

# Faculty of Medical Sciences University of Delhi

## **SYLLABUS FOR COMPETENCY BASED POSTGRADUATE TRAINING PROGRAMME FOR MD/MS IN OBSTETRICS AND GYNAECOLOGY**

### **Program Goals**

A postgraduate student is required to acquire knowledge of anatomy, physiology, pharmacology and pathophysiology related to reproductive system and be able to manage pathological states related to it by medical, surgical and other relevant modalities. Thorough knowledge of physiology of normal pregnancy and its management & diagnosis and management of abnormal pregnancy is essential. Basics in neonatal care should be learnt.

### **Specific Learning Objectives**

At the end of the MD/MS Course in Obstetrics and Gynaecology, the student should be able to:

- a. Provide quality care to the community in the diagnosis and management of Antenatal, Intra-natal and Post-natal period of normal and abnormal pregnancy.
- b. Provide effective and adequate care to the obstetrical and neonatal diseases. Be able to effectively manage obstetrical emergencies.
- c. Manage common gynaecological problems and emergencies.
- d. Develop adequate surgical skills to manage common obstetrical & gynaecological problems.
- e. Provide counseling and delivery of fertility regulation methods and perform medical termination of pregnancy.
- f. Organize and implement the "National Health Programs" pertaining to Women's Health.
- g. Be well versed with preventive aspects in Obstetrics and Gynecology.
- h. Properly maintain medical records and know the Medico legal aspects and acts in respect of obstetrical & gynaecological practice.
- i. Keep abreast with advances in the field of Obstetrics & Gynaecology.
- j. Plan and carry out scientific research (clinical / experimental) in specialty of Obstetrics & Gynaecology.
- k. Be familiar with modern methods of teaching.
- l. Involved in educational program in Obstetrics & Gynaecology (with seniors) for medical and paramedical staff and also for the society.
- m. Develop communication skill and demonstrate compassionate attitude towards the patients.

# Postgraduate Training

## Theoretical Teaching

Should be imparted to the students through:

- Lectures, seminars, symposia and journal club, inter departmental meetings (clinico-pathological, radiodiagnosis, radiotherapy, anesthesia, Paediatrics/ neonatology), maternal morbidity and mortality meetings, *Records of these are to be maintained by the department.*
- Maintenance of log book: The entries in the log book should be made on a “daily basis” and should be signed by the consultant every month. The log book should be finally signed by the head of the department. . Log book to be brought at the time of final practical examination.
- Writing thesis / Dissertation
- Active involvement in undergraduate teaching.
- Encouraging and allowing the students to attend and actively participate in CMEs, conferences by presenting papers.
- CME / Hands on workshop: Neonatal resuscitation workshop by pediatric department.

## PRACTICAL & CLINICAL TRAINING

- Student should be trained about proper history taking, clinical examination, advising / ordering relevant necessary investigations, their interpretation and instituting medical / surgical management by posting students in OPD, specialty clinics, wards, operation theatres, labour room, family planning clinics and other departments like anesthesiology, neonatology, radiology/ radiotherapy.
- Emphasis should be self learning, group discussions and case presentations.
- *Details of 3 years posting in Resident program (6 semesters of 6 months each)*
- **Allied postings should be done during the course – for 8 weeks**
  - Neonatology- 2 weeks
  - Anesthesia- 2 weeks
  - Radiology/Radiotherapy- 2 weeks
  - Surgery- 2 weeks
- Details of training in the subject during resident posting  
The student should attend to the duties (routine and emergency):
  - Outpatient Department and special clinics
  - Inpatients
  - Operation theatre.
  - Labour room.
  - Family welfare department

Writing clinical notes regularly and maintain records.

