The Royal College of Pathologists

Pathology: the science behind the cure

CURRICULUM FOR SPECIALTY TRAINING IN HISTOPATHOLOGY 2015

19 June 2015

Contents

INTRODUCTION

Histopathology in the UK encompasses surgical pathology, autopsy and cytopathology. Cytopathology may also be practised independently as a recognised subspecialty. Forensic histopathology, diagnostic neuropathology and paediatric and perinatal pathology are related specialties usually requiring a component of basic histopathology training.

The award of the Certificate of Completion of Training (CCT) or the Certificate of Eligibility for Specialist Registration (CESR) through the Combined Programme (CP) route will require evidence of satisfactory completion of the core aspects of histopathology, which are outlined in this curriculum. Doctors who are applying for entry to the Specialist Register via the award of a Certificate of Eligibility for Specialist Registration (CESR) will be evaluated against all aspects of this curriculum.

The curriculum and assessment system meets the General Medical Council's (GMC) Standards for Curricula and Assessment Systems (April 2010). In addition, the curriculum complies with the training framework A Reference Guide for Postgraduate Specialty Training in the UK.

For trainees with an NTN or NTN(A) in an approved UK training programme, the curriculum is integrated with and supported by the following documents in order to produce a coordinated training package for the award of the CCT. The relevant package includes:

- a blueprint for the histopathology assessment system (this demonstrates how the College assessments and examinations test the structure of the curriculum)
- regulations and guidelines for workplace-based assessment
- multi-source feedback
- Year 1 Histopathology OSPE (Objective Structured Practical Examination)
- regulations and guidelines for Fellowship exams
- access to e-learning mapped to the histopathology curriculum
- competency-based framework for graded responsibility
- Learning Environment for Pathology Trainees (LEPT) which provides an electronic means of recording progress in training
- Annual Review of Competence Progression (ARCP) guidance

Doctors applying for a CESR in histopathology must be able to demonstrate equivalence to the requirements for the award of a histopathology CCT. Such doctors are strongly advised to read the information available on the GMC website. In addition, the following guidance is available from the College and should also be carefully followed in the preparation of a CESR application:

- general guidance on evidence to submit with applications for a CESR in histopathology (specialty-specific guidance)
- guidance for CESR applicants in specialties and subspecialties overseen by The Royal College of Pathologists
- CESR curriculum vitae guidance

1. RATIONALE

a. Purpose of the curriculum

The purpose of the curriculum for specialty training in histopathology and its related subspecialty is to set the standards required by The Royal College of Pathologists and GMC for attainment of the award of the CCT or CESR(CP) in histopathology and its subspecialties (where appropriate), and to ensure that trainees are fully prepared to provide a high quality service at consultant level in the NHS. In addition, the curriculum also sets the standards against which CESR applicants will be judged.

The educational programme provides:

- to gain understanding of all practical aspects of the service
- the opportunity to gain knowledge of specialist areas such as cytopathology, forensic pathology, neuropathology and paediatric pathology, in order to be able to make appropriate referrals for specialist advice
- training in the communication and teaching skills necessary for effective practice
- the opportunities to develop to the required standard the ability to provide specialist opinion in histopathology
- opportunities to acquire the management skills to lead a department providing an effective service
- experience of research and development projects. Understanding critical assessment of published work so as to contribute to the development of the service
- the framework for continued professional development (CPD) including life-long habits of reading, literature searches, consultation with colleagues, attendance at scientific meetings and the presentation of scientific work
- practical experience of clinical governance and audit (specialist and multidisciplinary) through evaluation of practice against the standards of evidence-based medicine

Clinical governance is defined by the Department of Health as 'a framework through which NHS organisations are accountable for continuously improving the quality of their services and safeguarding high standards of care, by creating an environment in which excellence in clinical care will flourish'. In histopathology, trainees must become familiar with the lines of accountability, quality improvement programmes, clinical audit, evidence-based practice, clinical standards and guidelines, managing risk and quality assurance programmes. Training in these areas will continue throughout all stages of the curriculum.

The award of the CCT or CESR(CP) will indicate suitability for independent professional practice as a consultant in histopathology. During training, trainees will be able to use the curriculum to monitor their progress towards this goal. Formal assessments and examinations will be based on curricular objectives. The curriculum will facilitate regular assessment of trainees' progress by trainees and their educational supervisor(s).

To obtain and maintain a licence to practise the principles and values set out in Good Medical Practice (GMP) (www.gmc-uk.org/gmp2013) must be followed. GMP is set out to cover the following domains:

Domain 1 – Knowledge, Skills and Performance
Domain 2 – Safety and Quality
Domain 3 – Communication, Partnership and Teamwork
Domain 4 – Maintaining Trust

b. Training programmes

Training programmes will be quality assured by GMC. Training posts and programmes will be recommended for approval by the relevant Postgraduate Deanery with input from The Royal College of Pathologists. It is acknowledged that with the introduction of Local Education and Training Boards (LETBs) in England, the deanery structure as described in this curriculum is subject to change. However, until it is clear how structures that deliver training may change, the deanery terminology, structure and mechanisms for the delivery of training have been maintained in order to ensure some clarity and consistency in this regard.

Training programmes should include suitable rotational arrangements to cover all the necessary areas of the curriculum and an appropriate balance between teaching hospitals, district general hospitals and specialist units, such that each trainee gains the breadth of training required for satisfactory completion of the curriculum. The exact rotational arrangements will vary according to the size of the departments in the various training hospitals, the number of placements on the training scheme and the number of other trainees on the training programme. The training programme should be organised in such a way as to give each trainee some experience in most recognised areas of subspecialisation.

The structure and operation of the training programme is the responsibility of a Specialty Training Committee (STC), which will ensure that every trainee is provided with an appropriate range of educational experience to complete their training.

The local Training Programme Director (TPD) is responsible for the overall progress of the trainee and will ensure that the trainee satisfactorily covers the entire curriculum by the end of the programme. It must be ensured that there is an adequate number of appropriately trained, qualified and experienced staff in place to deliver an effective training programme and that all areas of the curriculum must be delivered by staff with the relevant specialist expertise and knowledge.

Each trainee should have an identified educational supervisor at every stage of their training. The educational supervisor is the consultant under whose direct supervision the trainee is working. A trainer is any person involved in training the trainee [e.g. consultant, clinical scientist, senior biomedical scientist (BMS)]. A trainee may be trained by a number of trainers during their training.

If there is a breakdown of relationship between a trainee and their educational supervisor, the trainee should, in the first instance seek advice from their TPD. If the matter is not resolved to the trainee's satisfaction, then he/she should seek further advice from the head of pathology school. As a last resort, trainees can seek advice from the College through the appropriate College specialty advisors.

c. Curriculum development

This curriculum was originally developed in 2005 (with subsequent review and amendments made in 2007, 2008 and 2010). It has been reviewed and amended by the Histopathology CSTC with input from LAY and the Trainee Advisory Committee (TAC).

Minor changes have been made to this curriculum in consultation with both the Histopathology CSTC and Specialty Advisory Committee (SAC).

The curriculum will allow trainees to take control of their own learning and to measure achievement against objectives. It will help in the formulation of a regularly updated education plan in conjunction with an educational supervisor and the local Specialty Training Committee (STC).

The curriculum was approved by GMC on 16 June 2015 and formally published in August 2015.

2. CONTENT OF LEARNING

The curriculum details the level of knowledge and its application, skill and professional behaviour that a trainee should acquire and demonstrate in practice to provide a high quality service at consultant level in the NHS. The professional practice aspect of the curriculum aims to ensure that doctors in the NHS trained to the Royal College of Pathologists' curriculum in Histopathology are competent practitioners, partners and leaders. It also aims

to ensure an understanding of issues of inequality around health and healthcare. Doctors must take the opportunity to positively influence health determinants and to combat inequalities.

1. The general professional and specialty-specific content of the curriculum is outlined below. Basic knowledge and skills (see pages 26-94)
2. Clinical histopathology including surgical pathology, autopsy and cytopathology (see pages26-94)
3. Subspecialist areas of histopathology. The trainees will acquire a basic knowledge of cytopathology. Subspecialisation within this area may be undertaken (see Appendix 1)
4. Generic skills required for histopathology in accordance with Good Medical Practice (see Appendix 6)

The curriculum outlines the knowledge, skills, behaviours and expertise that a trainee is expected to obtain in order to achieve the award of the CCT or CESR (CP).

Throughout their training, trainees are given increasing responsibility and independence appropriate for their demonstrated level of competence and professional development, as judged by their clinical and educational supervisors. The purpose of this component of training is to take such graded responsibility further, to enable the transition to the independent practice required of a CCT holder.

Demonstration of the skills required for independent practice is a requirement of the curriculum, and the relevant competencies must be assessed and achieved prior to completion of the training programme.

Additional guidance is provided for ST1 training and subspecialty training (see Appendix 1), outlining the sequencing and learning for this period of training. For training in ST2–5, it is expected that every trainee should undertake the core training outlined in pages, but it is recognised that the sequencing of learning and experience will differ according to the programme. The curriculum maps components of *Good Medical Practice* against the clinical components of histopathology and its associated subspecialties.

The recommended learning experiences are listed in section 6.

On completion of the histopathology training programme, the trainee must have acquired and be able to demonstrate:

- appropriate professional behaviour to be able to work as a consultant
- good working relationships with colleagues and the appropriate communication skills required for the practice of histopathology
- the knowledge, skills and attitudes to act in a professional manner at all times
- the knowledge, skills and behaviours to provide appropriate teaching and to participate in effective research to underpin histopathology practice an understanding of the context, meaning and implementation of clinical governance
- a knowledge of the structure and organisation of the NHS
- management skills required for the running of a histopathology laboratory
- familiarity with health and safety regulations, as applied to the work of a histopathology department.

a. Entry Requirements

Trainees are eligible for entry to a histopathology training programme following satisfactory completion of a UK foundation training programme or equivalent. Entry is also possible following post-foundation clinical training. Information regarding entry to ST1 training in England and Wales is available from the NHS Histopathology Training

Schools. Scottish and Northern Irish ST1 trainees do not enter specific training schools, but the programme is otherwise identical.

b. Duration of training

The Royal College of Pathologists anticipates that 5 years and 6 months would normally be required to satisfactorily complete the histopathology curriculum to the required depth and breadth, including two of the available optional packages of additional training described below, and achieve a CCT or CESR(CP).

The CCT in histopathology will be awarded on the recommendation of The Royal College of Pathologists following:

- evidence of satisfactory completion of the histopathology curriculum and the minimum training period
- satisfactory outcomes in the requisite number of workplace-based assessments (including multi-source feedback)
- attainment of the College's Year 1 Histopathology OSPE
- FRCPath by examination in histopathology
- acquisition of Annual Review of Competence Progression (ARCP) outcome 6

Further detailed information about the annual progression points including assessment requirements that will enable progression at each ARCP, as well as the completion of the CCT or CESR(CP) is available on the College website.

c. Subspecialty training in Cytopathology (see Appendix 2)

It is possible for trainees to undertake postgraduate subspecialty training in cytopathology after satisfactory completion of stages A, B and C of training and attainment of FRCPath Parts 1 and 2 in histopathology. Subspecialty training should be undertaken during stage D of training, subject to evidence of completion of the appropriate histopathology competences and attainment of the FRCPath in histopathology. Up to 6 months training in the subspecialty may be permitted prior to taking up designated subspecialty training. Satisfactory completion of the cytopathology subspecialty training programme can lead to inclusion against an entry on the Specialist Register. Trainees can complete the CCT requirements and subspecialty training in a minimum of 5 years and 3 months (including stages A–C of histopathology training and the 3-month cervical cytopathology optional training package). Trainees undertaking subspecialty training will spend stage D of training entirely within the subspecialty, whilst continuing to accumulate the competencies described as necessary for completion of stage D of the histopathology curriculum.

Trainees may have the subspecialty of cytopathology included against a histopathology entry on the Specialist Register following:

- evidence of satisfactory completion of the cytopathology subspecialty curriculum and 1 years' training overall in a recognised cytopathology training programme during stage D of training
- completion of a satisfactory cytopathology subspecialty training logbook

d. Transitional Arrangements

With the exception of trainees in the final year of training prior to the award of the CCT, all histopathology trainees will transfer to this curriculum.

Trainees in the final year of training will remain on their current curriculum. Such trainees would normally be expected to have already achieved FRCPath Part 2 by examination.

e. Registration as a trainee

Trainees must register with The Royal College of Pathologists on appointment to a histopathology training programme. It is the trainee's responsibility to familiarise themselves with the curriculum and assessment requirements both for the satisfactory completion of each stage of training and the award of the CCT or CESR(CP). They must be familiar with all aspects of the assessment system; workplace-based assessment including multi-source feedback and the FRCPath examination. It is the trainee's responsibility to ensure that they apply in good time for any assessments and examinations that demand an application. Trainees must also make appropriate use of the LEPT system and e-learning.

f. Training regulations

This section of the curriculum outlines the training regulations for histopathology. In line with GMC guidance this reflects the regulation that only training that has been prospectively approved by GMC can lead towards the award of the CCT. Training that has not been prospectively approved by GMC can still be considered but the trainee's route of entry to the Specialist Register changes to CESR (CP) route.

i. Less than full-time training

'Less than full-time training is the term used to describe doctors undertaking training on a basis that is not full-time, normally between five and eight sessions per week. In exceptional circumstances, trainees may be allowed to undertake training at less than 50% of full-time. These circumstances should be considered by trainee's deanery and should have the support of the Postgraduate Dean or their Deputy. A placement at less than 50% of full time should be for a maximum of 12 months and should be subject to regular review.

The aim of less than full-time training is to provide opportunities for doctors in the NHS who are unable to work full time. Doctors can apply for less than full-time training if they can provide evidence that "training on a full-time basis would not be practicable for well-founded individual reasons".

Less than full-time trainees must accept two important principles:

- part-time training shall meet the same requirements (in depth and breadth) as full-time training
- the total duration and quality of part-time training of specialists must be not less than those of a full-time trainee.

In other words, a part-time trainee will have to complete the minimum training time for their specialty pro rata.

Prior to beginning their less than full-time training, trainees must inform the Training Department at The Royal College of Pathologists in order that the histopathology College Specialty Training Committee (CSTC) can ensure that their less than full-time training programme will comply with the requirements of the CCT. The documentation towards a less than full-time training application will be collected and checked to ensure compliance and a revised provisional CCT date issued. It must also be ensured that the less than full-time training post is approved as part of a GMC approved training programme. Separate guidance and an application form are available on the College website for this purpose.

ii. Time Out of Training

The GMC has provided guidance on the management of absences from training and their effect on a trainee's Certificate of Completion of Training (CCT) date. The GMC guidance states that within each 12 month period where a trainee has been absent

for a total of 14 days or more (when a trainee would normally be at work), a review to determine if the trainee's CCT date should be extended is triggered. The absence includes all forms of absence such as sickness, maternity, compassionate paid/unpaid leave etc. but does not include study or annual leave or prospectively approved out of programme training/research. The administration of the absence and any extension to training will be undertaken by the relevant deanery in consultation with the relevant College/Faculty where necessary. The GMC supports the Deaneries implementing this guidance flexibly to reflect the nature of the absence, the timing and the effect of the absence on the individual's competence. Each trainee's circumstances will be considered on an individual basis and any changes to CCT date will reflect the trainee's demonstration of competence.

iii. Acting up as a Consultant (AUC)

A doctor in training can apply to the Dean to take time out of programme and credit the time towards CCT/CESR(CP) as an AUC. Where the AUC is in the same training programme, then prospective approval is not needed from the GMC. If it is a different training programme, the usual Out of Programme (OOP) process applies. When you are acting up as a consultant, there will need to be appropriate supervision in place and approval will only be considered if the acting up placement is relevant to gaining the competences, knowledge, skills and behaviours required by the curriculum. AUC posts can only be taken in the final year of specialty training.

iv. Research

Some trainees may wish to spend a period of time in research after entering histopathology training as out-of-programme research (OOPR).

Research undertaken prior to entry to a histopathology training programme

Trainees who have undertaken a period of research that includes clinical or laboratory work directly relevant to the histopathology curriculum, prior to entering a histopathology training programme; can apply to have this period recognised towards an entry on the Specialist Register. However, as the research is unlikely to have been prospectively approved by the GMC, the route of entry to the Specialist Register will be through the CESR.

Research undertaken during a histopathology training programme

Trainees who undertake a period of out-of-programme research (OOPR) after entering a histopathology training programme and obtaining their National Training Number (NTN) may have up to 6 months accepted by the histopathology CSTC towards their CCT. In order to be eligible to have this period of research recognised towards the award of the CCT, trainees must have their OOPR approved prospectively before beginning their research. However, trainees must be able to demonstrate that they have achieved, or will be able to achieve, all requirements of the curriculum. Prior to beginning the period of research, trainees must agree the OOPR with their deanery and inform the Training Department at The Royal College of Pathologists in order that the histopathology CSTC can ensure that the trainee will comply with the requirements of the CCT programme. The period of research must include clinical or laboratory work directly relevant to the histopathology curriculum. The documentation towards a CCT recommendation will be collected by the Training Department at the College, checked to ensure compliance and a revised provisional CCT date issued. It must be ensured that, following deanery agreement and acceptance from the histopathology CSTC, the GMC prospectively approve the OOPR in order that the period can count towards a CCT. Separate guidance and an application form are available on the College website for this purpose.

v. Academic trainees

Trainees who intend to pursue a career in academic or research medicine may undertake specialist training in histopathology. Such trainees will normally be clinical lecturers and hold an NTN(A). It is expected that such trainees should complete the requirements of the histopathology curriculum in addition to their academic work. However, the content of their training, while meeting the requirements of the curriculum, will have to take into account their need to develop their research and the provisional CCT date should be amended accordingly. NTN(A) holders in histopathology should consult the Training Department at the College on an individual basis with regard to the agreement of their provisional CCT date.

vi. Overseas training

Some trainees may wish to spend a period of time in training outside of the UK after entering histopathology training as out-of-programme training (OOPT).

Overseas training undertaken prior to entry to a histopathology training programme

Some trainees may have undertaken a period of histopathology training overseas prior to entering a histopathology training programme in the UK. Such trainees must enter a histopathology training programme at ST1. Trainees can have this period recognised towards an entry on the Specialist Register but their route of entry to the Specialist Register will be through the CESR.

Overseas training undertaken during a histopathology training programme

Some trainees may wish to spend a period of training overseas as out of programme training (OOPT) after entering a histopathology training programme in the UK. Trainees can have up to one year of training overseas accepted towards their training. In order to be eligible to have this period of training recognised towards the award of the CCT, trainees must have their OOPT overseas training approved prospectively by GMC before beginning their overseas training. Prior to beginning the period of overseas training, trainees must agree the OOPT with their deanery and inform the Training Department at The Royal College of Pathologists that they will be undertaking overseas training in order that the Histopathology CSTC can ensure that the trainee will comply with the requirements of the CCT programme. The documentation towards a CCT recommendation will be collected by the Training Department at the College, checked to ensure compliance and a revised provisional CCT date issued. It must be ensured that, following deanery agreement and acceptance from the Histopathology CSTC, GMC prospectively approves the OOPT in order that the period can count towards a CCT. Separate guidance and an application form are available on the for this purpose.

Trainees must have their OOPT agreed by the relevant deanery, accepted by the Histopathology CSTC and approved by GMC before beginning their overseas training.

vii. Related clinical training

During their histopathology training, some trainees may wish to spend a period of training in a related clinical specialty such as paediatrics or oncology, etc. This is acceptable and should be undertaken as out-of-programme clinical experience (OOPE). However, such a period of training – although useful to the individual trainee in broadening their understanding of the relationship between histopathology and the clinical specialties – will not be approved by the CSTC towards the requirements of the CCT and the clinical specialties.

3. SUPERVISION AND FEEDBACK

Specialty training must be appropriately delivered by the senior medical and scientific staff on a day-to-day basis under the direction of a designated educational supervisor and a Specialty Training Committee that links to the appropriate Postgraduate Deanery.

Supervision has more than one meaning in histopathology. Trainees will work under consultant supervision in the histopathology, cytopathology and autopsy services, gradually widening their knowledge and experience in each area so that by the time they have passed the FRCPath Part 2 examination they are able to work largely independently. The day-to-day supervised training will be supplemented by more formal teaching such as 'black box' sessions and on regionally and nationally organised training courses.

If a histopathology report generated by the trainee states that they have been supervised by a consultant, this is usually taken to mean that the consultant has examined that report with the trainee. It also implies that the consultant accepts not only the microscopic but also any macroscopic description as accurate, even if the supervisor has not personally reviewed the specimen. However, there is also a more general level of supervision in day-to-day work. A trainee may ask for assistance at any time if a specimen with which they are dealing is unfamiliar or unusual. In the mortuary, a trainee competent in basic autopsy practice will be able to seek advice if an unusual or unexpected finding is encountered. Supervision also extends to working relationships and communication within and beyond the histopathology department.

Educational supervision is a fundamental conduit for delivering teaching and training in the NHS. It takes advantage of the experience, knowledge and skills of educational supervisors/trainers and their familiarity with clinical situations. It ensures interaction between an experienced clinician and a doctor in training. This is the desired link between the past and the future of medical practice, to guide and steer the learning process of the trainee.

Clinical supervision is also vital to ensure patient safety and the high quality service of doctors in training.

The College expects all doctors reaching the end of their training to demonstrate competence in clinical supervision before the award of the CCT. The College also acknowledges that the process of gaining competence in supervision starts at an early stage in training with foundation doctors supervising medical students and specialty registrars supervising more junior trainees. The example provided by the educational supervisor is the most powerful influence upon the standards of conduct and practice of a trainee.

