Royal College of Obstetricians & Gynaecologists 90

Subspecialty Training Maternal & Fetal Medicine

Definitive Document 2019

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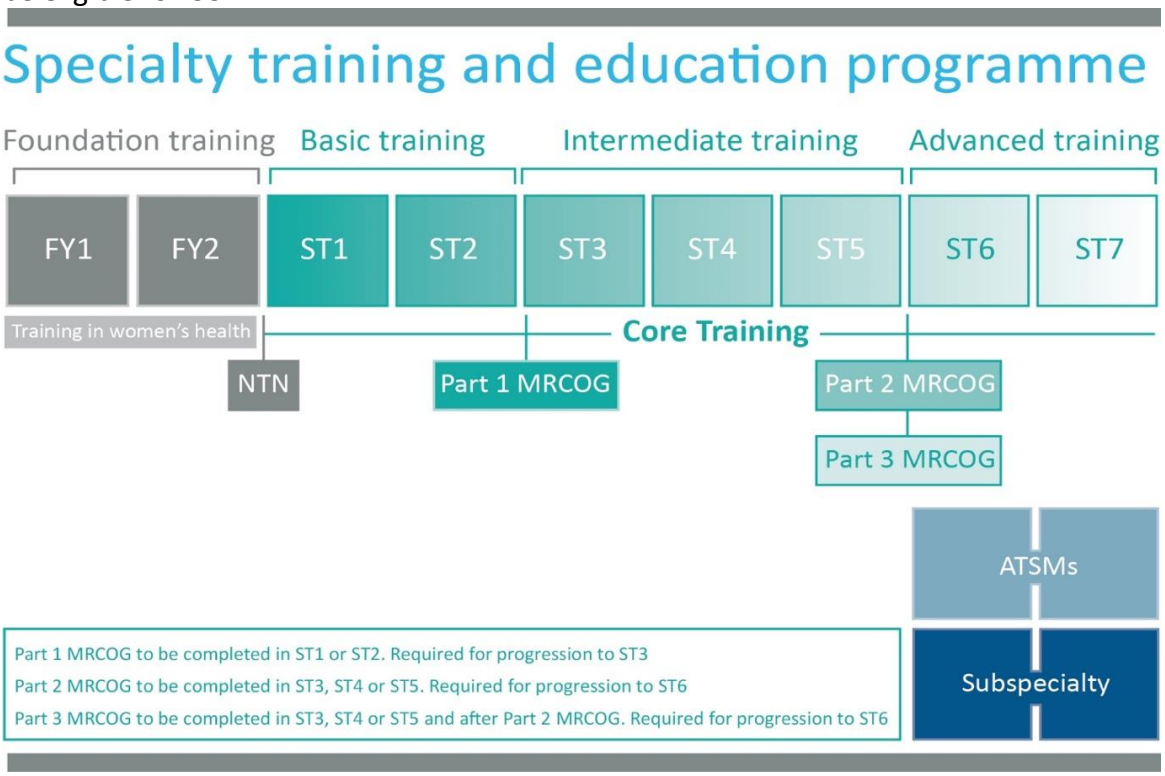
1 Introduction

This Definitive Document relates to the subspecialty of Maternal & Fetal Medicine (MFM) and addresses the purpose, learning outcomes, content of learning, process of training and the programme of assessment for MFM, which is in addition to the core curriculum requirements for CCT. The Core Curriculum covers ST1-7 as detailed in the Core Curriculum Definitive Document.

O&G is a run-through training programme lasting seven years. The fundamental training structure and waypoints remain the same in the new curriculum. In the final two years of training, trainee doctors have to complete two ATSMs OR one subspecialty programme to be eligible for CCT.



2 Purpose of the Maternal & Fetal Medicine subspecialty training programme

2.1 Background

Over recent years the RCOG has published three important strategic reports: *Becoming Tomorrow's Specialist*, *Tomorrow's Specialist* and *High Quality Women's Healthcare.* Although there was an extensive review of the O&G core curriculum during 2012 and 2013, our research made it clear that the emphasis and design of the revised curriculum did not adequately address some of the key professional elements of being a consultant, nor was it flexible enough to be easily modified to fit future working practice. A new more adaptable curriculum was therefore required that will produce specialists who have the skills, knowledge and attributes needed in the 21st century.

The RCOG Curriculum Review Group was set up to take forward the RCOG's *Becoming Tomorrow's Specialist* recommendations relating to pre-CCT training. Its 2015 working party report identified the deficiencies in the current core curriculum with its emphasis on technical skills, and the lack of focus on non-technical and professional skills required by a modern consultant. Most importantly, the Review Group developed a definition of the required characteristics of an O&G consultant for the first time – and this has provided the basis for the work since carried out. The definition is as follows:

A highly skilled Obstetrician and Gynaecologist with the appropriate knowledge and attitudes to lead and deliver safe, high quality care taking account of individual needs and advocating for women's healthcare. This will involve a questioning approach to research and quality improvement. Working well in multiprofessional teams is essential for safe, effective patient care; Obstetricians and Gynaecologists must be good communicators, supportive of staff and happy to share their expertise and experience, as well as being open to the views of others. On completing training, the individual will be prepared for lifelong learning, which will allow them to be adaptable and flexible for a modern NHS.

At the same time, the publication of the GMC's Generic Professional Capabilities (GPCs) and the requirement to move to outcomes-based curricula combined with the development of a new ePortfolio necessitated a complete review of all the O&G advanced curricula to ensure that they too reflect the aspirations of the Review Group and the definition of the O&G consultant.

2.2 General description of the revised MFM curriculum

The RCOG is committed to developing specialists with generic skills and our new curricula framework aims to do just that. Key to this is to define what a modern consultant in the NHS needs to be and to tailor the output of specialty training towards this. The RCOG has also supported the Shape of Training agenda, ensuring the O&G training programme produces generalists with skills to manage emergency care while working collaboratively with other specialties to deliver individualised patient care. All O&G curricula, whether core or advanced, acknowledge that the specialist will manage female, transgender and non-binary individuals of all age groups and ethnicities, including young people, and vulnerable individuals.

In the final 2 years of the training programme, trainees will be expected to develop professional interests which corresponds with their skills and interests and future needs of the health service. They can either choose to do two Advanced Training Skills Modules (ATSMs) or one of four subspecialties. The subspecialties are Urogynaecology (UG), Gynaecological Oncology (GO), Maternal and Fetal Medicine (MFM) and Reproductive Medicine (RM).

The purpose of the MFM subspecialty curriculum is to produce doctors with the generic professional and subspecialty-specific capabilities needed to advise and treat people presenting with the full range of maternal and fetal medical conditions in tertiary referral centres. MFM subspecialists should have the skills to organise and supervise services at a local and regional level, contribute to academic maternal and fetal medicine, lead on the translation of new research findings into clinical practice, be providers of support and

guidance to non-subspecialist colleagues, and be active in teaching and quality management. The MFM subspecialty curriculum recognises these clinical and non-clincial skills and provides a framework for training by defining the standards required to work at consultant subspecialist level. It also encourages the pursuit of excellence in all aspects of clinical and professional practice, and for the trainee to take responsibility for their own learning, as they would as a consultant.

The curriculum has not been revised since its introduction in 2007. Work to update the curriculum was commenced in 2015, but not taken further due to discussions on whether to separate the maternal and fetal elements, and to the GMC's introduction of the credentialing concept.

MFM subspecialty training consists of two years of clinical training plus 12 months of research training. Trainees may opt to be research exempt from the research training if they have already completed the Advanced Professional Module (APM) Clinical Research, or if they have a higher degree (MD(Res) or PhD) relevant to MFM, or two or more first author MFM subspecialty specific publications in citable, refereed MEDLINE journals. A trainee who is not research exempt would be expected to produce a minimum of two first author MFM subspecialty specific publications in citable, refereed MEDLINE journals, or complete the APM Clinical Research to complete the research component of subspecialty training. The research element varies from a full year of dedicated research, to research sessions or blocks of research, depending on the organisation of the GMC/RCOG approved subspecialty programme. Subspecialty training can be commenced at ST6 at the earliest, and after successful competitive appointment to a subspecialty training post. Entry to subspecialty training is subject to the trainee having completed all clinical CiPs that lie outside the chosen subspecialty. Normally the trainee should have completed all core clinical O&G CiPs prior to starting but this may not be practically possible.

A trainee is eligible to register for subspecialty training on satisfactory completion of the Annual Review of Competence Progression (ARCP) (i.e. outcome 1) at the end of ST5 which includes attainment of the MRCOG and following successful competitive interview. To be awarded CCT all trainees must complete the generic and specialty specific CiPs. For the CCT to recognise MFM subspecialty accreditation they must also complete the advanced obstetric CiPs as detailed in table 1, three of which are specific to MFM subspeciality training.

No change is being proposed to accessing subspecialty training in MFM.

The revised MFM curriculum consists of Capabilities in Practice (CiPs) (high-level statements outlining the expectations of a doctor at the end of training). These all fall into the Clinical Expert Professional Identity (PI). The PIs, which are a fundamental concept of the core curriculum, are divided into generic (Developing the doctor) and specialty-specific (Developing the obstetrician & gynaecologist). The new CiPs require judgment based on the trainee's overall capability at the end of training. They support a move away from a 'disease-based' structure to encourage a more person-centred approach that prioritises the needs and complexities of each individual.

The revised MFM curriculum builds on the modular approach of the RCOG submission for the five obstetric Advanced Training Skills Modules (ATSMs). The obstetric ATSMs are Fetal Medicine, Obstetric Medicine, High Risk Pregnancy, Advanced Labour Ward Practice and Labour Ward Lead. These ATSMs are made up of a number of individual components, some of which are shared between the different ATSMs. CiPs have been created from these individual component parts and a pre-determined combination of these CiPs has to be achieved to complete a particular ATSM. The MFM subspecialty curriculum draws from this same pool of CiPs, and also has three CiPs unique to the MFM subspecialty (CiPs 12, 13 and 14) The table below shows the CiP Grid and overview of how the CiPs fit into the different ATSMs and MFM subspecialty curriculum.

Table 1

	Advanced Obstetric Capabilities in Practice	**FM ATSM**	**HRP ATSM**	**Obs Med ATSM**	**Ad LW ATSM**	**LW lead ATSM**	**MFM SST 2019**
CiP1	The doctor uses ultrasound to screen for, and manage, pregnancy complications, other than fetal abnormality						
CiP2	The doctor confirms fetal normality and manages the key conditions targeted by the Fetal Anomaly Screening Programme (FASP)						
CiP3	The doctor is able to manage a wide range of common conditions affecting the fetus						
CiP4	The doctor describes, obtains informed consent for and performs amniocentesis						
CiP5	The doctor is able to recognise and manage common medical conditions in the pregnant woman						
CiP6	The doctor safely manages pregnancy in women with mental health, social and lifestyle factors						
CiP7	The doctor manages intrapartum medical complications and pre-existing conditions						
CiP8	The doctor has obstetric medicine skills covering a wide range of maternal medical conditions						
CiP9	The doctor recognises key intrapartum scenarios and manages them using the necessary technical and non-technical skills						
CiP10	The doctor uses ultrasound to optimise outcomes during labour and the immediate puerperium						

CiP11	The doctor takes a key role of leadership, management and patient safety on labour ward						
CiP12	The doctor is able to lead in providing care to women with pregnancies complicated by the full range of fetal concerns						
CiP13	The doctor can independently manage, in conjunction with specialists from other disciplines, pregnancies complicated by the widest range and most complex of maternal medical conditions						
CiP14	The doctor can apply knowledge of clinical and molecular genetics to the management of complex pregnancy						

Table 2 – Professional Identity and Capabilities in Practice for MFM

DEVELOPING THE OBSTETRICIAN & GYNAECOLOGIST: SST-MFM	
PROFESSIONAL IDENTITY: CLINICAL EXPERT	
CiP1	The doctor uses ultrasound to screen for and manage pregnancy complications, other than fetal abnormalities.
CiP2	The doctor confirms fetal normality and manages the key conditions targeted by the Fetal Anomaly Screeining Programme (FASP).
CiP3	The doctor is able to manage a wide range of common conditions affecting the fetus.
CiP4	The doctor describes, obtains informed consent for and performs amniocentesis.
CiP5	The doctor is able to recognise and manage common medical conditions in the pregnant woman.
CiP7	The doctor manages intrapartum medical complications and pre-existing conditions.
CiP8	The doctor has obstetric medicine skills covering a wide range of matnernal medical conditions.
CiP9	The doctor recognises key intrapartum scenarios and manages them using the necessary technical and non-technical skills.

CiP10	The doctor uses ultrasound to optimise outcomes during labour and the immediate puerperium.
CiP12	The doctor is able to lead in providing care to women with pregnancies complicated by the full range of fetal concerns.
CiP13	The doctor can independently manage, in conjunction with specialists from other disciplines, pregnancies complicated by the widest range and most complex of maternal medicine conditions.
CiP14	The doctor can apply knowledge of clinical and molecular genetics to the management of complex pregnancy.

In parallel with the introduction of the core curriculum we have reviewed our 'assessment at work' methods. We have piloted and collated evidence for modified versions of our existing workplace-based assessment tools, the modification being the addition of a reflective element for each tool. The new tools reflect both the new GPCs mandated by the GMC as well as our own aspirations for developing a lifelong reflective practitioner. These new tools will be used by all trainees.

Our programme of assessment (PoA) will include a broad range of evidence drawn from different formats and environments to ascertain minimal standards and competencies, regarding both expectations and attainments, at critical progression points and on completion of training. The PoA will be based on robust and fair assessment principles and processes.

2.3 Interdependencies between the MFM subspecialty curriculum and other training programmes, professions or areas of practice

The overall 7-year training programme aims to develop Obstetricians & Gynaecologists who work in and lead multidisciplinary teams, and who can work with colleagues from a range of professional groups in a variety of hospital and community settings. This emphasis can be seen in the MFM CiPs. The combination of the MFM subspecialty CiPs with the other core specialty and generic CiPs in the seven year programme will provide a more integrated approach to service and care, to fully meet the needs of the people using our clinical services.

During its development the core O&G curriculum underwent extensive consultation with stakeholders including trainees, trainers and Heads of Schools, as well as external stakeholders including other related specialties (Royal College of General Practitioners, Faculty of Sexual and Reproductive Health and Royal College of Midwives), and patient groups to gain their insight into what they require from a high quality O&G consultant. Full details are given in the core O&G curriculum submission.

The British Maternal & Fetal Medicine Society (BMFMS) has been consulted and led this MFM curriculum revision into the new outcomes-based format. The content of this

curriculum is fundamentally unchanged from the current version in terms of knowledge criteria and clinical content. Where appropriate, generic professional skills have been removed as these are now covered in the core curriculum.

2.4 Flexibility and the transferability of learning

The creation of generic CiPs within the core curriculum design allows ease of transfer between specialties, as these have been mapped to the GMC's GPCs. In addition, all the clinical CiPs, whether in core, ATSMs or subspecialty curricula, have been mapped to the GPCs. Evidence can be acquired by experiences in a wide range of posts and environments, allowing flexibility to meet the needs of the service and the individual trainee.

As subspecialty trainees are also still following the core O&G curriculum at the same time as their subspecialty training, they are required to display a wide range of behaviours and attributes, in addition to their specialist MFM clinical skills and knowledge, reflecting the broad nature of this specialty in practice. Trainees attaining CCT will be skilled in managing the labour ward independently and managing the acute gynaecological on call service, as well as caring for people with maternal and fetal conditions. They will have expertise in practical procedures related to the clinical care of women and will be expert communicators with strong interpersonal skills, strong emotional awareness and adept at the management of emotionally complex situations. These core areas ensure that doctors in training and beyond the CCT can provide safe care whilst working on a range of challenging and diverse rotas, balancing acute and non-emergency service provision, and encouraging trainees to experience a wide range of hospital and other healthcare environments. Trainees following the MFM curriculum will also need to demonstrate that they have achieved thorough anatomical knowledge and surgical skills appropriate for a subspecialist MFM surgeon, and that they have the knowledge and skills to manage the full range of conditions affecting maternal and fetal health.