1 <sup>st</sup> Semester:	Working under supervision of senior residents and teaching faculty.
2 <sup>nd</sup> & 3 <sup>rd</sup> Semester:	Besides patient care in OPD, wards, casualty, labour room and family welfare carrying out minor operations under supervision and assisting in major operations.
4 <sup>th</sup> , 5 <sup>th</sup> & 6 <sup>th</sup> semester:	Independent duties in management of patient (including major operations under supervision of teaching faculty)

- a. Surgeries to be done during PG training (Details in the Syllabus)

## **POSTGRADUATE EXAMINATION**

### **Thesis / Dissertation**

1. Topic of Thesis / Dissertation should be decided by the student in consultation with the supervisor.
2. Thesis / Dissertation should be complete and submitted to Delhi University by the stipulated date.
3. Acceptance of the Thesis / Dissertation should be a prerequisite to appear in the final examination.

### **Theory Examination**

There should be 4 theory papers

<b>Paper I:</b>	Applied Basic sciences
<b>Paper II:</b>	Obstetrics including social obstetrics & diseases of newborn
<b>Paper III:</b>	Gynaecology
<b>Paper IV:</b>	Recent Advances in Obstetrics & Gynaecology

## **PRACTICAL EXAMINATION**

### **OBSTETRICS**

#### **Clinical**

Long case: 1 case  
Short case/ spot case: 1 case

**Viva including**

- i. Dummy pelvis & skull
- ii. Imaging: X-rays, Sonography, cardiotocography etc
- iii. Instruments
- iv. Pathology specimens
- v. Drugs

**GYNAECOLOGY**

**Clinical**

Long case: 1 case  
Short case / Spot case: 1 case

**Viva including**

- i. Instruments
- ii. Pathology specimens
- iii. Drugs
- iv. Imaging: X-rays, sonography etc.
- v. Family planning

## **Course Content**

### **Paper I**

#### **Basic Sciences**

##### **Anatomy & Physiology**

1. Normal and abnormal development structure and function (female and male) urogenital system and female breast.
2. **Applied anatomy** of genito-urinary system, abdomen, pelvis, pelvic floor, anterior abdominal wall, upper thigh (inguinal ligament, inguinal canal, vulva, rectum and anal canal).
3. Anatomy and physiology of urinary and lower GI tract (rectum / anal canal).
4. Development, structure and function of placenta, umbilical cord and amniotic fluid.
5. Anatomical and physiological changes in female genital tract during pregnancy.
6. Anatomy of fetus, fetal growth and development, fetal physiology and fetal circulation.
7. Physiological and neuro-endocrinal changes during puberty, adolescence, menstruation, ovulation, fertilization, climacteric and menopause.
8. Physiology of spermatogenesis.
9. **Endocrinology** related to male and female reproduction

10. Biochemical and endocrine changes during pregnancy, including systemic changes in cardiovascular, hematological, renal, hepatic and other systems.
11. Biophysical and biochemical changes in uterus and cervix during pregnancy and labour.
12. **Pharmacology** of identified drugs used during pregnancy, labour, post partum period in reference to their absorption, distribution, excretion, metabolism, transfer of the drugs across the placenta, effect of the drugs on labour, on fetus, their excretion through breast milk.
13. Mechanism of action, excretion, metabolism of identified drugs used in the management of Gynaecological disorders.
14. Role of hormones in Obstetrics & Gynaecology.
15. Markers in Obstetrics & Gynaecology – Non-neoplastic and neoplastic diseases.
16. **Pathophysiology** of ovaries, fallopian tubes, uterus, cervix, vagina and external genitalia in healthy and diseased conditions.
17. Normal and abnormal **microbiology** of genital tract. Bacterial, viral and parasitical infections responsible for maternal, fetal and gynaecological disorders.
18. Gametogenesis, fertilization, implantation and early development of embryo
19. Normal and abnormal pathology of placenta, umbilical cord, amniotic fluid and fetus
20. Normal pregnancy, physiological changes during pregnancy, labour and puerperium.
21. **Immunology** of pregnancy
22. Humoral and cellular immunology in Obstetrics & Gynaecology

## Medical Genetics

1. Basic medical genetics including cytogenetics.
2. Pattern of inheritance.
3. Chromosomal abnormalities – types, incidence, diagnosis, management and recurrence risk.
4. General principles of teratology.
5. Screening, counseling and prevention of developmental abnormalities.
6. Birth defects – genetic, teratology and counseling.