The role of the educational supervisor is to:

- have overall educational and supervisory responsibility for the trainee in a given post
- ensure that the trainee is familiar with the curriculum relevant to the year/stage of training of the post

- ensure that the trainee has appropriate day-to-day supervision appropriate to their stage of training
- ensure that the trainee is making the necessary clinical and educational progress during the post
- ensure that the trainee is aware of the assessment system and undertakes it according to requirements
- act as a mentor to the trainee and help with both professional and personal development
- agree a training plan (formal educational contract) with the trainee and ensure that an induction (where appropriate) has been carried out soon after the trainee's appointment
- discuss the trainee's progress with each trainer with whom a trainee spends a period of training
- undertake regular formative/supportive appraisals with the trainee (two per year, approximately every 6 months) and ensure that both parties agree to the outcome of these sessions and keep a written record
- regularly inspect the trainee's training record, inform trainees of their progress and encourage trainees to discuss any deficiencies in the training programme, ensuring that records of such discussions are kept
- keeps the STC Chair informed of any significant problems that may affect the individual's training

In order to become an educational supervisor, a consultant must have a demonstrated interest in teaching and training, appropriate access to teaching resources, be involved in and liaise with the appropriate regional training committees and be involved in annual reviews and liaise closely with the TPD. The Deaneries organise extensive training programmes for educational supervisor's development. Educational supervisors are expected to keep up-to-date with developments in postgraduate medical training (e.g. by attending deanery and national training the trainer courses), have access to the support and advice of their senior colleagues regarding any issues related to teaching and training and to keep up-to-date with their own professional development.

4. MANAGING CURRICULUM IMPLEMENTATION

The curriculum outlines the minimum histopathology training requirements for delivery in a training programme. It guides educational supervisors as to what is required to deliver the curriculum and trainees in the learning and assessment methods required for satisfactory completion of training.

It is the responsibility of the TPD and their deanery, with the assistance of the regional STC to ensure that the programme delivers the depth and breadth of histopathology training outlined in the curriculum. The TPD must ensure that each post within the programme is approved by GMC. Heads of Pathology School (HOPS) have a strategic overview of training in the Pathology specialties. They are responsible for ensuring that the delivery of education and training meets the College's and GMC agreed curriculum and is provided to the standards set by the College and GMC.

It is the responsibility of GMC to quality assure training programmes and the responsibility of The Royal College of Pathologists through the Histopathology CSTC to ensure training programmes across the UK are able to deliver a balanced programme of training.

It is the responsibility of the educational supervisor of a particular post or attachment within a programme to ensure that the training delivered in their post meets the requirements of the relevant section(s) of the curriculum. The educational supervisor must undertake regular educational appraisal with their trainee, at the beginning, middle and end of a section of training, to ensure structured and goal-oriented delivery of training.

Trainees must register with the College on appointment to a histopathology training programme or if they are appointed to a Locum Appointment for Training (LAT) or Fixed Term Specialty Training Appointment (FTSTA). It is the trainee's responsibility to become familiar with the curriculum and assessment requirements both for the satisfactory completion of each stage of training and the award of the CCT or CESR(CP). They must be familiar with all aspects of the assessment system; workplace-based assessment including multi-source feedback and the FRCPath examination. It is the trainee's responsibility to ensure that they apply in good time for any assessments and examinations that demand an application. Trainees must also make appropriate use of the electronic portfolio.

5. MODELS OF LEARNING

There are three broad categories of learning which trainees employ throughout run-through training: instructionalist model, constructionist model and the social learning model. The models of learning can be applied to any stage of training in varying degrees. Most of the curriculum will be delivered through work-based experiential learning, but the environment within the department should encourage independent self-directed learning and make opportunities for relevant off-the-job education by making provision for attendance at local, national and, where appropriate, international meetings and courses. Independent self-directed learning should be encouraged by, for example, making use of the e-learning tool or providing reference textbooks, etc. It is the trainee's responsibility to seek opportunity for experiential learning.

The rotations are also arranged in such a way that trainees have time available for participation in research projects as part of their training. The more academically inclined trainees will be encouraged to take time out from the training time to include a more sustained period of grant-funded research working towards an MSc, Mres/MD PhD.

Learning for knowledge, competence, performance and independent action will be achieved by assessment and graded responsibility for reporting, allowing trainees at various stages of training to acquire responsibility for independent reporting. Assessment will be set by The Royal College of Pathologists in the form of workplace-based assessment including multi-source feedback, the Year 1 Histopathology OSPE and the FRCPath examination.

The principles of Bloom's taxonomy have been applied to the knowledge, skills and behaviours outlined in the curriculum to indicate the trainees learning journey from the initial acquisition of knowledge and comprehension, through to application and analysis and resulting in the synthesis and evaluation required to achieve mastery in the specialty of histopathology. In using this model, it is acknowledged that there are many different versions of the taxonomy. The achievement of mastery in this curriculum requires the trainee to demonstrate a combination of detailed knowledge in the associated political context, with the ability to do independent clinical work, and to lead and organise services.

6. LEARNING EXPERIENCES

The following teaching/learning methods will be used to identify how individual objectives will be achieved:

- **Routine work:** the most important learning experience will be day-to-day work. Histopathology trainees are amongst the most closely supervised groups in postgraduate medical training. This close supervision allows frequent short episodes of teaching, which may hardly be recognised as such by trainees.
- **Textbooks:** histopathology departments have a wide range of reference texts available. These allow trainees to 'read around' routine cases that they are reporting. Histopathology is a subject requiring a great deal of background learning and reading, as well as the practical experience gained within day-to-day working, and trainees should take every advantage to 'read around' their subject.

- **Private study:** more systematic reading of textbooks and journals will be required in preparation for examinations.
- '**Black box' and other departmental teaching sessions:** these occur on a regular basis in most departments.
- **Regional training courses:** these are valuable learning opportunities. Trainees should be released from service duties to attend.
- **National training courses:** these are particularly helpful during preparation for the FRCPath Part 2 examination. In addition to providing specific teaching, they also allow trainees to identify their position in relation to the curriculum and their peers.
- **Scientific meetings:** research and the understanding of research are essential to the practice of histopathology. Trainees should be encouraged to attend and present their work at relevant meetings.
- **Discussion with BMS:** BMS staff can provide excellent training, particularly in relation to laboratory methods, health and safety, service delivery, procurement and human resources.
- **Multidisciplinary team meetings (MDTs):** attendance at and contribution to MDTs and clinicopathological conferences offers the opportunity for trainees to develop an understanding of clinical management and appreciate the impact of histopathological diagnosis on patient care. The MDT is also an important arena for the development of inter-professional communication skills.
- **Attachment to specialist departments:** attachments of this kind will be required if a training programme cannot offer the full range of specialist experience needed to complete the curriculum. They will also be beneficial for those trainees in their final year of training who wish to develop a special interest before taking up a consultant post.
- **E-learning**
- **Learning with peers**
- **Work-based experiential learning**
- **Medical clinics including specialty clinics**
- **Multidisciplinary team meetings**
- **Practical laboratory experience**
- **Formal postgraduate teaching**
- **Independent self-directed learning**
- **Formal study**

It must be ensured that the appropriate teaching and learning methods are employed for each area of the curriculum.

7. PURPOSE OF ASSESSMENT

The Royal College of Pathologists' mission is to promote excellence in the practice of pathology and to be responsible for maintaining standards through training, assessments, examinations and professional development.

The purpose of The Royal College of Pathologists' assessment system in histopathology and cytopathology is to:

- indicate suitability of choice at an early stage of the chosen career path
- indicate the capability and potential of a trainee through tests of applied knowledge and skill relevant to the specialty
- demonstrate readiness to progress to the next stage(s) of training having met the required standard of the previous stage
- provide feedback to the trainee about progress and learning needs
- support trainees to progress at their own pace by measuring a trainee's capacity to achieve competencies for their chosen career path
- help to identify trainees who should change direction or leave the specialty

- drive learning demonstrated through the acquisition of knowledge and skill
- enable the trainee to collect all necessary evidence for the ARCP
- gain Fellowship of The Royal College of Pathologists
- provide evidence for the award of the CCT
- assure the public that the trainee is ready for unsupervised professional practice

A blueprint of the histopathology assessment system which is mapped to Good Medical Practice is available on the GMC website.

a. Methods of assessment

Trainees will be assessed in a number of different ways during their training. Workplace-based assessment allows the trainee to be assessed at regular intervals in the workplace by an appropriately trained, qualified and experienced assessor. The MSF, amongst other things, generates candid feedback on behaviour, attitude, communication and team-working issues. The FRCPath examination provides an external, quality assured assessment of the trainee's knowledge of their specialty and their ability to apply that knowledge in the practice of the specialty. Satisfactory completion of all assessments and examinations will be monitored as part of the ARCP process and will be one of the criteria upon which eligibility to progress will be judged. Passes in the Year 1 Histopathology OSPE and the FRCPath examination is required as part of the eligibility criteria for the award of the CCT or CESR(CP).

Year 1 Histopathology OSPE

Trainees must pass the Year 1 Histopathology OSPE as one of the requirements for satisfactory completion of Stage A of training.

Workplace-based assessment

Trainees will be expected to undertake workplace-based assessment throughout their training in histopathology. In general, workplace-based assessments are designed to be formative in nature; as such they are best suited to determine educational progress in different contexts. To this end, it is strongly recommended that workplace-based assessment be carried out regularly throughout training to assess and document a trainee's progress. However, a minimum number of 'satisfactory' workplace-based assessments should be completed during each stage of training.

These will include:

- case-based discussion (CbD)
- directly observed practical skills (DOPS)
- evaluation of clinical events (ECE)
- multi-source feedback (MSF) (minimum of 3 during training).

Specific guidance for each stage and the optional packages of training is provided in Appendix 5.

Further separate guidance is provided about the method and required frequencies of these assessments.

FRCPath examination

The major summative assessments will occur during Stage B (FRCPath Part 1 examination) and Stage C (FRCPath Part 2 examination).

The expectation for medical candidates in UK GMC-approved training programmes is that they should normally pass the FRCPath Part 2 examination within seven years of passing the FRCPath Part 1. However, there will be circumstances where the guidelines will need to

be applied flexibly and candidates who feel that they will not be able to comply with this timescale should contact the RCPath Examinations Department for further advice.

Examination results are evaluated after each session and an annual review of validity and reliability is undertaken and reported to the Examinations Committee.

Evidence of competence
Annual Review of Competence Progression
The ARCP is an annual opportunity for evidence gathered by a trainee, relating to the trainee's progress in the training programme, to document the competencies that are being gained. Evidence of competence will be judged based on a portfolio of documentation, culminating in an Educational Supervisors Structured Report.

Separate ARCP guidance is available on the College website. A copy of all ARCP forms issued to the trainee must be provided to The Royal College of Pathologists prior to recommendation for the award of the CCT. Lack of progress, identified by the issue of an ARCP outcome 3 or 5 and necessitating repeat training to rectify deficiencies will lead to the extension of training. Training leading to the issue of an ARCP 3 or 5 and necessitating repeat training will not be recognised towards the award of the CCT. Evidence of ARCP outcome 6 is required as part of the evidence for the award of the CCT.

8. STAGES OF TRAINING AND LEARNING

The curriculum is divided into four stages; A–D. Trainees may not progress to the next stage of training until they have satisfactorily completed the preceding stage. Trainees should gain appropriate experience within their programme to achieve all necessary curricular objectives.

Stages A and B constitute basic histopathology training that is required in order to progress to specialty training in histopathology, forensic histopathology, paediatric and perinatal pathology or diagnostic neuropathology. Experience in neuropathology and paediatric Pathology is required during either stage A or B of training. The aim of these attachments is to allow the trainee to gain experience of working and to consider the possibility of a career in either of these specialist areas.

It is strongly recommended that during Stages B–C, trainees should take increasing levels of responsibility for their work as they progress towards independent practice. This can be facilitated by the assessment of general histopathology competencies as set out in the competency-based framework for graded responsibility. Independent accountable practice is one of the required activities within stage D of training.

Throughout training, trainees should maintain a training portfolio; this is available online in the form of the RCPath Learning Environment for Pathology Trainees (LEPT) here.

Stage A

Stage A of training is 12 months whole-time equivalent.

The aims of this stage are to provide:

- a structured introduction to histopathology (including cytopathology and autopsy pathology)
- a short practical introduction to paediatric pathology (either stage A *or* B, recommended 2 weeks total)
- a short practical introduction to neuropathology (either stage A *or* B, recommended 2 weeks total)
- Basic understanding of DNA, RNA and protein structures and interactions and the testing methods applied.

Competences required to exit stage A:

- independent cut-up of most simple specimens (e.g. appendicectomy, cholecystectomy, skin biopsies, etc.)
- independent cut-up of common larger specimens (e.g. colectomy for cancer, hysterectomy, simple nephrectomy, breast lumpectomy, etc.)
- ability to write an appropriate report for a wide range of histopathology and cytopathology specimens (common biopsies, common cancer resections, e.g. colorectal carcinoma, fine needle aspiration specimens)
- ability to demonstrate time management and task prioritisation (e.g. prioritisation of specimens for cut-up and reporting, timely turn-around of reporting histopathology or cytopathology specimens, keeping LEPT entries up to date)
- independent evisceration and dissection of a straightforward autopsy
- reporting straightforward autopsy histopathology
- ability to write an autopsy report including appropriate clinicopathological correlation for a straightforward case satisfactory.

This is a competency based curriculum and as such there are no absolute minimum numbers. However, it is anticipated that most trainees will achieve the competencies required with the minimum practical experience detailed below:

surgical histopathology	500 cases
cytopathology	150 cervical and 150 non-cervical cytopathology which either be new screening or diagnostic cases, or be seen in the context of teaching sets with appropriate structured feedback from an experienced trainer
autopsy pathology	20 autopsies
audit	completion of 1 audit
Assessments:	
workplace-based assessments	18 in total, 12 directed (see Appendix 6)
multi-source feedback	Minimum 3 during training
year 1 OSPE	pass
ARCP	satisfactory outcome (1 or 2)

Stages B–D: general advice regarding time spent in stages

The time spent in training in stages B and C should amount to a total of 3 years and 6 months (42 months), assuming the trainee undertakes two optional training packages. If no optional training packages are undertaken, stages B and C should amount to a total training time of 3 years (36 months). This introduces a degree of flexibility into the time spent in these stages, relative to each other. This allows trainees flexibility on when they can sit the FRCPath Part 1 exam and undertake other training attachments. If the trainee completes stage B in the minimum time of 12 months, 24 or 30 months should be spent in stage C, depending on optional packages. If the trainee takes 18 months to complete stage B, stage C will be proportionally shorter.

If a trainee takes 18 months to complete stage B, and has not completed stage C within 18 or 24 months depending on optional packages, training should be extended under the ARCP process and the CCT date delayed. If the trainee initially decides to undertake stages B and C without taking any optional packages, but then changes their mind before or during stage D and undertakes one or more optional packages after all, stage D should be extended by an appropriate period of time (3 months per package undertaken).

Stage B

Stage B of training is a minimum of 12 months and a maximum of 18 months whole time equivalent.

The aims of this stage are to:

- broaden experience and understanding of histopathology
- provide a short practical introduction to paediatric pathology (either stage A *or* B, recommended 2 weeks total)
- provide a short practical introduction to neuropathology (either stage A *or* B, recommended 2 weeks total)
- develop a basic knowledge base in cytopathology and autopsy pathology
- broaden experience and understanding of molecular pathology.

Competencies required to exit stage B:

- independent cut-up of all simple specimens
- independent cut-up of all common larger specimens (including mastectomy, prostatectomy, complex hysterectomy and, pneumonectomy specimens etc)
- ability to primary screen cervical samples
- ability to write an appropriate report for a wide range of histopathology and cytopathology specimens (including more complex specimens than those described for stage A above)
- ability to report straight forward frozen sections
- ability to demonstrate effective time management and task prioritisation
- independent evisceration and dissection of more complex autopsies (at least some of those described as 'Complex post-mortems for observation' in stage A curriculum content)
- ability to report autopsy histopathology
- an autopsy report including appropriate clinicopathological correlation for a more complex case (as described above).

This is a competency based curriculum and as such there are no absolute minimum numbers. However, it is anticipated that most trainees will achieve the competencies required with the minimum practical experience detailed below (based on 12 months spent in stage; increased pro rata for extended stage):

surgical histopathology	750 cases
cytopathology	200 cervical and 200 non-cervical cytopathology cases, which may either be new screening or diagnostic cases, or be seen in the context of teaching sets with appropriate structured feedback from an experienced trainer
autopsy pathology	20 adult autopsies, 2 paediatric/ perinatal autopsies
audit	completion of 1 audit
Assessments:	
workplace-based assessments	18 in total, 12 directed (see Appendix 5)
FRCPath Part 1	pass (can be taken anytime after entry in stage B)
educational supervisor's report	satisfactory
ARCP	satisfactory outcome (1 or 2)

Stage C

Stage C of training is a minimum of 24 months and a maximum of 30 months whole time equivalent, unless extended training is required. If no optional training packages are undertaken, these timescales are each reduced by 6 months. In addition, the total training time in stages B and C should amount to 42 months, or 36 months if no optional training packages are undertaken (see above).

The aims of this stage are to:

- develop increasing levels of confidence and the ability to work in appropriate contexts without direct supervision in histopathology, including non-cervical cytopathology.

Competencies required to exit stage C:

- independent cut-up of all specimens
- ability to report most histopathology and non-cervical cytopathology specimens including frozen sections
- ability to appropriately request and integrate molecular pathology and other test results into diagnostic reports
- ability to presents cases at MDT and other clinical meetings
- ability to appropriately refer for specialist/second opinion
- ability to demonstrate appropriate time management and task prioritisation for the stage of training

This is a competency based curriculum and as such there are no absolute minimum numbers. However, it is anticipated that most trainees will achieve the competencies required with the minimum practical experience detailed below (per 12 month period in stage: increased pro rata for extended stage):

surgical histopathology	1000 cases
cytopathology	300 non-cervical cytopathology cases, the majority of which (approximately 70%) should be new diagnostic cases
audit	completion of 1 audit during stage
Quality activity	completion of 1 project (e.g. clinical audit, service improvement) in stage
Assessments:	
workplace-based assessments	18 in total, 12 directed (during stage)
multi-source feedback	1 completed (during year 3) and satisfactory
FRCPath Part 2	pass (can be attempted anytime after entry to stage C; month 27 at the earliest)
educational supervisor's report	satisfactory
ARCP	satisfactory outcome (1 or 2)

Stage D

Stage D of training is a minimum of 12 months whole time equivalent.

In order to complete stage D of histopathology training, trainees must have:

- satisfactorily completed a total of at least 66 months of training (whole-time equivalent), or 60 months if no optional training packages are undertaken
- satisfactorily completed all areas of the histopathology curriculum.

The aims of this stage are achieved by following a specific training plan to be formulated by the local Training Committee and require trainees to:

- demonstrate a level of knowledge and skill consistent with practise as a consultant in that specialty in the National Health Service
- demonstrate the ability to report independently
- explore specialist interest or more in-depth general reporting
- develop experience of teaching histopathology trainees
- develop experience of involvement in MDTs
- demonstrate evidence of the above achievements in a training portfolio

Competencies required to exit stage D (which must show development beyond stage C):

- to demonstrate a level of knowledge and skill consistent with practise as a consultant in histopathology in the National Health Service
- to demonstrate the ability to report independently
- to explore specialist interest and maintain in-depth general reporting
- to develop experience of teaching histopathology trainees and other professional groups
- to develop experience of involvement in leading MDTs
- to demonstrate evidence of the above achievements in a training portfolio.

This is a competency based curriculum and as such there are no absolute minimum numbers. However, it is anticipated that most trainees will achieve the competencies required with the minimum practical experience detailed below.

surgical histopathology	1500 cases suggested (dependent on specialist interest)
cytopathology	300 non-cervical cytopathology cases (suggested), the majority (80%) of which should be new diagnostic cases
quality activity	completion of at least 1 project (e.g. clinical audit, service improvement, research or management project) in stage
Assessments:	
workplace-based assessments	12 in total (all directed in training plan, see Appendix 5)
multi-source feedback	1 completed (during year 5) and satisfactory
educational supervisor's report	satisfactory
ARCP	satisfactory outcome (6)

Subspecialty training in cytopathology

Entry to cytopathology subspecialty training requires completion of the general histopathology curriculum to the end of stage C, including the Optional Training Package in cervical cytopathology and all its requirements, with subspecialty training being undertaken either during stage D or post CCT. This is likely to necessitate rotation to different departments and secondment to other organisations. Subspecialty cytopathology training requires a minimum of 12 months and a maximum of 18 months whole time equivalent, unless extended training is required.

Opportunities for research or management projects exist during this period.

The aims of subspecialty training are to:

- acquire competencies of a specialist cytopathologist, able to act as local lead and providing specialist diagnostic services, within their Trust and beyond.
- demonstrate a level of knowledge and skill consistent with practice as a specialist consultant cytopathologist within the National Health Service
- demonstrate the ability to report a full range of cervical cytopathology and diagnostic cytopathology samples independently

- demonstrate a detailed working knowledge of all aspects of the NHS Cervical Screening Programme
- demonstrate a working knowledge of the applicability of diagnostic cytopathology to patient management
- demonstrate the ability to take fine needle cytology specimens
- demonstrate the ability to advise clinical colleagues on the taking and submission of cytopathology specimens to the laboratory
- demonstrate detailed knowledge of the use of ancillary techniques in cytopathology
- develop the approach to multidisciplinary team working and the conduct of multidisciplinary team meetings
- develop experience of teaching diagnostic cytopathology to histopathology trainees.

The competencies required for the completion of subspecialty training include:

- the ability to report the vast majority of cervical cytopathology and non-cervical cytopathology specimens independently. Familiarity with all methods and stains in common use is expected.
- the ability to use this diagnostic information in a clinical setting
- the ability to refer appropriately for specialist/second opinion
- the ability to liaise with other professional agencies responsible for delivering the Cervical Screening Programme with an understanding of the role and responsibilities of all key individuals (including QA team, hospital-based programme coordinator, screening commissioner and lead cytopathologist).
- the ability to interpret quality assurance data/performance indicators/audit data from screening programmes and clinical practice
- the ability to communicate benefits and limitations of screening with other health professionals and lay people
- the ability to report in a ‘rapid diagnosis’ one stop clinic setting, and recognise specimens which cannot be reported safely in that setting
- the ability to perform fine needle aspirates
- the ability to use ancillary techniques (including immunocytochemistry, flow cytometry, molecular techniques) appropriately to achieve a diagnosis
- the ability to function effectively in the multidisciplinary team setting
- the ability to manage non-correlation between cytology and other investigations including colposcopy and histology
- the ability to teach in workplace and formal settings.