All Obstetricians and Gynaecologists achieving CCT regardless of their ATSMs or subspecialty training will therefore have demonstrated achievement of a range of generic and specialty-specific capabilities. Doctors achieving CCT with subspecialist accreditation will also have demonstrated achievement of a set of subspecialist CiPs. These CiPs fully incorporate the GPCs, meeting the requirements set out by the GMC.

These core areas ensure that doctors in training and beyond the CCT can provide safe care whilst working in a range of challenging and diverse work environments, balancing acute and non-emergency service provision. They also encourage trainees to experience a wide range of hospital and other healthcare environments. All CCT holders will:

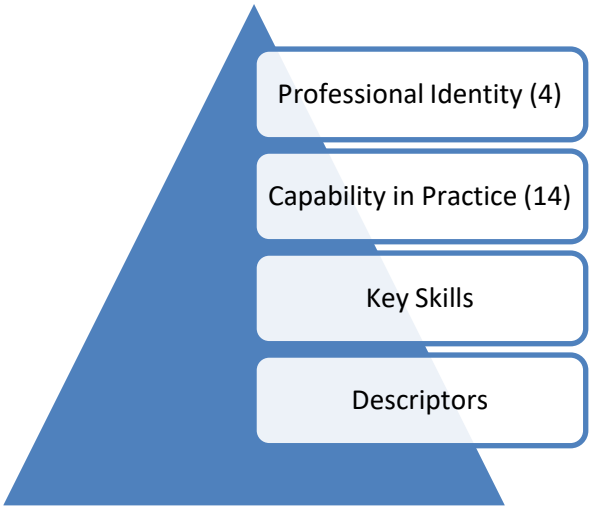
- Be able to develop and apply innovative approaches to teaching in women's health and research.
- Place the principle of informed decision making with women and their families at the heart of their practice.
- Be advocates for women's health.
- Be up to date in their practice and promote and implement evidence-based medicine.

- Be a role model for the highest standards of care and professional behaviours within the specialty and across the medical profession as a whole.

3 The organisation and content of the MFM curriculum

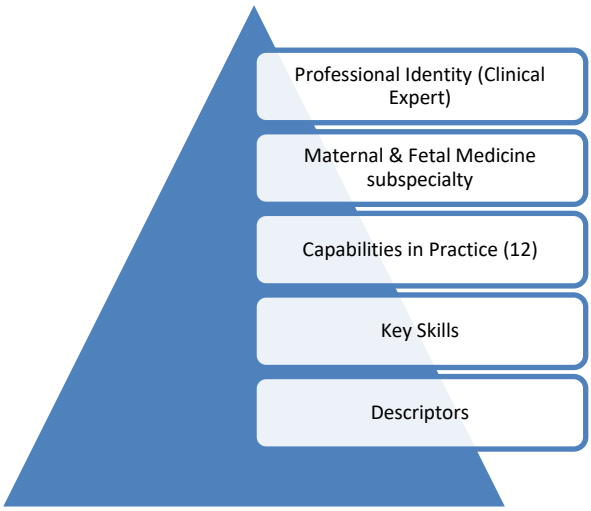
The practice of O&G requires the generic and specialty knowledge, skills and attitudes to advise and treat people presenting with a wide range of gynaecological and obstetric conditions and symptoms. It involves particular emphasis on woman-centred care, diagnostic reasoning, managing uncertainty, dealing with comorbidities, and recognising when specialty opinion or care is required. The modern consultant is defined by four Professional Identities (PIs) in the new O&G Core Curriculum to incorporate all these elements, as demonstrated in Figure 1 below.

Figure 1 – Core Curriculum design structure



All the CiPs in the MFM curriculum are in the Clinical Expert Professional Identity. This is because the trainee is also completing the Core Curriculum which contains all the necessary generic professional skills a CCT-holder will need.

Figure 2 – MFM curriculum design structure



3.1 Curriculum framework features

The curriculum content is structured as follows:

Section 1 Capabilities in Practice

Each CiP is supported by the key skills expected to be demonstrated by an accredited MFM subspecialist. Each key skill has a set of descriptors associated with that activity or task. These are intended to help trainees and trainers recognise the minimum level of knowledge, skills and attitudes which should be demonstrated by O&G doctors in the MFM subspecialty. Descriptors may be used to provide guidance to trainees when they self-assess their performance against the minimum expected standards for their year of training. They are not a comprehensive list and there are many more examples that would provide equally valid evidence of performance. Many of the descriptors refer to person-centred care and informed decision making. This is to emphasise the importance of exploring and discussing care or treatment options, their risks and benefits, with women and their families.

Each CiP gives guidance for the kinds of evidence that will be required to demonstrate progress, including a list of the summative OSATS.

Each CiP lists the knowledge criteria relevant to that CiP.

Section 2 Procedures

All the procedures that are expected to be experienced during the MFM subspecialty training programme are listed, with an indication of the final level expected by the end of training, and which CiP they belong to. There are a number of procedural skills in the MFM subspecialty in which a trainee must become proficient to the level expected by the end of training. Trainees must be able to outline the indications for these procedures and recognise the importance of valid informed consent, and of requesting for help when appropriate. For all practical procedures the trainee must be able to recognise complications and respond

appropriately if they arise, including calling for help from colleagues in other specialties when necessary. Trainees will be able to record their procedures in the new ePortfolio.

When a trainee has been signed off as being able to perform a procedure independently, they are not required to have any further assessment (OSATS) of that procedure, unless they or their Educational Supervisor think that this is required (in line with standard professional conduct).

Section 3 GMC Generic Professional Capabilities
Appropriate professional behaviour should reflect the principles of the GMC's Good Medical Practice and the GPCs. Therefore all subspecialty curricula have been mapped to the GMC GPC domains.

Section 4 Mapping of assessments to CiPs
The mapping shows the possible formal methods of assessment for each CiP. Section 6.7 outlines more detail on the mapping.

Assessment of the CiPs will be underpinned by the descriptors and judged against the requirements articulated in the MFM Curriculum Guide. The Subspecialty Training Programme Supervisor (STPS) will carry out an annual global judgement, and satisfactory sign off will indicate that there are no concerns before the trainee can progress to the next assessment point.

In order to complete training and be recommended to the GMC for the award of CCT and entry onto the specialist register, the doctor must demonstrate that they are capable of unsupervised practice (level 5) in all CiPs except where otherwise indicated, as well as meet the requirements of the Core Curriculum.

3.2 The Maternal & Fetal Medicine subspecialty curriculum

What follows is the curriculum framework, which articulates the detail for each of the Maternal and Fetal Medicine CiPs, including the mapping to the GPCs.

SST-MFM: MATERNAL AND FETAL MEDICINE

SECTION 1: CAPABILITIES IN PRACTICE

CiP 1: The doctor uses ultrasound to screen for and manage pregnancy complications, other than fetal abnormality.	
Key Skills	**Descriptors**
Uses ultrasound in pregnancy effectively and safely	• Safely optimises the image for 2D and Doppler ultrasound. • Performs appropriate Doppler investigations and scans.
Uses ultrasound to screen, diagnose and manage a range of pregnancy	• Defines, recognises, monitors and manages severe early onset and late onset fetal growth restriction.

complications, including timely referral	• Defines, recognises, monitors and manages a twin pregnancy with growth discordance and twin to twin transfusion syndrome. • Provides appropriate antenatal care for the pregnant woman with red cell alloimmunisation, recognising when surveillance for fetal anaemia is indicated, and referral to a tertiary unit. • Provides care to women who have experienced mid-trimester fetal loss and extreme preterm birth. • Defines, recognises, investigates and manages disorders of amniotic fluid volume. • Diagnoses and manages low lying placenta.
Uses ultrasound to assist with pregnancy procedures	• Uses ultrasound to optimise the safety and success of external cephalic version for breech presentation. • Uses ultrasound to help define fetal position in advanced stages of labour.

Evidence to inform decision	
• Reflective practice • TO2 (includes SO) • CbD • Mini-CEX • OSATS ○ ECV	• Local and Deanery Teaching • RCOG and other e-learning • Attendance at fetal medicine clinics • Attendance at relevant MDT meetings • Direct or virtual observation of fetal blood sampling/placental laser • Attendance at ultrasound/theory courses • Log of cases • Relevant audit/ quality improvement project

Knowledge criteria

The risks associated with the different ultrasound modalities and how to limit them – mechanical index (MI) and thermal index (TI)

How to use machine controls to optimise the image, including, power, gain, focal length, magnification, sector width, frame rate, pulse repetition frequency, colour and power Doppler modes.

Local policies for the use and interpretation of 3D/4D ultrasound

Doppler ultrasound: the pathophysiology, the physics, when to use it and its interpretation

How Doppler assessments are used to monitor growth restriction, time birth and detect fetal anaemia

National guidance on monitoring for fetal growth restriction, timing of birth and triggers for referral to a subspecialist when managing fetal growth restriction

How fetal anomalies may influence the Doppler waveforms (for example cardiac arrhythmias, fetal anaemia, hydrops, and twin-twin transfusion syndrome)

Which red cell antibodies may cause haemolytic disease of the fetus and newborn, when and how surveillance for fetal anaemia should be instituted, and triggers for referral to a tertiary level unit capable of performing intrauterine transfusion

How MCA velocities are used to monitor signs of anaemia

The causes, associations, recurrence risks and preventive strategies for mid-trimester fetal loss, and preterm labour

Recognise when cervical length measurement should be offered and know the criteria for doing so accurately

The indications, complications and types of cervical cerclage

Definition of significant growth discordance in twin gestations and the importance of chorionicity

Definition of oligohydramnios and polyhydramnios and the differential diagnosis

The clinical and ultrasound features of TTTS, and referral triggers for fetal medicine subspecialty input

The management of TTTS and follow up regimes following treatment

Definition of low lying placenta and how to make the diagnosis using ultrasound.

Management of placenta praevia

The risk factors for abnormal placental invasion and vasa praevia and how to diagnose them using ultrasound

The contraindications to ECV and the role of ultrasound in helping to assess the appropriateness of ECV

Be aware of the ultrasound features of TRAP (Twin reverse arterial perfusion sequence) and conjoined twins

CiP 2: The doctor confirms fetal normality and manages the key conditions targeted by the Fetal Anomaly Screening Programme (FASP).	
Key Skills	**Descriptors**
Demonstrates normal structural findings in all trimesters and recognises if normality cannot be demonstrated	• Performs and records a detailed, systematic ultrasound of the fetus as per FASP guidance. • Understands the strengths and limitations of ultrasound for each system within each trimester.

	• Explains normal anatomy views to the woman. • Documents and records normal anatomy views. • Recognises when image quality is technically poor. • Is able to explain next steps if normal views cannot be obtained.
Counsels regarding prenatal investigations	• Explains the risks of each procedure and any alternatives. • Communicates the scope and the limitations of these tests. • Describes how prenatal samples are processed and when, and how, the results are given.
Manages the key conditions targeted by the Fetal Anomaly Screening Programme	• Takes an appropriate history and constructs, where appropriate, a family tree in women with or chance of genetic conditions. • Explains common modes of Mendelian inheritance. • Counsels for previous aneuploidy. • Offers other prenatal tests appropriately. • Recognises when to refer to tertiary centre and how best to share care and monitoring. • Liaises appropriately with the tertiary centre and the multidisciplinary team. • In collaboration with specialists, formulates, implements and where appropriate modifies management plan. • Counsels women and their partners regarding the fetal risks, implications for the pregnancy and the long-term outcome. • Signposts to external sources of information and support. • Constructs a follow-up plan for the pregnancy. • Plans birth and appropriate neonatal support in collaboration with fetal medicine specialist.
Counsels on and manages termination of pregnancy for fetal abnormality	• Raises the option of termination of pregnancy for fetal abnormality appropriately. • Counsels regarding the different methods of termination, when termination is offered and when fetocide is legally mandated. • Organises termination of pregnancy for fetal abnormality. • Adjusts care around termination of pregnancy in high risk situations. • Manages complications of termination of pregnancy.
Provides follow up and counselling after a pregnancy complicated by fetal abnormality	• Explains the role of the post-mortem and any other relevant post-birth tests. • Explains the findings and implications of any additional post-birth investigations. • Refers, where appropriate, to the wider multi-disciplinary team. • Counsels regarding chance of recurrence across the range of conditions targeted by FASP. • Proposes a plan for future pregnancy management.

Evidence to inform decision	
• Reflective practice • OSATs (Fetal ECHO) • TO2 (includes SO)	• RCOG and other e-learning • Local and Deanery Teaching • FASP on-line training

• Mini-CEX • CbD	• Attendance at appropriate courses and conferences • Attendance at local multi-disciplinary meetings (paediatric, perinatal mortality) • Log of cases • Attendance at specialist paediatric and clinical genetics clinics • Relevant audit/ quality improvement project

Knowledge criteria

- The normal appearances on ultrasound scan in all trimesters of the fetal CNS, face and neck, thorax, cardiovascular system, abdominal wall and gastrointestinal tract, urogenital system and the fetal skeleton and extremities
- Local protocols for follow up, if any, after an incomplete anatomy scan
- Normal embryology of all body systems, and how errors in these processes result in the more common fetal abnormalities targeted by FASP.
- Normal fetal behaviour and activity, and abnormalities of this
- Fetal circulation, and how it adapts at birth
- Diagnostic features of each condition targeted by FASP, their differential diagnosis and chance of structural, chromosomal and syndromic associations. These conditions are Trisomy 21, 18 and 13, anencephaly, spina bifida, congenital diaphragmatic hernia, gastroschisis, exomphalos, renal agenesis, facial cleft, hypoplastic right or left heart, lethal skeletal dysplasia
- The genetic basis for trisomy 21, 18 and 13 and the ultrasound features associated with them
- The range of tests available for screening and testing for the common trisomies and the organisation and quality control of the screening service
- When it is appropriate to offer invasive testing, and when not to
- The role of non-invasive testing
- The implications for the current pregnancy and the long-term prognosis for each condition, and recurrence risks for future pregnancies
- The limitations of ultrasound in detecting and diagnosing congenital abnormalities (e.g. cleft palate) or predicting prognosis (e.g. diaphragmatic hernia)
- The antenatal management, intrapartum care and immediate postnatal management of each condition.
- Triggers and diagnoses necessitating tertiary referral
- The impact of the diagnosis and individual circumstances on the timing, location and mode of birth
- The local prenatal, birth and post-birth pathways for care of the fetus and newborn with these conditions
- The legal framework under which termination of pregnancy by feticide may be offered
- Recognise which conditions are amenable to prenatal treatment (e.g. diaphragmatic hernia, spina bifida)

CiP 3: The doctor is able to manage a wide range of common conditions affecting the fetus.	
Key Skills	**Descriptors**
Manages fetal abnormalities other than those targeted by FASP	• Experienced in the ultrasound diagnosis and management of pregnancies complicated by a wide range of fetal abnormalities (with the minimum listed in knowledge criteria). • Offers other prenatal tests appropriately. • Liaises appropriately with the tertiary centre and the multidisciplinary team. • In collaboration with specialists, formulates, implements and where appropriate modifies management plan. • Counsels women and their partners regarding the fetal risks, implications for the pregnancy and the long-term outcome. • Signposts to external sources of information and support. • Constructs a follow-up plan for the pregnancy. • Plans birth and appropriate neonatal support in collaboration with fetal medicine specialist. • Formulates management plan for future pregnancy in collaboration with specialists. • Explains common modes of Mendelian inheritance and how these determine chances of recurrence. • Recognises the need for referral to genetics services with rarer/unique aneuploidy. • Communicates without judgement the types of tests on offer, their scope and their potential complications and disadvantages. • Takes an appropriate history and constructs, where appropriate, a family tree in women with or at chance of genetic disease.
Manages infections in pregnancy which may have an impact on the fetus	• Investigates appropriately for common fetal infections (with the minimum listed in the knowledge criteria). • Is able to interpret laboratory results for each infection in liaison with virology. • Explains the potential fetal, newborn and long-term effects of fetal infections. • Recognises when to refer and how best to share care and monitoring. • Liaises appropriately with the tertiary centre and the multidisciplinary team.
Able to evaluate pregnancy complicated by red cell alloimmunisation	• Explains the potential fetal and maternal risks of red cell antibodies. • Liaises with blood transfusion and neonatal services. • Classifies the risks for any pregnancy complicated by red cell antibodies. • Performs and interprets MCA Doppler.