## Paper II

### CLINICAL OBSTETRICS

#### Antenatal

1. Prenatal care of normal pregnancy including examination, nutrition, immunization and follow-up.
2. Identification and management of complications and complicated pregnancy – abortion, ectopic pregnancy, vesicular mole, gestational trophoblastic diseases, hyperemesis gravidarum, multiple pregnancy, antepartum hemorrhage, pregnancy induced hypertension, preeclampsia, eclampsia, anemia, Rh incompatibility, diabetes, heart disease, renal and hepatic diseases, preterm – post term pregnancies, intrauterine fetal growth retardation, hydramnios, oligohydramnios, PROM.
3. Identification and management of neurological, hematological, dermatological diseases, immunological disorders and other medical and surgical disorders / problems associated with pregnancy.
4. Diagnosis of contracted pelvis (CPD) and its management.
5. Evaluation of fetal and maternal health in complicated pregnancy by making use of diagnostic modalities including modern ones (USG, Doppler, Electronic monitors) and plan for safe delivery for mother and fetus. Identifying fetus at risk and its management.
6. Infections in pregnancy (bacterial, viral, fungal, protozoal)
  - a. Malaria, toxoplasmosis
  - b. Viral – rubella, CMV, herpes, HIV, hepatic viral infections
  - c. Sexually transmitted infections (STIs)
  - d. Mother to fetal transmission of infections
7. Identification and management of fetal malpositions and malpresentations.
8. Acute abdomen (surgical emergencies – appendicitis and GI emergencies).
9. Gynaecological disorders associated with pregnancy – congenital genital tract developmental anomalies, gynae pathologies – fibroid uterus, CaCx, genital prolapse etc.
10. Prenatal diagnosis (of fetal problems and abnormalities), treatment – fetal therapy.
11. MTP, PNDT Act etc.
12. National Health MCH Programs, social obstetrics and vital statistics
13. Recent advances in obstetrics

### **Intrapartum**

1. Normal labour – mechanism and management
2. Partographic monitoring of labour progress, recognition of abnormal labour and its appropriate management.
3. Identification and conduct of abnormal labour and complicated delivery – breech, forceps delivery, cesarean section, destructive operations.
4. Induction and augmentation of labour.
5. Management of abnormal labour – abnormal pelvis, soft tissue abnormalities of birth canal, malpresentation, malpositions of the fetus, abnormal uterine action, obstructed labour and other dystocias

6. Maternal and fetal monitoring in normal and abnormal labour (including electronic fetal monitoring).
7. Identification and management of intrapartum complications, cord presentation, complication of 3<sup>rd</sup> stage of labour – retained placenta, inversion of uterus, rupture of uterus, postpartum hemorrhage, postpartum collapse, amniotic fluid embolism, postpartum.
8. Analgesia and anaesthesia in labour

### **Postpartum**

1. Identification and management of genital tract trauma – perineal tear, cervical / vaginal tear, episiotomy complications, rupture uterus.
2. Management of critically ill woman.
3. Postpartum shock, sepsis and psychosis.
4. Postpartum contraception.
5. Breast feeding practice; counseling and importance of breast-feeding. Problems in breast-feeding and their management, baby friendly practices.
6. Problems of newborn – at birth (resuscitation), management of early neonatal problems.
7. Normal and abnormal puerperium – sepsis, thrombophlebitis, mastitis, psychosis.
8. Hematological problems in obstetrics including coagulation disorders. Use of blood and blood components / products.

### **Operative obstetrics: PG students must have performed routine procedures and assisted/ observed uncommon procedures.**

1. Decision-making, technique and management of complications.
2. Vaginal instrumental delivery, cesarean section, obstetric hysterectomy, destructive operations, manipulations (external / internal podalic version, manual removal of placenta etc.)
3. Medical termination of pregnancy – safe abortion – selection of cases, technique and management of complications, MTP Law.

### **Newborn**

1. Care of newborn: Normal and high risk new born (including NICU care).
2. Asphyxia and neonatal resuscitation.
3. Neonatal sepsis – prevention, detection and management.
4. Neonatal hyper-bilirubinemia – investigation and management.
5. Birth trauma – detection and management.
6. Detection and management of fetal / neonatal malformation.
7. Management of common neonatal problems.

