

Maternofetal and Perinatal Medicine
Subspecialist training programme .

POSTGRADUATE TRAINING AND ASSESSMENT
WORKING PARTY

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The management of high risk pregnancies and fetal pathology is a frequent problem and antenatal diagnosis increasingly required a multidisciplinary approach . In some cases it will require the involvement of an individual who has had special training in materno-fetal and neo-natal physiology and pathology as well as genetics, embryology , fetal and maternal screening and diagnostic procedures , perinatal care and counselling .

EBCOG notes with approval the development of subspecialty practice in a number of countries and considers that materno- fetal medicine should be recognised as a subspecialty in Europe .

Educational objectives and requirements for training in these subspecialist have been defined with acknowledged experts from the European Association of Perinatal Medicine (EAPM) and are recognised in the syllabus (Annexe I) . The role of a subspecialist is complementary and not competitive with that of the specialist in Obstetrics and gynaecology .

Training of the maternofetal medicine subspecialist :

1- Definition .

The maternofetal subspecialist is a specialist in obstetrics and gynaecology who has had a theoretical and practical training in :

- detailed risk assessment before during and after pregnancy

- ante natal diagnosis of the wide range of materno-and fetal disorders . Some of which may require invasive procedure.
- management of very high risks pregnancies during the antenatal , intrapartum , and post partum period .
- The practice of materno-fetal and Perinatal medicine exclude training and practice in another subspecialty .

2-Aim of the training .

To improve the outcome of women and fetuses who are at high risk , in collaborations with others care providers .

3-Objectives of the training :

To train a subspecialist to be capable of :

- improving knowledge , practice , teaching , research and audit .
- co-ordinating and promoting collaboration in organising the service
- providing leadership in the development and in research within subspecialty .

4-Organisation of training :

- the number of training posts should be strictly regulated by the relevant national body in order to provide sufficient expertise
- training programme should be in a multidisciplinary center of obstetrics and gynaecology and should be organised by a subspecialist or an accredited subspecialist .¹
- center should use guidelines and protocols finalised by national professional bodies reviewed at regular intervals .
- training as a sub specialist in maternofetal does not imply an exclusive activity in that field.

5-Means of the training .

5.1 Entry requirements:

- a recognised specialist qualification in Obstetrics & Gynaecology or have completed a minimum of five years in an approved training programme in obstetrics and gynaecology .
- the availability of a recognised training post .

5.2 An adequately remunerated post in a recognised training programme is a basic condition. Each trainee must have an appointed tutor for guidance and advice.

¹ Initially there will be a transitional period when accreditation for training will be given by the national appointing authority to a Specialist in Obstetrics and gynaecology with proven scientific and clinical expertise in Maternofetal and Perinatal medicine . Subsequently only individuals with training in the subspecialty should hold such a position .

5.3 The estimated number of training posts should reflect the national need for subspecialists in maternofetal and perinatal medicine as well as the facilities and finance available for training.

5.4 Trainees should participate in all relevant activities of the training unit such as the care of out-patients and in-patients, on call duties , performing ultrasound examination , intra uterine procedures and participating in educational activities, including the teaching of other health professionals. Participation in audit and clinical or basic research is essential

5.5 Arrangements for postgraduate training must be compatible with national employment and teaching legislation in relation to remuneration, hours of work and rights of employees in such matters as sick leave, maternal and paternal leave and compulsory military service.

5.6 Duration of training

This should include **a minimum of two years** in a approved programme and should cover the clinical and research aspects of the following areas :

- ultrasound and other imaging procedures
- genetics
- neonatology
- maternal and fetal surveillance in high risk pregnancies
- basic science e.g. maternal and fetal physiology, histo- pathology,, embryology,
- counselling

5.7 Training should be structured throughout with clearly defined targets to be met after specified intervals. An educational plan should be drawn up in consultation with the trainee at the beginning of each attachment and progress should be monitored regularly by mean of the log book.

5-8 A trainee may spent some training time an another(1 or 2) center(s) recognised by EBCOG and approved by the appropriate national committee.

6-Assessment of training

6.1 In all European countries approval of training and trainers should be the responsibility of a national or regional authority which has the power to withdraw recognition as necessary.

6.2 Approval of a training centre shouldbe based on :

- annual statistics .
- internal quality control and audit
- organised teaching sessions
- availability of a:
 - clinical genetics unit
 - intensive neonatal care unit
 - neonatal surgical unit

- adult intensive care unit
- designated place for caring severely ill women
- perinatal perinatal pathologist
- multidisciplinary team regularly involved in the management of high risks pregnancies.

-Fulfilment of defined criteria for minimum activity for each trainee per year :

- 200 supervised high risk pregnancies and deliveries
- 200 advanced ultrasound examinations
- 200 fetal invasive procedures (amniocentesis , choriovillus sampling , fetal blood sampling)

6-3-Assessment of the trainee should be carried out by a national or federal committee of experts and would take into consideration :

- -Participation in maternofetal medicine courses particularly those recognised by EBCOG advised by the European Association of Perinatal medicine (EAPM).
- -completion of a log book of clinical experience in fetomaternal medicine
- -Peer review publications in a nationally recognised journal .