Practical experience:	
time spent in subspecialty	at least 12 months whole time equivalent in stage D or post CCT
cytopathology specimens	at least 1000 reports on cervical cytopathology samples with an appropriate mix of normal and abnormal, and the great majority of which should be new screening samples, rather than teaching sets; at least 1000 diagnostic cytopathology samples with an appropriate mix of specimen sites and types.
clinics	at least 30 rapid diagnosis clinics, at least 15 of which include the taking of specimens from the patient; experience of reporting deep endoscopic ultrasound guided FNA specimens.
Assessments:	
workplace-based assessments	18 satisfactory in total, 12 directed (see Appendix 5).
educational supervisor's report	satisfactory
ARCP	satisfactory outcome 6 (including assessment of Cytopathology training logbook)

9. OPTIONAL TRAINING

In addition to the histopathology curriculum there are optional training packages available to Stage C or D histopathology trainees in higher autopsy training, cervical cytology and research methodology. Whilst not a constituent part of the histopathology CCT, these form part of the overall histopathology training programme for those trainees wishing to undertake training in these areas. Each package equates to an indicative period of 3 months' training; it is anticipated that within a 5½ year training programme a trainee could undertake two of these three modules assuming successful completion of all other assessments in a timely fashion as described above. If a trainee decides not to undertake any of these modules and still achieves successful completion of the other assessments, the training programme may be shortened to 5 years.

The optional packages are:

i. Cervical cytopathology

The aims of this package are to:

- demonstrate a level of knowledge and skill consistent with practise as a consultant reporting cervical cytopathology specimens in the National Health Service
- demonstrate the ability to report cervical smears independently
- demonstrate a working knowledge of the cervical screening programme and the management of patients within that programme
- develop experience of teaching cervical cytopathology to histopathology trainees
- develop experience of involvement in cervical cancer MDTs

Competencies required to complete package:

- ability to report most cervical cytopathology specimens (including all grades of squamous and glandular abnormalities)
- ability to appropriately refer for specialist/second opinion
- ability to demonstrate excellent time management and task prioritisation in relation to cervical screening specimens (including prioritisation of different cervical specimens for reporting, ongoing maintenance of training portfolio, etc.)
- ability to function effectively in a cervical cancer MDT setting

- ability to teach in workplace and formal settings
- ability to interpret performance indicators routinely used in the NHS cervical screening programme
- ability to liaise with other professional agencies responsible for delivering Cervical Screening Programme

Practical experience:

time spent in specialty	at least 3 months whole time equivalent in stage C, or exceptionally stage D of training
cytopathology specimens	at least 500 cervical cytopathology specimens with an appropriate mix of normal and abnormal, the great majority of which should be new screening samples, rather than teaching sets

Trainees that undertake cervical cytopathology as well as gaining Fellowship through surgical histopathology and non-gynae cytopathology alone will sit a separate cervical cytopathology examination. Successful completion of this component will result in the award of the Certificate in Higher Cervical Cytopathology Training (CHCCT).

Assessments:

workplace-based assessments	4 in total, all directed (see Appendix 5)
CHCCT	pass (Certificate of Higher Cervical Cytopathology Training)
educational supervisor's report	satisfactory

ii. Higher autopsy training

The aims of this package are to:

- demonstrate a level of knowledge and skill consistent with practise as a consultant undertaking autopsies for the National Health Service or Her Majesty's Coroners/Procurator Fiscal
- demonstrate the ability to carry out and report autopsies independently, including the interpretation of relevant histopathology and other specialist investigations
- demonstrate a working knowledge of the Coroners Rules and experience of the proceedings in the Coroner's Court/Death and the Procurator Fiscal 2008 and proceedings of a Fatal Accident Inquiry
- demonstrate a working knowledge of the Human Tissue Act and the health and safety regulations relevant to autopsy practice
- develop experience of teaching autopsy technique to histopathology trainees.

Competencies required to complete package:

- ability to technically carry out most autopsies including the majority of complex and infectious cases (see 'Complex post-mortem examinations') ability to report appropriate autopsy histopathology and to interpret other relevant specialist investigations
- ability to appropriately refer cases and investigations to a more experienced colleague for specialist/second opinion
- ability to demonstrate excellent time management and task prioritisation in relation to autopsy practice (including ability to recognise which autopsies need to be undertaken as a matter of priority, e.g. for issues relating to faith)
- ability to function effectively/competently in a Coroner's Court/Fatal Accident Inquiry
- ability to teach in workplace and formal settings.

Practical experience:

time spent in specialty	at least 3 months full time equivalent in stage C, or exceptionally stage D of training
autopsy numbers	at least 60 autopsies in the package (overall a minimum of 100 autopsies completed during full training programme) with a full and proportionate range of different case types
attendance at court	experience of attendance at Coroner's Court/Fatal Accident Inquiry

Assessments:

workplace-based assessments	6 in total, all directed (see Appendix 5)
CHAT	pass (Certificate of Higher Autopsy Training)
educational supervisor's report	satisfactory

iii. Research methodology

The aims of this package are to:

- prepare a trainee to undertake research within their job plan after completion of training
- enable a consultant to recognise 'good research' of a type that might influence their clinical work
- educate trainees about the requirements of audit.

Competencies required to complete package:

- ability to apply the fundamentals of the scientific process and evidence-based medicine
- ability to apply the ethical principles of research on humans, animals and tissue
- ability to design a research study that is recognised by peers and colleagues as relevant and well constructed
- ability to review and critically analyse research and summarise its limitations and applications in clinical practice.

Practical experience:

- a 3-month attachment, preferably in a single block of time, which is likely to be within an academic department, although some non-academic departments may also be able to offer this module with appropriate facilities and expertise. Training may be offered during stage B, C or (exceptionally) D of training
- design a research study, including addressing ethical and funding issues, that is recognised by the research supervisor as relevant and well constructed
- write a scientific paper or book chapter that is peer reviewed and assessed by the research supervisor as being suitable for submission for publication, including a critical review of the research literature relevant to the subject of the paper or chapter.

Appendices 3a–c contains detailed curricula and assessment processes for these optional packages.

Assessments:

workplace-based assessments	6 in total, all directed (see Appendix 56)
training portfolio	research methodology logbook to be completed to a satisfactory standard
research supervisor's report	satisfactory

10. CURRICULUM REVIEW AND UPDATING

The curriculum will be evaluated and monitored by The Royal College of Pathologists as part of continuous feedback from STCs, TPDs, trainers and trainees.

The curriculum will be formally reviewed in the first instance by the Histopathology CSTC Curriculum Review Group within 2 years of publication. In reviewing the curriculum, opinions will be sought from the College's Cellular Pathology SAC, its related subspecialty sub-committees, the Trainees Advisory Committee, the Lay Advisory Committee and its Fellows and Registered Trainees.

Any significant changes to the curriculum will need the approval of The Royal College of Pathologists' Council and GMC.

11. EQUALITY AND DIVERSITY

The following is an extract from The Royal College of Pathologists' *Diversity and Equality Policy and approach*. A full copy of the policy is available on the College website.

The Royal College of Pathologists is committed to the principle of diversity and equality in employment, membership, academic activities, examinations and training. As part of this commitment we are concerned to inspire and support all those who work with us directly and indirectly.

Integral to our approach is the emphasis we place on our belief that everyone should be treated in a fair, open and honest manner. Our approach is a comprehensive one and reflects all areas of diversity, recognising the value of each individual. We aim to ensure that no one is treated less favourably than another on the grounds of sex, race, age, sexual orientation, gender reassignment, disability, pregnancy & maternity, religion and belief and marriage and civil partnership. Our intention is to reflect not only the letter but also the spirit of equality legislation.

Our policy will take account of current equality legislation and good practice as outlined in the Equality Act 2010 which supersedes/includes all previous legislation.

The Training Department collects information about the gender and ethnicity of trainees as part of their registration with the College. This information is recorded by the College and statistics published on an annual basis in the annual report. Further information about the monitoring activities of the College trainees, candidates and Fellows are available in the College policy.

12. ACKNOWLEDGEMENTS

Dr Angus McGregor, Dr Vipul Foria, Dr Raji Ganesan, Dr Howida Shawki, Dr Vasi Sundaresan and the RCPath Training Department.

GENERAL HISTOPATHOLOGY CURRICULUM

The general histopathology curriculum outlines the training requirements for the award of the CCT in histopathology. A separate section describing the expected content of Stage A/ST1 training precedes the curriculum for Stages B–D.

All trainees are expected to undertake training in the basic knowledge and skills of histopathology. This includes surgical pathology, basic autopsy (during stages A and B) and cytopathology (including cervical cytology in stages A and B and non-cervical cytology throughout training). The trainee should also acquire the generic skills required for histopathology, in accordance with *Good Medical Practice*.

Trainees are also expected to have some exposure to forensic pathology, neuropathology and paediatric pathology as part of their general histopathology training.

Expected training during Stage A/ST1 of training

There is no intention to use this appendix as a measure of aptitude or achievement. It is simply an indication of the range and level of experience that could be reasonably expected of a trainee in Stage A. In serving as an indicator, the surgical pathology list should be interpreted in the light of workload and case-mix in the training department. Surgical specimens considered 'routine' in some departments, e.g. an oesophagectomy, would be infrequent in others. Thus, its inclusion in the list does not mean that experience of this specimen type is mandatory, only that a Stage A trainee should be familiar with the handling and reporting of similar major resection specimens from cancer cases. Naturally, some cancer specimens (e.g. pancreatectomy or laryngectomy) are considered too complex for a Stage A trainee to dissect independently.

Some experience of specialised areas of pathology is also expected during Stage A or B and trainees should spend a short period of attachment to neuropathology and paediatric pathology.

The level of knowledge gained within each of the areas described below will vary between trainees. However, for each disease process listed, it is recommended that the trainee possesses at least a basic level of knowledge within the following eight categories.

- Epidemiology
- Aetiology
- Pathogenesis
- Clinical features
- Pathological features (macroscopic and microscopic)
- Natural history
- Management options
- Major complications of therapy.

System	Macroscopic pathology	Microscopy	Knowledge base
General	Correctly identify patient details relevant to each specimen Correctly orientate specimens Open fresh specimens Correctly obtain fresh tissue for touch preparation, freezing, electron microscopy etc. Ink excision margins Lymph node anatomy and dissection in cancer specimens	Sets up a microscope correctly Recognise normal histology and normal variations of common tissue types Select/identify appropriate histochemical stains for glygogen, fat, mucins and amyloid Familiarity with basic immunohistochemical markers for major tissue and tumour types and interpretation of a basic panel of immunohistochemical markers on an undifferentiated tumour	Normal anatomy and histology Pathological basis of disease Common pathological abnormalities
Breast	Mastectomy. Wide local excision for macroscopic tumour Axillary lymph node dissection Screening specimen for microcalcification	Diagnose invasive cancer on needle biopsy Report mastectomy or wide local excision specimens	Ductal carcinoma in situ, invasive ductal carcinoma, invasive lobular carcinoma, fibrocystic change, fibroadenoma

It is important that sufficient basic knowledge of major pathological processes is gained at this early stage. This should include topics such as: causes of and responses to cellular injury, acute and chronic inflammation, neoplasia, the effects of genetics and the environment in health and disease, infections and the basics of immunology.

Surgical pathology

System	Macroscopic pathology	Microscopy	Knowledge base
Upper gastrointestinal tract	Oesophagectomy gastrectomy Antrectomy	Recognise *Helicobacter* associated gastritis; oesophageal and gastric malignancy on biopsy Report oesophageal and gastric malignancy resection specimens	*Helicobacter* associated gastritis, reactive gastritis, Barrett's oesophagus, oesophageal carcinoma, gastric carcinoma, coeliac disease, duodenitis
Lower gastrointestinal	Colectomy/proctectomy for cancer or inflammatory	Recognise colorectal carcinoma on biopsy	Appendicitis, inflammatory bowel

tract	bowel disease Appendicectomy Polypectomy	Identify presence of inflammatory bowel disease (IBD) and attempt to classify type on biopsy Distinguish hyperplastic () from adenomatous polyps Recognise high-grade dysplasia Report colorectal carcinoma resection specimen	disease. Not otherwise specified (NOS), hyperplastic polyp, adenomatous polyp, high-grade dysplasia, colorectal carcinoma
Respiratory	Bronchial biopsies Open biopsy of lung Pneumonectomy or lobectomy Pleural biopsy specimens	Recognise presence of the common subtypes of primary lung cancer in biopsies Recognise the presence of metastatic cancer in the lung	Squamous cell carcinoma, small cell carcinoma, adenocarcinoma, metastatic carcinoma, vasculitis, interstitial pneumonia Mesothelioma

System	Macroscopic pathology	Microscopy	Knowledge base
Skin	Accurate gross description of skin lesions Appropriate handling of orientated or complex skin specimens	Diagnose basic skin cancer types including squamous cell carcinoma, basal cell carcinoma and typical cases of melanoma Recognise presence of severely atypical features in naevi Adequate morphological description of features seen in an inflammatory skin biopsy	Basal cell carcinoma, squamous cell carcinoma, melanoma, melanocytic naevi, haemangioma, seborrhoeic keratosis, actinic keratosis, chronic dermatitis NOS, epidermal inclusion cysts, dermatofibroma
Lymphoreticular pathology	Lymph node for neoplastic and non-neoplastic disease Gain experience of examining bone marrow trephine biopsies, where	Screen lymph node dissections and for metastatic tumour Recognise common reactive	Follicular hyperplasia, sinus histiocytosis, high-grade lymphoma, common types of low-grade

	locally available Takin tissue for supplementary techniques (e.g. flow cytometry	node patterns including follicular hyperplasia and sinus histiocytosis Detect high-grade lymphoma, common types of low-grade lymphoma and Hodgkin's disease in lymph node specimens and marrow biopsies	lymphoma, Hodgkin's disease, granulomatous diseases, metastatic carcinoma
ENT **Head and neck**	Mucosal biopsy Tonsillectomy Nasal polypectomy Salivary gland tumour	Recognise reactive changes in tonsils; distinguish from high-grade lymphoma Identify main types of salivary gland tumour	Simple nasal polypi, pleomorphic adenoma, adenocarcinoma, Warthin's tumour

System	Macroscopic pathology	Microscopy	Knowledge base
Female genital tract	Hysterectomy and/or salpingo-oophorectomy for malignant or benign disease Cervical loop/cone biopsy	Recognise leiomyomata, secretory and proliferative endometrium, endometrial and cervical carcinoma Report hysterectomy and/or salpingo-oophorectomy	Leiomyoma, secretory and proliferative endometrium, endometrial atrophy, endometrial carcinoma, cervical carcinoma, chronic cervicitis, ovarian cystic follicles/theca cysts, ovarian cystadenoma, ovarian cystadenocarcinoma
Liver and gall bladder	liver biopsy Resections for metastatic tumour Cholecystectomy	Report cholecystectomies Recognise normal liver on needle biopsy. Value of special stains Identify presence of cirrhosis, hepatitis or metastatic tumour in needle biopsy	Chronic cholecystitis, cholesterolosis Steatosis, cirrhosis NOS, chronic hepatitis NOS, metastatic carcinoma
Cardiovascular system	Blood vessels, including temporal artery biopsy	Recognise inflammation in temporal artery specimen	For example, temporal arteritis, atheroma

Male genital tract	Vas deferens Prostate biopsies and chippings Orchidectomy and if available prostatectomy specimens	Report normal vas deferens Recognise presence of cancer in prostatic needle biopsies Report orchidectomy Recognise seminoma, embryonal carcinoma	Prostatic adenocarcinoma, benign prostatic hyperplasia. Germ cell tumours
Endocrine pathology	Thyroidectomy Parathyroidectomy	Recognise normal thyroid and parathyroid Recognise nodular colloid goitre	Nodular colloid goitre Know main types of carcinoma

System	Macroscopic pathology	Microscopy	Knowledge base
Soft tissue	Soft tissue tumour resection, simple (i.e. lumpectomy)	Recognise morphological features suggestive of main subtypes of tumours (i.e. lipomatous, fibromatous, myomatous, neural, vascular characteristics)	Lipoma, angiolipoma, neurofibroma, dermatofibroma Recognise high-grade sarcoma Knowledge of immunohistochemical techniques to apply Understand value of cytogenetics
Neuropathology	Neurosurgical tumour resection and biopsy specimens	Distinguish intrinsic from metastatic tumours of the brain Recognise benign tumours of the meninges and peripheral nerves	Knowledge of the classification of tumours of the central nervous system Understand the value of immunohistochemistry in the diagnosis of CNS tumours
Renal and urological pathology	Renal biopsies Bladder biopsies Nephrectomy specimens	Assess deviation from normal histology Recognise presence of cancer in bladder biopsies Recognise glomerular changes that might indicate glomerulonephritis, e.g. hypercellularity, crescent formation	Bladder carcinoma, renal cell carcinoma, chronic pyelonephritis Understand the value of immunohistochemistry and electron microscopy in the diagnosis of glomerulonephritis

		Report nephrectomy	
Osteoarticular pathology	Handling a bone-biopsy	Normal bone Normal synovium	Osteoporosis versus osteomalacia Main types of primary bone tumours Use of calcified versus de-calcified sections
Paediatric pathology	Description and processing of biopsy specimens Examination, description and sampling of placentas Examination, description and sampling of other specimens only under direct consultant supervision	Recognise common inflammatory and neoplastic conditions occurring in childhood	Common paediatric tumours, e.g. neuroblastoma, nephroblastoma, rhabdomyosarcoma Awareness of special stains in paediatric pathology Understand value of cytogenetics

Autopsy pathology

It is envisaged that trainees will perform at least 20 autopsies during Stage A. Stage A trainees should begin to understand the level of certainty with which macroscopic features can be interpreted at autopsy and when histological examination of autopsy tissues is important. They should begin to recognise histological changes that occur due to post-mortem artefact.

Systems	Anatomical features and dissection technique Trainees should be able to demonstrate:	Clinicopathological knowledge base
General	Methods for identification of the patient External examination including breast examination Removal of organs Organ weights	Procedures for obtaining consent for autopsy. Workings of the coroner's (or procurator fiscal's) system Full details of current practice for retention of organs and tissues Familiarity with current College *Guidelines on Autopsy Practice,* 2002 Knowledge of normal organ weights
Cardiovascular	Excision of heart Master one technique for the dissection of the heart Anatomy of the coronary arteries, their ostia and branches Dissection of aorta and major abdominal branches	Normal, age-related and pathological abnormalities of cardiac valves Identification of acute and healed myocardial infarcts, macroscopically and histologically Assessment of ventricular thickness and atrial and ventricular dilatation Pulmonary embolism
Respiratory system	Removal of lungs from mediastinum Dissection of pulmonary vessels and major bronchi Dissection of individual lobes	Identification of respiratory tract infection and pneumonia Assessment of chronic bronchitis, emphysema and lung fibrosis Appearances of primary and secondary lung tumours
Upper gastrointestinal tract	Removal and dissection of oesophagus, stomach and duodenum in continuity Identification of ampulla of Vater	Range of appearances due to autolysis in stomach. Identification of oesophageal varices, gastric erosions and peptic ulcers Assessment of pyloric stenosis
Lower gastrointestinal tract	Identification and dissection of superior mesenteric artery Examination of intestinal mucosal surface	Identification of colonic diverticula Identification of bowel necrosis and distinction from autolysis or post-mortem change

Hepatobiliary system	Removal of liver and its dissection Identification of portal and hepatic veins Dissection of gall bladder, common bile duct, and pancreatic ducts	Assessment of hepatic congestion and dilatation of hepatic veins Appearances of intra- and extra-hepatic ducts Identification of secondary tumours Identification of hepatic cirrhosis
Nervous system	Removal of brain Dissection of circle of Willis and venous sinuses One method for sectioning of cerebral and cerebellar hemispheres and brain stem	Sites of berry aneurysms Identification of old and recent cerebral infarcts Assessment of cerebral and cerebellar atrophy Taking of 'key' blocks for histological examination
Urogenital system	Dissection of renal arteries and veins and ureters Removal of kidneys, examination of cut surfaces and renal pelvises Examination of bladder mucosa and identification of ureteric orifices Examination of the prostate gland Examination of the testes and female genital system	Estimation of degree of cortical atrophy Identification and assessment of cortical scarring and cyst formation. Hydronephrosis and ureteric dilatation Prostatic disease
Endocrine system	Removal of pituitary Identification of parathyroid glands and dissection of thyroid Removal of adrenal glands	Size and overall appearance of thyroid gland Size of parathyroid glands Adrenal cortical hyperplasia or adrenal atrophy
Lympho-reticular system	Examine all lymph node groups (e.g. mediastinal or para-aortic) for evidence of lymphadenopathy Examination of the spleen Exposure of vertebral bone marrow	Significance of lymphadenopathy in different anatomical sites Clinical explanation for splenic enlargement or atrophy Identification of secondary deposits in vertebral bone marrow
Musculoskeletal system	Identify fractures Explore sites of recent internal fracture fixation	Osteoporosis

Report	Preparation of report according to consultant's protocol and with reference to College's *Guidelines on Autopsy Practice,* 2002 and *Best Practice Scenarios*, 2005 Include the cause of death in the Office of National Statistics (ONS) format and a clear clinicopathological summary	Detailed list of all macroscopic abnormalities Summary relating abnormalities to aspects of clinical history (wherever possible) Appropriate tissue blocks for histology (with appropriate consent)

Complex post-mortem examinations

These autopsies and special techniques are not part of the Stage A curriculum. However Stage A trainees may take the opportunity to observe or assist in these examinations should the opportunity arise.