	• Refers to a fetal transfusion centre in a timely and appropriate manner.
Recognises and evaluates the pregnancy complicated by non-immune hydrops	• Recognises fetal hydropic change and constructs and investigates a differential diagnosis. • Liaises appropriately with the tertiary centre and multidisciplinary team. • In collaboration with specialists, formulates, implements and where appropriate modifies management plan. • Counsels women and their partners regarding the fetal risks, implications for the pregnancy and the long-term outcome.

Evidence to inform decision	
• Reflective practice • Mini-CEX • CbD • TO2 (includes SO)	• RCOG and other e-learning • Attendance at appropriate courses and conferences • Log of cases • Relevant audit/ quality improvement project

Knowledge criteria

- Diagnostic features of each condition, their differential diagnosis and the chance of associated structural, chromosomal and syndromic associations
- Antenatal management, intrapartum care and immediate postnatal management of each condition
- Triggers and indications for tertiary referral
- The impact of the diagnosis and individual circumstances on the timing, location and mode of birth
- The local prenatal, birth and post-birth pathways for care of the fetus and newborn with these conditions
- The legal framework under which termination of pregnancy by feticide may be offered
- The recurrence risk and management plan for future pregnancies for each condition
- The thresholds for diagnosing mild, moderate and severe ventriculomegaly measurements, and the potential implications of the different severities of ventriculomegaly
- The role of MRI for CNS lesions.
- The difference between Dandy Walker malformation, DW Variant and Mega cisterna magna, the implications of each and the pitfalls in prenatal diagnosis
- The common fetal tachy- and brady – arrhythmias and the role of the paediatric cardiologist in their management
- The different types of VSD and their association with cardiac, extracardiac and chromosomal anomalies. Understand the role of the paediatric cardiologist in their management
- The ultrasound features of transposition of the great arteries, atresia of either outflow tract, stenosis of either outflow tract, double outlet right ventricle or a common outflow tract (truncus arteriosus)
- The association of these conditions with further cardiac, extracardiac and chromosomal anomalies
- The role of the paediatric cardiologist in the management of fetal cardiac problems

- The ultrasound features of GI atresia, associations and surgical options following birth
- The spectrum of ultrasound findings of echogenic bowel and its association with chromosomal anomalies, cystic fibrosis, growth restriction and viral infections
- Urinary tract obstruction and MCDK: aetiology, spectrum of severity postnatal investigation and the likely short- and long-term impact of these conditions
- The local pathway for postnatal referral for talipes and the Ponsetti approach to treatment
- Limb reduction defects: associations and aetiology
- Findings suggestive of lethal skeletal dysplasia and the features of the more common non–lethal dysplasias, particularly certain types of osteogenesis imperfecta and achondroplasia
- A differential diagnosis for non-immune hydrops, the need for tertiary referral and the range of investigations likely to be offered
- Other aneuplopidies: the implications of Turner syndrome (45XO), Kleinfelter syndrome (47 XXY) and 47 XXX and appreciate the approach to managing pregnancies complicated by much rarer/unique chromosomal abnormalities
- The underlying genetic inheritance patterns and prenatal testing for cystic fibrosis, muscular dystrophy and fragile X, and the need for liaison with clinical genetics
- The clinical features, prevention, vertical transmission risk, ultrasound features, short- and longer-term implications for the fetus and newborn, laboratory investigation and pregnancy management of CMV, toxoplasmosis, parvovirus and varicella.
- The role of the clinical virologist and the limitations of any antenatal treatment options
- Red cell alloimmunisation: the blood group systems, pathophysiology and laboratory testing for Rhesus and other red cell antigens
- The role of DNA analysis from maternal plasma
- The neonatal implications of anaemia, hyperbilirubinaemia and hydrops
- The organisation & effectiveness of isoimmunisation screening and prevention programmes
- The pharmacology of Anti-D immunoglobulin administration

<table>
<tr><th colspan="2">CiP 4: The doctor describes, obtains informed consent for and performs amniocentesis.</th></tr>
<tr><th>Key Skills</th><th>Descriptors</th></tr>
<tr><td>Manages and performs amniocentesis</td><td>• Obtains informed consent for amniocentesis.
• Conducts the test independently in a safe manner in a singleton pregnancy.
• Documents the procedure accurately, including use of anti-D where appropriate.
• Describes how and when results will be given.
• Recognises when a test is likely to be technically challenging.
• Debriefs and provides advice following procedure.
• Counsels following amniocentesis for both normal and abnormal results.
• Manages complications of amniocentesis.</td></tr>
<tr><td colspan="2">Evidence to inform decision</td></tr>
<tr><td>• Reflective practice
• OSATS
  ○ Amniocentesis
• CbD
• Mini-CEX</td><td>• Simulation training
• Log of cases
• FASP e-learning resources
• Relevant audit/ quality improvement project</td></tr>
<tr><td colspan="2">Knowledge criteria</td></tr>
<tr><td colspan="2">• The indications for offering invasive testing, its risk and benefits
• The types of analysis that may be applied (QF-PCR analysis, full karyotyping, array analysis and targeted molecular genetic examination for family history of genetic conditions) – and how to discuss these appropriately
• The potential for sensitisation – Rhesus alloimmunisation – and the importance of maternal blood group
• The implications of maternal blood born viruses
• When sample should be stored in case of further analysis
• Aseptic technique, how to optimize the ultrasound image, when amniocentesis is not likely to be straightforward and the options available
• What the test is not able to show, the significance of the result and the options available following an abnormal result
• The options following test failure, mosaicism, and the role of parental karyotyping in the interpretation of results</td></tr>
</table>

CiP 5: The doctor is able to recognise and manage common medical conditions in the pregnant woman.	
Key Skills	**Descriptors**
Uses investigations to support diagnosis and surveillance of common medical conditions	• Is able to make a thorough assessment of the presenting problem with appropriate investigation and consideration of differential diagnoses. • Recognises and devises an appropriate management plan for the common medical conditions presenting in pregnancy. • Recognises complexity and the need for referral to tertiary and/or subspecialist services.
Liaises with midwives and other health-care professionals	• Optimises the woman's care and patient journey.

Evidence to inform decision

• Reflective practice • TO2 (includes SO) • CbD • Mini-CEX	• RCOG and other e-learning • Local and Deanery Teaching • Log of cases • Attendance at appropriate courses and conferences • Attendance at specialist medical clinics • Relevant audit/ quality improvement project

Knowledge criteria

- The pathophysiology, presentation and implications for maternal and/or fetal health of common maternal conditions present at booking or that occur during pregnancy
- The aetiology, incidence, diagnosis, management, the obstetric, medical and neonatal complications, and recurrence chance of each condition
- The interpretation of ECGs, chest x-rays and blood gases analysis and how they are influenced by pregnancy
- How pregnancy alters physiology and what impact this has on how medical conditions present, and how results of investigations should be interpreted during pregnancy
- The impact of drug treatment on mother and fetus
- Understand the presentation, investigation, differential diagnosis, management and outcome of the following in pregnancy;
    - Acute renal impairment
    - Acute chest pain
    - breathlessness
    - Ketoacidosis
    - Altered consciousness
    - Sickle cell crisis
- Specific and detailed knowledge of the following:
    - Hypertension - Chronic and gestational hypertension
    - Renal - hydronephrosis
    - Gastrointestinal - obstetric cholestasis and hyperemesis gravidarum

- Endocrinology - pre-existing diabetes without complications, hypothyroidism
- Gestational diabetes
- Respiratory - asthma
- Dermatology - eczema
- Neurological - headache
- Epilepsy
- Haematological - thrombocytopenia and previous thromboembolic disease

CiP 7: The doctor manages intrapartum medical complications and pre-existing conditions.	
Key Skills	**Descriptors**
Diagnoses and manages hypertensive disorders of pregnancy	• Recognises these conditions when they present both classically, and in an atypical manner, and can formulate a differential diagnosis. • Institutes emergency care and makes a longer-term plan for management, considering both maternal and fetal risks and needs. • Applies clinical skills and investigations to monitor the condition and modifies plans accordingly. • Manages uncommon intrapartum complications of these conditions, with support from other specialist teams. • Liaises with consultants and other specialties and works effectively as part of a multidisciplinary team. • Communicates effectively with the woman and her support structure, to enable decision making. • Is able to discuss risks for future pregnancies and make plans for reducing these risks.
Manages the intrapartum care of a woman with diabetes	• Devises an individualised management plan using a targeted history and review of relevant investigations performed before and during pregnancy. • Counsels on the maternal and fetal risks associated with pre-existing and gestational diabetes in pregnancy and labour. • Liaises with the multidisciplinary team regarding blood sugar control, long-term complications of diabetes, and acute diabetic presentations (including ketoacidosis). • Makes an appropriate plan for labour and birth, and the postnatal period. • Provides contraceptive and pre-pregnancy planning advice.
Manages the intrapartum care of a woman with other pre-existing medical disorders	• Using a targeted history, and by reviewing results of investigations performed before and during pregnancy, manages the care of the woman during labour with pre-existing medical disorders, with particular emphasis on women with haemoglobinopathies, epilepsy, hepatitis B and C, HIV, herpes, cardiac, respiratory and renal disease, and previous thromboembolic disease, or elevated chance of VTE.

	• Devises a management plan accordingly. • Is able to recognise situations of greater complexity which require tertiary level and/or subspecialist care. • Counsels on the maternal and fetal risks associated with these conditions in pregnancy and labour. • Makes an appropriate plan for labour and birth, and the postnatal period, including managing acute presentations caused, or complicated, by these conditions. • Provides contraceptive and pre-pregnancy planning advice.
Can assess and manage a critically ill or collapsed woman	• Able to make a rapid differential diagnosis, institute investigations and commence immediate resuscitation while calling for specialist assistance from the multidisciplinary team. • Provides ongoing obstetric input to women who have been transferred to non-obstetric high dependency or critical care areas. • Debriefs the team and family after the event in a manner that is easy to understand.

Evidence to inform decision

• Reflective practice • NOTSS • TO2 (includes SO) • CbD • Mini-CEX	• RCOG e-learning • Local and Deanery Teaching • Attendance at appropriate conferences and courses • ITU/HDU attachment • Attendance at obstetric anaesthesia clinic • Relevant audit/ quality improvement project

Knowledge criteria

- Best practice management for and the risks associated with the 12 key conditions/scenarios which complicate intrapartum care:
    - Severe pre-eclampsia
    - Eclampsia
    - HELLP syndrome
    - Pre-existing diabetes mellitus, with and without complications
    - Gestational diabetes
    - Renal disease
    - Haemoglobinopathies
    - HIV
    - Previous thromboembolic disease
    - Elevated chance VTE
    - Intrapartum pyrexia
    - Increased chance of early onset GBS in the neonate
- The presentation, investigation, differential diagnosis, management and outcome of the following in pregnancy;
    - Acute renal impairment
    - Acute chest pain
    - breathlessness

- Ketoacidosis
- Altered consciousness
- Sickle cell crisis

In detail:

- The pathophysiology, definition, diagnosis, associated acute and longer term maternal and fetal complications, and best practice for management, of pre-eclampsia and its variants
- The pathogenesis and classification, prevalence and complications of pre-existing diabetes (metabolic, retinopathy, nephropathy, neuropathy, vascular disease)
- Monitoring and optimisation of glucose control during labour
- Management of hypoglycaemia and ketoacidosis in pregnancy and labour
- How haemoglobinopathy impacts upon the antenatal and intrapartum care of the woman the risk to the fetus and the genetic basis of the common haemoglobinopathies
- How to quantify thromboembolic risk and how best to mitigate this during labour and the immediate puerperium
- The effects of labour and the immediate postpartum period on chronic renal, cardiac and respiratory disease, and the effects they have on labour
- Management strategies to optimise the fetal and maternal outcomes of labour in women with renal, cardiac and respiratory disease
- Management of seizure disorders and eclampsia during labour and the postpartum period
- The impact of HIV, hepatitis B and C and herpes on intrapartum and immediate postpartum care of the woman
- The risks of viral vertical transmission and how these can be minimised
- Current pharmacological management of HIV, and drug side effects
- The structure and organisation of high dependency, intensive care and outreach teams
- Indications for high dependency and intensive care
- Methods of invasive monitoring for oxygenation, acid base balance, intraarterial pressure, cardiac output, preload and contractility
- The supportive therapies for multi-organ failure
- The altered presentation in pregnancy of respiratory, cardiac and renal impairment
- Risk factors, causes of and presentation of amniotic fluid embolism, pulmonary embolism, cerebrovascular accident and cardiac event during labour
- Other causes of acute maternal collapse
- Unique issues presented by collapse in pregnancy and labour, including timing and guidance for peri-mortem caesarean section

CiP 8: The doctor has obstetric medicine skills covering a wide range of maternal medical conditions.	
Key Skills	**Descriptors**
Manages the care of the pregnant woman with co-existing medical problems	• Is able to use a focused history, examination and results of investigations to risk assess a pregnant woman with a co-existing medical problem. • Is able to gather important information and liaise with specialist teams.

	• Interprets common investigations including ECG, echocardiogram and blood gas results. • Communicates effectively with women with medical problems. • Devises a preconception, antenatal, intrapartum and postpartum plan for surveillance and treatment in women with pre-existing medical disorders, or those presenting for the first time during pregnancy. • Devises an antenatal, intrapartum and neonatal plan for fetal and newborn surveillance in pregnancies complicated by pre-existing medical disorders, or those presenting for the first time during pregnancy. • Recognises cases with greater chance of complexity and refer appropriately for tertiary and/or subspecialist care. • Is able to recognise and manage obstetric complications arising as a result of the maternal medical condition. • Works effectively with the multidisciplinary team to optimise care.

Evidence to inform decision

- Attendance at specialist courses and conferences
- Attendance at adult medical clinics
- Reflective practice
- Local and Deanery Teaching
- TO2 (includes SO)
- CbD
- Mini-CEX
- RCOG and other e-learning
- Anonymised examples of pregnancy care plans for women with medical disorders
- Relevant audit/ quality improvement project

Knowledge criteria

- The normal functional and anatomical changes of the various body systems during pregnancy (cardiovascular, respiratory, gastrointestinal, endocrine, haematological)
- The pathology, prevalence, presentation, diagnosis, risks and best practice management (pre, during and post pregnancy), for the following conditions:
    - Renal: Chronic hypertension, glomerulonephritis, reflux nephropathy, renal transplant
    - Cardiac: congenital heart disease, ischaemic heart disease, artificial valve, peripartum cardioimyopathy
    - Gastrointestinal: acute fatty liver of pregnancy (AFLP), Crohn's disease and ulcerative colitis
    - Endocrine: Hypo and hyperthyroidism, pre-existing diabetes with complications, other pituitary and adrenal diseases
    - Neurological: Multiple sclerosis, Bell's palsy
    - Haematological: Sickle cell disease, thrombophilia, acute thrombosis
    - Dermatological: Psoriasis, Pemphigoid, polymorphic eruption of pregnancy, prurigo, pruritic folliculitis

- Rheumatological: SLE, Rheumatoid arthritis, APLS
- History of, or active, breast cancer and other malignancies

- How a medical condition may change during pregnancy and the postpartum period, and how the pregnancy may be affected by it
- How medical investigations and treatments might negatively impact on the pregnancy
- The pharmacology of drugs used to manage these conditions
- The pregnancy and breastfeeding safety profile of drugs, chemotherapy and radiotherapy used to manage these medical conditions
- How pregnancy can influence the findings of investigations and may alter treatment effects
- How the medical problem may deteriorate during pregnancy, how this might present, and how it would be managed
- Local team structures, networks and guidelines for the management of these problems outside of pregnancy
- The principles and practice of palliative care
- Criteria for tertiary referral
- When to seek specialist input
- Recurrence risks for future pregnancies
- The optimal forms of contraception for women with these specific medical disorders
- Mendelian genetics and how this relates to maternal conditions such as inherited thrombophilia and sickle cell disease

CiP 9: The doctor recognises key intrapartum scenarios and manages them using the necessary technical and non-technical skills.	
Key Skills	**Descriptors**
Manages non-cephalic presentation safely	• Recognises non-cephalic presentation. • Communicates effectively to the parents the risks and benefits of different mode of deliveries for breech presentation. • Optimises the woman's care by effectively liaising with other health professionals and devising a safe birth plan.
Manages preterm labour safely	• Liaises effectively with neonatologists to arrange in utero transfer. • Liaises effectively with microbiologist to arrange the use of antimicrobial agents. • Communicates effectively to the parents the risks (short term and long term) associated with preterm labour and birth, and works with them to decide on the mode of birth.
Manages multiple pregnancy safely	• Formulates clear intrapartum care plans based on clear communication of all issues to the parents. • Runs a multiple pregnancy skills drill.
Manages rotational vaginal birth safely	• Communicates effectively to the parents the risks and benefits of all birth options. • Escalates to senior colleagues and other specialties when appropriate. • Debriefs following the birth.