6-4 .A representative from the EBCOG Postgraduate Training and Assessment Working Party may be an observer on the national or federal assessment committee.

6.5 -EBCOG in conjunction with European Association of Perinatal medicine (EAPM) is willing to organise an evaluation visit to a subspecialist unit if requested .

Annexe I

Syllabus

Definitions :

- **Comprehensive knowledge** : a complete understanding of topics which are important in the clinical practice of maternofetal medicine.
- **Detailed knowledge** : an understanding of important aspects of topics which may be more comprehensively understood by a specialist in another discipline such as geneticist .
- **Knowledge** : a basic understanding of all topics used in the practice of maternofetal and perinatal medicine.

1-BASIC SCIENCES

1-1 Anatomy.

- -Comprehensive knowledge of the fetus , placenta and maternal developmental anatomy relative to gestation age .
- - Detailed knowledge of cell structure in relation to function ..
- -Detailed knowledge of the histology of the genital tract , endocrine glands , placenta and the fetus .

1-2 Physiology

- Comprehensive knowledge of maternal fetal , placental and neonatal physiology and physiopathology .
- Knowledge of common physiological changes in fetal activities related to gestational age and pathological pregnancies .
- Comprehensive knowledge of fetomaternal metabolism, placenta transfer

1-3 Genetics and Molecular Biology.

- Detailed knowledge of cell replication .
- Detailed Knowledge of the molecular, genetic and chromosomal basis of inherited disorders .
- Detailed knowledge of chromosome of all defects causing fetal malformations .

1-4 Embryology and Fetal development.

- Detailed knowledge of common fetal malformations .
- Comprehensive knowledge of implantation , development of placenta membranes and amniotic fluid , organogenesis , the development of all body systems from embryonic through fetal to neonatal life .

1-5 Pathology .

- Knowledge of cell growth, differentiation and death
- Detailed knowledge of histology of common conditions in relations to obstetrics and neonatology.

1-6 Statistics and research .

- Detailed knowledge of statistics and its application to research in maternofetal and perinatal medicine .
- Detailed knowledge of how to design , implement and interpret a clinical trials.

1-7 Microbiology and virology .

Comprehensive knowledge of infective agents encountered in maternofetal and perinatal medicine , their mode of transmission , cellular and systemic effects .

1-8 Biochemistry

Detailed knowledge of the metabolism of carbohydrates , lipids , proteins and nucleic acids, of the role of the vitamins, minerals, and enzymes and of the composition and regulation of intracellular and extra cellular fluids .

Knowledge of gene expression and protein metabolism .

1-9 Biophysics .

Detailed knowledge of the physical principles and biological effects on the reproductive organs and fetus of heat , sound and electromagnetic radiation. Understanding of the principles of laser, isotopes, X rays, ultrasound and magnetic resonance imaging .

1-10 Immunology.

Detailed knowledge of immune mechanisms, and of the principles of reproductive immunology.

1-11 Pharmacology .

Comprehensive knowledge of the properties, pharmacodynamics, actions, interactions and hazards of pharmacological agents which are used in obstetrics and particularly the principles of teratogenicity and the implications of prescribing during pregnancy , labour and lactation .

2- CLINICAL SCIENCES

It is expected that the subspecialist in maternofetal medicine will have a greater in-depth knowledge of normal and abnormal pregnancy than the specialist in gynaecology and obstetrics . This should include a detailed knowledge of maternal , fetal and neonatal diseases , neonatal resuscitation and principles of neonatal management .

2-1. Epidemiology.

- Detailed knowledge of collection and interpretation of data in maternofetal and perinatal medicine such as national or regional data base .
- Detailed knowledge of the epidemiological statistical data on clinical problems in maternofetal medicine .
- Knowledge of maternal and perinatal mortality and morbidity rates and their causes in the EU.

2-2. Clinical quality control .

- Detailed knowledge of principles, methodology and implementation in the provision of clinical care.
- Detailed knowledge of principles and application of evidence based medicine .
- Detailed knowledge of the principles of health economics.

2-3. Population genetics

Detailed knowledge of population genetics .

2-4 Congenital abnormalities .

Comprehensive knowledge of screening and diagnosis and management of congenital abnormalities including counselling.

2-5 Endocrinology

Comprehensive knowledge of materno-fetal endocrinology .

2-6. Infectious diseases.

Detailed knowledge of epidemiology, aetiology , pathology , maternal, fetal and neonatal complications, prevention and treatment of infectious diseases during pregnancy .

2-7. Biophysical and Biochemical assessment

Comprehensive knowledge and a high level of clinical skill in ultrasound scanning .

Comprehensive knowledge of fetal biochemical and biophysical assessment .

2-8 Fetal perinatal pathology

- Detailed knowledge of autopsy techniques informations and interpretation
- Detailed knowledge of histopathologic perinatal studies .

2-9. Bereavement guidance.

Knowledge of the principles and how to establish a service .

2-9 Ethics and the laws.

- Detailed knowledge of ethical and legal issues at a national and European level .
- Comprehensive knowledge of the principles and applications of risk management in obstetrics .