Assessment of traumatic injury, e.g. after road traffic accident
Methods of sampling for toxicology, e.g. in suicide, drug overdose
HIV, HCV and tuberculosis infected persons
Maternal deaths
Removal of eyes, dissection of middle ear
Removal of spinal cord
Post-mortem examination in haemopoietic malignancy, including sampling of bone marrow from iliac crests and femur
Post-mortem examination of a decomposed body
Post-mortem examination in a case of suspected drowning
External examination of a body by a forensic pathologist
Post-mortems in patients dying after complex cardiothoracic surgery
Assessment of the changes following complicated gastrointestinal surgery
Paediatric/perinatal autopsy

Cytopathology: General cytopathology

Category	Topic	Knowledge base Trainees should be able to demonstrate their knowledge of or ability to:
General cytology	Microscopy	Set up a microscope How to screen a slide
	Technical aspects	Sampling devices used and the fixation of specimens Seen and has a basic knowledge of the range of methods for converting a raw sample into a slide
	Confidentiality	The importance of confidentiality in cytology practice
	Morphology	The components of a cell The differences in morphology in air dried and fixed preparations The nuclear features used to diagnose malignancy Features used to determine differentiation of a neoplasm The appearances of common organisms

Cytopathology: Cervical cytopathology

Category	Topic	Knowledge base Trainees should be able to demonstrate their knowledge of or ability to:
Cervical cytology	Cervical screening	The pathogenesis of cervical carcinoma The process by which cervical screening prevents the development of cervical carcinoma The roles of the various disciplines involved in delivering the cervical screening programme, e.g. General Practitioners, Public Health, Laboratories, Colposcopy Units, Gynaecologists The numerical reporting system, patient call and recall mechanisms, failsafe
	Technical aspects	Liquid-based cytology techniques
	Normal	Recognise normal cellular components in cervical specimens
	Adequacy	The methods and rationale for sampling the cervix The principles of assessing adequacy of a cervical specimen

	Benign cellular changes	The physiology and recognition of squamous metaplasia Iatrogenic changes which may occur in the cervix Recognise common morphological changes seen in inflammation
	Borderline nuclear changes	Circumstances in which this category is used and the implications of its use
	Cervical intraepithelial neoplasia (CIN, CGIN) and dyskaryosis	Criteria for diagnosis of dyskaryosis Features used to grade dyskaryosis Typical examples of dyskaryosis Criteria for diagnosis of glandular abnormality
	Squamous carcinoma and adenocarcinoma	Criteria for diagnosis of possibly invasive lesions
	Management of women with abnormal smears and colposcopy	The implications of reporting abnormal smears, and awareness of the role of colposcopy in the diagnosis and management of cervical disease
	Quality assurance including internal quality control (IQC), external quality assurance (EQA) and audit	Quality Assurance procedures involved in cervical screening, including internal quality control (IQC), external quality assurance (EQA) and audit Current national quality standards and indicators

Cytopathology: Non-cervical cytopathology

Category	Topic	Knowledge base **Trainees should be able to demonstrate their knowledge of or ability to:**
Non-cervical cytology	Interpretation	Recognise normal cell populations and the typical patterns of the common benign and malignant neoplasms seen in the respiratory tract, effusions and urine
		The role of needle aspirate samples from lung, breast, thyroid, salivary gland, lymph node and other sites
	Reporting	The structuring of reports and have an appreciation of the clinical uses of cytopathology and the consequence of reports – positive and negative
		Correlation with histology where available

CURRICULUM CONTENT FOR STAGES B–D / ST2–6

SURGICAL PATHOLOGY

Knowledge	Assessment Methods
Demonstrate sufficient general clinical knowledge including major changes in trends of diagnosis and treatment	CbD, DOPS, ECE
Demonstrate sufficient knowledge of normal anatomy, physiology and pathophysiology	CbD, DOPS, ECE
Demonstrate the knowledge contained in and be able to operate within the tissue pathways and datasets documents produced by the Royal College of Pathologists and any updates of these documents	CbD, DOPS, ECE
Skills	
Show the ability to solve complex clinical (and research, when applicable) problems by applying sound knowledge of basic principles without the requirement always to rely on 'pattern matching'	CbD, DOPS, ECE
Behaviours	
Demonstrate importance of integration of clinical and pathological data for accurate diagnosis	MSF

Knowledge	Assessment Methods
Explain the principles of specimen dissection, macroscopic description and block selection in neoplastic and non-neoplastic disease	CbD, DOPS, ECE
Explain and describe the principles of dissection of all major cancer resection specimens and tissue sampling to enable completion of RCPath's *Standards and Datasets for Reporting Cancers* (Stages B-D).	CbD, DOPS, ECE
Skills	
Demonstrate sufficient manual dexterity to perform dissection safely and accurately, without damage to tissues	CbD, DOPS, ECE
Behaviours	
Demonstrate the importance of accuracy and requirement for attention to detail during specimen description and block selection	MSF
Demonstrate the importance of ensuring that request form and specimen identification is accurate and the requirement to identify and resolve any errors or discordance	MSF

Knowledge	Assessment Methods
Recognise the principles of laboratory processing within surgical pathology and cytopathology	CbD, DOPS, ECE
Skills	
One week's or equivalent experience of laboratory processing including section cutting (Stage A)	CbD, DOPS, ECE
Behaviours	
Recognise the work of the technical staff in preparing slides for viewing	MSF

Knowledge	Assessment Methods
Describe and explain the principles of microscopy	CbD, DOPS, ECE
Describe the microscopic features of the range of normality within tissues as well as the major common pathological processes and patterns of disease (Stage A)	CbD, DOPS, ECE
Develop a special interest in one or more diseases or organ systems (Stages B-D)	CbD, DOPS, ECE
Skills	
Demonstrate the ability to set up a microscope with ergonomic safety and operate it effectively	CbD, DOPS, ECE
Recognise the microscopic features of tissue structure in normality and disease, as appropriate to one's level of experience	CbD, DOPS, ECE
Complete RCPath *Standards and Datasets for Reporting Cancers*	CbD, DOPS, ECE
Behaviours	
Demonstrate the requirement for attention to detail during surgical reporting and the need for correlation with the clinical situation	MSF
Demonstrate an understanding of the importance of surgical pathology to clinicians and patients (e.g. timeliness and accuracy of reporting)	MSF

Knowledge	Assessment Methods
Explain the principles of 'special' histochemical and immunohisto-chemical methods	CbD, DOPS, ECE
Explain the principles of common molecular pathology techniques	CbD, DOPS, ECE
Explain the principles of electron microscopy	CbD, DOPS, ECE
Skills	
Demonstrate when to resort to special techniques	CbD, DOPS, ECE
Recognise histological features of histochemical and immunohisto-chemical stains in normal and diseased tissues	CbD, DOPS, ECE
Interpret molecular techniques	CbD, DOPS, ECE
Behaviours	
Recognise cost−benefit issues when considering the use of additional techniques	MSF
Create special techniques in preparation of cases (Stages B)	MSF
Combine additional techniques to histopathology reports	MSF

MOLECULAR PATHOLOGY – STAGES A AND B

Objective:

This section lists the required basic knowledge in molecular methods and their applications, both potential and actual, within Histopathology. The section is focussed on DNA- and RNA-based techniques.

Fundamentals of molecular biology	
Knowledge	**Assessment Methods**
Identify the origins and consequences of germline variation and somatic mutations, including DNA methylation and gene expression changes	CbD, DOPS, ECE
Skills	
Demonstrate the origins of and justifications for molecular tests	CbD, DOPS, ECE
Behaviours	
Demonstrate and explain the underlying principles of molecular genetics and molecular pathology	MSF

Fundamentals of genetics	
Knowledge	**Assessment Methods**
Identify the structure of genes including translation and transcription, factors affecting gene expression and inheritance patterns	CbD, DOPS, ECE
Skills	
Recognise the factors affecting transcription and translation	CbD, DOPS, ECE
Behaviours	
Explain the principles of genetics and inheritance	MSF

Molecular techniques	
Knowledge	**Assessment Methods**
Identify molecular techniques	CbD, DOPS, ECE
Skills	
Demonstrate awareness of principles practical knowledge of sequencing, PCR, microarrays (DNA and RNA), in situ hybridisation, mutation detection	CbD, DOPS, ECE
Behaviours	
Demonstrate appreciation of the available technologies	MSF

Available tests	
Knowledge	**Assessment Methods**
Describe molecular tests currently performed on histological samples	CbD, DOPS, ECE
Skills	
Interpret the common molecular tests	CbD, DOPS, ECE
Behaviours	
Demonstrate appreciation of how molecular methods can contribute to patient care and could do so in the future	MSF

MOLECULAR PATHOLOGY – STAGES C AND D

This section describes the required practical knowledge and application of molecular biology. While many of these competences could be achieved by spending time attached to a specialist molecular biology laboratory, it is not essential that trainees do so. It is anticipated that for most trainees much of their experience in molecular pathology will be integrated with relevant specialist histopathology training.

Available tests	
Knowledge	**Assessment Methods**
Describe the origins and consequences of germline variation and somatic mutations, including DNA methylation and gene expression changes	CbD, DOPS, ECE
Skills	
Demonstrate the origins of and justifications for molecular tests	CbD, DOPS, ECE
Behaviours	
Describe and explain the underlying principles of molecular genetics and molecular pathology	MSF

Fundamentals of databases and bioinformatics	
Knowledge	**Assessment Methods**
Recall the basic molecular databases	CbD, DOPS, ECE
Skills	
Summarise the use of data and identify relevant data from public sources	CbD, DOPS, ECE
Behaviours	
Demonstrate appreciation of state of knowledge and how to update that knowledge	MSF

Knowledge	**Assessment Methods**
Describe how histological samples are taken AND prepared, and how nucleic acids are extracted from them	CbD, DOPS, ECE
Skills	
Demonstrate practical understanding of how to undertake the appropriate sample collection, retrieval and preparation for the common molecular tests, whether performed on extracted nucleic acid or in situ	CbD, DOPS, ECE
Behaviours	
Relate to histological sample types and availability to the molecular analyses which might be performed on them	MSF

Knowledge	Assessment Methods
Outline the principles and limitations of the most up-to-date molecular methods	CbD, DOPS, ECE
Skills	
Demonstrate practical knowledge of sequencing, PCR, microarrays (DNA and RNA), in situ hybridisation, mutation detection	CbD, DOPS, ECE
Behaviours	
Demonstrate appreciation of the available technologies	MSF

Knowledge	Assessment Methods
Describe molecular tests currently performed on histological samples, including the limitations of those tests, and of tests which are anticipated in the near future	CbD, DOPS, ECE
Skills	
Demonstrate the demand for molecular tests and the modes of supply	CbD, DOPS, ECE
Describe and explain common molecular tests including some of the common pitfalls and how to avoid them	CbD, DOPS, ECE
Illustrate the significance of common molecular tests	CbD, DOPS, ECE
Behaviours	
Interpret molecular tests in the contents of all other available information	MSF
Produce an integrated histopathology report	MSF

BASIC AUTOPSY

This section of the curriculum incorporates the basic autopsy practice competences that all trainees will acquire. It will come from apprenticeship training, reading, formal tuition and the practical experience from the minimum 20 adult autopsies per annum and 2 Paediatric/Perinatal autopsies that all trainees will undertake until satisfactory completion of Stage B. Ideally, most of these autopsies would be consented clinical autopsies, where histopathological and other analyses can be pursued to explore the pathologies and pathogeneses that lead to death. In practice, most of the autopsies will probably be medico-legal, with a lower level of diagnostic stringency implied, the identification and exclusion of unnatural causes of death paramount, and less opportunity to observe relevant histopathology. Because the availability of autopsy training opportunities is variable geographically, the educational supervisors and programme directors have a significant role in ensuring that adequate experience is obtained by all trainees.

Knowledge	Assessment Methods
Describe the pathological basis of disease and the macroscopic/microscopic pathology of various types of death	CbD, DOPS, ECE
Skills	
Apply basic standard of practice in the techniques used for identifying morphological abnormalities at autopsy examination	CbD, DOPS, ECE
Behaviours	
Demonstrate a desire to learn about common disease processes through the autopsy	MSF

Knowledge	Assessment Methods
Describe the anatomy, macroscopic features of major disease processes and common tissue dissection techniques relevant to autopsy practice	CbD, DOPS, ECE
Recognise the -training undertaken by anatomical pathology technologists (APTs) and the role that they can appropriately play within all aspects of the mortuary function (see www.aaptuk.org)	CbD, DOPS, ECE
Skills	
Demonstrate manual dexterity sufficient to perform autopsies safely and to demonstrate the major abnormalities	CbD, DOPS, ECE
Operate with the APTs to maximise the autopsy learning opportunities	CbD, DOPS, ECE
Behaviours	
Identify and apply the questions and issues raised by the death	MSF
Show clinicians and other appropriate visitors to the mortuary to share knowledge	MSF
Demonstrate an understanding of the importance of autopsy	MSF

findings to clinicians and relatives

Knowledge	Assessment Methods
Identify the use of clinical information and the health record in autopsy examination	CbD, DOPS, ECE
Skills	
Be able to interrogate the clinical and laboratory records and understand the utility and limitations associated with various types of investigation including imaging, microbiology and biochemistry	CbD, DOPS, ECE
Identify issues to be addressed by the autopsy examination	CbD, DOPS, ECE
Behaviours	
Demonstrate familiarity with current clinical practice	MSF
Be able to liaise with clinical colleagues in order to obtain clinical information prior to autopsy	MSF

Knowledge	Assessment Methods
Show familiarity with the RCPath's Guidelines on Autopsy Practice, 2002 and Best Practice Scenarios, 2005	CbD, DOPS, ECE
Behaviours	
Recognise when not to authorise an evisceration by others without personally examining the body first	MSF

Autopsy technique

Knowledge	Assessment Methods
Demonstrate knowledge of, and the ability to perform, autopsies in a variety of situations, such as the following: • cardiac disease of uncertain cause • endocrine/metabolic death • hepatic disease of unknown cause • intra-abdominal disease of unknown cause • neurological disease of unknown cause • renal disease of unknown cause • respiratory disease of unknown cause	CbD, DOPS, ECE
Skills	
Demonstrate a normal full evisceration separate the internal organs	CbD, DOPS, ECE
Describe the appearances accurately and succinctly	CbD, DOPS, ECE
Interpret the findings in the light of the clinical information available	CbD, DOPS, ECE

Summarise the findings to clinicians either immediately or later at a clinical meeting	CbD, DOPS, ECE

Deaths in the community	
Knowledge	**Assessment Methods**
Describe and explain the aims of the autopsy and investigations required where death occurs in the community and there are no suspicious circumstances	CbD, DOPS, ECE
Behaviours	
Demonstrate when not to authorise an evisceration by others without personally examining the body first	CbD, DOPS, ECE

Microbiology	
Knowledge	**Assessment Methods**
Identify areas of microbiology that are relevant to autopsy practice, e.g. sepsis, meningitis, pneumonia, endocarditis, tuberculosis, viral hepatitis	CbD, DOPS, ECE
Skills	
Demonstrate the ability to take appropriate samples	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to think laterally	MSF

Knowledge	**Assessment Methods**
Describe the autopsy histological appearances of various common fatal conditions	CbD, DOPS, ECE
Skills	
Demonstrate the ability to select appropriate tissue blocks	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to think laterally	MSF

Other investigations	
Knowledge	**Assessment Methods**
Describe those areas of haematology, biochemistry, medical genetics and other investigative modalities that are relevant to autopsy practice	CbD, DOPS, ECE
Skills	
Demonstrate the ability to select appropriate tissue blocks	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to think laterally	MSF

Knowledge	Assessment Methods
Describe and explain current policy in relation to consent for autopsies and for tissue or organ retention	CbD, DOPS, ECE
Describe and explain current policy in relation to tissue or organ donation	CbD, DOPS, ECE
Identify the legal basis of consent to autopsy examination and the circumstances in which consent is not required	CbD, DOPS, ECE
Skills	
Demonstrate the ability to obtain consent for autopsies and for further investigation of tissue or whole organs	CbD, DOPS, ECE
Behaviours	
Be able to give explanation to families of the reasons for, and if requested details of, the investigations required by an autopsy examination	MSF
Demonstrate the ability to explain to families when tissue or organs may need to be sent away for expert review and options for funeral, disposal, etc	MSF
Interpret issues of autopsy consent, tissue/organ retention and Coroners'/Procurator Fiscals' practice	MSF
Develop an awareness of religious and cultural sensitivities relating to autopsy	MSF

Knowledge	Assessment Methods
Describe relevant protocols and documentation of departmental working practices, and be familiar with the practicalities of mortuary practice	CbD, DOPS, ECE
Describe and explain regulatory aspects of health and safety issues	CbD, DOPS, ECE
Summarise the following documents: Safe Working and Prevention of Infection in the Mortuary and Autopsy Suite (Health Services Advisory Commission) Guidelines on Autopsy Practice (RCPath, 2002)	CbD, DOPS, ECE
Skills	
Demonstrate the ability to work in the mortuary in a safe way	CbD, DOPS, ECE
Behaviours	
Demonstrate care for the safety of all staff and visitors in the mortuary	MSF

Knowledge	Assessment

	Methods
Demonstrate familiarity with the duty to report deaths to the Coroner, the preliminary enquiries that may take place through the Coroner system and entitlement to attend autopsy examination by interested parties	CbD, DOPS, ECE
Demonstrate an understanding of current legislation and regulations relating to medico-legal autopsies and related matters	CbD, DOPS, ECE
Demonstrate attendance at some inquests to gain passive experience	CbD, DOPS, ECE
Skills	
Demonstrate a working knowledge of the law relating to death, the investigation of death and disposal of the dead (for those in Scotland, relevant documents in the Crown Prosecution and Procurator Fiscal Service)	CbD, DOPS, ECE

Knowledge	Assessment Methods
Demonstrate familiarity with the RCPath's *Guidelines on Autopsy Practice*, 2002 and *Best Practice Scenarios*, 2005	CbD, DOPS, ECE
Skills	
Demonstrate writing a final gross and microscopic report with suitable summaries, according to the RCPath's *Guidelines on Autopsy Practice*, 2002	CbD, DOPS, ECE
Produce finished reports in a timely way	CbD, DOPS, ECE

Knowledge	Assessment Methods
Explain the value of the autopsy as a teaching aid	CbD, DOPS, ECE
Skills	
Demonstrate appropriate teaching skills	CbD, DOPS, ECE
Behaviours	
Be prepared to teach at every available opportunity	MSF

Skills	Assessment Methods
Demonstrate the communication skills required to inform clinical colleagues and other non-clinical professionals involved in inquiries into deaths and assist in multidisciplinary mortality review	CbD, DOPS, ECE
Behaviours	
Demonstrate an ability to interpret autopsy findings in the context of past medical history, clinical progression of disease	MSF

or injury and circumstances of death and an ability to communicate those findings and opinions fully, clearly and simply to those who need explanation of them	

CYTOPATHOLOGY

Cervical and non-cervical cytopathology will be part of the general histopathology curriculum and assessment processes for stages A and B of training. Following successful completion of these stages, cervical cytopathology will be available as an optional training package, equivalent to 3 months of training. Histopathology relating to cervical screening and non-cervical cytopathology will continue to be part of the higher stages of the general histopathology curriculum and assessment processes.

Knowledge	Assessment Methods
Apply rationale, methodology and organisation of the CSP	CbD, DOPS, ECE
Demonstrate a basic understanding of roles of component organisations, failsafe	CbD, DOPS, ECE
Skills	
Demonstrate the ability to source information on the CSP	CbD, DOPS, ECE
Behaviours	
Demonstrate understanding of the importance of the CSP to the population	MSF

Knowledge	Assessment Methods
Identify features that are assessed to determine the adequacy of a cervical sample	CbD, DOPS, ECE
Skills	
Demonstrate understanding of the difficulties in producing rigid criteria for adequacy. Ability to recognise inadequate specimens	CbD, DOPS, ECE

Knowledge	Assessment Methods
Identify features of infections in cervical samples	CbD, DOPS, ECE
Skills	
Recognise typical morphological appearances of specific organisms commonly seen in cervical specimens, e.g. *Trichomonas*, *Candida*, herpes simplex, human papilloma virus, actinomyces	CbD, DOPS, ECE
Behaviours	
Demonstrate understanding of the psychological effects on women of diagnosis of infections	MSF

Knowledge	Assessment Methods
Demonstrate understanding of criteria for diagnosis of borderline nuclear changes	CbD, DOPS, ECE

Behaviours	
Demonstrate understanding of significance of diagnosis to women	MSF
Demonstrate awareness of uncertainty in diagnosis in some cases	MSF
Demonstrate awareness of the dangers of overcalling and under calling	MSF

Knowledge	Assessment Methods
Demonstrate understanding of criteria for diagnosis and grading of squamous and glandular dyskaryosis	CbD, DOPS, ECE
Skills	
Recognise typical examples of mild, moderate and severe squamous dyskaryosis and endocervical cellular abnormalities	CbD, DOPS, ECE

Knowledge	Assessment Methods
Demonstrate understanding of criteria for diagnosis and grading of squamous and glandular dyskaryosis	CbD, DOPS, ECE
Skills	
Recognise typical examples of mild, moderate and severe squamous dyskaryosis and endocervical cellular abnormalities	CbD, DOPS, ECE

Knowledge	Assessment Methods
Show basic knowledge of automated screening devices and HPV testing	CbD, DOPS, ECE
Demonstrate awareness of the process involved in approving new technologies for use in cervical screening	CbD, DOPS, ECE
Skills	
Recognise typical examples of mild, moderate and severe squamous dyskaryosis and endocervical cellular abnormalities	CbD, DOPS, ECE

HISTOPATHOLOGY RELATING TO CERVICAL SCREENING (STAGES B-D)

Knowledge	Assessment Methods
Demonstrate understanding of the NHS screening programmes as a patient centred multidisciplinary approach	CbD, DOPS, ECE
Behaviours	
Demonstrate awareness of the impact of the cervical screening programme on patients	MSF

Knowledge	Assessment Methods
Demonstrate knowledge of process of audit in cervical and breast screening	CbD, DOPS, ECE
Demonstrate basic knowledge of guidelines for audit of invasive cervical cancer	CbD, DOPS, ECE
Demonstrate awareness of quality assurance team	CbD, DOPS, ECE
Skills	
Demonstrate the ability to undertake clinical audit, normally by performing at least one clinical audit project per stage of training	CbD, DOPS, ECE
Behaviours	
Apply ethos of audit, openness and disclosure in cervical Screening	MSF

New technologies

Knowledge	Assessment Methods
Keeping up with new developments through journals and other media	CbD, DOPS, ECE
Behaviours	
Demonstrate a culture of lifelong learning	MSF

Technical aspects

Knowledge	Assessment Methods
Demonstrate knowledge of preparation and staining techniques for common specimen types	CbD, DOPS, ECE
Demonstrate knowledge of use of special techniques, e.g. immunocytochemistry	CbD, DOPS, ECE