Manages birth for the morbidly obese safely	• Works with a multidisciplinary team to minimise the intrapartum and postpartum risks. • Communicates effectively the optimum mode of birth.
Manages PPH safely	• Can provide acute resuscitation and definitive management for primary and secondary PPH. • Communicates effectively with and leads the multidisciplinary team. • Runs skills drills for major PPH.
Manages morbidly adherent placenta safely	• Recognitises the potential for abnormal placental invasion and initiation of appropriate investigations and management planning. • Leads the multidisciplinary team in planning for safe birth and institutes specific measures to mitigate risk. • Assesses blood loss and institutes appropriate resuscitation. • Leads the team for management of massive PPH. • Debriefs and advises on plans for future pregnancies.
Manages maternal sepsis safely	• Recognises, assesses and manages sepsis in a timely manner. • Communicates effectively regarding the diagnosis and management of sepsis (including expediting birth if indicated) with the mother, family and the multidisciplinary team.
Manage antepartum stillbirth safely	• Communicates effectively with the mother and the relatives regarding diagnosis of stillbirth and appropriate investigations (including post-mortem) and follow up. • Conducts all stages of labour for stillbirth.
Communicates the risks and benefits of all analgesia and anaesthesia for labour and operative birth (vaginal or caesarean)	• Can explain the risks and benefits of the different forms of analgesia and anaesthesia for labour. • Explains the risks and benefits of the different forms of analgesia and anaesthesia for operative vaginal birth, caesarean section and other obstetric interventions. • Agrees intrapartum care plan.
Able to optimise care and subsequent investigation following an adverse intrapartum outcome	• Advises upon local support available and the investigations that may determine causation. • Debriefs family after adverse intrapartum outcome. • Debriefs staff after adverse intrapartum outcome.
Coordinates the daily running of the labour ward	• Coordinates the labour ward appropriately. • Communicates plans and decisions effectively to team members using SBAR or a similar tool. • Allocates workload and support staff and women.

Evidence to inform decision	

• OSATS
  ○ Vaginal breech birth
  ○ manual rotation
  ○ rotational operative vaginal birth
  ○ ECV in labour
  ○ Caesarean section
	• RCOG and other e-learning
	• Local and Deanery Teaching
	• Attendance at specialist courses and conferences

• Mini-CEX • CbD • Log of cases • Reflective practice • NOTSS • TO2 (includes SO)	• Confirmed participation in multidisciplinary team-based simulation training • Evidence of short attachment to obstetric anaesthesia, HDU/ITU • Relevant audit/ quality improvement project • Leads labour ward forum and risk management case review • Log of risk management cases

Knowledge criteria

- The fetal and maternal risks and benefits associated with different modes of birth for breech presentation
- The causes of non-cephalic presentation
- The manoeuvres used during breech birth
- Indication for ECV (External Cephalic version) in labour (for breech, transverse lie and second twin) and the techniques involved
- Pathophysiology, investigation, risks and management of preterm labour and preterm prelabour rupture of membranes (PPROM)
- The short and long term risks of prematurity
- The diagnosis and management of chorioamnionitis
- The indications, pharmacology and side effects of steroids, tocolysis and magnesium sulphate
- The factors that influence mode of birth in twin pregnancy and the risks associated with either birth option
- The role of intrapartum ultrasound and CTG monitoring for multiple pregnancies
- Management of non-cephalic presentation in twin pregnancy, including internal podalic version (IPV)
- The importance of fetal growth restriction, discordant growth, prematurity, chorionicity and malpresentation on the recommendation and successful conduct for all modes of birth for multiple pregnancies
- The techniques available to facilitate both vaginal birth as well as caesarean section.
- Indications and contraindications for each form of operative vaginal birth
- The factors influencing success rates with each instrument, and options available if unsuccessful at any stage of their application
- The practical detail of 2 of the 3 techniques for safe rotational operative vaginal birth (manual rotation, rotational ventouse, kiellands forceps)
- The definition, diagnosis and outcomes of hypoxic ischaemic encephalopathy
- The principles of advanced neonatal resuscitation
- Neonatal acid-base balance
- The birth options that are most suitable for those who are morbidly obese and practical measures to minimise risk
- Chance of fetal macrosomia and its implications on birth options
- The cause, presentation, risks, investigations and management of maternal sepsis
- The antibiotics pharmacology and which are most suitable for use in pregnancy and postpartum.

- The risk factors for PPH and how to minimise the chance of PPH
- Pharmacological and surgical management of PPH, and treatments to reduce associated risks
- The consequences of massive acute PPH and how the situation may be investigated and monitored.
- Correction of uterine inversion
- Risk factors for abnormal placental invasion
- The investigation of possible placental morbid adherence and the pros and cons of each modality
- The features on ultrasound and MRI of morbid adherence
- Local/Regional guidelines and protocols for managing morbid placental adherence
- Intraoperative measures to limit blood loss in abnormal placental invasion
- Indications and timings of caesarean hysterectomy
- How to diagnose and manage intra-abdominal haemorrhage
- Effectiveness, contraindications, implications and side effects of different forms of analgesia and anaesthesia for labour and obstetric procedures
- How caesarean section and postpartum risks may be minimised and the operative strategies that may be used to overcome the difficulties that are often encountered
- The investigations that may determine causation of antepartum stillbirth including the option of post-mortem examination and karyotyping
- The labour ward staffing structure and minimum staffing number safety standards
- The governance structure within the obstetric department
- How serious untoward events are investigated and acted upon within the department and Trust
- The organisation and structure of high dependency, intensive care, surgical and medical outreach teams

CiP 10: The doctor uses ultrasound to optimise outcomes during labour and the immediate puerperium.	
Key Skills	**Descriptors**
Uses ultrasound safely and effectively to determine fetal position and presentation	• Identifies the presenting part in labour, prior to induction of labour or in preterm/suspected preterm labour. • Determines each presentation and lie for twin pregnancy at term.
Locates fetal heart beat safely intrapartum	• Confirms fetal heart beat and intrapartum viability. • Communicates the findings to the mother and the family.
Confirms intrauterine fetal demise	• Explains the findings in a sympathetic manner and advises on a management plan.
Identifies fetal occiput orientation intrapartum	• Is able to identify occipito anterior and occipito posterior positions in labour.
Recognises appearance of post-partum uterus safely	• Recognises the normal appearances of post-partum uterus.

	• Identifies and manages ultrasound features of retained products of conception.
Evidence to inform decision	
• Mini-CEX • NOTSS • Reflective Practice • CbD	• Local and Deanery Teaching • Log of cases
Knowledge criteria	
• How to identify fetal lie and presenting part (cephalic, breech flexed, extended and footling as well as shoulder presentation), placental location and amniotic fluid volume • The intracranial landmarks (midline echo, thalami, head shape) and extracranial features (position of the ears, eyes, nose and fetal spine) which help with determination of the fetal head and the position of the occiput • How to correctly orientate the probe to correctly determine orientation of fetal occiput • How to determine fetal heart within the fetal chest and whether a fetal heart beat is present rapidly and accurately • How ultrasound may be used to augment and confirm the clinical findings of abdominal palpation and vaginal examination. • How to recognise and record the ultrasound features of fetal viability and intrauterine demise • The physiological changes that occur postpartum to the uterus and the typical ultrasound appearances • The ultrasound features that suggest retained products of conception	

CiP 12: The doctor is able to lead in providing care to women with pregnancies complicated by the full range of fetal concerns.	
Key Skills	**Descriptors**
Manages rare fetal structural abnormalities	• Diagnoses, provides a differential diagnosis for, and manages the full range of rare fetal structural abnormalities. • Demonstrates how these ultrasound findings are researched and managed. • Counsels women and their partners regarding the fetal risks, implications for the pregnancy and the long term outcome. • Offers other prenatal tests appropriately. • Liaises appropriately with the referring centre and the multidisciplinary team. • In collaboration with paediatric specialists, formulates, implements and where appropriate modifies management plan. • Signposts to external sources of information and support. • Constructs a follow-up plan for the pregnancy. • Plans birth and appropriate neonatal support. • Formulates a management plan for future pregnancies.

Manages fetal hydrops	• Constructs a differential diagnosis and targets appropriate investigations. • Treats reversible causes. • Manages pregnancies where the cause of the hydrops remains unclear. • Pursues the diagnosis post-birth and provides counselling for future pregnancies.
Manages rare complications of multiple gestations	• Diagnoses and manages TTTS, and provides follow-up care. • Manages discordant anomaly, including counselling on the selective termination of pregnancy. • Recognises and manages TRAP sequence. • Refers to quarternary services for high level procedures where indicated. • Manages monoamniotic twin pregnancies. • Manages triplet and higher order multiple gestations, including the provision of counselling, without judgement, on multifetal pregnancy reduction. • Diagnoses and manages severe early onset selective fetal growth restriction in monochorionic and dichorionic multiple pregnancies.
Manages pregnancies at high chance of fetal alloimmune disorders	• Explains the potential fetal and maternal risks of red cell antibodies. • Provides surveillance for pregnancies complicated by Parvovirus infections. • Liaises with blood transfusion and neonatal services. • Classifies risks for any pregnancy complicated by red cell antibodies and provides appropriate surveillance for fetal anaemia. • Prepares women and their partners for the neonatal care necessary in cases of HDFN. • Explains the risks of maternal antiplatelet antibodies and knows when they should be tested for. • Manages a pregnancy complicated by maternal antiplatelet antibodies, including birth and neonatal care.
Offers and provides termination of pregnancy at all gestations appropriately	• Raises the option of termination of pregnancy for fetal abnormality appropriately. • Counsels regarding the different methods of termination. • Organises termination of pregnancy for fetal abnormality. • Adjusts care around termination of pregnancy in high risk situations. • Manages complications of termination of pregnancy.
Manages high level procedural skills	• Counsels on and takes consent for high level interventional procedures.
Is able to support non-subspecialist colleagues in the management of pregnancies complicated by fetal problems	• Provides subspecialist advice to non-subspecialist colleagues. • Works in partnership with referring clinicians to provide joint care.

Evidence to inform decision	

• Reflective practice
• TO2 (includes SO)
• OSATs
  ○ CVS
  ○ Amniocentesis
  ○ Fetal ECHO
• Mini-CEX
• Procedural log
• CbD
	• RCOG and other e-learning
	• Attendance at regional national meetings and training courses
	• Observation of, and reflection on high level fetal procedures
	• Observation of neonatal surgery
	• Attendance at local/regional MDT meetings
	• Clinical attachments on tertiary level NNU and/or paediatric ITU
	• Attendance at paediatric follow up clinics
	• Relevant audit/ quality improvement project

Knowledge criteria

- Embryology of all key fetal anatomical systems
- Pathology and epidemiology of all major anomalies affecting each fetal system in addition to those covered in CiP 2 and 3, including as a minimum:
  - encephalocoele, holoprosencephaly, microcephaly, intracranial mass
  - cardiac tumours
  - renal cystic disease, duplex kidney, bladder/cloacal exstrophy
  - laryngeal/tracheal atresia, pulmonary sequestration, pleural effusion
  - meconium ileus, hepatic calcification/mass, abdominal cyst, ascites
  - cystic hygroma, micrognathia, macroglossia, anophthalmia, neck mass
  - the more common skeletal dysplasias, polydactyly, sirenomelia, sacral agenesis, hemivertebra
  - fetal akinesia/hypokinesia sequence
  - sacrococcygeal teratoma
- Diagnostic features of each condition their differential diagnosis and the chance of associated structural, chromosomal and syndromic associations
- Outcomes, prognoses and recurrence risks associated with each of these conditions/abnormalities
- Antenatal management, intrapartum care and immediate postnatal management of each condition
- Conditions amenable to prenatal therapy, e.g. fetal arrhythmias, spina bifida, CDH, and how these treatments are administered and the complications of them
- The additional information which might be gained by use of 3D imaging and/or fetal MRI
- The differential diagnosis for fetal hydrops, and how to address this systematically
- The differential diagnosis for fetal anaemia
- Which red cell antibodies carry the greatest chance of haemolytic disease of the fetus and newborn, what thresholds there are for commencing surveillance for fetal anaemia, when to refer for fetal blood sampling and transfusion, how this is perfomed, and how the newborn is managed when chance of haemolytic disease
- How platelet antibody-antigen combinations commonly cause neonatal alloimmune thrombocytopaenia and what the outcomes can be, and how the chance of harm can be

reduced

- The embryology of normal twinning and the incidence and pathogenesis of abnormal twinning, resulting in TTTS, TRAP sequence, and conjoined twins
- When treatment is indicated for these conditions, and the pros and cons of treatment options
- A differential diagnosis for selective fetal growth restriction and the classification of selective fetal growth restriction in monochorionic gestations, and the impact that chorionicity has on outcomes and interpretation of surveillance
- The differential risks associated with co-twin death in monochorionic and dichorionic multifetal gestations
- The outcomes of higher order pregnancies, and the impact on these of multifetal pregnancy reduction
- The techniques used for selective termination of pregnancy for discordant anomalies in multiple gestations, and the risks involved
- UK law on termination of pregnancy, including justifying criteria, gestational limits and when to perform fetocide
- The significance of signs of life following a termination
- The various methods of termination of pregnancy, and the pros and cons of each method
- The indications, methods, potential benefits and complications of the following high-level fetal medicine procedures; vesicocentesis, pleural and vesical shunt placement, placental laser, radiofrequency ablation, cord occlusion, fetal blood transfusion
- The structure of the local paediatric network, including surgical services
- Paediatric network guidelines for the management of newborn problems

CiP 13: The doctor can independently manage, in conjunction with specialists from other disciplines, pregnancies complicated by the widest range and most complex of maternal medical conditions.	
Key Skills	**Descriptors**
Manages the care of the pregnant woman presenting with any co-existing medical problem, including those with rare disorders and those with severe manifestations or complications of more common problems	• Can lead on the care provision of pregnant women receiving joint care from the non-subspecialist and the tertiary level team. • Provides constructive advice to the non-subspecialist obstetrician and physician. • Uses a focused history, examination and results of investigations to risk assess a pregnant woman with any co-existing medical problem. • Is able to gather important information and liaise with specialist teams. • Communicates effectively with women with medical problems. • Devises a preconception, antenatal, intrapartum and postpartum plan for surveillance and treatment in women with pre-existing medical disorders, or those presenting for the first time during pregnancy.

