EUROPEAN BOARD AND COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

SUBSPECIALIST TRAINING PROGRAMME

IN

MATERNOFETAL AND PERINATAL MEDICINE

This Programme was developed by the
POSTGRADUATE TRAINING AND ASSESSMENT
WORKING PARTY

The management of high risk pregnancies and fetal pathology is a frequent problem and antenatal diagnosis increasingly requires 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 and perinatal care and counselling.

EBCOG notes with approval the development of subspecialty practices 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 areas have been defined in conjunction with acknowledged experts from the European Association of Perinatal Medicine (EAPM) and are defined in the syllabus (Annexe I). The role of a subspecialist is complementary to, and not in competition with, that of the specialist in Obstetrics and Gynaecology.

Training the subspecialist in maternofetal medicine

1. Definition

The maternofetal subspecialist is a specialist in Obstetrics and Gynaecology who has had a theoretical and practical training in:

a) detailed risk assessment before during and after pregnancy;
b) ante-natal diagnosis of the wide range of materno-and fetal disorders, some of which may require an invasive procedure;
c) management of very high risks pregnancies during the ante-natal , intra-partum , and post-partum period.

The practice of materno-fetal and perinatal medicine excludes the subspecialist from training and practice in another subspecialty.

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2. The aim of the training

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

3. The objectives of the training

To train a subspecialist to be capable of:

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

4. The organisation of training

- The number of training posts should be strictly regulated by the relevant national body in order to provide sufficient expertise.
- Training programmes should be in a multidisciplinary centre of Obstetrics and Gynaecology and should be organised by a subspecialist or an accredited subspecialist.[1]
- Centres should use the guidelines and protocols which are finalised by national professional bodies and are reviewed at regular intervals.
- Training as a subspecialist in maternofetal medicine does not imply that the subspecialist cannot practise in the generalist field of Obstetrics and Gynaecology.

5. The means of training

5.1 Entry requirements:

• a recognised specialist qualification in Obstetrics and 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 be allocated a tutor to provide guidance and advice.

5.3 For each country, 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 during both day and night, performing ultrasound examinations and 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.

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[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.

5.5 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
The duration of subspecialty training should include a **minimum of two years** in an 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 and 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 spend some training time in another (1 or 2) centre(s) recognised by EBCOG, after 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, if necessary.

6.2 Approval of a training centre should be 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 for severely ill women;
  - perinatal pathologist;
  - multi-disciplinary team regularly involved in the management of high risk 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 should take into consideration:

- participation in Maternofetal Medicine courses, in particular 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 EAPM, is willing to organise an evaluation visit to a subspecialist unit, if requested.

Annexe I

Syllabus

Definitions:

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

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 Obstetrics and Gynaecology. 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, information and interpretation.
-Detailed knowledge of histopathologic perinatal studies.

2.9 Bereavement guidance

-Knowledge of the principles and how to establish a service.

2.10 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.