## **Paper III**

## Clinical Gynaecology

1. Epidemiology and etiopathogenesis of gynaecological disorders.
2. Diagnostic modalities and management of common benign and malignant gynaecological diseases (diseases of genital tract)
  - a. Fibroid uterus
  - b. Endometriosis and adenomyosis
  - c. Abnormal Uterine Bleeding
  - d. Endometrial hyperplasia
  - e. Genital prolapse (uterine and vaginal)
  - f. Cervical erosion, cervicitis, cervical polyps, cervical neoplasia
  - g. Vaginal cysts, vaginal infections, vaginal neoplasia (VIN)
  - h. Benign ovarian pathologies
  - i. Malignant genital neoplasia – of ovary, fallopian tubes, uterus, cervix, vagina, vulva and gestational trophoblastic diseases, Ca breast
3. Diagnosis and surgical management of clinical conditions related to congenital malformations of genital tract. Reconstructive surgery in gynaecology.
4. Intersex, ambiguous sex and chromosomal abnormalities.
5. Infertility – evaluation and management.
  - a. Methods of ovulation induction
  - b. Tubal (micro) surgery
  - c. Management of immunological factors of infertility
  - d. Male infertility
  - e. Obesity and other infertility problems
  - f. Introductory Knowledge of advanced assisted reproductive techniques (ART)
6. Reproductive tract infections: Prevention, diagnosis and treatment
  - a. STD
  - b. HIV
  - c. Genital tuberculosis
  - d. Other infections
7. Principles of radiotherapy and chemotherapy in gynaecological malignancies. Choice, schedule of administration and complications of such therapies.
8. Rational approach in diagnosis and management of endocrinal abnormalities such as: menstrual abnormalities, amenorrhoea (primary / secondary), dysfunctional uterine bleeding, polycystic ovarian disease, hyperprolactinemia (galactorrhoea), hyperandrogenism, thyroid – pituitary – adrenal disorders.
9. Urological problems in gynaecology – Diagnosis and management
  - a. Urinary tract infection
  - b. Urogenital injury and fistulae
  - c. Urinary Incontinence
  - d. Other urological problems



10. Menopause: management (HRT) and prevention of its complications
11. Endoscopy (laparoscopy – hysteroscopy)
  - a. Diagnostic and simple therapeutic procedure (PG students must be trained to do these procedures).
  - b. Recent advances in gynaecology – diagnostic and therapeutic
  - c. Introduction to advanced operative procedures

## **Operative Gynaecology**

1. Abdominal incisions, suture material, instruments and knotting
2. Abdominal and vaginal hysterectomy
3. Surgical procedures for genital prolapse, fibromyoma, endometriosis, ovarian adnexal, uterine, cervical, vaginal and vulval pathologies.
4. Surgical treatment for urinary and other fistulae, urinary incontinence
5. Operative endoscopy

## **Family Welfare and Demography**

1. The importance of demography in obstetrics and gynecology.
2. Statistics regarding maternal mortality/morbidity, perinatal mortality / morbidity, birth rate, fertility rate.
3. Organizational and operational aspects of National Health Policies and Programs, in relation to population and family welfare including RCH.
4. Knowledge of contraceptive techniques both female & male (including recent developments)
  - a. Temporary methods
  - b. Permanent methods
  - c. Recent advances in contraceptive technology
5. Provide adequate services to service seekers o contraception including follow-up.
6. Medical termination of pregnancy: act, its implementation, providing safe and adequate services.
7. Population dynamics.

## **Paper- IV: Recent advances in Obstetrics and Gynaecology**

Recent guidelines and Evidence based approach

## **PRACTICAL TRAINING**

Operative skills in Obstetrics and Gynaecology

1. Adequate proficiency in common minor and major operations, postoperative management of their complications.
2. Operative procedures must be done by PG students during training period (*in graded manner – assisting, operating with senior person assisting, operating under supervision*).