Skills	
Recognise faults and artefacts of preparation, e.g. air-drying	CbD, DOPS, ECE
Describe panels of antibodies for particular diagnostic applications, e.g. mesothelioma	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to work with BMS staff	MSF

Diagnosis	
Knowledge	**Assessment Methods**
Identify features of malignancy in sites commonly investigated with cytopathology	CbD, DOPS, ECE
Identify features of specific non-malignant diagnoses, e.g. infection	CbD, DOPS, ECE
Skills	
Demonstrate the ability to diagnose malignancy with confidence in specimens from breast, gastrointestinal (GI) tract, respiratory tract, urinary tract, head and neck, lymphoreticular system, serous fluids and thyroid	CbD, DOPS, ECE
Demonstrate the ability to integrate clinical information and histology or other investigations into diagnosis	CbD, DOPS, ECE
Demonstrate the ability to recognise when definitive diagnosis is beyond capability	CbD, DOPS, ECE
Behaviours	
Show care and attention to detail	MSF
Show acknowledgement of personal limitations	MSF
Demonstrate awareness of work within a multidisciplinary team	MSF
Demonstrate the ability to investigate discrepancies between histology and cytology findings	MSF

Reporting	
Knowledge	**Assessment Methods**
Identify requirements for a report	CbD, DOPS, ECE
Recall relevant datasets	CbD, DOPS, ECE
Identify nationally recognised coding systems	CbD, DOPS, ECE
Skills	
Demonstrate the ability to write an accurate report that gives clinicians the information they need	CbD, DOPS, ECE

Demonstrate knowledge of the likely outcome in terms of further investigation or management of the patient	CbD, DOPS, ECE
Behaviours	
Demonstrate understanding multidisciplinary approach to diagnosis and management	MSF
Demonstrate the ability to present cytological findings at a multidisciplinary team meeting	MSF

NON-CERVICAL CYTOLOGY (STAGES B-D)

Nationality and culture

Knowledge	Assessment Methods
Recognise that good health includes both mental and physical health	CbD, DOPS, ECE
Recognise the relationship between health inequalities and wealth inequalities	CbD, DOPS, ECE
Demonstrate awareness of social and cultural issues and practices such as: • the impact of cultural beliefs and practices on health outcomes • health determinants that affect patients and communities • the effects of social and cultural issues on access to healthcare, including an understanding of health issues of migrants and refugees	CbD, DOPS, ECE
Demonstrate awareness of the national and international situation regarding the distribution of disease, the factors that determine health and disease, and major population health responses	CbD, DOPS, ECE
Demonstrate awareness of the impact of globalisation on health, major causes of global morbidity and mortality, and effective and affordable interventions to reduce these	CbD, DOPS, ECE
Demonstrate awareness of the impact on health of armed conflict, natural disasters and other social upheavals	CbD, DOPS, ECE
Skills	
Demonstrate effective communication with patients from diverse backgrounds and those with special communication needs, such as the need for interpreters, etc	CbD, DOPS, ECE
Demonstrate effective communication and respectfully with parents, carers, etc.	CbD, DOPS, ECE
Behaviours	
Recognise issues of health that are related to social class	MSF

Inequality and discrimination/stigmatising

Knowledge	Assessment Methods
Demonstrate awareness of the impact on health of armed conflict, natural disasters and other social upheavals	CbD, DOPS, ECE
Demonstrate understanding of the implications of disability discrimination legislation for healthcare	CbD, DOPS, ECE

Recognise how health systems can discriminate against patients from diverse backgrounds, and how to work to minimise this discrimination. For example in respect of age, gender, race, culture, disability, spirituality, religion, and sexuality	CbD, DOPS, ECE
Recognise the stigmatising effects of some illnesses and work to help in overcoming stigma	CbD, DOPS, ECE
Recognise that people can be denied employment opportunities unnecessarily through myths, stigma, dogma and insufficient advocacy and support; be aware of the role of doctors and other services in combating this inequality	CbD, DOPS, ECE
Recognise the effects of exclusion and discrimination on physical and mental health	CbD, DOPS, ECE
Skills	
Recognise diversity and the benefits it may bring, as well as associated stigma	CbD, DOPS, ECE
Demonstrate awareness of the possible influence of and sensitively include questions about socio-economic status, household poverty, employment status and social capital in taking a medical history	CbD, DOPS, ECE
Assess the patient's ability to access various services in the health and social system and offer appropriate assistance	CbD, DOPS, ECE
Show support to empower patients and negotiate complex systems to improve health and welfare including, where appropriate, the right to work	CbD, DOPS, ECE
Demonstrate where values and perceptions of health and health promotion conflict, facilitate balanced and mutually respectful decision-making	CbD, DOPS, ECE
Identify and communicate effectively with influential decision-makers/facilitators of change	CbD, DOPS, ECE
Behaviours	
Show respect diversity of status and values in patients and colleagues	MSF
Select assessments and interventions that are inclusive, respectful of diversity and patient-centred	MSF

HEALTH DETERMINANTS AND INEQUALITIES

Personal beliefs and biases

Knowledge	Assessment Methods
Recognise that personal beliefs and biases exist and understand their impact (positive and negative) on the delivery of health services	CbD, DOPS, ECE
Demonstrate awareness of the impact of globalisation on health, major causes of global morbidity and mortality, and effective and affordable interventions to reduce these	CbD, DOPS, ECE
Demonstrate awareness of similarities and distinctions between the beliefs and values of the doctor, the patient and the policy-makers	CbD, DOPS, ECE
Skills	
Recognise in routine practice the doctor's role as advocate and manager the social, biological and environmental determinants of health (the bio-psycho-social model or the bio-socio-psycho-existentialist model) and collaborate with other professionals	CbD, DOPS, ECE
Advocate and facilitate appropriate self-care	CbD, DOPS, ECE
Recognise and apply the social, biological and environmental determinants of health (the bio-psycho-social model or the bio-socio-psycho-existentialist model) and collaborate with other professionals	CbD, DOPS, ECE
Behaviours	
Demonstrate confidence and positivity in one's own professional values	MSF
Show acceptance of uncertainty	MSF
Demonstrate awareness of one's own behaviour and how it might impact on patients' health issues	MSF

Values, ethics and law

Knowledge	Assessment Methods
Ensure that all decisions and actions are in the best interests of the patient and the public good	CbD, DOPS, ECE
Demonstrate familiarity with and uphold the rights of children and vulnerable adults	CbD, DOPS, ECE
Demonstrate familiarity with and uphold the rights of disabled people to participate in healthy and rewarding employment	CbD, DOPS, ECE
Practise in accordance with an appropriate knowledge of	CbD, DOPS, ECE

contemporary legislation	
Act with appropriate professional and ethical conduct in challenging situations	CbD, DOPS, ECE
Skills	
Seek out and utilise opportunities for health promotion and disease prevention	CbD, DOPS, ECE
Show an understanding of risk, be able to apply epidemiological principles and public health approaches so as to reduce and prevent disease and improve the health of populations	CbD, DOPS, ECE
Recognise important issues in preventative healthcare, for example in sexual health, substance abuse etc, and take opportunities to raise these issues in health promotion. For example, explain to parents who smoke the health risk that this poses to their children, including the effects of smoking on those exposed in utero	CbD, DOPS, ECE
Behaviours	
Respond to people in an ethical, honest, and non-judgmental manner	MSF
Use appropriate methods of ethical reasoning to come to a balanced decision where complex and conflicting issues are involved	MSF

Policy, research and change	
Knowledge	**Assessment Method**
Demonstrate awareness of the current national policies relating to accreditation of laboratories and the assessment of personal performance	CbD, DOPS, ECE
Understand principles of an effective quality management system, continuous quality improvement and internal quality control	CbD, DOPS, ECE
Demonstrate awareness of current UK screening programmes	CbD, DOPS, ECE
Demonstrate awareness of issues that might affect health inequalities that are currently under debate regarding changes in the NHS, including the public policy process	CbD, DOPS, ECE
Demonstrate awareness of and maintain an up to date knowledge of research evidence regarding the most important determinants of health	CbD, DOPS, ECE
Identify how to access and use local health data	CbD, DOPS, ECE
Identify how to access resources for community action and advocacy (e.g. resources, legislation, policy documents)	CbD, DOPS, ECE

Skills	
Undertake ‘mock’ EQA with peer assessment/trainee consensus meeting	CbD, DOPS, ECE
Develop or revised SOPs and demonstrate use in IQC or clinical audit	CbD, DOPS, ECE
Demonstrate the ability to access and make use of appropriate population, demographic, socio-economic and health data	CbD, DOPS, ECE
Conduct an assessment of community health needs, and where appropriate apply these in practice	CbD, DOPS, ECE

MAINTAINING GOOD MEDICAL PRACTICE

Objective: to keep knowledge and skills and appropriate attitudes up to date.
New specialists will:

- take responsibility for and keep up-to-date in their own relevant professional and self-development, and facilitate that of others acknowledge that

Overall clinical judgement	
Knowledge	**Assessment Methods**
Demonstrate sufficient clinical and pathology knowledge to enable integration of clinical data and pathological features	CbD, DOPS, ECE
Skills	
Interpret test results correctly in the context of available clinical information	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to critically appraise the available clinical and laboratory data in coming to diagnostic/treatment decisions	MSF

Recognise own limitations	
Knowledge	**Assessment Methods**
Demonstrate awareness of the extent of one's own limitations and know when to ask for advice	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to consult and admit mistakes	MSF

Written records	
Knowledge	**Assessment Methods**
Demonstrate knowledge of the appropriate content of clinical records	CbD, DOPS, ECE
Recognise the problems faced by people for whom English is not a first language	CbD, DOPS, ECE
Recognise the problems faced by people with educational and/or physical disabilities	CbD, DOPS, ECE
Explain the relevance of data protection pertaining to patient confidentiality	CbD, DOPS, ECE
Skills	
Produce accurate reports with clear conclusions and other written correspondence	CbD, DOPS, ECE
Behaviours	

Reflect the importance of timely dictation, cost-effective use of medical secretaries and the growing use of electronic communication	MSF
Demonstrate awareness of the need for prompt and accurate communication with clinicians	MSF
Show courtesy towards medical secretaries and clerical staff	MSF

- the balance of their skills and expertise will change as their careers progress and they specialise in certain areas of clinical practice
- trainees should hold at least one position of responsibility during training and attend at least one management course.

Decision making	
Knowledge	**Assessment Methods**
Demonstrate in practice the clinical priorities for investigation and management	CbD, DOPS, ECE
Skills	
Analyse and solve clinical problems effectively	CbD, DOPS, ECE
Behaviours	
Demonstrate flexibility and willingness to change in the light of changing conditions	MSF
Demonstrate the ability to ask for help when necessary	MSF

Good use of information technology	
Knowledge	**Assessment Methods**
Use email, internet, fax and telephone	CbD, DOPS, ECE
Apply the principles of how to retrieve and utilise data recorded in clinical systems	CbD, DOPS, ECE
Apply the principles of literature searching using medical databases	CbD, DOPS, ECE
Demonstrate an understanding of the range of possible uses for clinical data and information and appreciate the dangers and benefits of aggregating clinical data	CbD, DOPS, ECE
Define the main features, responsibilities and liabilities in the UK and Europe pertaining to confidentiality	CbD, DOPS, ECE
Apply correctly the principles of healthcare-related coding systems, e.g. diagnostic coding within histopathology reports Demonstrate an understanding of the range of possible uses for clinical data and information and appreciate the advantages and disadvantages of aggregating clinical data	CbD, DOPS, ECE

Define the main features, responsibilities and liabilities in the UK and Europe pertaining to confidentiality	CbD, DOPS, ECE
Apply the principles of videoconferencing and telepathology, including a recognition of the strengths and pitfalls of these systems	CbD, DOPS, ECE
Use the pathology-related material on the https://cabig.nci.nih.gov/ website	CbD, DOPS, ECE
Skills	
Demonstrate competent use of database, word processing and statistics programmes	CbD, DOPS, ECE
Demonstrate the ability to find, access and evaluate websites and health-related databases (including literature searches) Apply the principles of confidentiality in the context of IT. Use digital imaging devices effectively and manage image resolution and colour-space	CbD, DOPS, ECE
Use videoconferencing and telepathology equipment when necessary	CbD, DOPS, ECE
Use data encryption and passwords appropriately	CbD, DOPS, ECE
Use coding systems effectively	CbD, DOPS, ECE
Behaviours	
Prepare to use IT tools within a diagnostic and, where relevant, research setting e.g. video-conferencing and telepathology systems	MSF
Demonstrate an understanding of the importance of accurate diagnostic coding	MSF
Demonstrate the ability to keep up-to-date with new developments within IT that are pertinent to histopathology	MSF
Prepare to invest time and effort in learning new IT skills as appropriate to one's role	MSF
Show awareness of ethical issues that might arise during the use of IT tools such as patient databases	MSF

The organisational framework for clinical governance and its application in practice	
Knowledge	**Assessment Methods**
Demonstrate an understanding of these important aspects of clinical governance: • medical and clinical audit • research and development • integrated care pathways • evidence-based practice	CbD, DOPS, ECE

• clinical effectiveness • clinical risk systems • the procedures and the effective action when things go wrong in one's own practice or that of others • complaints procedures • risk assessments	
Explain the benefits a patient might reasonably expect from clinical governance	CbD, DOPS, ECE
Skills	
Demonstrate the ability to be an active participant in clinical governance	CbD, DOPS, ECE
Demonstrate the ability to undertake medical and clinical audit	CbD, DOPS, ECE
Demonstrate the ability to be actively involved in audit cycles	CbD, DOPS, ECE
Demonstrate the ability to be active in research and development	CbD, DOPS, ECE
Appraise medical data research critically	CbD, DOPS, ECE
Practise evidence-based medicine	CbD, DOPS, ECE
Apply clinical effectiveness (best practice) at all times	CbD, DOPS, ECE
Demonstrate the ability to educate self, colleagues and other healthcare professionals	CbD, DOPS, ECE
Show the ability to deal with complaints in a focused and constructive manner	CbD, DOPS, ECE
Demonstrate the ability to learn from complaints	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to make the care of your patient your first concern	MSF
Respect patients' privacy, dignity and confidentiality	MSF
Show the ability to learn from mistakes, errors and complaints Recognise the importance of teamwork	MSF
Demonstrate the ability to share best practice with others	MSF

Risk management	
Knowledge	**Assessment Methods**
Demonstrate appropriate knowledge of such matters as health and safety policy, policies on needle stick injuries, note keeping, communications and staffing numbers	CbD, DOPS, ECE

Demonstrate appropriate knowledge of risk management issues pertinent to laboratory processing	CbD, DOPS, ECE
Demonstrate appropriate knowledge of risk assessment, perception and relative risk	CbD, DOPS, ECE
Demonstrate familiarity with the complications and side effects of treatments and investigations	CbD, DOPS, ECE
Skills	
Demonstrate confidently and authoritatively discuss relevant risks with patients and to obtain informed consent	CbD, DOPS, ECE
Demonstrate balance risks and benefits with patients	CbD, DOPS, ECE
Behaviours	
Show respect and accept patients' views and choices	MSF
Demonstrate the ability to be truthful and admit error to patients, relatives and colleagues	MSF

Evidence

Knowledge	**Assessment Methods**
Demonstrate an understanding of: • the principles of evidence-based medicine • types of clinical trial • types of evidence	CbD, DOPS, ECE
Skills	
Demonstrate the ability to critically appraise evidence	CbD, DOPS, ECE
Demonstrate the ability to be competent in the use of databases, libraries and the internet	CbD, DOPS, ECE
Discuss the relevance of evidence with individual patients or their families	CbD, DOPS, ECE
Demonstrate the ability to be truthful and admit error to patients, relatives and colleagues	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to display a keenness to use evidence in the support of patient care and own decisions therein	MSF

Clinical audit

Knowledge	**Assessment Methods**
Demonstrate the ability to competently utilise the audit cycle, data sources and data confidentiality	CbD, DOPS, ECE

Demonstrate an understanding of the principles of internal and external quality assurance	CbD, DOPS, ECE
Skills	
Demonstrate the ability to be involved in ongoing audit	CbD, DOPS, ECE
Demonstrate the ability to initiate and complete at least one clinical audit project per year (of which one may be in cytopathology)	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to consider the relevance of audit to benefit patient care and individual performance (i.e. to clinical governance)	MSF

Guidelines

Knowledge	**Assessment Methods**
Compare the advantages and disadvantages of guidelines	CbD, DOPS, ECE
Skills	
Demonstrate the ability to utilise guidelines	CbD, DOPS, ECE
Demonstrate the ability to be able to contribute to the evolution of guidelines	CbD, DOPS, ECE
Behaviours	
Show regard for individual patient needs when using guidelines	MSF
Show willingness to use guidelines as appropriate	MSF

Structure of the NHS and the principles of management including change management

Knowledge	**Assessment Methods**
Describe the structure of the NHS, primary care groups and hospital Trusts	CbD, DOPS, ECE
Describe the local Trust's management structure (including chief executives, medical directors, clinical directors and the pathology laboratory)	CbD, DOPS, ECE
Explain finance issues in general in the NHS, especially budgetary management and commissioning	CbD, DOPS, ECE
Explain the importance of a health service for the population	CbD, DOPS, ECE
Skills	
Demonstrate developing skills in managing change and managing people	CbD, DOPS, ECE
Demonstrate developing interviewing techniques including	CbD, DOPS, ECE

those required for performance reviews	
Demonstrate the ability to build a business plan	CbD, DOPS, ECE
Demonstrate the ability to utilise one's position in the NHS to best effect	CbD, DOPS, ECE
Behaviours	
Show an awareness of equity in healthcare access and delivery	MSF
Demonstrate an understanding of the importance of a health service for the population	MSF
Show respect for others, ensuring equal opportunities	MSF

Relevance of outside bodies	
Knowledge	**Assessment Methods**
Demonstrate a knowledge and understanding of the role and relevance to professional life of: • the Medical Royal Colleges • General Medical Council (GMC) • Postgraduate Dean and LEPBs • Clinical Pathology Accreditation (UK) Ltd and other accreditation bodies • defence unions • British Medical Association (BMA) • specialist societies • UKAS	CbD, DOPS, ECE
Demonstrate knowledge of central government health regulatory agencies [e.g. National Institute for Health and Clinical Excellence (NICE), Healthcare Commission (HCC), NHS Quality Improvement Scotland, National Patient Safety Agency (NPSA)]	CbD, DOPS, ECE
Skills	
Recognise situations when it would be appropriate to involve these bodies and individuals	CbD, DOPS, ECE
Behaviours	
Show the ability to be open to constructive criticism	MSF
Demonstrate the ability to accept professional regulation	MSF

Media awareness	
Knowledge	**Assessment Methods**
Explain the importance of media awareness and public communications training and where to obtain it	CbD, DOPS, ECE
Skills	

Recognise situations when it may be appropriate to implement such training and/or seek further advice from the Trust	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to act professionally	MSF
Demonstrate the willingness to ask for help	MSF

Planning

Knowledge	**Assessment Methods**
Demonstrate knowledge of: • the structure, financing and operation of the NHS and its constituent organisations • ethical and equality aspects relating to management and leadership • e.g. approaches to use of resources/rationing; approaches to involving the public and patients in decision-making • business management principles: priority setting and basic understanding of how to produce a business plan • the requirements of running of a department, unit or practice relevant to the specialty	CbD, DOPS, ECE
Explain the concept of and principles of good information governance	CbD, DOPS, ECE
Demonstrate the ability to maintain information security, including use of passwords and data encryption	CbD, DOPS, ECE
Demonstrate a working knowledge of the range of pathology-related material available on the internet	CbD, DOPS, ECE
Demonstrate the ability to find and evaluate specific resources, including molecular, image and text data • efficient use of clinical resources in order to provide care • commissioning, funding and contracting arrangements relevant to the specialty • how financial pressures experienced by the specialty department and organisation are managed	CbD, DOPS, ECE
Skills	
Develop and implement protocols and guidelines	CbD, DOPS, ECE
Analyse feedback and comments and integrate them into plans for the service	CbD, DOPS, ECE
Behaviours	
Demonstrate an awareness of equity in healthcare access and delivery • use clinical audit with the purpose of highlighting resources required • manage time and resources effectively in terms of delivering services to patients	MSF

Managing people	
Knowledge	**Assessment Methods**
Demonstrate knowledge of: • relevant legislation (e.g. equality and diversity, health and safety, employment law) and local human resource policies • the duties, rights and responsibilities of an employer, and of a co-worker (e.g. looking after occupational safety of fellow staff)	CbD, DOPS, ECE
Individual performance review purpose, techniques and processes, including difference between appraisal, assessment and revalidation	CbD, DOPS, ECE
Skills	
Demonstrate the ability to: • prepare rotas; delegate; organise and lead teams • contribute to the recruitment and selection of staff • contribute to staff development and training, including mentoring, supervision and appraisal	CbD, DOPS, ECE
Behaviours	
Demonstrate: • a willingness to supervise the work of less experienced colleagues • commitment to good communication whilst also inspiring confidence and trust	MSF

Managing performance	
Knowledge	**Assessment Methods**
Demonstrate knowledge of: • organisational performance management techniques and processes • how complaints arise and how they are managed	CbD, DOPS, ECE
Skills:	
Demonstrate the ability to: • use and adhere to clinical guidelines and protocols, morbidity and mortality, reporting systems, and complaints management systems • improve services following evaluation/performance management	CbD, DOPS, ECE
Behaviours	
Show the ability to respond constructively to the outcome of reviews, assessments or appraisals of performance	MSF
Demonstrate an understanding of the needs and priorities of non-clinical staff	MSF

Identifying the contexts for change

Knowledge	Assessment Methods
Summarise: • the responsibilities of the various Executive Board members and Clinical Directors or leaders • the function and responsibilities of national bodies, such as DH, HCC, NICE, NPSA, NCAS; Royal Colleges and Faculties, specialty-specific bodies, representative bodies; regulatory bodies; educational and training organisations	CbD, DOPS, ECE
Skills	
Discuss the local, national and UK health priorities and how they impact on the delivery of healthcare relevant to the specialty	
Identify trends, future options and strategy relevant to the specialty and delivering patient services	CbD, DOPS, ECE
Behaviours	
Comply with national guidelines that influence healthcare provision	MSF
Demonstrate the willingness to articulate strategic ideas and use effective influencing skills	MSF

Applying knowledge and evidence

Knowledge	Assessment Methods
Demonstrate knowledge of: • patient outcome reporting systems within the specialty, and the organisation and how these relate to national programmes	CbD, DOPS, ECE
Skills	
Demonstrate the ability to: • compare and benchmark healthcare services • use a broad range of scientific and policy publications relating to delivering healthcare services	CbD, DOPS, ECE
Behaviours	
Evaluate issues and potential solutions before acting	MSF

Making decisions

Knowledge	Assessment Methods
Demonstrate an understanding of: • impact mapping of service change • barriers to change • qualitative methods to gather the experience of patients and carers	CbD, DOPS, ECE

Skills	
Demonstrate the ability to: • prepare properly for meetings − reading agendas, understanding minutes, action points and doing background research on agenda items • work collegiately and collaboratively with a wide range of people outside the immediate clinical setting	CbD, DOPS, ECE
Behaviours	
Demonstrate: • an appreciation of the importance of involving the public and communities in developing health services • willingness to participate in decision-making processes beyond the immediate clinical care setting	MSF

Evaluating impact	
Knowledge	**Assessment Methods**
Demonstrate an understanding of: • impact mapping of service change • barriers to change • qualitative methods to gather the experience of patients and carers	CbD, DOPS, ECE
Skills	
Demonstrate the ability to: • prepare properly for meetings − reading agendas, understanding minutes, action points and doing background research on agenda items • work collegiately and collaboratively with a wide range of people outside the immediate clinical setting	CbD, DOPS, ECE
Behaviours	
Demonstrate: • an appreciation of the importance of involving the public and communities in developing health services • willingness to participate in decision-making processes beyond the immediate clinical care setting	MSF

Managing people	
Knowledge	**Assessment Methods**
Demonstrate knowledge of: • relevant legislation (e.g. equality and diversity, health an safety, employment law) and local human resource policies • the duties, rights and responsibilities of an employer, and of a co-worker (e.g. looking after occupational safety of fellow staff)	CbD, DOPS, ECE

individual performance review purpose, techniques and processes, including difference between appraisal, assessment and revalidation	CbD, DOPS,ECE
Skills	
Demonstrate the ability to: • prepare rotas; delegate; organise and lead teams • contribute to the recruitment and selection of staff	CbD, DOPS, ECE
Contribute to staff development and training, including mentoring, supervision and appraisal	CbD, DOPS, ECE
Behaviours	
Demonstrate: • a willingness to supervise the work of less experienced colleagues • commitment to good communication whilst also inspiring confidence and trust	MSF

TEACHING AND TRAINING, APPRAISING AND ASSESSING

Objective: to demonstrate the knowledge, skills and attitudes to provide appropriate teaching and to participate in effective research.

