

POST - DOCTORAL FELLOWSHIP IN FETAL MEDICINE

Duration of the Course : One Year

Syllabus:

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

***Relevant 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 management 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 germ disc, yolk sac and trophoblast

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