## **Operations MUST BE DONE / OBSERVED during PG Residency and Log Book maintained**

### **Obstetrics**

1. Conduct normal deliveries
2. Episiotomy and its repair
3. Application of forceps and ventouse (10)
4. Assisted breech delivery
5. Cesarean section delivery (10 must be done)
6. Manual removal of placenta
7. Amnioinfusion, Amniocentesis (therapeutic)
8. Management of genital tract obstetrical injuries
9. Post partum sterilization / minilap tubal ligation (20 must be done)
10. Medical termination of pregnancy – various methods (20 must be done)
11. Venesection
12. Culdocentesis

### **Gynaecology**

1. Endometrial / cervical biopsy
2. Dilatation and curettage
3. Evacuation
4. Culdocentesis, colpotomy
5. Opening and closing of abdomen (10 must be done)
6. Operations for utero-vaginal prolapse
7. Ovarian cyst operation
8. Operation for ectopic pregnancy (2)
9. Vaginal and abdominal hysterectomy (5 must be done)
10. Basic Laparoscopic skills
11. Laparoscopic sterilization

## **Operations must be OBSERVED AND/OR ASSISTED when possible**

1. External Cephalic Version
2. Internal podalic version
3. Caesarean Hysterectomy
4. Internal iliac artery ligation
5. Destructive obstetric operations

6. Vaginal reconstructive surgery
7. Tubal microsurgery
8. Radical operations for gynaecologic malignancies
9. Repair of genital fistulae
10. Operations for urinary incontinence
11. Myomectomy
12. Diagnostic & Operative Laparoscopic surgery
13. LEEP, Cryotherapy, Electrocautery
14. IUI

## **Diagnostic Procedures**

1. Interpretation of x-rays – Twins, common fetal malformations/ mal-Presentations, abnormal pelvis (pelvimetry), Hysterosalpingigraphy
2. Sonographic pictures at various stages of pregnancy – normal and abnormal pregnancies, Fetal biophysical profile & doppler study, common gynaecological pathologies.
3. Sonography in infertility: Follicular study and Endometrial study.
4. Amniocentesis
5. Fetal surveillance methods – Electronic fetal monitoring and its interpretation
6. Post coital test
7. Cervical Pap Smear – VIA / VILI (visual inspection with acetic acid / visual inspection with Lugol's iodine)
8. Colposcopy
9. Endoscopy – Laparo & Hysteroscopy.

## **Health of Adolescent Girls and Post Menopausal Women**

1. Recognize importance of good health of adolescent and postmenopausal women.
2. Identification and management of health problems of postmenopausal women.
3. Understanding and planning and intervention program of social, educational and health needs of adolescent girls & menopausal women.
4. Education regarding rights and confidentiality of women's health, specifically related to reproductive function, sexuality, contraception and safe abortion.
5. Geriatric problems.

## **Reproductive tract and 'HIV' Infection**

1. Epidemiology of RTI and HIV infection in Indian women of reproductive age group.

2. Cause, effect and management of these infections.
3. HIV infections in pregnancy, its effects and management.
4. Relationship of RTI & HIV with gynecological disorders.
5. Planning and implementation of preventive strategies.

### **Medicolegal Aspects**

1. Knowledge and correct application of various acts and laws while practicing obstetrics and gynecology, particularly MTP act and sterilization, Preconception and P.N.D.T. Act.
2. Knowledge of importance of proper recording of facts about history, examination findings, investigation reports and treatment administered in all patients.
3. Knowledge of steps recommended for examination and management of rape cases.
4. Knowledge of steps taken in the event of death of a patient.
5. Proper consent taking in Obstetrics and Gynecology.

### **Environment and Health**

1. Concept of safe disposal of human body fluids and other materials.
2. Universal precautions need to be taken in examination and surgical procedures for the prevention of HIV and other diseases.
3. Effect of environment on pregnancy outcome.

## **Internal Assessment**

Yearly (end of 1<sup>st</sup>, 2<sup>nd</sup> & 3<sup>rd</sup> year) theory and practical examination will be conducted by internal examiners and each candidate will enter details of theory paper, cases allotted (2 long & 2 short), obstetric & gynaecology viva. Log book to be brought at the time of final practical examination.