New specialists will:

- be able to demonstrate the potential to teach and train effectively at all levels of undergraduate and postgraduate education where required
- demonstrate skills and strategies in the process of feedback to colleagues and trainees, ensuring positive and constructive outcomes
- be capable of judging competence and professional attributes in others.

To have the skills, attitudes and practices of a competent teacher	
Knowledge	**Assessment Methods**
Demonstrate the skills, attitudes and practices of a competent teacher	CbD, DOPS, ECE
Skills	
Identify adult learning principles	CbD, DOPS, ECE
Identify learner needs	CbD, DOPS, ECE
Demonstrated structured teaching activities	CbD, DOPS, ECE
Demonstrate varied teaching strategies	CbD, DOPS, ECE
Identify learning styles	CbD, DOPS, ECE
Principles of evaluation	CbD, DOPS, ECE
Behaviours	
Facilitate learning process	MSF
Identify learning outcomes	MSF
Construct educational objectives	MSF
Design and deliver an effective teaching event	MSF
Communicate effectively with the learners	MSF
Use effective questioning techniques	MSF
Teach large and small groups effectively	MSF
Select and use appropriate teaching resources	MSF
Produce constructive effective feedback	MSF
Evaluate programmes and events	MSF

Use different media for teaching that are appropriate to the teaching setting	MSF

To be able to plan and analyse a research project	
Knowledge	**Assessment Methods**
Describe the principles of performing a research study	CbD, DOPS, ECE
Demonstrate how to use appropriate statistical methods	CbD, DOPS, ECE
Describe the principles of research ethics and the structure and function of local research ethics committees	CbD, DOPS, ECE
Demonstrate how to write a scientific paper	CbD, DOPS, ECE
Show an understanding of the principles of research funding and how to obtain it	CbD, DOPS, ECE
Skills	
Undertake systematic critical review of scientific literature	CbD, DOPS, ECE
Demonstrate the ability to frame questions to be answered by a research project	CbD, DOPS, ECE
Develop protocols and methods for research	CbD, DOPS, ECE
Demonstrate the ability to use databases	CbD, DOPS, ECE
Demonstrate the ability to accurately analyse data	CbD, DOPS, ECE
Demonstrate the ability to write a scientific paper	CbD, DOPS, ECE
Demonstrate good written and verbal presentation skills	CbD, DOPS, ECE
Demonstrate the ability to participate as part of a team involved in a research project or two case reports by the end of training, and be able to demonstrate their role in its publication or presentation	CbD, DOPS, ECE
Behaviours	
Demonstrate curiosity and a critical spirit of enquiry	MSF
Apply patient confidentiality	MSF
Demonstrate knowledge of the importance of ethical approval and patient consent for clinical research	MSF
Show humility	MSF

Appraisal and assessment	
Knowledge	**Assessment Methods**

Understand the concepts of appraisal and assessment	CbD, DOPS, ECE
Understand how to conduct an appraisal interview or assessment	CbD, DOPS, ECE
Skills	
Demonstrate the ability to maintain an appraisal portfolio	CbD, DOPS, ECE
Develop the ability to undertake an effective appraisal or assessment	CbD, DOPS, ECE
Behaviours	
Demonstrate a positive attitude to appraisal	MSF
Demonstrate awareness of equality and diversity issues as they relate to appraisal	MSF

RELATIONSHIPS WITH PATIENTS

Objective: to ensure that the trainee has the knowledge, skills and attitudes to act in a professional manner at all times.

New specialists will:

- be skilled in building relationships of trust with patients and their families, through effective interpersonal skills, a courteous and compassionate approach, and respect for their privacy, dignity and cultural and religious beliefs
- follow the principles and legal aspects of consent and confidentiality
- be able to manage difficult and complex situations with patients and their families, to advise them appropriately and to manage complaints effectively.

Patient safety

Knowledge	Assessment Methods
Understand the issues around patient safety and the role of the NPSA	CbD, DOPS, ECE
Demonstrate awareness of the NPSA National Reporting and Learning System	CbD, DOPS, ECE
Skills	
Demonstrate awareness of patient safety in a practical situation	CbD, DOPS, ECE
Behaviours	
Show regard for patient safety	MSF

Continuity of care

Knowledge	Assessment Methods
Understand the relevance of continuity of care	CbD, DOPS, ECE
Skills	
Demonstrate satisfactory completion of reasonable tasks at the end of the shift/day with appropriate handover	CbD, DOPS, ECE
Demonstrate appropriate documentation of/for handover	CbD, DOPS, ECE
Prepare adequate arrangements to cover leave	CbD, DOPS, ECE
Behaviours	
Recognise the importance of punctuality and attention to detail	MSF
Recognise the importance of communication with patients/carers	MSF

Informed consent

Knowledge	Assessment Methods
Identify the process for gaining informed consent	CbD, DOPS, ECE

Show understanding of the principles of consent issues as relating to cellular pathology clinical practice and research	CbD, DOPS, ECE
Explain how to gain consent for a research project	CbD, DOPS, ECE
Skills	
Summarise appropriate information in a manner patients understand and be able to gain informed consent from patients	CbD, DOPS, ECE
Demonstrate appropriate use of written material	CbD, DOPS, ECE
Behaviours	
Show respect for patients' and relatives' points of view and wishes	MSF
Show consideration for the patient's needs as an individual	MSF

Confidentiality

Knowledge	**Assessment Methods**
Demonstrate awareness of relevant strategies to ensure confidentiality	CbD, DOPS, ECE
Demonstrate awareness of situations when confidentiality might be broken	CbD, DOPS, ECE
Skills	
Use and share all information appropriately	CbD, DOPS, ECE
Demonstrate avoiding discussing one patient in front of another	CbD, DOPS, ECE
Prepare to seek patient's wishes before disclosing information	CbD, DOPS, ECE
Behaviours	
Respect the right to confidentiality	MSF

Within a consultation

Knowledge	**Assessment Methods**
Demonstrate knowledge of how to structure the interview to identify the patient's: • concerns/problem list/priorities • expectations • understanding • acceptance	CbD, DOPS, ECE
Skills	
Use 'open' questions followed by appropriate 'closed' questions	CbD, DOPS, ECE
Avoid jargon and use familiar language	CbD, DOPS, ECE

Demonstrate the ability to communicate both verbally and in writing to patients whose first language may not be English in a manner that they understand	CbD, DOPS, ECE
Use interpreters appropriately	CbD, DOPS, ECE
Produce clear information and feedback to patients and share information with relatives when appropriate	CbD, DOPS, ECE
Show assurance towards 'worried well' patients	CbD, DOPS, ECE
Behaviours	
Demonstrate an understanding of the need for: • involving patients in decisions • offering choices • respecting patients views • dress and appearance that is appropriate to the clinical situation and patient	MSF

Breaking bad news

Knowledge	**Assessment Methods**
Demonstrate knowledge of how to structure the interview and where it should take place	CbD, DOPS, ECE
Demonstrate awareness of the normal bereavement process and behaviour	CbD, DOPS, ECE
Demonstrate awareness of organ donation procedures and role of local transplant coordinators	CbD, DOPS, ECE
Skills	
Show the ability to break bad news in steps appropriate to the understanding of the individual and be able to support distress	CbD, DOPS, ECE
Avoid jargon and use familiar language	CbD, DOPS, ECE
Encourage questions	CbD, DOPS, ECE
Maintain appropriate hope whilst avoiding inappropriate optimism	CbD, DOPS, ECE
Behaviours	
Show empathy, honesty and sensitivity	MSF

Complaints

Knowledge	**Assessment Methods**
Demonstrate awareness of the local complaints procedures	CbD, DOPS, ECE
Demonstrate awareness of systems of independent review	
Skills	

Manage dissatisfied patients/relatives	CbD, DOPS, ECE
Anticipate potential problems	CbD, DOPS, ECE
Behaviours	
Act promptly and with honesty and sensitivity	MSF
Be prepared to accept responsibility	MSF

Doctor-patient relationship

Knowledge	**Assessment Methods**
Demonstrate understanding of all aspects of a professional relationship	CbD, DOPS, ECE
Establish the limiting boundaries surrounding the consultation	CbD, DOPS, ECE
Deal with challenging behaviour in patients who transgress those boundaries, e.g. aggression, violence, racism and sexual harassment	CbD, DOPS, ECE
Skills	
Help the patient appreciate the importance of cooperation between patient and doctor	CbD, DOPS, ECE
Develop the relationship that facilitates solutions to patient's problems	CbD, DOPS, ECE
Prepare to seek patient's wishes before disclosing information	CbD, DOPS, ECE
Behaviours	
Adopt a non-discriminatory attitude to all patients and recognise their needs as individuals	MSF
Seek to identify the healthcare belief of the patient	MSF
Acknowledge patient rights to accept or reject advice	MSF

Educating patients about: - disease – investigations - therapy	
Knowledge	**Assessment Methods**
Know investigation procedures including possible alternatives and choices	CbD, DOPS, ECE
Demonstrate awareness of strategies to improve adherence to therapies	CbD, DOPS, ECE
Skills	
Produce information for patients clearly in a manner that they can understand, including written information	CbD, DOPS, ECE
Support and encourage questions	CbD, DOPS, ECE
Negotiate individual treatment plans including action to be taken if patient deteriorates or improves	CbD, DOPS, ECE
Behaviours	
Demonstrate involving patients in developing mutually acceptable investigation plans	MSF
Support and encourage patients to access: • further information • patient support groups	MSF

Environmental and lifestyle risk factors	
Knowledge	**Assessment Methods**
Understand the risk factors for disease including: • diet • exercise • social deprivation • occupation • substance abuse behaviour	CbD, DOPS, ECE
Skills	
Discuss advice on lifestyle changes	CbD, DOPS, ECE
Involve other healthcare workers as appropriate	CbD, DOPS, ECE
Behaviours	
Withhold any display of personal judgement	MSF

Epidemiology and screening	
Knowledge	**Assessment Methods**
Describe the methods of data collection and their limitations	CbD, DOPS, ECE
Formally notify diseases where this is required	CbD, DOPS, ECE

Apply principles of primary and secondary prevention and screening	CbD, DOPS, ECE
Skills	
Examine an individual patient's risk factors	CbD, DOPS, ECE
Encourage participation in appropriate disease prevention or screening programmes	CbD, DOPS, ECE
Behaviours	
Consider the: • positive and negative aspects of prevention • importance of patient confidentiality	MSF
Respect patient choice	MSF

Legal issues

Knowledge	**Assessment Methods**
Understand the legal issues relating to surgical pathology and cytopathology reporting	CbD, DOPS, ECE
Demonstrate knowledge of the legal responsibilities of completing death certificates	CbD, DOPS, ECE
Understand the legal framework of the Coronial/Procurator Fiscal system, including the types of deaths that should be referred to the Coroner/Procurator Fiscal	CbD, DOPS, ECE
Skills	
Develop a liaison with the Coroner/Procurator Fiscal	CbD, DOPS, ECE
Behaviours	
Show compassion at all times	MSF

Ensuring patient safety

Knowledge	**Assessment Methods**
Demonstrate knowledge of: • risk management issues pertinent to specialty, potential sources of risk and risk management tools, techniques and protocols • how healthcare governance influences patient care, research and educational activities at a local, regional and national level	CbD, DOPS, ECE
Skills	
Demonstrate the ability to: • report clinical incidents • assess and analyse situations, services and facilities in order to minimise risk to patients and the public • monitor the quality of equipment and safety of	CbD, DOPS, ECE

environment relevant to the specialty	
Behaviours	
Demonstrate: • actively seeking advice/assistance whenever concerned about patient safety • willingness to take responsibility for clinical governance activities, risk management and audit in order to improve the quality of the service	MSF

Critically evaluating	
Knowledge	**Assessment Methods**
Demonstrate a good working knowledge of: • quality improvement methodologies including a range of methods of obtaining feedback from patients, the public and staff • the principles and processes of evaluation, audit, research and development, clinical guidelines and standard setting in improving quality	CbD, DOPS, ECE
Skills	
Demonstrate the ability to: • undertake an audit project • contribute to meetings which cover audit, critical incident, report patient outcomes	CbD, DOPS, ECE
Behaviours	
Listen to and reflect on the views of patients and carers	MSF
Deal with complaints in a sensitive and cooperative manner	MSF
Act as an advocate for the service	MSF

Encouraging innovation	
Knowledge	**Assessment Methods**
Apply a variety of methodologies for developing creative strategies for improving services	CbD, DOPS, ECE
Skills	
Demonstrate the ability to: • question existing practice in order to improve services • apply creative thinking approaches (or methodologies or techniques) in order to propose solutions to service issues	CbD, DOPS, ECE
Behaviours	
Demonstrate: • being open minded to new ideas • a proactive approach to new technologies and treatment	MSF

- supporting colleagues to voice ideas

Facilitating transformation

Knowledge	Assessment Methods
Demonstrate knowledge of: • the implications of change on systems and people • project management methodology	CbD, DOPS, ECE
Skills	
Demonstrate the ability to: • provide medical expertise in situations beyond those involving direct care • make effective written and verbal presentations	CbD, DOPS, ECE
Behaviours	
Demonstrate: • being positive about improvement and change • striving for continuing improvement in delivering patient care services	MSF

WORKING WITH COLLEAGUES

Objective: to demonstrate good working relationships with colleagues and appropriate communication skills.

New specialists will:

- strive for continuing improvement in all aspects of their work and that of colleagues while mindful of priorities and high standards
- have effective interpersonal skills which enable them to bring out the best in colleagues, to resolve conflicts when they arise and to develop working relationships within the team
- support teams that bring together different professions and disciplines and other agencies, to provide high quality healthcare
- develops an understanding of leadership by drawing on values, strengths and abilities to deliver high standards of care.

Working with clinical teams

Knowledge	Assessment Methods
Describe how a team works effectively	CbD, DOPS, ECE
Explain the roles and responsibilities of team members, especially within the department and within multidisciplinary teams	CbD, DOPS, ECE
Summarise the roles of other clinical specialties and their limitations	CbD, DOPS, ECE
Demonstrates knowledge of a wide range of leadership styles and approaches, and their applicability to different situations and people	CbD, DOPS, ECE
Skills	
Demonstrate effective communication. Seek advice if unsure	CbD, DOPS, ECE
Recognise when input from another specialty is required for individual patients	CbD, DOPS, ECE
Demonstrate the ability to work effectively with other healthcare professionals, including demonstration of material at MDT meetings	CbD, DOPS, ECE
Show respect for skills and contribution of colleagues	CbD, DOPS, ECE
Recognise and work within own limitations	CbD, DOPS, ECE
Recognise when to delegate	CbD, DOPS, ECE
Show leadership, delegate and supervise safely (Stages B-D)	CbD, DOPS, ECE
Enable individuals, groups and agencies to implement plans and decisions	CbD, DOPS, ECE

Identify and prioritise tasks and responsibilities including to delegate and supervise safely	CbD, DOPS, ECE
Behaviours	
Show respect for others opinions	MSF
Show conscientiousness and work cooperatively	MSF
Show respect towards colleagues, including non-medical professionals, and recognise good advice	MSF
Recognise and work within own limitations	MSF
Show recognition of a team approach and willingness to consult and work as part of a team	MSF

Communication with colleagues

Knowledge	**Assessment Methods**
Communicate with other members of the pathology department, other departments and other members of the MDT	CbD, DOPS, ECE
Demonstrate appropriate communication in writing, through letters and reports	CbD, DOPS, ECE
Justify when to phone a general practitioner (GP)	CbD, DOPS, ECE
Skills	
Use appropriate language	CbD, DOPS, ECE
Select an appropriate communication method	CbD, DOPS, ECE
Behaviours	
Demonstrate promptness and respond courteously and fairly	MSF

Complaints

Knowledge	**Assessment Methods**
Demonstrate awareness of the local complaints procedures	CbD, DOPS, ECE
Demonstrate awareness of systems of independent review	CbD, DOPS, ECE
Skills	
Demonstrate anticipation of potential problems	CbD, DOPS, ECE
Manage dissatisfied colleagues	CbD, DOPS, ECE
Behaviours	
Show honesty and sensitivity and promptly	MSF
Prepare to accept responsibility	MSF

Interactions between: - hospital and GP - hospital and other agencies, e.g. social services - medical and surgical specialties	
Knowledge	**Assessment Methods**
Describe how a team works effectively	CbD, DOPS, ECE
Explain the roles and responsibilities of team members, especially within the department and within multidisciplinary teams	CbD, DOPS, ECE
Summarise the roles of other clinical specialties and their limitations	CbD, DOPS, ECE
Skills	
Show leadership, delegate and supervise safely	CbD, DOPS, ECE
Demonstrate effective communication	CbD, DOPS, ECE
Demonstrate a safe handover	CbD, DOPS, ECE
Seek advice if unsure	CbD, DOPS, ECE
Recognise when input from another specialty is required for individual patients	CbD, DOPS, ECE
Demonstrate working effectively with GPs, other medical and surgical specialists and other healthcare professionals	CbD, DOPS, ECE
Behaviours	
Show respect for others opinions	MSF
Be conscientious and work cooperatively	MSF
Respect colleagues, including non-medical professionals, and recognise good advice	MSF
Recognise and work within own limitations	MSF

Creating an environment in which mistakes and mismanagement of patients can be openly discussed and lessons learned	
Skills	**Assessment Methods**
Recognise the advantages and disadvantages of guidelines	CbD, DOPS, ECE
Report and investigate critical incident	CbD, DOPS, ECE
Choose appropriate action if you suspect you or a colleague may not be fit to practise	CbD, DOPS, ECE

Self awareness	
Knowledge	**Assessment Methods**
Demonstrate knowledge of: • ways in which individual behaviours impact on others; personality types, group dynamics, learning styles, leadership styles • methods of obtaining feedback from others	CbD, DOPS, ECE
Skills	
Demonstrate maintaining and routinely practising critical self-awareness, including ability to discuss strengths and weaknesses with supervisor, recognising external influences and changing behaviour accordingly	CbD, DOPS, ECE
Show awareness of and sensitivity to the way in which cultural and religious beliefs affect approaches and decisions, and to respond respectfully	CbD, DOPS, ECE
Behaviours	
Employ a patient-focused approach to decisions that acknowledges the right, values and strengths of patients and the public	MSF
Recognise and show respect for diversity and differences in others	MSF

Self-management	
Knowledge	**Assessment Methods**
Apply tools and techniques appropriately for managing stress	CbD, DOPS, ECE
Recognise the role and responsibility of occupational health and other support networks	CbD, DOPS, ECE
Recognise the limitations of self professional competence	CbD, DOPS, ECE
Skills	
Recognise the manifestations of stress on self and others and know where and when to look for support	CbD, DOPS, ECE
Demonstrate the ability to balance personal and professional roles and responsibilities	CbD, DOPS, ECE
Prioritise tasks, having realistic expectations of what can be completed by self and others	CbD, DOPS, ECE
Behaviours	
Show conscientiousness, the ability to manage time and delegate appropriately	MSF
Recognise personal health as an important issue	MSF

Self-development

Knowledge	Assessment Methods
Describe local processes for dealing with and learning from clinical errors	CbD, DOPS, ECE
Demonstrate the importance of best practice, transparency and consistency	CbD, DOPS, ECE
Skills	
Use a reflective approach to practice with an ability to learn from previous experience	CbD, DOPS, ECE
Use assessment, appraisal, complaints and other feedback to discuss and develop an understanding of own development needs	CbD, DOPS, ECE
Behaviours	
Prepare to accept responsibility	MSF
Show commitment to continuing professional development which involves seeking training and self-development opportunities, learning from colleagues and accepting constructive criticism	MSF