	• Can devise an antenatal, intrapartum and neonatal plan for fetal and newborn surveillance in pregnancies complicated by pre-existing medical disorders, or those presenting for the first time during pregnancy. • Recognises and manages obstetric complications arising as a result of the maternal medical condition. • Works effectively with the multidisciplinary team to optimise care. • Can provide post-birth debriefing and future pregnancy planning and preconceptual advice.
Manages the care of the pregnant woman with a history of substance misuse and optimise the wellbeing of both the woman and fetus	• Liaises and cooperates within the multidisciplinary team: dependency services, psychiatric and social services. • Plans for appropriate analgesia in labour and understands the interactions of non-prescribed and prescribed drugs. • Liaises with neonatal colleagues to plan for and optimise the care of the newborn. • Works within the multi-disciplinary team to support conversion to opiate replacements. • Counsels appropriately about: drinking / drug cessation maternal, fetal and neonatal risks: long-term health implications, viral and other infections breast-feeding / contraception, effects of risk taking behaviour.
Manages the care of the pregnant woman with a history or chance of mental conditions and optimises the wellbeing of both the woman and fetus	• Takes an appropriate history from a woman with psychiatric conditions and makes an assessment of severity and risk. • Is able to advise on the influence of the condition and medical treatments on the pregnancy and breastfeeding, and the pregnancy on the condition. • Is able to assess mental capacity. • Can work with the general practitioner and local specialty teams in the community and hospital setting to optimise outcomes for mother and baby.
Manages the care of the pregnant woman with a history, or chance of obstetrically significant infections, and optimises the wellbeing of both the woman and fetus	• Investigates and arranges initial management of women with a chance of blood borne infections (especially HIV, HBV HCV), referring appropriately. • Gives appropriate advice to an HIV positive woman about interventions available to reduce vertical HIV transmission in pregnancy. • Assesses the risk for HBV or HCV infections and arrange HBV vaccination ± immunoglobulin appropriately for at risk groups. • Advises on the use of prophylactic or treatment aciclovir. • Counsels on and applies the recommendations for pregnancy and birth in the woman who is found to be a carrier of GBS.

Manages the care of the pregnant woman with a BMI >40 and optimises the wellbeing of both the woman and fetus	• Provides appropriate nutritional advice and safe expectations of the management of weight reduction in pregnancy. • Provides specific practical advice to reduce the maternal and fetal risks of obesity during pregnancy and birth. • Plans appropriate antenatal (maternal and fetal) assessment of the obese woman. • Arranges and interprets appropriate investigations including screening for gestational diabetes. • Recognises and manages health risks associated with maternal obesity and understands the place of weight reduction strategies and nutrition. • Liaises with the multidisciplinary team to prepare an intrapartum obstetric and anaesthetic plan.

Evidence to inform decision	
• CbD • Mini-CEX • Reflective practice • TO2 (includes SO)	• RCOG e-learning • Anonymised examples of pregnancy care plans for women with medical disorders • Attendance at specialist courses and conferences • Attendance at adult medical clinics • Attendance at obstetric anaesthetic clinics • Local and Deanery Teaching

Knowledge criteria

- How a medical condition may change during pregnancy and the postpartum period, and how the pregnancy may be affected by it
- How medical investigations and treatments might negatively impact on the pregnancy
- How pregnancy can influence the findings of investigations and may alter treatment effects
- How the medical problem may deteriorate during pregnancy, how this might present, and how it would be managed
- Local team structures, networks and guidelines for the management of these problems outside of pregnancy
- Provision of these services outside of the tertiary centre
- Criteria for tertiary referral
- When to seek specialist input
- Recurrence risks for future pregnancies

- This knowledge base should cover, in addition to that required for CiPs 5 and 8, the following, as a minimum;
    - Renal: Polycystic kidney disease
    - Respiratory: ARDS, pneumothorax, restrictive lung disease, sarcoidosis, TB, cystic fibrosis, pneumonia, varicella pneumonitis
    - Cardiac: Rheumatic heart disease, Marfan's syndrome, arrhythmias
    - Gastrointestinal: Primary biliary cirrhosis, liver transplantation, viral hepatitis; acute and chronic infections (B, C, CMV, toxoplasmosis), coeliac disease

    - Endocrine: Pituitary and adrenal diseases, pregnancy induced endocrine disorders
    - Neurological: Migraine, myasthenia gravis, myotonic dystrophy, intracranial hypertension, spina bifida, previous CVA
    - Haematological: Haemoglobinopathy, thrombocytopaenia, inherited bleeding disorders, non-iron deficient anaemia, disseminated intravascular coagulation, malaria
    - Dermatological : PEPP, pruritic folliculitis of pregnancy
    - Rheumatological : Scleroderma and mixed connective tissue disease
- The legal issues around mental health – Mental Health Act and consent, child protection
- The prevalence, effects of pregnancy, management strategies and prognosis of:
    - Chronic psychotic condition
    - Mood disorder: chronic depression / anxiety
    - Bipolar condition
    - Postpartum psychosis
- Recurrence risk and the management of pregnancies in women with a history of pregnancy induced/related psychiatric disease
- The pharmacology and the maternal, fetal, neonatal and long-term effects of tricyclics, SSRIs, phenothiazines, butyrophenones (e.g. haloperidol), benzodiazepines, lithium and carbamazepine
- Local psychiatric services for pregnant women, or those who have recently given birth, including mother and baby unit
- The pharmacology and the maternal, fetal and neonatal consequences of alcohol, cannabis, opiates, cocaine and crack cocaine, heroin, benzodiazepines, amphetamines, LSD, phencyclidine (angel dust), solvent misuse and cigarette smoking
- How these interact with prescribed drugs and analgesia during labour
- The organisation of dependency services and links with psychiatric and social services
- The theories of addiction and self-harming behaviours and know the prevalence of psychiatric co-morbidity and how to detect it
- The legal and social care implications of use of class A and class B drugs
- The local and national strategies for reduction in drug and alcohol misuse
- Neonatal management and outcome (including management of withdrawal and long term effects)
- The incidence, risk factors, transmission risks, neonatal consequences, long-term prognosis and management strategies to reduce vertical transmission of: Herpes Simplex (HSV), HIV, Hepatitis B & C (HBV, HCV), Group B Streptococcus (GBS) and varicella zoster
- The incidence, associated obstetric, medical and neonatal complications of the pregnant obese woman
- The endocrinology of obesity

CiP 14: The doctor can apply knowledge of clinical and molecular genetics to the management of complex pregnancy.	
Key Skills	**Descriptors**
Manages a pregnancy at elevated chance of, or affected by, aneuploidy	• Takes an appropriate history and arranges appropriate parental investigations. • Communicates effectively with women and their partners/families, regarding risk, screening and testing options. • Manages the care of a woman with a personal or family history of a chromosomal abnormality, including assessment of risk, prenatal diagnostic options, and further management options after testing. • Manages an ongoing aneuploid pregnancy, including plans for birth and a multidisciplinary approach to the care of the newborn. • Recognises when advice from, and referral to, clinical genetics services is needed.
Manages a pregnancy with a chance of a single gene disorder in a structurally normal fetus	• Takes an appropriate history, constructs a family tree and arranges appropriate parental investigations. • Communicates effectively with women and their partners/families, regarding risk, screening and testing options. • Manages the care of a woman with a personal or family history of a single gene disorder including assessment of risk, prenatal diagnostic options, and further management options after testing. • Manages an ongoing pregnancy affected by a single gene disorder, including communication and planning with paediatric services. • Recognises when advice from, and referral to, clinical genetics services is needed.
Diagnoses and manages genetic and syndromic disorders in the structurally abnormal fetus	• Carries out appropriate counselling and management in families with a previous child with multiple anomalies or syndromic disorder. • Accesses online highest quality information regarding very rare syndromic and genetic problems. • Manages the care of a woman with a personal or family history of syndromic anomaly, providing information, screening and prenatal testing options. • Uses a dysmorphology database to reach a differential diagnosis. • Recognises when referral is indicated for more specialised counselling and genetic advice. • Provides options for management in an affected pregnancy, including termination of pregnancy, without judgement. • Manages an ongoing pregnancy, including planning for birth and a multidisciplinary approach to the care of the newborn.
Requests and uses a wide range of molecular,	• Is able to take non-directive informed consent for performing these tests.

cytogenetic and biochemical tests for prenatal diagnosis	• Is able to interpret and communicate the results of these tests and know when a multidisciplinary approach is required.

Evidence to inform decision

• Reflective practice • Local and Deanery Teaching • TO2 (includes SO) • Mini-CEX • CbD	• RCOG e-learning

Knowledge criteria

- Normal chromosome structure and function
- Gene structure and function, including gene control, mechanisms and effects of mutation, genetic heterogeneity
- Patterns of genetic inheritance and susceptibility, expression and penetrance, multifactorial and mitochondrial inheritance
- Cell division (meiosis and mitosis), and abnormalities arising from these processes
- Types of aneuploidy, including structural rearrangements, deletions and common microdeletions, trisomies, sex chromosome anomalies (including Monosomy X, Klinefelter syndrome and Triple X), extra markers, mosaicism (fetal and placental), uniparental disomy, triploidy
- The underlying genetic aetiology of the single gene disorders mentioned in CiP 2 and 3, AND the following conditions:
    - myotonic dystrophy
    - Huntington's disease
    - Haemoglobinpaothies, hameophilia and other common bleeding disorders
    - Inborn errors of metaboilism
- Detailed knowledge of the following syndromes and associations:
    - DiGeorge
    - Fryn's
    - Beckwith-Wiedemann
    - Meckel Gruber
    - Smith-Lemli-Opitz
    - VATER/VACTERL
- The pre- and postnatal phenotypes of these common aneuploidies, single gene disorders, and syndromes, including prognosis
- Methods of screening for aneuploidy, including ultrasound, biochemical and non-invasive DNA based techniques
- The statistical terms relevant to screening, including sensitivity, specificity, false positive rates, positive predictive rates, and how these are inter-dependent
- The meaning of likelihood ratios in risk calculations
- Current screening programmes, including national implementation, audit, quality control, the National Screening Committee and regional screening co-ordinators
- How recurrence risks for chromosomal and single gene disorders are derived
- Prenatal testing options, both invasive and non-invasive, including ultrasound, MRI, NIPT, amniocentesis, chorionic villus sampling, fetal blood sampling
- Laboratory techniques for analysing parental and fetal samples, including quantitative PCR,

FISH, karyotyping, microarray, mutational analysis, sequencing, enzymatic analysis, analyte assessment

SECTION 2: PROCEDURES

Procedures	***Level by end of training***	***CIP 1***	***CIP 2***	***CIP 4***	***CIP 9***	***CIP10***	***CIP 12***
Umbilical artery artery Doppler	5	X					
Uterine artery Doppler	5	X					
Middle cerebral artery Doppler	5	X					
Ductus venosus Doppler	5	X					
Cervical length scan	5	X					
Amniocentesis	5			X			X
Assisted breech birth or a breech extraction at vaginal and caesarean birth in singleton and multiple pregnancies	5				X		
Caesarean section with transverse lie	5				X		
Preterm vaginal birth	5				X		
Preterm caesarean section, including non-lower segment uterine incisions	5				X		
Preterm twin birth	5				X		
Vaginal birth or caesarean section for twin pregnancy	5				X		
Internal Podalic version	5				X		
ECV	5	X			X		
Manual rotation	5				X		
Rotational operative vaginal birth	5				X		
Caesarean section and operative vaginal birth for those with BMI >40	5				X		
Uterine balloon tamponade	5				X		
Brace suture	5				X		
Peripartum hysterectomy	1				X		
Laparotomy for intra-abdominal bleeding					X		
Repair of uterine rupture	1				X		
Determine the lie and presentation for each fetus in	5					x	

Procedures	***Level by end of training***	***CIP 1***	***CIP 2***	***CIP 4***	***CIP 9***	***CIP10***	***CIP 12***
a multiple pregnancy at term using ultrasound							
Determine the presenting part in (suspected)preterm labour using ultrasound	5					x	
Locate fetal heart using ultrasound intrapartum	5					x	
Intrapartum identification of occiput using ultrasound	5					x	
Demonstration of the postpartum uterus and its endometrial echo using ultrasound	5					x	
CVS	5						X
Therapeutic amniodrainage	5						X
Fetal blood transfusion	1						X
Fetal ECHO	5		X				X
Twin amniocentesis	5						X
Fetocide	5						X
Multifetal pregnancy reduction and selective termination of pregnancy in dichorionic twins and higher order pregnancies	3						X
Drainage of cystic structure	5						X
Shunt (pleuro- and vesicoamniotic)	1						X
Placental laser	1						X
Ultrasound assessment of placental site (transvaginal)	5	x					
Ultrasound assessment of chorionicity	5	x					x
Repair of third degree tear	5				X		
Repair of fourth degree tear	1				X		
Insertion of brace suture	5				X		
Major placenta praevia	5				X		
Placenta accreta/percreta	1				X		
Classical caesarean section	5				X		

SECTION 3: GMC GENERIC PROFESSIONAL CAPABILITIES

Mapping to GPCs
Domain 1: Professional values and behaviours Domain 2: Professional skills • Practical skills • Communication and interpersonal skills • Dealing with complexity and uncertainty • Clinical skills *(history taking, diagnosis and management, consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable diseases)* Domain 3: Professional knowledge • Professional requirements • National legislative requirements • The health service and healthcare systems in the four countries Domain 4: Capabilities in health promotion and illness prevention Domain 5: Capabilities in leadership and teamworking Domain 6: Capabilities in patient safety and quality improvement • Patient safety • Quality improvement Domain 7: Capabilities in safeguarding vulnerable groups

SECTION 4: MAPPING OF ASSESSMENTS TO CiPs

CIP	OSATS	Mini-CEX	CbD	NOTSS	TO1/ TO2	Reflective practice
1: The doctor uses ultrasound to screen for and manage pregnancy complications, other than fetal abnormality.	X	X	X		X	X
2: The doctor confirms fetal normality and manages the key conditions targeted by the Fetal Anomaly Screening Programme (FASP).	X	X	X		X	X

CIP	OSATS	Mini-CEX	CbD	NOTSS	TO1/ TO2	Reflective practice
3: The doctor is able to manage a wide range of common conditions affecting the fetus.		X	X		X	X
4: The doctor describes, obtains informed consent for and performs amniocentesis.	X	X	X			X
5: The doctor is able to recognise and manage common medical conditions in the pregnant woman.		X	X		X	X
7: The doctor manages intrapartum medical complications and pre-existing conditions.		X	X	X	X	X
8: The doctor has obstetric medicine skills covering a wide range of maternal medical conditions.		X	X		X	X
9: The doctor recognises key intrapartum scenarios and manages them using the necessary technical and non-technical skills.	X	X	X	X	X	X

CIP	OSATS	Mini-CEX	CbD	NOTSS	TO1/ TO2	Reflective practice
10: The doctor uses ultrasound to optimise outcomes during labour and the immediate puerperium.		X	X	X		X
12: The doctor is able to lead in providing care to women with pregnancies complicated by the full range of fetal concerns.	X	X	X		X	X
13: The doctor can independently manage, in conjunction with specialists from other disciplines, pregnancies complicated by the widest range and most complex of maternal medical conditions.		X	X		X	X
14: The doctor can apply knowledge of clinical and molecular genetics to the management of complex pregnancy.		X	X		X	X

4 The research component of subspecialty training

The aim of the research component of the subspecialty training programme is to ensure that subspecialty-accredited doctors are competent in the design and execution of a research study of sufficient quality to meet internationally recognised standards of research excellence, such as those published in the Medical Research Council's Good research practice: principles and guidelines. Trainees will need to demonstrate expertise in clinical and/or laboratory research methodology including the ability to:

- critically assess research papers
- design and run a research project
- understand statistical methods
- be aware of the ethical issues involved in research

Trainees also need to either:

- complete the research component of the subspecialty training programme **or**
- obtain research exemption through published output.

