

POST - DOCTORAL FELLOWSHIP PROGRAMME IN
FETAL MEDICINE

DURATION OF THE COURSE : TWO YEARS

Course Objectives:

- To be able to use the ultrasound scan machine effectively.
- To understand normal and abnormal development in a fetus.
- To be able to interpret findings on a scan and reach a reasonable diagnosis.
- To be able to manage common abnormalities integrating the various modalities of investigation for perinatal diagnosis.
- To be able to liaise with the appropriate departments as dictated by the case and make effective use of the current knowledge and technology available.
- To be able to provide appropriate pre-pregnancy and perinatal advice to prospective parents.
- To be able to critically assess available literature and interpret current papers to suit the needs of the patient and the population.
- To be able to integrate oneself and work as a team showing due respect to colleagues and contribute effectively to the team.
- To attempt publication of case reports and other review/research articles.

The candidates will be selected by interview to ascertain their suitability for the course.

They are expected to have a sound knowledge in the basic sciences in obstetrics and gynaecology, namely:

- 1. Maternal Physiology**
- 2. Fetal Physiology**
- 3. Medical complications of pregnancy**

The details of these modules are listed in Appendix

MODULE 1 Basics of Fetal Medicine

***Relavant Physics of Ultrasound
Embryology and fetal development***

MODULE 2 Core Fetal Medicine Subjects

***Perinatal Genetics
Fetal abnormalities and its management
Prenatal Diagnostics and therapy
Perinatal Pathology***

MODULE 3 Clinical Obstetrics

***Multiple Pregnancies
Antenatal Complications
Perinatal Infectious Diseases***

MODULE 4 Personal Development and managemenmt skills

***Communication, team building and management
Critical Appraisal Skills. Genetic counseling***

APPENDIX

Module I

Physics of Ultrasonography (USG) & Fetal MRI

- Terminology, Physical & Technical principles
- USG equipment - knobology
- Transducers, Real time ultrasound techniques
- Scanning methods
- Doppler
- Fetal MRI

Embryology and Fetal development

- General embryology
- Ovulation to implantation
- Development of germdisc, yolksac and trophoplast

- Development of placenta and membranes
- Timing and normal development of main organ systems
- Basic principles of teratogens
- Mechanism of teratogenesis
- Effects of possible teratogens – drugs, infection, radiation

Module – 2

Core fetal medicine subjects

- Perinatal genetics
- Basic principles of genetics
- Genetics disorders
- Chromosomal disorders (including screening, diagnosis and management)
- Multiple anomalies and syndromic disorders

Fetal abnormalities and its' mangement

- CNS anomalies
- Cardiac anomalies
- Genito urinary anomalies
- Pulmonary abnormalities
- Neck and face anomalies
- Skeletal anomalies
- Fetal tumors
- Fetal hydrops
- Multiple pregnancies
- Disorders of amniotic fluid
- Management options including termination of pregnancy
- Preconception counseling

Antenatal Screening, Prenatal diagnosis & Therapy

- Invasive Tests– Amniocentesis, Chorion Villous Sampling
- Fetal cord blood sampling
- Intrauterine transfusions
- Maternal serum screening (AFP, BhcG, Estriol, Papp- A)

Perinatal pathology

Analysis of fetal and placental tissues

Module – 3

Clinical Obstetrics

- Multiple pregnancies – Twins, Triplets and more

- Antenatal complications – IUGR, Chorioamnionitis, premature rupture of membranes, intrauterine fetal death.
- Perinatal infectious diseases – Toxoplasmosis, CMV, Herpes, HBV, HIV, HPV, Rubella, Parvovirus, streptococcal infection and syphilis.

Module 4

- Communication, teambuilding and management skills.
- *Critical appraisal skills.*
- *Science and Art of genetic counseling*
