of this infant. I will not provide any feedback until the end of the scenario.

Prompt: "You are called to the delivery of a full-term infant. Rupture of membranes occurred several hours ago and was found to be meconium- stained. The infant will be delivered soon. Please demonstrate how you will prepare for the birth."

	Done	Not Done	Comments
Prepares and checks necessary equipment *Prompt: "The infant is delivered. The infant is covered in meconium-stained fluid. Please show how you will care for the infant."*	1		
Asks if infant is breathing, crying, and has good tone *Prompt: "The infant is not crying and is limp."*	2		
Does not dry or stimulate to breathe	2		
Recognizes that the infant requires intubation and suction	2		
Infant intubated and fluid suctioned from trachea	2		
Dries infant with towel or blanket	2		
Stimulates infant by rubbing back	1		
Assesses breathing and heart rate *Prompt: "The infant is not breathing. The heart rate is >100."*	2		
Suctions nose and mouth and positions airway.	2		
Stimulates infant by rubbing back	1		
Assesses breathing and heart rate *Prompt: "The infant is still not breathing. The heart rate is <100."*	2		
Begins bag/mask ventilation.	2		
Continues ventilation at 40-60 breaths/minute	1		
Assess breathing and heart rate *Prompt: "The infant begins crying. The heart rate is >100."*	2		

Prematurity

Instructions: I will read the scenario out loud. Please indicate with your actions and say out loud what you will do to take care of this infant. I will not provide any feedback until the end of the scenario.

Prompt: “You are called to the delivery of a preterm infant with estimated gestational age of 29 weeks. The infant will be delivered soon. Please demonstrate how you will prepare for the birth.”

	Done	Not Done	Comments
Prepares and checks necessary equipment *Prompt: “The infant is delivered and appears to be about 1.2 kg in size. Theinfant is not crying and is limp. Please show how you will care for the infant.”*	1		
Places infant in bag, dries infant with towel or blanket	2		
Stimulates infant by rubbing back	1		
Assesses breathing *Prompt: “The infant has labored respiratory efforts with retractions.”*	2		
Suctions nose and mouth and positions airway.	1		
Recognizes need for assisted ventilation	2		
Chooses appropriately-sized mask for premature infant	1		
Begins CPAP or bag/mask ventilation	2		
Assesses breathing and heart rate *Prompt: “The infant is no longer breathing. The heart rate is <100.”*	1		
Continues bag/mask ventilation at 40-60 breaths/minute	1		
Assesses breathing and heart rate *Prompt: “The infant is not breathing and there is no chest rise. The HR is 80.”*	1		
Takes ventilation corrective steps (adjust mask, repositions airway, suctions, opens mouth, increases pressure, consider alternative airway)	2		
Assesses breathing and heart rate *Prompt: “The infant is still not breathing. The heart rate is 60-100.”*	1		
Recognizes need for intubation	1		
Intubates with appropriately-sized endotracheal tube	1		
Verifies appropriate endotracheal tube placement	1		
Begins positive-pressure ventilation at 40-60 breaths/minute	1		
Assesses breathing and heart rate *Prompt: “The heart rate rises to >100 and the infant becomes pinker.”*	1		
Keeps infant warm using warm blankets and hat	2		

Abruptio Placenta

Instructions: I will read the scenario out loud. Please indicate with your actions and say out loud what you will do to take care of this infant. I will not provide any feedback until the end of the scenario.

Prompt: "You are called to the delivery of a full-term infant whose mother was found to have a severe placental abruption. The obstetricians are preparing for an emergency caesarean section. Please demonstrate how you will prepare for the birth."

	Done	Not Done	Comments
Prepares and checks necessary equipment *Prompt: "The infant is delivered. The infant is not crying, limp, and pale."*	1		
Dries infant with towel or blanket, stimulates infant by rubbing back	2		
Assesses breathing and heart rate *Prompt: "The infant is not breathing. The heart rate is <100."*	1		
Recognizes need for bag/mask ventilation	2		
Begins bag/mask ventilation at 40-60 breaths/minute	1		
Assesses breathing and heart rate *Prompt: "The infant is still not breathing. The heart rate is <60."*	1		
Recognizes need for chest compressions	1		
Begins chest compressions using appropriate technique	1		
Coordinates compressions with PPV (3:1 cycles)	1		
Recognizes need for intubation	1		
Intubates and verifies appropriate endotracheal tube placement	1		
Assesses breathing and heart rate *Prompt: "The infant is still not breathing. The heart rate is still <60."*	1		
Recognizes need for epinephrine	1		
***EITHER:* Draws up and gives appropriate dose of epinephrine via ETT**	1		
***OR:* Prepares equipment for UVC and inserts UVC**	2		
Draws up and gives appropriate dose of IV epinephrine via UVC	1		
Assesses breathing and heart rate *Prompt: "The heart rate is 80. The infant is pale and has poor perfusion."*	1		
Recognizes need for volume expander (normal	2		

saline, blood)			
Draws up correct volume and administers via UVC	1		
Assesses infant *Prompt: "The heart rate is 120. The infant makes occasional gasps."*	1		

B) PALS SCENARIOS:AHA GUIDELINES BASED

Similar to neonatal checklist

1.Hypovolemic shock- 4 year old
2.lower airway obstruction-9 yr old with asthma
3.upper airway obstruction –Infant with noisy breathing and nose block and fever
4.asystole-4 yr old havs pneumonia and pleural effusion
5.Pulseless electrical activity
6.Lung Parenchymal disease 3 year old
7.Distributive /septic shock-4 year old
8.SVT-12 YEAR OLD WITH tachypnoea
9.Ventricular fibrillation- 7 year old sudden limp,CPR in progress
10.Obsructive shock- Child-Tension pneumothorax
11.Cardiogenic shock-Adolescent –myocarditis
12.Seizure and respiratory distress
13.Bradycardia –infant cardiopulmonary failure
14. SNAKE BITE
15. SCORPION BITE

Resolution No. 3.48 of Academic Council (AC-42/2022): Resolved to approve the Marksheet format for practical exam of MD (Pediatrics) university exam from year 2023 onwards as per the CBME PG curriculum of NMC for Practical with effect from the batch admitted in Academic year 2020 onwards:

1							**2**					
Seat No	Case-1	Case-2	Case -3 (Newborn)	OSCE – 2 STATION		PRACTICAL CLINICAL TOTAL					TABLE VIVA TOTAL	PRACTICAL TOTAL = 400 MARKS (1+2)
				STATION - 1 Counseling / Communication Skill Station	STATION - 2 Pediatrics & Neonatal Advance Life Support (PALS/NALS)(Procedure & Response station)		1 Drugs & Emergencies	2 Instrument & Procedures	3 Vaccines & Nutrition	4 Investigations (Lab Reports + Radiology)		
	100	75	75	25	25	300	25	25	25	25	100	

MGM INSTITUTE OF HEALTH SCIENCES

(Deemed to be University u/s 3 of UGC Act, 1956)

Grade 'A' Accredited by NAAC

Sector-01, Kamothe, Navi Mumbai - 410209

Tel 022-27432471, 022-27432994, Fax 022-27431094

E-mail- registrar@mgmuhs.com Website : www.mgmuhs.com