Certificate: **Pediatric General Radiology Fellowship**
Location-Department of Radiodiagnosis, SMIMER
Awardee- Veer Narmad South Gujarat University
Program Highlights:-
DEFINITION OF GENERAL PEDIATRIC RADIOLOGY

General pediatric radiology is the organ/system-based subspecialty of Diagnostic Radiology dedicated to diagnosis of disorders and diseases in children utilizing different imaging techniques.

Goal -

On completion of training, the fellow is expected to be a competent specialist in Pediatric Radiology capable of assuming a consultant's role in the specialty. - The fellow must acquire a working knowledge of the theoretical basis of the specialty, including its foundations in the basic medical sciences and research. - Fellows must demonstrate the requisite knowledge, skills, and attitudes for effective patient-centered care and service to a diverse population. In all aspects of specialist practice, the graduate must be able to address issues of gender, sexual orientation, age, culture, ethnicity and ethics in a professional manner.

1. A 1 year comprehensive and well-balanced training program encompassing all of the basic and advanced clinical areas of pediatric imaging.

2. Training in Pediatric x-ray, procedures, colour Doppler, ultrasound, T.C.D., CT,MRI and nonvascular intervention.

3. Modular Fellowship course format

4. The fellow receives "hands-on" experience at the workstation as well as through active procedure services with image-guided aspirations and biopsies.

5. The fellow will be exposed to large number of pediatric patient work flow Fellows fully participate in all aspects of clinical services, with frequent contact with our referring physicians; will work side by side with nationally acclaimed academic radiologists, and will interact with renowned clinicians.

Eligibility

MD/DNB/DMRDRadiodiagnosis

Duration of Course

1 Year

Selection

Merit based – 2 step selection

Step-1 VNSGU will conduct entrance test in similar manner as fetal medicine fellowship in GMC, surat. (100 MCQ test)

Step-2 VNSGU will call for interview &counseling test of these candidates and according to their knowledge, aptitude and interest in one of these three proposed courses admission will be given as per merit list .

Documents to be submitted by students

1. Birth Certificate/ proof of date of birth.

2. Four passport size photographs

3. Copy of the MCI Registration Certificate of MBBS/MD/ Others

4. Copy of Mark sheets and Degree Certificate of MBBS/MD/ Others

5. Experience Certificate /s

6. PAN Card

7. Adharcard

Course Syllabus

TRAINING SPECIFIC OBJECTIVES

A- X-RAY AND SPECIAL INVESTIGATIONS(Fluoroscopic studies of the neonatal and pediatric patient)

1) Review and interpret pediatric X-RAYS examinations on a daily basis

2) Demonstrate use of the different pediatric imaging techniques and methods

3) Identify patients that may require sedation and list indications and contraindications

4) Risk factors – contrast agents, radiation

B-Ultrasonography and Colour Doppler

1)Neonatal brain ,Ultrasonography of the neonatal and pediatric neck,

2) Ultrasonography of chest, abdomen, pelvis, musculoskeletal system,small parts and vascular system

3) Trans cranial Doppler study in child with sickle cell anemia- ICMR Project

C- CT and MRI of the Brain, neck, chest, abdomen, pelvis, and musculoskeletal systems, with sequences adapted to the pediatric patient

-Imaging protocols adapted to the neonate, young child and older child

- Recognize and differentiate normal from abnormal imaging findings in a variety of pediatric diseases of Brain, neck, chest, abdomen, musculoskeletal system, vascular system and neonatal brain.

Central Nervous System-

-List the main clinical findings and management

-The neonatal and infant brain-Normal development in premature and term neonates and infants -Hypoxic-ischemic encephalopathy

-Neonatal intracranial hemorrhage

Congenital anomalies of the brain and Genetic syndromes in children:

Intracranial infections

Intracranial S.O.L.-Neurofibromatosis ,Tuberous sclerosis complex, hemihypertrophy syndromes Osteochondrodysplasias, ,Tumors of the face, skull and brain

Trauma in children: Bony and visceral trauma in infants, including non-accidental trauma

Stroke -Thrombosis of the venous and arterial systems,Vascular anomalies

Pediatric Neck-

Tumors of the neck (Vascular and nonvascular)

Infection and Lymphadenopathy

Thyroid Gland

Salivary glands

Pediatric Chest-

Hyaline Membrane disease

Infections of the chest,

Pediatric cardiovascular disease/ Congenital and Acquired cardiovascular disease

Mediastinal and pleural pathology

Congenital lung malformations

Parenchymal and airways disease of the lungs

Bony and visceral trauma in children

Tumors: Tumors of the chest /chest wall/pleura/mediastinum/lung

Pediatric Abdomen-

Tumors of the abdomen and pelvis

Infections of abdomen, pelvis and musculoskeletal system

Hemolytic and Vascular disorders in children.