4.1 Research exemption

All applications for exemption are reviewed by the RCOG's Subspecialty Committee. Trainees will still be expected to undertake research during subspecialty training, even if they have fulfilled the research criteria before entering the programme. Approval of research exemption before starting subspecialty training requires:

- Completion of a research or academic programme that has led to the award of an MD (Res) or PhD thesis, **OR**
- Publication of two first-author papers of original research in citable, refereed MEDLINE journals relevant to the subspecialty, **OR**
- Satisfactory completion of the Clinical Research Advanced Professional Module (APM)

If research exemption is granted at commencement of training the trainee will undergo a two-year subspecialty training programme subject to achieving the clinical competences within two years. If the trainee has completed a period of research before starting subspecialty training but has not yet fulfilled the published output criteria they will be registered for a three-year programme. The trainee should apply for research exemption once the published output criteria have been fulfilled. The overall progress of clinical progression will be assessed at the next subspecialty assessment to establish the remaining training time.

Research exemption at completion of a three-year subspecialty training programme requires:

- Completion of a research of academic programme that has led to the award of an MD (Res) or PhD thesis, **OR**
- Publication of two first-author papers of original research in citable, refereed MEDLINE journals relevant to the subspecialty, preferably (but not necessarily) arising from a dedicated period of research lasting at least one year OR
- Satisfactory completion of the Clinical Research Advanced Professional Module (APM)

As the subspecialty training programme is a capability based programme it is therefore expected that if the trainee does not fulfil the research exemption requirement before commencing the programme, they will require three years to achieve both research and clinical capabilities stipulated in the subspecialty programme.

MD/PhD

- The MD (Res)/PhD **must** be relevant to the chosen subspecialty. An MD (Res) awarded from a university outside Great Britain or Ireland would not be considered equivalent to a UK MD (Res)
- An international PhD may be considered equivalent to a UK PhD if the trainee can provide supporting evidence that a period of supervised research led to the award of the PhD; the Subspecialty Committee requires supporting evidence before they can grant equivalence

Published papers

- First-author papers must be relevant to the chosen subspecialty
- Review articles (other than high-quality systematic reviews, preferably Cochrane Reviews) and case reports are excluded
- 'Exceptional' requests (i.e. a non-first author paper that the trainee wishes to be accepted as one paper towards research exemption) will be considered only if a minimum research period of two years has been undertaken, a fellowship whose primary purpose was to coordinate a trial has been completed, or there is supporting evidence of active involvement in all aspects of delivery of the study and authorship of an article published in a high-impact journals such as the New England Journal of Medicine, The Lancet, BMJ or Nature.

4.2 Advanced Professional Module Clinical Research

MFM trainees can choose to take the APM Clinical Research as a way of completing the research component if they are not research-exempt. The APM is the first in a new suite of modules that are designed to enhance the acquisition of generic professional skills.

The aim is to define the skills that a consultant Obstetrician/Gynaecologist requires in order to support clinical research service as an active participant (Principal Investigator, co-applicant/collaborator, recruiter) in a primary, secondary or tertiary care setting. The APM can be completed as an optional module for O&G trainees who have an interest in academic training any time during their specialty training, generally from ST3. It is also intended to be available to NHS O&G consultants to develop their skills and knowledge.

4.3 Non-completion of research component

If the trainee reaches the end of subspecialty training without satisfying the research criteria, they will be offered a maximum 6-month extension to complete the research element, at the discretion of the Postgraduate Dean.

If the trainee reaches the end of the 6-month extension without completing the research component, the RCOG's Subspecialty Committee will not award subspecialty accreditation unless there are extenuating circumstances. Award of the CCT will be at the discretion of the

Local Education Training Board / Deanery, although this might involve a further period of general training.

5 Learning and Teaching

5.1 The core training programme

The organisation and delivery of postgraduate training is the responsibility of the Health Education England (HEE) and Local Education Offices (LETBs), NHS Education for Scotland (NES), Health Education and Improvement Wales (HEIW) and the Northern Ireland Medical and Dental Training Agency (NIMDTA). A Training Programme Director will be responsible for coordinating the O&G training programme in each deanery. The local organisation and delivery of training is overseen by a school of O&G.

Progression through the programme will be determined by the annual review of curriculum progression (ARCP) process (section 5.6) and the training requirements for each indicative year of training are summarised in the O&G ARCP decision aid. The successful completion of each stage of training will be dependent on achieving the expected level in all CiPs and procedural skills. The programme of assessment will be used to monitor and determine progress through the programme. Training will normally take place in a range of settings, e.g. community, District General Hospitals and Teaching Hospitals.

The sequence of training should ensure appropriate progression in experience and responsibility. The training to be provided at each training site is defined to ensure that, during the programme, the entire syllabus is covered and also that unnecessary duplication and educationally unrewarding experiences are avoided. The sequence of training should ideally be flexible enough to allow the trainee to develop a special interest which can be taken forward during the advanced training period.

5.2 The general training environment

In order to fulfil the MFM curriculum requirements, trainees need to train and work in high quality training environments. The GMC has clear standards in its Promoting excellence document which specify that employers must provide trainers with the support and resources they need to meet their education and training responsibilities. Employers should also protect time for training and produce rotas that help deliver that goal. Where the GMC survey shows this is not happening, they expect employers to take action to ensure their training environments meet their standards.

The RCOG annual trainee evaluation form (TEF) and subsequent analyses also provides longitudinal data for schools and units to use to drive improvements in the education they provide. The TEF data is specialty specific so can provide detailed feedback on specific areas of training and education that support curriculum delivery.

The RCOG has produced new quality criteria, based on GMC and RCOG standards and good practice noted through the TEF exercise, which will enable individual training placements to

benchmark the education and training they provide and further develop high quality placements. These will detail how we can enable trainees to:

- Provide safe and effective care.
- Have a supportive working environment.
- Enjoy a better educational experience.

The quality criteria provide guidance regarding the range and access to informal, formal and experience-based learning that will be required to fulfil the curriculum requirements. The curriculum will provide a balance of different learning methods for trainees to progress through, from formal teaching programmes to learning 'on the job'. The proportion of time allocated to each method may vary depending on the nature of the attachment within a rotation. Rotations should be constructed to enable the trainee to experience the full range of educational and training opportunities.

Informal learning methods will include:

- **Learning with peers** - There are many opportunities for trainees to learn with their peers. Local postgraduate teaching opportunities allow trainees of varied levels of experience to come together for small group sessions. Examination preparation encourages the formation of self-help groups and learning sets.
- **Work-based experiential learning** - The content of work-based experiential learning is decided by the local faculty for education within a unit.

Formal postgraduate teaching sessions

The content of other formal postgraduate teaching sessions and access to other more formal learning opportunities are determined by the local faculty of O&G education. MFM trainees will attend those that are of interest or relevance to them. There are many opportunities throughout the year for formal teaching locally and at regional, national and international meetings. Many of these are organised by the RCOG.

Independent self-directed learning

Trainees will use this time in a variety of ways depending upon their stage of learning. Susggested activities include:

- Reading, including journals and web-based material such as e-Learning for Healthcare (e-LfH) and StratOG (the RCOG's eLearning platform).
- Maintenance of personal portfolio (self-assessment, reflective learning, personal development plan).
- Audit, quality improvement and research projects.
- Achieving personal learning goals beyond the curriculum.

5.3 The subspecialty training environment

Subspecialty training can only be followed in a centre that has been accredited by the RCOG Subspecialty Committee. The generic criteria for accreditation are as follows:

- A centre should have sufficient caseload to support the trainee in completing the approved subspecialty curriculum within the required time frame.
- The numbers specified within the workload domain of the approval criteria would usually support one trainee, provided there is evidence of clinical supervision and timetabling for all elements of the curriculum within that centre.

- Recognition may be granted for 2 trainees per centre where there is supporting evidence from the deanery/LETB and where the centre can still deliver the breadth and depth of training.
- Mitigating factors in relation to the caseload required for recognition of a centre for subspecialty training include the track record of the training centre, working within a training network, highly specialised or supra-regional areas of clinical practice provided within that centre, and workforce requirements within a geographical area. Recognition would be unlikely where an individual centre within a network could not deliver the majority of the elements of the curriculum, or where the approval criteria are fulfilled through a rotation involving more than 2 centres.
- Recognition could be achieved where centres work together across commissioning regions or geographies to fulfil the approval criteria and reflect the need for regionalisation of training in developing the future workforce within a large region or country.
- There should be a minimum of 2 full-time consultants working as subspecialists in any centre approved for subspecialist training. Each centre should name the clinical supervisor who will deputise when the Subspecialty Training Programme Supervisor (STPS) is on leave. The Subspecialty Committee would review ongoing recognition of a centre during long-term absence of an STPS.
- Each centre should inform their deanery/LETB of the theatre lists that have been identified to prioritise training of their subspecialty trainee, and lists where training will be shared with an ATSM or other trainee.
- A trainee should complete all aspects of the curriculum and be given the opportunity to visit other centres to gain level 1 experience of highly specialised techniques relevant to the curriculum, and experience of less common conditions occurring within a population.

The criteria for MFM centre accreditation is below. For recognition of a centre for a second simultaneous trainee, some multiplier of minimum case load criteria for MM and FM referrals and procedures is required to ensure the centre has the capacity to deliver adequate training to both trainees.

FM = fetal medicine; MFM = maternal and fetal medicine; MM = maternal medicine

Workload and scope

- The centre must have the following number of MFM sessions (with external referrals):
    - Minimum number of FM sessions per week = 6, AND minimum number of FM consultants accepting referrals with ≥2 sessions per week = 3*
    - Minimum number of MM sessions per week = 4, AND minimum number of MM consultants undertaking (sub)specialist sessions = 2*
- The centre must have ≥150 referrals for major fetal anomaly per annum coming from at least 2 other referral units
- MM clinic(s)[†] – or services if more appropriate – should cover ALL of the following disorders:
    - Endocrine (including >20 pregnancies to women with pre-existing diabetes per annum)

    - Cardiac
    - Respiratory
    - Haematology
    - Neurology
    - Obesity/metabolic
    - Renal
    - Hypertension
    - Anaesthetic
    - Infectious diseases
- Fetal invasive procedures:
    - Minimum number of CVS procedures per annum = 100 AND >30 average per practitioner AND
    - Minimum number of more complex fetal procedures (e.g. multifetal reduction, fetocide, shunt insertions, vesicocentesis, thoracocentesis, fetal transfusions, laser ablation) >30 per annum
    - Minimum number of CVS done by previous trainee >30
    - Minimum number of amniocentesis by previous trainee >50
- The centre must have an annual delivery rate of >5000 per annum

*To allow for adequate holiday cover and access from peripheral units to an opinion within 2 working days where necessary.

†Defined as a joint obstetrics/medical clinic run by an obstetrician AND a physician OR a dedicated pregnancy clinic run by a consultant physician/anaesthetist OR a dedicated clinic run by a (sub)specialist in MFM with access to a named relevant physician.

Organisation of services

- The centre must have multidisciplinary MFM meetings with evidence of regular MFM consultant attendance
- The centre must have evidence of ready access to prenatal multidisciplinary counselling
- The centre must have evidence of robust audit/MDT meeting with MFM learning outcomes
- The centre must have a minimum of 2 subspecialty accredited MFM consultants
- On-site regional neonatal intensive care facility with >10 beds
- Ready access within a <50-mile radius to ALL of the following regional services:
    - Paediatric surgery
    - Fetal echocardiography/paediatric cardiology
    - Fetal MRI
    - Genetics: ALL cytogenetics, molecular genetics and clinical genetics sessions
- The centre must ensure that on-call arrangements do not interfere with elective MFM activities.

6 Programme of Assessment

6.1 Purpose of assessment

The purpose of the programme of assessment is to:

- Assess trainees' actual performance in the workplace.

- Encourage the development of the trainee as an adult responsible for their own learning.
- Enhance learning by providing formative assessment, enabling trainees to receive immediate feedback, understand their own performance and identify areas for development.
- Drive learning and enhance the training process by making it clear what is required of trainees and motivating them to ensure they receive suitable training and experience.
- Demonstrate trainees have acquired the GPCs and meet the requirements of good medical practice.
- Ensure that trainees possess the essential underlying knowledge required for their specialty.
- Provide robust, summative evidence that trainees are meeting the curriculum standards during the training programme.
- Inform the ARCP, identifying any requirements for targeted or additional training where necessary and facilitating decisions regarding progression through the training programme.
- Identify trainees who should be advised to consider changes of career direction.

6.2 Programme of assessment

Our overall programme of assessment as outlined in the Core Curriculum Definitive Document refers to the integrated framework of exams, assessments in the workplace and judgements made about a learner during their approved programme of training. The purpose of the programme of assessment is to clearly communicate the expected levels of performance and ensure these are met on an annual basis and at other critical progression points, and to demonstrate satisfactory completion of training as required by the curriculum.

The programme of assessment for the MFM subspecialty curriculum comprises the use of a number of individual assessment tools which are the same as those for the core curriculum, apart from the MRCOG which must have already been achieved. These include summative and formative workplace-based assessments. A range of assessments is needed to generate the necessary evidence required for global judgements to be made about satisfactory performance, progression in, and completion of, training. All assessments are linked to the relevant learning outcomes stated in the curriculum.

The programme of assessment emphasises the importance of professional judgment in making sure learners have met the learning outcomes and expected levels of performance set out in the approved curriculum. It also focuses on the learner as a reflective practitioner. Assessors will make accountable, professional judgements on whether progress has been made according to a learner's self-assessment. The programme of assessment explains how professional judgements are used and collated to support decisions on progression and satisfactory completion of training.

Assessments will be supported by structured feedback for trainees. Assessment tools, which are well established in O&G training, will be both formative and summative and have been selected on the basis of their fitness for purpose and their familiarity to trainees and trainers.

Trainees will be assessed throughout the training programme, allowing them to continually gather evidence of learning and to provide formative feedback. Those assessment tools which are not identified individually as summative will contribute to global judgements about a trainee's progress as part of the programme of assessment. The number and range of these will ensure a reliable assessment of the training relevant to their stage of training and achieve coverage of the curriculum.

Reflection and feedback should be an integral component to all workplace-based assessments. Every clinical encounter can provide a unique opportunity for reflection and feedback and this process should occur frequently – and as soon as possible after any event to maximise benefit for the trainee. Feedback should be of high quality and should include an action plan for future development for the trainee. Both trainees and trainers should recognise and respect cultural differences when giving and receiving feedback. Our assessment tools have been revised to include reflection and have been piloted during 2018.

6.3 Assessment of CiPs

The CiP is the fundamental basis of global judgement. Assessment of CiPs involves looking across a range of key skills and evidence to make a judgement about a trainee's suitability to take on particular responsibilities or tasks as appropriate to their stage of training. It also involves the trainee providing self-assessment of their performance for that stage of training.

Clinical Supervisors and others contributing to assessment will provide formative feedback to the trainee on their performance throughout the training year. Evidence to support the global rating for the CiP will be derived from workplace-based assessments and other evidence, e.g. TO2.

6.4 The global judgement process

Towards the end of the training year, trainees will assess their own progression for each CiP (Figure 3a) and record this in the ePortfolio, signposting to the evidence that supports their rating. The Subspecialty Training Programme Supervisor (STPS) will review the evidence in the ePortfolio including workplace-based assessments, the TO2 and the trainee's self-assessment and record their global judgement of the trainee's performance in the Subspecialty Educational Supervisor Report (SST ESR), with commentary. Figure 3 b shows how the trainee's self-assessment and the evidence feed into the global judgement by the STPS.