Acting with integrity

Knowledge	Assessment Methods
Describe the professional, legal and ethical codes of the GMC, e.g. Fitness to Practise and any other codes pertaining to the trainee's specialty	CbD, DOPS, ECE
Summarise the key issues of prejudice and preferences within self, others, society and cultures	CbD, DOPS, ECE
Skills	
Recognise, analyse and know how to deal with unprofessional behaviours in clinical practice, taking into account local and national regulations	CbD, DOPS, ECE
Create open and non-discriminatory professional working relationships with colleagues	CbD, DOPS, ECE
Awareness of the need to prevent bullying and harassment	CbD, DOPS, ECE
Behaviours	
Demonstrate acceptance of professional regulation	MSF
Demonstrate professional attitudes and values	MSF
Demonstrate probity and willingness to be truthful and to admit errors	MSF

Developing networks	
Knowledge	**Assessment Methods**
Describe the role of team dynamics in the way a group, team or department functions	CbD, DOPS, ECE
Describe team structures and the structure, roles and responsibilities of the multidisciplinary teams within the broader health context relevant to the specialty, including other agencies	CbD, DOPS, ECE
Skills	
Practice differing and complementary roles within the different communities of practice within which they work	CbD, DOPS, ECE
Support bringing together different professionals, disciplines, and other agencies, to provide high quality healthcare	CbD, DOPS, ECE
Behaviours	
Demonstrate effective interaction with professionals in other disciplines and agencies	MSF
Respect the skills and contributions of colleagues	MSF

Building and maintaining relationships	
Knowledge	**Assessment Methods**
Use specific techniques and methods that facilitate effective and empathic communication	CbD, DOPS, ECE
Skills	
Develop effective working relationships with colleagues and other staff through good communication skills, building rapport and articulating own view	CbD, DOPS, ECE
Demonstrate effective communication in the resolution of conflicts, providing feedback, and identifying and rectifying team dysfunction	CbD, DOPS, ECE
Behaviours	
Recognise good advice and continuously promote values based non prejudicial practice	MSF
Use authority appropriately and assertively; willing to follow when necessary	MSF

Encouraging contribution	
Knowledge	**Assessment Methods**
Apply facilitation and conflict resolution methods appropriately	CbD, DOPS, ECE

Skills	
Enable individuals/groups and agencies to implement plans and decisions	CbD, DOPS, ECE
Identify and prioritise tasks and responsibilities including to delegate and supervise safely	CbD, DOPS, ECE
Behaviours	
Show recognition of a team approach and willingness to consult and work as part of a team	MSF
Respect colleagues, including non-medical professionals	MSF

Knowledge	Assessment Methods
Show recognition of a team approach and willingness to consult and work as part of a team	CbD, DOPS, ECE
Respect colleagues, including non-medical professionals	CbD, DOPS, ECE
Skills	
Discuss the local, national and UK health priorities and how they impact on the delivery of healthcare relevant to the specialty	CbD, DOPS, ECE
Identify trends, future options and strategy relevant to the specialty and delivering patient services	CbD, DOPS, ECE
Behaviours	
Comply with national guidelines that influence healthcare provision	MSF
Demonstrate a willingness to articulate strategic ideas and use effective influencing skills	MSF

Applying knowledge and evidence

Knowledge	Assessment Methods
Describe and correctly use the patient outcome reporting systems within the specialty, and the organisation and how these relate to national programmes	CbD, DOPS, ECE
Evaluate scientific publications including the use and limitations of different methodologies for collecting data, based on an understanding of research methods	CbD, DOPS, ECE
Skills	
Compare and benchmark healthcare services	CbD, DOPS, ECE
Use a broad range of scientific and policy publications relating to delivering healthcare services	CbD, DOPS, ECE

Behaviours	
Evaluate issues and potential solutions before acting	MSF

HEALTH

Objective: to understand the importance of the personal health of the doctor.
New specialists will:

- act quickly and effectively if they have reason to believe that their own or a colleague's conduct, performance or health may put patients at risk.

Personal health

Knowledge	Assessment Methods
Demonstrate knowledge of occupational health services	CbD, DOPS, ECE
Demonstrate knowledge of one's responsibilities to the public	CbD, DOPS, ECE
Demonstrate knowledge not to treat oneself or one's family	CbD, DOPS, ECE
Skills	
Recognise when personal health takes priority over work pressures and to be able to take the necessary time off	CbD, DOPS, ECE
Behaviours	
Recognise personal health as an important issue	MSF

Stress

Knowledge	Assessment Methods
Demonstrate knowledge of the effects of stress	CbD, DOPS, ECE
Demonstrate knowledge of support facilities for doctors	CbD, DOPS, ECE
Skills	
Develop appropriate coping mechanisms for stress and ability to seek help if appropriate	CbD, DOPS, ECE
Behaviours	
Recognise the manifestations of stress on self and others	MSF

PROBITY

Objective: to be able to demonstrate probity in all aspects of professional practice.

New specialists will:

- always act in their personal and professional lives to maintain public trust in the profession
- undertake duties such as writing reports, giving evidence and completing and signing documents in a timely, honest and conscientious way
- through their leadership encourage the development and practice of these qualities in their colleagues.

Service information	
Knowledge	**Assessment Methods**
Identify the legal framework for advertisements	CbD, DOPS, ECE
Behaviours	
Recognise absolute importance of accuracy and impartiality	MSF

Writing reports and giving evidence	
Skills	**Assessment Methods**
Demonstrate the ability to write accurate and concise reports	CbD, ECE
Demonstrate the ability to write reports suitable for medicolegal purposes	CbD, DOPS, ECE
Behaviours	
Show honesty and integrity	MSF
Show timeliness	MSF

Research	
Knowledge	**Assessment Methods**
Demonstrate knowledge of the legal and ethical frameworks for research	CbD, DOPS, ECE
Skills	
Demonstrate ability to obtain ethical approval	CbD, DOPS, ECE
Behaviours	
Demonstrate safety and care of patients first	MSF
Plan research with honesty and integrity	MSF

Financial dealings	
Knowledge	**Assessment Methods**
Demonstrate knowledge of financial principles in the NHS	CbD, DOPS, ECE
Behaviours	
Not induce patients to accept private medical care	MSF
Generate funds for the purpose for which they are intended	MSF
State conflicts of interest	MSF

APPENDIX 1: CYTOPATHOLOGY SUBSPECIALTY CURRICULUM

Some trainees will aim to become specialist cytopathologists, acting as local leads and providing specialist diagnostic services, within their Trust and beyond. These individuals should undertake the general histopathology curriculum until the end of stage C, and then undertake the activities in this specialist curriculum during one year in stage D (ST5). This is likely to necessitate rotation to different departments and secondment to other organisations. Opportunities for research or management projects exist during this period.
Aims and objectives

On completion of training in cytopathology the trainee must have acquired and be able to demonstrate:

- the ability to diagnose material from all non-cervical specimen types prepared by all methods and stains and ability to use this diagnostic information in a clinical setting
- an in-depth understanding of the cervical screening programme, to a level allowing the trainee to fulfil a leadership or coordinating role, and diagnostic competence in cervical cytopathology
- the ability to function as a local expert in cytopathology.

Evidence of competence

Trainees will complete a logbook documenting their experience of specialist training in cytopathology. A review of the logbook will form part of the annual review.
The cytopathology logbook should:

- contain a record of formal quality assurance, e.g. EQA performance and personal performance monitoring data such as PPV
- include samples of clinical cases in depth, e.g. histopathology/cytopathology correlation cases, and an audit of a case of cervical cancer. Other useful inclusions would be critical review of diagnoses subsequently found to be incorrect and diagnoses arrived at after MDT review. Critical review of experience in one-stop clinics and colposcopy should be included
- be supported, where appropriate, by photomicrographs and numerical data.

Cervical Cytology

Cervical Screening Programme (CSP)	
Knowledge	**Assessment Methods**
Demonstrate detailed knowledge of all guidance relating to the CSP	CbD, DOPS, ECE
Recall roles and responsibilities of hospital-based programme coordinator, screening commissioner and lead cytopathologist	CbD, DOPS, ECE
Outline the benefits and limitations of cervical screening	CbD, DOPS, ECE
Skills	
Employ regular attendance at meetings of screening programme committees within the Trust and the community	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to communicate comfortably with staff from a wide variety of professional backgrounds	MSF
Demonstrate the ability to communicate effectively with lay people with regard to the CSP, which has a very high level of public and media exposure	MSF

Cytopathology − histopathology correlations	
Knowledge	**Assessment Methods**
Demonstrate knowledge of reasons why smears and biopsies may not correlate	CbD, DOPS, ECE
Demonstrate management options in non-correlating cases	CbD, DOPS, ECE
Skills	
Demonstrate the ability to review histology and cytopathology of non-correlating cases and present results to gynaecologists at MDTs	CbD, DOPS, ECE
Demonstrate the ability to contribute to discussions on clinical management of patients	CbD, DOPS, ECE
Behaviours	
Demonstrate awareness of the limitations of cervical histology and cytopathology	MSF
Demonstrate working within a multidisciplinary team	MSF

Cervical cytopathology − diagnosis	
Knowledge	**Assessment Methods**
Identify features of common and rarer pitfalls in diagnosis of dyskaryosis	CbD, DOPS, ECE

Skills	
Review cases presented as difficult. This may involve accessing local or more widely referred cases	CbD, DOPS, ECE
Demonstrate the ability to make a likely classification and management plan on difficult cases	CbD, DOPS, ECE

Quality assurance	
Knowledge	**Assessment Methods**
Describe and explain the role of cervical screening quality assurance testing (QAT)	CbD, DOPS, ECE
Skills	
Demonstrate undertaking a period of secondment to the QAT	CbD, DOPS, ECE

Non-Cervical Cytopathology

Specimen taking	
Knowledge	**Assessment Methods**
Describe and explain techniques, risks and benefits of fine needle aspirates (FNAs)	CbD, DOPS, ECE
Skills	
Demonstrate the ability to perform a FNA from superficial sites, e.g. breast	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to learn a clinical skill	MSF
Demonstrate communication skills for a consultation with a patient	MSF

Immediate diagnosis	
Knowledge	**Assessment Methods**
Outline the principles, benefits and disadvantages of one-stop clinics	CbD, DOPS, ECE
Demonstrate familiarity with immediate stains, e.g. DiffQuick	CbD, DOPS, ECE
Describe features of specimen adequacy for radiologically guided deep FNAs	CbD, DOPS, ECE
Skills	
Identify regular attendance at one-stop clinics	CbD, DOPS, ECE
Demonstrate the ability to make and communicate a firm diagnosis quickly to clinicians Recognise limits of competence when not to give a firm diagnosis	CbD, DOPS, ECE
Demonstrate the ability to confirm adequacy of deep FNA specimens	CbD, DOPS, ECE
Behaviours	
Show confidence in a diagnosis that will be immediately communicated to the patient	MSF

Breast screening programme (BSP)	
Knowledge	**Assessment Methods**
Recognise place of cytopathology in the BSP	CbD, DOPS, ECE
Outline the principles of the breast screening programme, and quality assurance	CbD, DOPS, ECE
Skills	

Demonstrate access to BSP documentation	CbD, DOPS, ECE
Show attendance at local BSP meetings	CbD, DOPS, ECE
Behaviours	
Demonstrate an understanding role of cytopathology in this multidisciplinary, multiagency process	MSF

Morphology

Knowledge	Assessment Methods
Demonstrate the knowledge of appearance of normal and abnormal cells on all preparation techniques (LBC, direct smears, cytospins, etc.) and all stains	CbD, DOPS, ECE
Skills	
Show familiarity with all commonly used staining and preparation techniques and the ability to recognise normal and abnormal cells in such preparations	CbD, DOPS, ECE
Behaviours	
Demonstrate awareness of the relative merits of different staining and preparation modalities	MSF

Diagnostic capability

Knowledge	Assessment Methods
Identify features of malignancy in more unusual specimen types, e.g. pancreatico-biliary tract, upper urinary tract	CbD, DOPS, ECE
Recognise diagnosis of infections, including in the immunosuppressed patient	CbD, DOPS, ECE
Skills	
Demonstrate the ability to diagnose malignancy in these specimens	CbD, DOPS, ECE
Demonstrate the ability to diagnose more exotic infections in these patients	CbD, DOPS, ECE
Behaviours	
Show wide experience in all aspects of diagnostic cytopathology	MSF

Application of techniques

Knowledge	Assessment Methods
Demonstrate knowledge of application of immunocytochemistry, flow cytometry, molecular techniques and other investigations in diagnostic cytopathology	CbD, DOPS, ECE

Skills	
Develop appropriate use of ancillary techniques	CbD, DOPS, ECE
Demonstrate knowledge of advantages and limitations	CbD, DOPS, ECE
Apply results to clinicopathological decision-making	CbD, DOPS, ECE
Behaviours	
Show receptiveness to new ideas	MSF
Demonstrate the ability to interact with other professionals and departments in organising and interpreting these specimens	MSF

APPENDIX 2: OPTIONAL TRAINING PACKAGES

2a Cervical Cytopathology

Trainees undertaking this option should see at least 500 cervical cytology specimens during the package, with an appropriate mixture of normal and abnormal material.

Trainees must also satisfactorily complete the following assessments:

workplace-based assessments	4 in total, all directed (see Appendix 5)
CHCCT	pass (Certificate of Higher Cervical Cytopathology Training)
educational supervisor's report	satisfactory

Screening organisation

Knowledge	Assessment Methods
Demonstrate knowledge of national and local groups involved in management of cervical screening programme and their responsibilities	CbD, DOPS, ECE
Skills	
Demonstrate the ability to liaise with key individuals locally	CbD, DOPS, ECE
Behaviours	
Demonstrate effective communication skills	MSF

Quality assurance

Knowledge	Assessment Methods
Demonstrate making use of the quality standards/performance indicators and explain the reasons for variation in these	CbD, DOPS, ECE
Skills	
Interpret quality assurance data and suggest appropriate action	CbD, DOPS, ECE
Behaviours	
Apply a logical, non-judgmental approach to problem-solving	MSF

Normal

Knowledge	Assessment Methods
Demonstrate knowledge of the range of normal appearances seen in cervical samples	CbD, DOPS, ECE
Skills	
Demonstrate the ability to recognise normal cervical cytology specimens, including cyclical, atrophic and inflammatory variations	CbD, DOPS, ECE

Behaviours	
Demonstrate understanding of the risks of false-negative reports	MSF

Borderline nuclear changes	
Knowledge	**Assessment Methods**
Demonstrate detailed knowledge of the circumstances when borderline nuclear changes are reported	CbD, DOPS, ECE
Skills	
Demonstrate the ability to recognise borderline nuclear changes and its various subcategories (endocervical, ?high grade)	CbD, DOPS, ECE
Behaviours	
Recognise limits of competence	MSF
Express degrees of uncertainty	MSF

Dyskaryosis	
Knowledge	**Assessment Methods**
Recognise all variants of squamous and glandular dyskaryosis reliably	CbD, DOPS, ECE
Demonstrate detailed knowledge of recognised pitfalls in the diagnosis of squamous and glandular dyskaryosis	CbD, DOPS, ECE
Skills	
Demonstrate the ability to take and weigh advice on diagnosis from screening staff	CbD, DOPS, ECE
Demonstrate the ability to formulate appropriate management advice	CbD, DOPS, ECE
Behaviours	
Show an understanding of the psychological effects of a positive cytology report	MSF
Demonstrate awareness of the risks of false-positive reports	MSF

Treatment	
Knowledge	**Assessment Methods**
Demonstrate knowledge of the treatment options for treating CIN, CGIN cervical cancer	CbD, DOPS, ECE
Demonstrate an understanding of the effects previous cervical treatment will have on subsequent cytology specimens	CbD, DOPS, ECE

Skills	
Demonstrate the ability to recognise iatrogenic and post-treatment effects in cervical cytology specimens	CbD, DOPS, ECE

Discrepancies	
Knowledge	**Assessment Methods**
Understand the reasons for discrepancy between colposcopy, histology and cytology	CbD, DOPS, ECE
Knowledge of the evidence base detailing reasons why cervical cytology may fail to detect significant disease	CbD, DOPS, ECE
Skills	
Able to discuss cases at cervical screening discrepancy meetings	CbD, DOPS, ECE
Behaviours	
Demonstrate awareness of own limitations	MSF
Demonstrate the ability to express degrees of uncertainty	MSF
Demonstrate the ability to recognise mistakes	MSF

Service management	
Knowledge	**Assessment Methods**
Demonstrate a good working knowledge of the commissioning process for cervical screening services	CbD, DOPS, ECE
Knowledge of the process by which new technologies are assessed for possible use in the NHS Cervical Screening Programme (NHSCSP)	CbD, DOPS, ECE

2b Higher Autopsy Training

This section indicates the training required in addition to basic autopsy training for those planning to undertake autopsies as independent practitioners after the completion of their training. The basic autopsy component of the curriculum contains the basic knowledge and most of the attitudes required also for advanced autopsy training. Therefore, within higher autopsy training, trainees will be required to demonstrate a greater level of knowledge within certain areas of autopsy practice and a greater degree of skills, related especially to autopsies performed within more unusual or challenging circumstances, e.g. complex post-operative deaths.

Trainees undertaking higher autopsy training will continue to perform autopsies during stages C−D of training and will aim to have undertaken a total of 100 or more examinations by the date of their CCT. These will include a wide and proportionate range of cases, including community deaths, deaths in hospital, peri-intervention deaths and perinatal deaths.

Trainees must also satisfactorily complete the following assessments:

workplace-based assessments	6 in total, all directed (see Appendix 5)
CHAT	pass (Certificate of Higher Autopsy Training)
educational supervisor's report	satisfactory

Knowledge	**Assessment Methods**
Demonstrate a wide knowledge of the pathological basis of disease and the macroscopic/microscopic pathology of various types of death	CbD, DOPS, ECE
Demonstrate knowledge of the literature relating to controversial issues and to difficulties in interpreting subjective changes is necessary. Have a broad knowledge of techniques used in identifying morphological abnormalities	CbD, DOPS, ECE
Skills	
Demonstrate a high standard of practice in the techniques used for identifying morphological abnormalities at autopsy examination	CbD, DOPS, ECE
Develop practice at integrating multiple co-morbidities to explicate a death	CbD, DOPS, ECE
Behaviours	
Develop a desire to learn about common & less common disease processes through the autopsy	MSF
Show acceptance of uncertainty in determining the cause of death in some scenarios	MSF
Demonstrate willingness to discuss difficult cases with colleagues to optimise the diagnostic outcome	MSF

Knowledge	Assessment Methods
Demonstrate knowledge of anatomy, macroscopic features of major disease processes and common tissue dissection techniques relevant to autopsy practice	CbD, DOPS, ECE
Show understanding of the training undertaken by anatomical pathology technologists (APTs) and the role that they can appropriately play within all aspects of the mortuary function (see www.aaptuk.org)	CbD, DOPS, ECE
Skills	
Demonstrate manual dexterity sufficient to perform autopsies safely and to demonstrate the major abnormalities	CbD, DOPS, ECE
Liaise with the APTs to maximise the autopsy learning opportunities	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to identify and address the questions and issues raised by the death	MSF
Demonstrate responsibility for identifying the deceased and to take ultimate responsibility for this	MSF

Clinical liaison

Knowledge	Assessment Methods
Show understanding of the use of clinical information and the health record in autopsy examination and understand the limitations on dissemination of autopsy examination information to third parties	CbD, DOPS, ECE
Skills	
Demonstrate the ability to interrogate the clinical and laboratory records and understand the utility and limitations associated with various types of investigation including imaging, microbiology and biochemistry. All these investigation modalities and others can provide useful positive or negative clues in the diagnostic process	CbD, DOPS, ECE
Identify issues to be addressed by the autopsy examination	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to be conversant with current clinical practice	MSF
Demonstrate the ability to liaise with clinical colleagues in order to obtain clinical information prior to autopsy	MSF
Show knowledge of the main side effects of common treatments and the major complications of most surgical procedures	MSF

External examination

Knowledge	Assessment Methods
Show familiarity with the RCPath's *Guidelines on Autopsy Practice,* 2002 and *Best Practice Scenarios*, 2005	CbD, DOPS, ECE
Skills	
Demonstrate the ability to describe succinctly and correctly the different forms of injury, look for external signs of natural and unnatural death and distinguish between genuine lesions and post-mortem artefact	CbD, DOPS, ECE
Practice at evaluating the morphological effects of resuscitation	CbD, DOPS, ECE
Behaviours	
Demonstrate when not to authorise an evisceration by others without personally examining the body first	MSF

Knowledge	Assessment Methods
Show knowledge of, and the ability to perform, autopsies in a variety of situations, such as the following: • cardiac disease of uncertain cause • death after a period of intensive care • death associated with the use of potentially toxic therapeutic agents (e.g. anticoagulants, opiates, cytotoxics, etc.) • endocrine/metabolic death • hepatic disease of unknown cause • intra-abdominal disease of unknown cause • neurological disease of unknown cause • renal disease of unknown cause • respiratory disease of unknown cause • deaths related to anaphylaxis • the dissection of and testing of medical appliances, such as intravascular lines, drains and pacemakers	CbD, DOPS, ECE
Skills	
Construct a normal full evisceration	CbD, DOPS, ECE
Demonstrate the ability to dissect the internal organs	CbD, DOPS, ECE
Describe the appearances accurately and succinctly	CbD, DOPS, ECE
Interpret the findings in the light of the clinical information available	CbD, DOPS, ECE
Summarise the findings to clinicians either immediately or later at a clinical meeting	CbD, DOPS, ECE
Show special dissections are made in appropriate	CbD, DOPS, ECE

circumstances	
Demonstrate skills in techniques used in perioperative autopsies and autopsies following death in hospital, in a variety of situations such as: • iatrogenic deaths • intraoperative deaths • neurosurgical deaths • post-abdominal surgery deaths • post-cardiac surgery deaths • sudden unexpected death in hospital and the exclusion of hospital homicide • vascular surgery deaths	CbD, DOPS, ECE
Behaviours	
Develop the desire to keep up to date with medical advances and their consequences for autopsy practice	MSF