Pediatric genitourinary system

Congenital malformations of kidney, bladder, genital tract, and pelvis Vesicoureteral reflux Hydronephrosis , Renal transplantation , Adnexal torsion , Acute scrotum ,Adrenal pathologies

Pediatric hepatobiliary system, pancreas and spleen: Parenchymal liver disease ,Congenital and acquired biliary tract disorders ,Liver transplantation ,Pancreatic disorders ,splenic lesions

Pediatric gastrointestinal tract: Congenital malformations, including malrotation and atresias

Hirschsprung disease ,Meconium ileus: diagnosis and treatment, Pyloric stenosis ,Intussusception diagnosis and treatment Appendicitis , NEC,Worms , Gastroesophageal reflux ,Bowel obstruction Swallowing disorders ,Placement of enteric feeding catheters

Pediatric musculoskeletal system:

Congenital bony dysplasia and Developmental dysplasia of Hip

Metabolic bone disease

Osteochondroses

Alignment disorders

Bone marrow anomalies

Tumors of the musculoskeletal system

Bone age Determination

Interventional Radiology-

To assist interventional Radiologist and faculty members in doing various image guided vascular and nonvascular interventional procedures, Radiofrequency Ablation, Laser ablation etc. in pediatric patients.

Competence and General Strategy of Learning-

- Initially look at studies, provide a preliminary report and then review case material with the attending radiologist daily .

Generate and sign off an official report for those cases after staff review .

Arrange and interpret emergency cases .

Prescribe protocols and interpret CT, MRI examinations;

Perform and interpret ultrasound, radiographic and fluoroscopic studies .

Identify appropriateness of examination requests and make decisions as to the most appropriate imaging test for each situation.

Act as a consultant and provide stat verbal reports for the clinicians .

Provide night and weekend on-call coverage for imaging cases, including preliminary reports for emergent body studies (radiographs, CTs, MRIs, ultrasounds, fluoroscopic studies) after hours with supervision of attending staff in a system of delegated and graded responsibility

For intussusception reduction, to obtain informed consent prior to the procedure, perform the procedure under the supervision of the attending radiologist and ensure proper patient care post procedure

Communication: Explain the procedure to the patient/family, including the risks and possible complications, and answering questions

Generate clear and concise reports in a timely fashion and provide verbal reports whenever necessary

Review pediatric cases brought to attention by clinicians on a daily basis

Use appropriate history to guide decisions regarding the best imaging modality for a given clinical condition or issue

Communicate with imaging technologists and nurses to ensure optimal patient care

C.T.and M.R.I.- Screen and prescribe protocols for CT and MRI examinations in the pediatric context

Prioritize studies.

Discuss about availability of resources and the role of triage

Recognize the proper steps in the imaging investigation of various pediatric pathologies

Become increasingly responsible for individual body imaging subsections, including the proper delegation of authority to residents and technologist

Guide referring clinicians to the imaging study or studies most appropriate for their patients . Recognize and advise on the benefits/risks of imaging procedures, including radiation exposure, in consultation with referring physicians.

Take follow up of patient after treatment or Surgery from his doctor.

-Learn the importance of recognizing imaging findings of non-accidental injury

Academics-

1 Research-Complete at least one original research project on pediatric imaging as principal author with the purpose of preparation of a manuscript suitable for publication in a peer-reviewed journal

2.Present academic work on pediatric imaging at local, national or international scientific meetings

3.Learning-Preparation of a formal yearly lecture on a pediatric radiology topic to be presented to the department and undergo formal assessment . keep Logbook with entry of daily record& take signature of course faculty. -5. Active participation in Journal club

4.Teaching- of diagnostic radiology residents as well as residents from other clinical services , U.G.medical students and trainee x-ray technician

5. Maintenance of logbook: logbook to be maintained for daily work assisted and done by you, as well as for your academic work and teaching in the department. Signature of faculty/faculites to be taken daily.

Ethics and Professionalism-

1. Incorporate ethical practice, professional regulation and high personal standards of behavior

2. Become a member of an National and international pediatric radiology society

Exam System

Theory Examination : MCQ-25 Marks, 5 Shortnotes- 25 marks, L.A.Q- 5X10 = 50 Marks (Total 100 marks)
Practical examination: 200 marks (80 marks for long case + 40x2 short cases each + 40 marks for viva)
Examiners: 3 guides/teachers from SMIMER

Course Guides-

(1 Dr. Mona D. Shastri

Professor and H.O.D

(2 Dr. Ekta Desai

Associate Professor

(3 Dr.Nehal Diwanji

Associate Professor

(4 Dr. Nirav Kadvani

Senior Resident & cross sectional imaging specialist.