Figure 3 a – Trainee self-assessment of a CiP

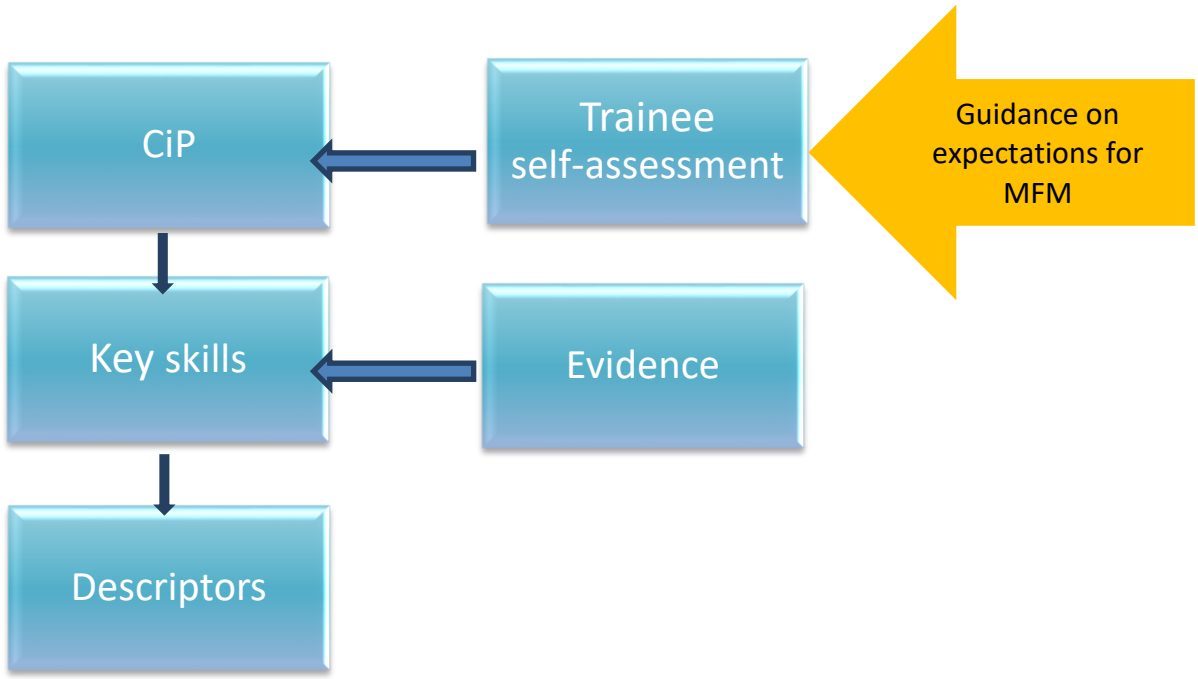
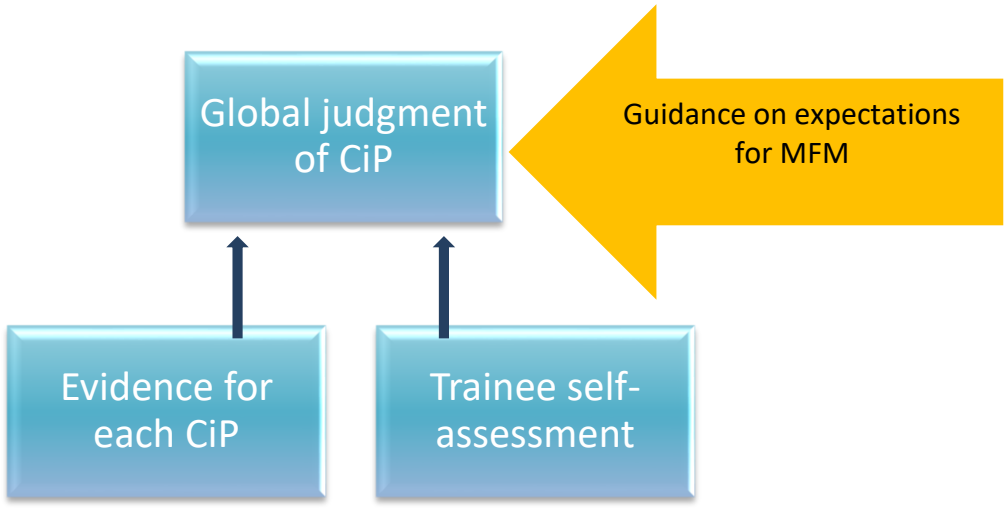


Figure 3 b – STPS assessment of all CiPs



The trainee will make a self-assessment to consider whether they meet expectations for the MFM subspecialty as a whole, using the five supervision levels listed in Table 3 and highlighting the evidence in the ePortfolio. The STPS will indicate whether the trainee is meeting expectations or not by assigning one of the five supervision levels, as in the template below.

Table 3 shows the five supervision levels that are based on an entrustability scale which is a behaviourally anchored ordinal scale based on progression to competence and reflects judgments that have clinical meaning for assessors[1] .

Table 3 – Levels of supervision

Level	Descriptor
Level 1	Entrusted to observe
Level 2	Entrusted to act under direct supervision: (within sight of the supervisor).
Level 3	Entrusted to act under indirect supervision: (supervisor immediately available on site if needed to provide direct supervision)
Level 4	Entrusted to act independently with support (supervisor not required to be immediately available on site, but there is provision for advice or to attend if required)
Level 5	Entrusted to act independently

Global judgement to be used for each CiP

Trainee self-assessment
FOR EACH CiP
Statement of what level of supervision is required.

Link to evidence on the ePortfolio.

STPS Educational Supervisors assessment
I agree with the trainee's self-assessment and have added my comments to each CiP.

I do not agree with the trainee's self-assessment for the following reasons:

STPS Educational Supervisors global judgement of the CiPs
I consider that the trainee's performance overall meets the clinical entrustability scale of 1-5 (specify) and that the trainee is:

- Not meeting expectations for the subspecialty training in MFM; may not meet the requirements for critical progression point

[1] Entrustability Scales: Outlining Their Usefulness for Competency-Based Clinical Assessment

- Meeting expectations for the subspecialty training in MFM; expected to progress to next stage of training

The generic skills for subspecialty training, i.e. communication, team working, leadership, good medical practice and maintaining trust, teaching, research, governance and risk management, administrative skills and service management, information use and management will be evidenced and assessed through the generic CiPs in the core curriculum. The evidence will need to be at an appropriate level for a subspecialist. The expectations for the MFM curriculum as a whole for generic CiPs will be specified in the MFM curriculum guidance. Those subspecialty trainees who are undertaking subspecialty training post-CCT will be signposted to the relevant generic CiPs and advised in the guidance that they will need to include evidence within their ePortfolio for these.

6.5 Assessment of progression

Subspecialty trainees will be formally assessed on an annual basis prior to their ARCP by a subspecialty assessment panel as to whether the trainee is making sufficient progress to complete the MFM curriculum and acquired the procedural competence required. The recommended outcome of the SST assessment will feed into the Educational Supervior Report (ESR). The ESR will make a recommendation to the ARCP panel on progress to complete the MFM curriculum. The ARCP panel will make the final decision on whether the trainee can be signed off and progress to the next year.

The MFM curriculum contains an outline grid of progress in procedures expected for each CiP.

Table 4 oulines the defined levels of achievement for the MFM CiPs required for each year of training.

Table 4 – Outline grid of progress expected for MFM CiPs
Level descriptors for clinical CiPs
Level 1 - Entrusted to observe
Level 2 - Entrusted to act under direct supervision
Level 3 - Entrusted to act under indirect supervision
Level 4 - Entrusted to act independently with support
Level 5 - Entrusted to act independently

	MFM SST	Subspecialty Accreditation

Capabilities in practice	Progress expected by completion of 12 months WTE of clinical training	Progress expected by completion of 24 months WTE of clinical training	
1: The doctor uses ultrasound to screen for, and manage, pregnancy complications, other than fetal abnormality.	3	5	CRITICAL PROGRESSION POINT
2: The doctor confirms fetal normality and manages the key conditions targeted by the Fetal Anomaly Screening Programme (FASP).	3	5	
3: The doctor is able to manage a wide range of common conditions affecting the fetus	3	5	
4: The doctor describes, obtains informed consent for and performs amniocentesis	3	5	
5: The doctor is able to recognise and manage common medical conditions in the pregnant woman	4	5	
7: The doctor manages intrapartum medical complications and pre-existing conditions	4	5	
8: The doctor has obstetric medicine skills covering a wide range of maternal medical conditions	3	5	
9: The doctor recognises key intrapartum scenarios	4		

and manages them using the necessary technical and non-technical skills		**5**	
10: The doctor uses ultrasound to optimise outcomes during labour and the immediate puerperium	**3**	**5**	
12: The doctor is able to lead in providing care to women with pregnancies complicated by the full range of fetal concerns	**2**	**5**	
13: The doctor can independently manage, in conjunction with specialists from other disciplines, pregnancies complicated by the widest range and most complex of maternal medical conditions	**2**	**5**	
14: The doctor can apply knowledge of clinical and molecular genetics to the management of complex pregnancy	**2**	**5**	

6.6 Evidence of progress

Many trainees work less than full time, and other trainees spend only a proportion of their working week in clinical subspecialty training if this is combined with an academic lecturer post. For those trainees on a three year programme, the proportion of time spent undertaking the research component and clinical training will vary over the three years although the total whole time equivalent clinical training will be two years, and one year for the research requirements. It is therefore not possible to write a matrix which takes accounts of all these variations in the pattern of subspecialty training. At each subspecialty assessment, the panel will judge the evidence provided against the period of whole time

equivalent CLINICAL training time and not the number of calendar months since training began or since the last assessment. It is expected that the subspecialty educational supervisors, through their reports, will make it clear to the assessment panel how much WTE clinical training is being assessed.

Some subspecialty trainees will accrue skills and competencies steadily across all the capabilities in practice, throughout their subspecialty training, and the matrix gives guidance as to what is deemed adequate progress by the end of the first 12 months WTE of clinical training. However, other trainees follow a modular approach during subspecialty training, and the progression through the CiPs will be quite different for them and their progress may not be so readily compared to the matrix. For these trainees, assessors will be expecting completion of some CiPs ahead of time, whilst others may not have been commenced by the end of the first 12 WTE months of clinical training. It is not possible to create a didactic matrix which covers all training programmes, and common sense and professional judgement will be required, in the same way as it was in the previous curriculum, with respect to competency accrual and sign off of CiPs.

The following methods of assessment will provide evidence of progress. The requirements for each training year/level are stipulated in the Matrix of Progression. Evidence is a crucial concept in the new curriculum, and as well as the methods listed below, can include other sources, such as the Personal Development Plan or quality improvement project or procedure log. The trainee will collect evidence to support their self-assessment, and the STPS will use it to reach a global judgement. These methods are described briefly below. More information and guidance for trainees and assessors are available in the ePortfolio and on the RCOG website (www.rcog.org.uk).

Summative assessment

- Objective Structured Assessment of Technical Skills (OSATS) - summative

Formative assessment

- Case-Based Discussions (CbD)
- Mini-Clinical Evaluation Exercise (mini-CEX)
- OSATS - formative
- Team Observation (TO1), TO2 and Self-observation (SO)
- Non-Technical Skills for Surgeons (NOTSS)

Supervisor report

- Educational Supervisor Report (ESR)
- Subspecialty Educational Supervisor Report (SST ESR)

Objective Structured Assessment of Technical Skills (OSATS)

There are a number of fundamental procedures in the MFM subspecialty curriculum that requires an objective assessment tool to aid the review process. OSATS are validated assessment tools that assess technical competency in a particular technique. OSATS will be completed throughout training until the trainee is competent to practise independently. OSATS can be undertaken as many times as the trainee and their supervisor feel is necessary

(formative). A trainee can be regarded as competent to perform a procedure independently after they have completed 3 summative OSATs by more than one appropriate assessor.

Case-based Discussion (CbD)
The CbD assesses the performance of a trainee in their management of a patient to provide an indication of competence in areas such as clinical reasoning, decision making and application of medical knowledge in relation to patient care. It also serves as a method to document conversations about, and presentations of, cases by trainees. The CbD should focus on a written record (such as written case notes, out-patient letter, discharge summary). A typical encounter might be when presenting newly referred patients in the outpatient department.

Mini-Clinical Evaluation Exercise (mini-CEX)
This tool evaluates a clinical encounter with a patient to provide an indication of competence in skills essential for good clinical care such as history taking, examination and clinical reasoning. The trainee receives immediate feedback to aid learning. The mini-CEX can be used at any time and in any setting when there is a trainee and patient interaction and an assessor is available.

Multi-source feedback
The TO1 form is a multi-source feedback tool based on the principles of good medical practice, as defined by the General Medical Council (GMC). TO1 forms are used to obtain feedback from a range of healthcare professionals and forms part of a trainee's assessment. The TO1 is a snapshot feedback tool to be used by individuals at a fixed point in time. Individual team members completing a TO1 form should do so based on their experience of working with the trainee. The trainee will also be able to self-assess using a modified TO1 form (SO) which has been piloted along with the modified WBA tools. The TO1 forms are summarised in a TO2 form which informs the ARCP.

Non-Technical Skills for Surgeons (NOTSS) - new
The NOTSS system provides a framework and common terminology for rating and giving feedback on non-technical skills. Used in conjunction with medical knowledge and clinical skills, NOTSS is a tool to observe and rate behaviour in theatre in a structured manner. This enables clear and transparent assessment of training needs. NOTSS describes the main observable non-technical skills associated with good surgical practice, under the following headings:

- Situation awareness
- Decision making
- Communication and teamwork
- Leadership.

The RCOG has piloted the NOTSS system for use on the labour ward and in the gynaecological operating room. We have removed the rating system to focus on providing constructive and timely feedback. The system includes only those behaviours that are directly observable or that can be inferred through communication. NOTSS covers a wide range of non-technical skills in as few categories as possible.

Training evaluation form (TEF)
Trainees are required to complete a TEF on annual basis. The data from the TEF enables a proactive approach to the monitoring of quality of training by triangulating with other available data eg. GMC National Training Survey. This data is shared with deaneries and published on the RCOG website. In recognition of the importance that the RCOG places on trainee feedback, completion of the TEF is a requirement in the training matrix of progression.

Subspecialty Educational Supervisor report (SST ESR)
The STPS will annually record a longitudinal, global report of a trainee's progress over the full range of MFM based on a range of assessments and observations in practice or reflection on behaviour by those who have appropriate expertise and experience. The SST ESR can incorporate commentary or reports from observations, such as from supervisors, or formative assessments demonstrating progress over time. The STPS will offer a global judgement as to whether the trainee should progress to the next year of training.

Annual subspecialty assessment
Subspecialty trainees in MFM are reviewed annually where the trainee's progress towards the required subspecialty CiPs will be formally assessed. The SST assessment follows the same principles as the ARCP but needs to be undertaken by subspecialists.

The subspecialty assessment is undertaken prior to the trainee's ARCP as the outcome needs to feed into the ARCP process. The completed SST ESR is considered by a panel of subspecialty assessors, and an outcome recommended as to whether the trainee is meeting their subspecialty requirements. This decision is recorded in an outcome form, and in the ESR. Decisions on progression fundamentally rely on the professional judgement of the STPS based on the global judgement produced for each CiP and the outcome of the subspecialty assessment. The RCOG has produced the MFM Matrix of Progression for MFM, which is shown in Table 4. It is essentially a subspecialty assessment decision aid which sets out the requirements for a satisfactory subspecialty assessment outcome at the end of each training year and critical progression point. As a precursor to the subspecialty assessment, the RCOG strongly recommends that trainees have an informal ePortfolio review with their STPS/SST Educational Supervisor. This provides opportunities for early detection of trainees who are failing to gather the required evidence for the subspecialty assessment.

6.7 Annual Review of Progression (ARCP)
The decisions made at critical progression points and upon completion of training should be clear and defensible. They must be fair and robust and make use of evidence from a range of assessments, potentially including exams and observations in practice or reflection on behaviour by those who have appropriate expertise or experience. They can also incorporate commentary or reports from longitudinal observations, such as from supervisors, or formative assessments demonstrating progress over time.

Decisions on progression fundamentally rely on the professional judgement of the STPS based on the global judgement produced for each CiP and the outcome of the annual subspecialty assessment.

Periodic (at least annual) reviews should be used to collate and systematically examine evidence about a doctor's performance and progress in a holistic way and make decisions about their progression in training. The ARCP process supports the collation and integration of evidence to make decisions about the achievement of expected outcomes. The ARCP process is described in the Gold Guide. LETBs/deaneries are responsible for organising and conducting ARCPs. The evidence to be reviewed by ARCP panels should be collected in the trainee's ePortfolio. As a precursor to ARCPs, the RCOG strongly recommends that trainees have an informal ePortfolio review either with their Education Supervisor/STPS/SST Education Supervisor or arragned by the local school of O&G. These provide opportunities for early detection of trainees who are failing to gather the required evidence for ARCP.

Table 5 – Matrix of Progression

Matrix for Subspecialty Training in Maternal and Fetal Medicine		
	Progress expected by completion of 12 months WTE of clinical training	**Progress expected by completion of 12 months WTE of clinical training**
Formative workplace-based assessments		
These are encouraged as a method to provide evidence for CiPs. The aim is for quality over quantity. Useful WBAs will challenge, act as a stimulus and mechanism for reflection, uncover learning needs and provide an opportunity for developmental feedback		
Mini-CEX	✓	✓
CBD	✓	✓
NOTSS	✓	✓
Reflective practice	✓	✓
Formative OSATS	Optional but encouraged	
Summative workplace-based assessments		
Competent Summative OSATS*	✓	✓
TO2	2	2
Other evidence required for SST assessment (to be specified in MFM curriculum guidance)		
Research **	✓	✓
Educational Supervisor's Report		
Supervisor's report	1	1
Trainee feedback		
Training evaluation form (TEF)	✓	✓

*Each procedural skill requires 3 OSATS assessed as being competent prior to being able to perform the practical procedure independently with support

**If not research exempt, evidence of research activity and have a plan for satisfying research component as per RCOG research criteria

Table 6 shows the possible formal methods of assessment for each CiP. It is not expected that every method will be used for each CiP and additional evidence will be suggested as indicated in the Matrix of Progression and in the individual CiP.

Table 6 - Assessments mapped to CIPs

CIP	OSATS	Mini-CEX	CbD	NOTSS	TO1/ TO2	Reflective practice
1: The doctor uses ultrasound to screen for, and manage, pregnancy complications, other than fetal abnormality.	X	X	X		X	X
2: The doctor confirms fetal normality and manages the key conditions targeted by the Fetal Anomaly Screening Programme (FASP).	X	X	X		X	X
3: The doctor is able to manage a wide range of common conditions affecting the fetus		X	X		X	X
4: The doctor describes, obtains informed consent for and performs amniocentesis	X	X	X			X
5: The doctor is able to recognise and manage common medical conditions in the pregnant woman		X	X		X	X

CIP	OSATS	Mini-CEX	CbD	NOTSS	TO1/ TO2	Reflective practice
7: The doctor manages intrapartum medical complications and pre-existing conditions		X	X	X	X	X
8: The doctor has obstetric medicine skills covering a wide range of maternal medical conditions		X	X		X	X
9: The doctor recognises key intrapartum scenarios and manages them using the necessary technical and non-technical skills	X	X	X	X	X	X
10: The doctor uses ultrasound to optimise outcomes during labour and the immediate puerperium		X	X	X		X
12: The doctor is able to lead in providing care to women with pregnancies complicated by the full range of fetal concerns	X	X	X		X	X
13: The doctor can independently manage, in conjunction with		X	X		X	X

CIP	OSATS	Mini-CEX	CbD	NOTSS	TO1/ TO2	Reflective practice
specialists from other disciplines, pregnancies complicated by the widest range and most complex of maternal medical conditions						
14: The doctor can apply knowledge of clinical and molecular genetics to the management of complex pregnancy		X	X		X	X

7 Supervision and feedback

This section of the curriculum describes how trainees will be supervised, and how they will receive feedback on performance. For further information please refer to the AoMRC guidance on Improving feedback and reflection to improve learning[2].

Access to high quality, supportive and constructive feedback is essential for the professional development of the trainee. Trainee reflection is an important part of the feedback process and exploration of that reflection with the trainer should ideally be a two-way dialogue. Effective feedback is known to enhance learning and combining self-reflection with feedback promotes deeper learning.

Trainers should be supported to deliver valuable and high quality feedback, including through face to face training. Trainees would also benefit from such training as they frequently act as assessors to junior doctors. All involved could also be shown how best to carry out and record reflection.

7.1 Subspecialty training

The Subspecialty Training Programme Supervisor (STPS) is responsible for the day-to-day, hands-on training of the subspecialty trainee and in the organisation and delivery of all aspects of the subspecialty curriculum at trust level. This will also include workplace-based assessments and providing feedback to the trainee.

[2] Improving feedback and reflection to improve learning. A practical guide for trainees and trainers

Any newly appointed STPS must be subspecialty accredited. The STPS should obtain feedback from other subspecialty-trained colleagues for the annual assessment of a trainee's progress. Unless there are exceptional local circumstances, each subspecialty training centre (irrespective of the number of programmes offered) should have only one STPS per subspecialty, which should not be a job share. The STPS responsibilities include:

- Take responsibility for maximising the educational opportunities provided in the accredited subspecialty training centre to meet the training needs of the subspecialty trainee.
- Ensure all components of the curriculum are included in the subspecialty training programme.
- Ensure that the trainee's mandatory logbook is accurate and up to date. The STPS should check that the trainee has sufficient evidence to allow the assessment panel to judge the trainee's progress at the annual assessment.
- Take responsibility for the completion and submission of the application for recognition as a subspecialty training centre.
- Take responsibility for ensuring that the subspecialty training programme is advertised nationally and appointed in open competition.
- Take responsibility for completion and submission of trainee registration documentation (within 6 months of the trainee starting subspecialty training).

7.2 Generic supervision

All elements of work in training posts must be supervised, with the level of supervision dependent on the experience of the trainee, their clinical exposure and case mix undertaken. Outpatient and referral supervision must routinely include the opportunity to personally discuss all cases if required. As training progresses the trainee should have the opportunity for increased autonomy, consistent with safe and effective care for the patient.

Organisations must make sure that each doctor in training has access to a named Clinical Supervisor and the STPS . Depending on local arrangements these roles may be combined into a single role of Educational Supervisor/STPS. However, it is preferred that a trainee has a single named Educational Supervisor for (at least) a full training year, in which case the Clinical Supervisor is likely to be a different consultant during some placements.

The role and responsibilities of supervisors have been defined by the GMC in their standards for medical education and training[3].

Clinical Supervisor

The Clinical Supervisor oversees the doctor's clinical work throughout a placement. They lead on reviewing the doctor's clinical or medical practice throughout a placement and contribute to the STPS report on whether the doctor should progress to the next stage of their training.

The STPS, when meeting with the trainee, should discuss issues of clinical governance, risk management and any report of any untoward clinical incidents involving the trainee. The

[3] Promoting excellence: standards for medical education and training

STPS should be part of the clinical specialty team. If the clinical directorate (clinical director) has any concerns about the performance of the trainee, or there have been issues of doctor or patient safety, these would be discussed with the STPS. These processes, which are integral to trainee development, must not detract from the statutory duty of the trust to deliver effective clinical governance through their management systems.

Educational and clinical supervisors need to be formally recognised by the GMC to carry out their roles[4]. All Educational Supervisors are recognised by RCOG as Tier 2 educators in the Faculty Development Framework. It is essential that training in assessment is provided for trainers and trainees in order to ensure that there is complete understanding of the assessment system, assessment methods, their purposes and use. Training will ensure a shared understanding and a consistency in the use of the workplace-based assessments and the application of standards.

Opportunities for feedback to trainees about their performance will arise through the use of the workplace-based assessments, regular appraisal meetings with supervisors, other meetings and discussions with supervisors and colleagues, and feedback from subspecialty assessment and ARCP.

Trainees
Trainees should make the safety of patients their first priority. Furthermore, trainees should not be practising in clinical scenarios which are beyond their experiences and competences without supervision.

Trainees should actively devise individual learning goals in discussion with their trainers and should subsequently identify the appropriate opportunities to achieve said learning goals. Trainees would need to plan their workplace-based assessments accordingly so that they collectively provide a picture of their development during a training period. Trainees should actively seek guidance from their trainers in order to identify the appropriate learning opportunities and plan the appropriate frequencies and types of assessment according to their individual learning needs. It is the responsibility of trainees to seek feedback. Trainees should self-reflect and self-evaluate regularly with the aid of feedback. Furthermore, trainees should formulate action plans with further learning goals in discussion with their trainers.

7.3 Appraisal

A formal process of appraisals and reviews underpins training. This process ensures adequate supervision during training, provides continuity between posts and different supervisors and is one of the main ways of providing feedback to trainees. All appraisals should be recorded in the ePortfolio.

Induction appraisal
The trainee and STPS/SST Educational Supervisor should have an appraisal meeting at the beginning of the SST post to review the trainee's progress so far, agree learning objectives for the SST post ahead and identify the learning opportunities presented by the SST post.

[4] Recognition and approval of trainers

Reviewing progress through the curriculum will help trainees to compile an effective Personal Development Plan (PDP) of objectives for the SST post. This PDP should be agreed during the Induction Appraisal. The trainee and supervisor should also both sign the educational agreement in the ePortfolio at this time, recording their commitment to the training process.

Monthly meetings
Monthly meetings between trainee and STPS/SST Educational Supervisor are not mandatory but are encouraged. These are particularly important if either the trainee or educational or clinical supervisor has training concerns, or the trainee has been set specific targeted training objectives at their subspecialty assessment and ARCP. At these meeting trainees should review their PDP with their supervisor using evidence from the ePortfolio. Workplace-based assessments and progress through the curriculum can be reviewed to ensure trainees are progressing satisfactorily, and attendance at educational events should also be reviewed.

End of attachment appraisal
Trainees should review the PDP and curriculum progress with their STPS/SST Educational Supervisor using evidence from the ePortfolio. Specific concerns may be highlighted from this appraisal. The end of attachment appraisal form should record the areas where further work is required to overcome any shortcomings. Further evidence of competence in certain areas may be needed, such as planned workplace-based assessments, and this should be recorded. If there are significant concerns following the end of attachment appraisal, then the Training Programme Director should be informed.

8 Quality Management

The organisation of training programmes for O&G is the responsibility of HEE LETBs/local teams and the devolved nations' deaneries. The HEE Offices/deaneries will oversee programmes for postgraduate medical training in their regions. A Training Programme Director will be responsible for coordinating the O&G training programme in each trust. The Schools of O&G in England, Wales and Northern Ireland and NHS Education Scotland will undertake the following roles:

- Oversee recruitment and induction of trainees from Foundation to ST1 O&G.
- Allocate trainees into particular rotations for ST1 O&G appropriate to their training needs.
- Oversee the quality of training posts provided locally.
- Interface with other specialty training faculties (General Practice, Anaesthesia etc.) and other healthcare professionals (midwives, specialist nurses).
- Ensure adequate provision of appropriate educational events.
- Ensure curricula implementation across training programmes.
- Oversee the workplace-based assessment process within programmes.
- Coordinate the ARCP process for trainees.
- Provide adequate and appropriate career advice.
- Provide systems to identify and assist doctors with training difficulties.

- Provide flexible training.
- Recognise the potential of specific trainees to progress into an academic career.

Educational programmes to train Educational Supervisors and assessors in workplace-based assessment may be delivered by HEE Offices/deaneries or by RCOG or both.

Development, implementation, monitoring and review of the MFM subspecialty are the responsibility of the RCOG via the Speciality Education Advisory Committee (SEAC) and Subspecialty Committee. SEAC is formally constituted with representatives from each health region in England, from the devolved nations and with trainee and lay representation. It is the responsibility of the RCOG to ensure that curriculum developments are communicated to Heads of Schools, regional specialty training committees, TPD, STPSs and ATSM Directors.

The RCOG serves its role in quality management by monitoring and driving improvement in the standard of all O&G training. SEAC includes all Heads of UK O&G schools as members and is actively involved in assisting and supporting LETBs/deaneries to manage and improve the quality of education within each of their approved training locations. It is tasked with activities central to assuring the quality of medical education such as writing the curriculum and assessment systems, reviewing applications for new posts and programmes, provision of external advisors to deaneries and recommending trainees eligible for CCT or Certificate of Eligibility for Specialist Registration (CESR).

The RCOG uses data from five quality datasets across the O&G specialty and four subspecialties to provide meaningful quality management. The datasets include the GMC National Training Survey (NTS) data, Training Evaluation Form (TEF) data, ARCP outcomes, MRCOG exam outcomes and External Advisor reports. These datasets form the basis of the annual report to the GMC on the quality of O&G training nationally.

Quality criteria have been developed to drive up the quality of training environments and ultimately improve patient safety and experience. These are monitored and reviewed by RCOG to improve the provision of training and ensure enhanced educational experiences. The principles of the quality criteria for O&G will be transferred to the new curriculum to ensure this continues.

9 Intended use of the MFM subspecialty curricula by trainers and trainees

The MFM subspecialty curriculum, Matrix of Progression and subspecialty assessment decision aid will be available from the RCOG via the website www.rcog.org.uk and ePortfolio.

Clinical supervisors and STPS should use the curriculum and decision aid as the basis of their discussion with trainees, particularly as part of preparing for the annual subspecialty assessment and the ARCP process. Both trainers and trainees are expected to have a good knowledge of the curriculum and should use it as a guide for their training programme. Each trainee will engage with the curriculum by maintaining an ePortfolio. The trainee will use the curriculum to develop learning objectives and reflect on learning experiences.

9.1 Recording progress in the ePortfolio

The ePortfolio allows evidence to be built up to inform decisions on a trainee's progress and provides tools to support their education and development. The RCOG is investing in a new ePortfolio platform which will be designed to support the process of learning and recording of evidence with improved functionality. It will also include a procedures log.

The trainee's main responsibilities are to ensure the ePortfolio is kept up to date, arrange assessments and ensure they are recorded, prepare drafts of appraisal forms, maintain their PDP, record their reflections on learning and record their progress through the curriculum.

The supervisor's main responsibilities are to use ePortfolio evidence such as outcomes of assessments, reflections and PDPs to inform appraisal meetings. They are also expected to update the trainee's record of progress through the curriculum, write end-of-attachment appraisals and supervisor's reports.

HEE Offices, Training Programme Directors, College Tutors and ARCP panels will use the ePortfolio to monitor the progress of trainees for whom they are responsible.

The RCOG will use summarised, anonymous ePortfolio data to support its work in quality assurance.

10 Equality and diversity

The RCOG will comply, and ensure compliance, with the requirements of equality and diversity legislation set out in the Equality Act 2010.

The RCOG believes that equality of opportunity is fundamental to the many and varied ways in which individuals become involved with the Colleges, either as members of staff and Officers; as advisers from the medical profession; as members of the Colleges' professional bodies or as doctors in training and examination candidates.

HEE Local Offices/deaneries will quality assure each training programme so that it complies with the equality and diversity standards in postgraduate medical training as set by GMC. They should provide access to a professional support unit or equivalent for trainees requiring additional support.

Compliance with anti-discriminatory practice will be assured through:

- Monitoring of recruitment processes.
- Ensuring all College representatives and Programme Directors have attended appropriate training sessions prior to appointment or within 12 months of taking up post.
- HEE Offices/deaneries ensuring that Educational Supervisors have had equality and diversity training (for example, an e-learning module) every 3 years.

- HEE Offices/deaneries ensuring that any specialist participating in trainee interview/appointments committees or processes has had equality and diversity training (at least as an e-module) every 3 years.
- Ensuring trainees have an appropriate, confidential and supportive route to report examples of inappropriate behaviour of a discriminatory nature. HEE Offices/deaneries and Programme Directors must ensure that on appointment trainees are made aware of the route in which inappropriate or discriminatory behaviour can be reported and supplied with contact names and numbers. HEE Offices/deaneries must also ensure contingency mechanisms are in place if trainees feel unhappy with the response or uncomfortable with the contact individual.
- Providing resources to trainees needing support (for example, through the provision of a professional support unit or equivalent).
- Monitoring of College Examinations.
- Ensuring all assessments discriminate on objective and appropriate criteria and do not unfairly advantage or disadvantage a trainee with any of the Equality Act 2010 protected characteristics. All efforts shall be made to ensure the participation of people with a disability in training through reasonable adjustments and recognising that not all disabilities are visible.