Knowledge	**Assessment Methods**
Show knowledge of the aims of the autopsy and investigations required where death occurs in various situations, including examples as follows: • alcoholism • bodies recovered from fire • body repatriated from another country • carbon monoxide poisoning • deaths without pathological findings • domestic accidents • drowning/immersion in water • drugs of abuse • epilepsy • examination of the decomposed body • hanging • industrial accidents • industrial disease, in particular asbestos and coalmining • maternal death • illicit drug toxicity • road traffic collisions • sudden death in infancy and perinatal deaths (some experience needed) • suicidal sharp force injury	CbD, DOPS, ECE
Behaviours	
Demonstrate commitment to maintaining up to date information	MSF
Demonstrate insight to determine when to seek further advice	MSF

Knowledge	Assessment Methods
Knowledge of the autopsy histological appearances of various common fatal conditions	CbD, DOPS, ECE
Skills	
Demonstrate the ability to select appropriate tissue blocks	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to think laterally	MSF

Knowledge	Assessment Methods
Show knowledge of those areas of microbiology that are relevant to autopsy practice, e.g. sepsis, meningitis, pneumonia, endocarditis, tuberculosis, viral hepatitis, HIV disease	CbD, DOPS, ECE
Skills	
Demonstrate the ability to select appropriate samples	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to think laterally	MSF

Knowledge	Assessment Methods
Demonstrate how knowledge of areas of toxicology that are relevant to autopsy practice, e.g. drug abuse and evaluation of compliance with prescribed medications	CbD, DOPS, ECE
Skills	
Demonstrate the ability to select appropriate samples	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to think laterally	MSF

Knowledge	Assessment Methods
Show knowledge of those areas of haematology, biochemistry, medical genetics and other investigative modalities that are relevant to autopsy practice	CbD, DOPS, ECE
Demonstrate basic knowledge of disorders having an inherited defect and of procedure relating to appropriate investigation of families	CbD, DOPS, ECE
Skills	
Demonstrate the ability to select appropriate samples	CbD, DOPS, ECE
Behaviours	

Demonstrate the ability to think laterally	MSF

Knowledge	Assessment Methods
Demonstrate the ability to be conversant with current policy in relation to consent for autopsies and for tissue or organ retention	CbD, DOPS, ECE
Demonstrate the ability to be conversant with current policy in relation to tissue or organ donation	CbD, DOPS, ECE
Understand the legal basis of consent to autopsy examination and the circumstances in which consent is not required	CbD, DOPS, ECE
Show advice as to when an autopsy is not necessary or when its aims might be fulfilled by a limited examination	CbD, DOPS, ECE
Skills	
Demonstrate the ability to obtain consent for autopsies and for further investigation of tissue or whole organs	CbD, DOPS, ECE
Behaviours	
Explain to families of the reasons for, and – if requested - details of, the investigations required by an autopsy examination	MSF
Explain to families when tissue or organs may need to be sent away for expert review and options for funeral, disposal, etc.	MSF
Understand issues of autopsy consent, tissue/organ retention and Coroners'/Procurator Fiscals' practice	MSF

Health and safety

Knowledge	Assessment Methods
Demonstrate the ability to be conversant with relevant protocols and documentation of departmental working practices, and be familiar with the practicalities of mortuary practice	CbD, DOPS, ECE
Demonstrate a working knowledge of the regulatory aspects of health and safety issues, sufficient to be able to draw up a mortuary policy	CbD, DOPS, ECE
Show familiarity with the document Safe Working and Prevention of Infection in the Mortuary and Autopsy Suite (Health Services Advisory Commission), RCPath Guidelines on Autopsy Practice	CbD, DOPS, ECE
Demonstrate an understanding of the design concepts of a modern mortuary. These are inextricably linked to health and safety issues. NHS Estates Building Note 20 specifically	CbD, DOPS, ECE

covers advice for modern mortuary design	
Skills	
Demonstrate working in the mortuary in a safe way	CbD, DOPS, ECE
Behaviours	
Develop an active interest in safe working practices for all staff and visitors to the mortuary	MSF

Medico-legal issues

Knowledge	Assessment Methods
Demonstrate the ability to be conversant with current legislation and regulations relating to medico-legal autopsies and related matters	CbD, DOPS, ECE
Show familiarity with the duty to report deaths to the Coroner, the preliminary enquiries that may take place through the Coroner system and entitlement to attend autopsy examination by interested parties	CbD, DOPS, ECE
Show familiarity with the practicalities of identification of bodies	CbD, DOPS, ECE
Show familiarity with the various techniques available for confirming or establishing identification, the retention of materials that may be required by the coroner and/or police and of the need to facilitate where appropriate the removal of tissues for transplantation	CbD, DOPS, ECE
Show familiarity with the legislative background to the investigation of death with knowledge of the relevant parts of The Births and Deaths Registration Act 1953; The Coroners' Act 1988; The Coroners' Rules 1984; The Cremation Act 1902; The Anatomy Act 1984; The Human Organ Transplant Act 1989; Reforming the Coroners and Death Certification Systems: position paper 2004 (Home Office) and the Human Tissues Act 2004	CbD, DOPS, ECE
Show awareness of coronial reform issues and ongoing legislation; also amendments to Coroners Rules, e.g. those relating to tissue retention (June 2005)	CbD, DOPS, ECE
Skills	
Demonstrate a working knowledge of the law relating to death, the investigation of death and disposal of the dead (for those in Scotland, relevant documents in the Crown Prosecution and Procurator Fiscal Service)	CbD, DOPS, ECE
Behaviours	
Demonstrate an impartial stance and a commitment to justification of any opinion from a balanced interpretation of medical literature	MSF

Show a commitment to best autopsy practice	MSF
Demonstrate the ability to incorporate changes in medico-legal practice and reform as they take place	MSF

Reports

Knowledge	Assessment Methods
Demonstrate a knowledge of College documents relating to the production of autopsy reports	CbD, DOPS, ECE
Show familiarity with the RCPath's Guidelines on Autopsy Practice, 2002 and Best Practice Scenarios, 2005	CbD, DOPS, ECE
Skills	
Write a final gross and microscopic report with suitable summaries, according to the RCPath's Guidelines on Autopsy Practice, 2002	CbD, DOPS, ECE
Produce finished reports in a timely way	CbD, DOPS, ECE
Produce reports that address the issues and questions raised by a death, with acknowledgement of limitations as appropriate	CbD, DOPS, ECE
Behaviours	
Show caution in reiterating medical histories, especially where sensitive personal information is concerned	MSF
Show an impartial stance and a commitment to justification of any opinion from a balanced interpretation of medical literature	MSF

Photography

Knowledge	Assessment Methods
Demonstrate an understanding of GMC and Home Office[3] guidelines and the RCPath's Guidelines on Autopsy Practice, 2002	CbD, DOPS, ECE
Skills	
Demonstrate the ability to use a camera	CbD, DOPS, ECE
Behaviours	
Show awareness of confidentiality issues	MSF

Teaching

Knowledge	Assessment Methods
Use the value of the autopsy as a teaching aid	CbD, DOPS, ECE
Skills	
Develop appropriate teaching skills	CbD, DOPS, ECE

Behaviours	
Prepare to teach at every available opportunity	MSF

Inquests	
Knowledge	**Assessment Methods**
Demonstrate a working knowledge of judicial process particularly within the Coroner's court and the role of the pathologist/medical witness	CbD, DOPS, ECE
Skills	
Demonstrate practical experience of judicial inquiries into deaths	CbD, DOPS, ECE
Show familiarity with inquest procedure and have experience observing inquests and ideally of giving evidence in Court	CbD, DOPS, ECE
Practice at integrating information provided during an inquest so as to better assist the Court in the investigation of a death	CbD, DOPS, ECE
Behaviours	
Demonstrate maintaining an impartial stance	MSF
Show a skilled presentation of complex issues in a simple manner	MSF
Recognise the role as provider of information to the court and limitations of expertise	MSF
Demonstrate the ability to identify public interest issues and to facilitate any investigations or opinions whose need is made clear by results of autopsy examination but which fall outside personal expertise	MSF

Feedback to families and other interested parties	
Skills	
Demonstrate the communication skills required to inform clinical colleagues and other non-clinical professionals involved in inquiries into deaths and assist in multidisciplinary mortality review	CbD, DOPS, ECE
Behaviours	
Demonstrate an ability to interpret autopsy findings in the context of past medical history, clinical progression of disease or injury and circumstances of death and an ability to communicate those findings and opinions fully, clearly and simply to those who need explanation of them	MSF

Future developments	
Knowledge	**Assessment Methods**
Demonstrate a knowledge of the concepts that underpin continuing professional development, revalidation and quality assurance	CbD, DOPS, ECE
Show an awareness of developments in the field and in legislation and regulations, that may lead to developments of or changes in practice	CbD, DOPS, ECE

Audit (specific to autopsy)	
Knowledge	**Assessment Methods**
Demonstrate knowledge of the role of confidential enquiries in the investigation of certain categories of death – National Confidential Enquiry into Patient Outcome and Death (NCEPOD), Confidential Enquiry into Maternal and Child Health (CEMACH) and Confidential Enquiry into Suicide and Homicide (CESH) – and the role of the autopsy within those investigations is necessary	CbD, DOPS, ECE
Skills	
Demonstrate where to find relevant information from the UK and other professional pathology associations elsewhere in the world	CbD, DOPS, ECE
Develop a critical approach to autopsy reports and how well they address the questions raised by a death	CbD, DOPS, ECE
Behaviours	
Demonstrate provision of information for mortality review, for open investigation and for the provision of information	MSF

2c Research methodology

This section indicates the training required, in addition to basic histopathology training, for those planning to undertake research within their job plan after completion of training, and complete the optional training package in research methodology.

The basic curriculum contains the knowledge, skills and attitudes needed by a consultant to recognise 'good research' of a type that might influence their clinical work, and the requirements of audit. It inculcates the need for safe working in a laboratory, the management of staff and budgets and respect for colleagues and oneself.

The research module will build on these fundamental principles. It will require the trainee to develop and demonstrate those additional core skills and attitudes needed to function as an independent researcher or as a member of a research team.

Trainees undertaking research training will need to demonstrate not only a theoretical understanding of the process, regulation and application of research within the framework of the NHS and HEIs in the UK, but will also have to demonstrate application of their knowledge and skills.

Fundamentals of the scientific process and evidence-based medicine	
Knowledge	**Assessment Methods**
Develop an understanding of the principles of scientific research, the process by which research evolves, the significance of hypotheses and the importance of properly controlled studies	CbD, DOPS, ECE
Understand the limitations of applying scientific principles within a pathobiology setting and methods available for bringing scientific stringency to studies in this area	CbD, DOPS, ECE
Understand meaning and implications of 'evidence-based' medicine in directing processes of research	CbD, DOPS, ECE
Demonstrate knowledge of the place of pathology research in the past, current and future development of medical concepts, diagnostics and therapies	CbD, DOPS, ECE
Skills	
Demonstrate personal skills of attention to detail, accuracy and the ability to manage time in a manner that allows careful and repeatable research to be undertaken	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to work within different settings and appreciate the impact and values of research principles and outputs	MSF

Role of research in the modern NHS	
Knowledge	**Assessment Methods**

Identify what the NHS and the Government expect from research	CbD, DOPS, ECE
Show an understanding of how the NHS funds research and how its perspective differs from and complements that of other funders	CbD, DOPS, ECE
Explain how research is regarded in different NHS Trusts and how research activity and outputs might impinge on individual trusts and the NHS as a whole	CbD, DOPS, ECE
Explain how to access support from the local trust and wider NHS to undertake research	CbD, DOPS, ECE
Develop a working knowledge of the full range of advantages that might accrue to an NHS Trust through undertaking research	CbD, DOPS, ECE
Develop an understanding of the management of research in the NHS at the levels of Trusts, Clinical Research Networks, SHAs and the DoH	CbD, DOPS, ECE
Skills	
Develop networking and knowledge mining skills to ensure research is relevant within the context of the NHS and the wider health care sector and that it integrates into improvements in patient care	CbD, DOPS, ECE
Behaviours	
Develop the thought processes that always ask at every stage in the research pathway how research might be used to benefit patients	MSF

Ethical background of research on people and human tissue	
Knowledge	**Assessment Methods**
Understand the regulatory framework within which research on people and human tissue is undertaken	CbD, DOPS, ECE
Understand the role of the HTA and MHRA in defining the framework in which research is undertaken	CbD, DOPS, ECE
Skills	
Be able to prepare applications to, and reports for, regulatory bodies	CbD, DOPS, ECE
Be able to produce an ethics approval form and all the associated forms required to obtain ethics committee approval for a piece of human research. This includes being able to construct: letters requesting assistance from other health professionals, understandable information sheets for patients and/or patient's relatives and consent forms	CbD, DOPS, ECE
Behaviours	

Recognise the absolute requirement for all human research to be conducted within a regulatory framework that ensures the patient does not suffer as a consequence of being involved in that research	MSF
Ensure your own research is always conducted in an ethical manner	MSF

Ethical background to research on animals

Knowledge	Assessment Methods
Understand the regulatory framework within which research on animals is undertaken	CbD, DOPS, ECE
Understand the role of the Home Office and Home Office Inspectors in overseeing and regulating animal research	CbD, DOPS, ECE
Identify non-animal models in preference to the use of animals for research	CbD, DOPS, ECE
Skills	
Be able to write an argued and justified case for a project and personal licence	CbD, DOPS, ECE
Behaviours	
Develop a desire to ensure all animal research is conducted in an ethical and thoughtful manner	MSF

Tissue banking

Knowledge	Assessment Methods
Develop knowledge of the regulatory framework in which tissue banks operate and the documentation required to be allowed to work safely and legally within those frameworks	CbD, DOPS, ECE
Demonstrate how to access the resources of tissue banks	CbD, DOPS, ECE
Skills	
Demonstrate the ability to work within key regulatory frameworks in a timely and efficient manner	CbD, DOPS, ECE
Behaviours	
Demonstrate awareness of the impact on patients and their relatives of storing and manipulating human tissues	MSF

Study design	
Knowledge	**Assessment Methods**
Demonstrate knowledge of study design including an understanding of the need to ask scientific questions in the most appropriate way, the importance of 'powering' a study to ensure optimal outcome and the correct use of positive and negative controls to minimise interpretive errors	CbD, DOPS, ECE
Skills	
Demonstrate the ability to design a research study that is recognised by peers and reviewers as relevant and well constructed	CbD, DOPS, ECE
Behaviours	
Develop the ability to ask pertinent questions and to examine those questions in the most economical manner	MSF

Statistics	
Knowledge	**Assessment Methods**
Show an understanding of the uses and limitations of statistical methods	CbD, DOPS, ECE
Show how, or where to find how, to ask the correct statistical question	CbD, DOPS, ECE
Skills	
Develop the ability to use statistics as a research tool	CbD, DOPS, ECE
Behaviours	
Use and not abuse statistics	MSF

Working in a research laboratory	
Knowledge	**Assessment Methods**
Demonstrate a knowledge of the regulatory frameworks under which research laboratories function	CbD, DOPS, ECE
Describe and explain the importance of local health and safety practices and how they differ from those within a diagnostic laboratory	CbD, DOPS, ECE
Skills	
Develop the skills needed to work within different environments	CbD, DOPS, ECE
Behaviours	
Be prepared to work within and adjust to the different practices within research and diagnostic laboratories	MSF

Scope of pathology techniques	
Knowledge	**Assessment Methods**
Understand the techniques available to examine normal homeostatic mechanisms in human and animal tissues and to investigate pathological processes at the level of the cell and tissue. This will include conventional microscopy, the use of specialist microscopes, image analysis, molecular tissue profiling, molecular extraction and the analysis of data derived from in situ and ex vivo molecular biology and pathology techniques	CbD, DOPS, ECE
Understand the role of different tissue processing techniques to preserve specific molecular types	CbD, DOPS, ECE
Skills	
Develop the ability to select and perform, or advise others in performing, appropriate techniques to investigate disease mechanisms	CbD, DOPS, ECE
Demonstrate the ability to derive robust data from the entire spectrum or a selected part of the spectrum of pathology techniques, to be able to interpret those data, and to recognise spurious results	CbD, DOPS, ECE
Behaviours	
Recognise the nature of a pathological problem and critically appraise the best methods for investigating the problem	MSF
Develop a thoughtful and self- regulatory approach to data extraction and analysis	MSF

Pathologist's role in the research team and the research of a team	
Knowledge	**Assessment Methods**
Identify how research teams work and to recognise the skill sets that the individual can bring to each research programme	CbD, DOPS, ECE
Identify the best ways of ensuring that individual members of a research team can be enabled to function optimally in undertaking a piece of research	CbD, DOPS, ECE
Skills	
Demonstrate the ability to lead a research team	CbD, DOPS, ECE
Develop the skills of integration into a research team	CbD, DOPS, ECE
Behaviours	
Recognise the value of every member of a research team	MSF
Assist or direct a team to function within an appropriate ethical framework	MSF

Pathologist as educator, advisor, facilitator and supervisor of research	
Knowledge	**Assessment Methods**
Identify and demonstrate in practice what is expected of an educator, a research and personal advisor, a supervisor of research, and a facilitator of other people's research	CbD, DOPS, ECE
Use the research management and support frameworks available at the level of the laboratory, department and institution	CbD, DOPS, ECE
Skills	
Advise, guide and direct from a sound knowledge base and to recognise when external assistance needs to be sought	CbD, DOPS, ECE
Behaviours	
Show assurance that all guidance, support and advice is delivered fairly and honestly and in a timely manner	MSF
Act as 'critical friend', advocate and guide	MSF

Managing research grants and people employed on research grants	
Knowledge	**Assessment Methods**
Develop the ability to properly cost a research grant	CbD, DOPS, ECE
Manage accounts and interpret financial spreadsheets	CbD, DOPS, ECE
Identify the relevant employment law with respect to employees on short and more permanent contracts	CbD, DOPS, ECE
Skills	
Use basic accountancy skills and the associated necessary computer skills	CbD, DOPS, ECE
Show how to manage people and their expectations within the legal framework pertaining to their employment	CbD, DOPS, ECE
Behaviours	
Demonstrate exercise probity in the management of research grant income	MSF
Ensure honesty in interactions with staff employed on research grants	MSF

Importance of probity in research	
Knowledge	**Assessment Methods**
Identify the legal frameworks regulating research and researcher	CbD, DOPS, ECE

Demonstrate the ability to maintain the highest possible level of knowledge about the field of study so that all data can be described, discussed and presented within the full scope of the existing knowledge	CbD, DOPS, ECE
Skills	
Develop the enquiry, reasoning and analytical skills needed to ensure data are properly derived and presented, and placed within the correct context	CbD, DOPS, ECE
Behaviours	
Show honesty when, acquiring, presenting and interpreting data	MSF

Evaluation of the impact and cost of introducing research-based discoveries into clinical practice	
Knowledge	**Assessment Methods**
Develop understanding of how discoveries can be translated into patient-focused or commercial outputs	CbD, DOPS, ECE
Know how to find the knowledge of assessing the impact a new technology or treatment might have on patients, clinicians, the institution and society as a whole	CbD, DOPS, ECE
Know how to develop and manage intellectual property	CbD, DOPS, ECE
Skills	
Demonstrate basic skills in marketing ideas and discoveries to managers and commercial sponsors	CbD, DOPS, ECE
Behaviours	
Recognise the added value that one's own research can bring to society and mange its exploitation within accepted frameworks	MSF

Use of information technology (IT) in research	
Knowledge	**Assessment Methods**
Understand how to use databases for undertaking literature searches	CbD, DOPS, ECE
Demonstrate knowledge of the IT systems used for storing and handling research data	CbD, DOPS, ECE
Understand the regulatory frameworks around storing and managing patient-derived data	CbD, DOPS, ECE
Skills	
Develop the ability to become conversant with the scope of computer systems needed in performing literature searches, data holding and handling	CbD, DOPS, ECE

Behaviours	
Assess Ensure that all patient data are properly stored and used within a framework that protects the rights and needs of patients and their families	MSF

Critical assessment of own and other people's data	
Knowledge	**Assessment Methods**
Demonstrate how to analyse data and the processes involved in obtaining data in a critical way and with the perspective of an external reviewer	CbD, DOPS, ECE
Skills	
Develop critical analysis	CbD, DOPS, ECE
Behaviours	
Ability to question whether the study and the subsequent data meet stringent scientific principles	MSF

Applying for grant funding	
Knowledge	**Assessment Methods**
Demonstrate the ability to be conversant with potential sources of funding	CbD, DOPS, ECE
Demonstrate how to write an argued case for grant funding	CbD, DOPS, ECE
Skills	
Demonstrate the ability to write a well argued and designed grant application within the parameters of the funding call	CbD, DOPS, ECE
Behaviours	
Demonstrate the ability to construct an argument and plan future work	MSF

Writing a paper, preparing a paper and/or writing a chapter or book	
Knowledge	**Assessment Methods**
Develop an understanding of what is expected in preparing data and ideas for publication in different media	CbD, DOPS, ECE
Develop an understanding of the need for succinctness, clarity and a style appropriate to the medium being employed and the target audience	CbD, DOPS, ECE
Skills	
Be able to state clearly a problem, describe the methodologies applied to its investigation, define useful and appropriate data and to discuss the data derived from the study within the context of existing literature and within the scope of the target audience	CbD, DOPS, ECE

Behaviours	
Demonstrate honesty and insight when describing one's own work and its importance within the field.	MSF

Reviewing publications, theses and grants	
Knowledge	**Assessment Methods**
Show knowledge of what a funder, journal or other body or person requesting advice about the quality and cost-effectiveness of a research proposal are asking for	CbD, DOPS, ECE
Develop a high level of knowledge of the field	CbD, DOPS, ECE
Understand the need to work to deadlines imposed by others	CbD, DOPS, ECE
Skills	
Be able to assess the significance of a piece of research in its own right and within the local, national or international context	CbD, DOPS, ECE
Develop time management skills around the process of review and feedback	CbD, DOPS, ECE
Behaviours	
Show honesty and insight when describing one's own work and its importance within the field	MSF

APPENDIX 3: A BRIEF ILLUSTRATIVE TIMETABLE OF HISTOPATHOLOGY TRAINING – IT SHOWS FIRST OPPORTUNITES TO ENTER EACH STAGE ONLY AND WITHOUT A EXTENSION OF TRAINING OPTIONAL MODULES (THIS WILL VARY FROM TRAINEE TO TRAINEE)

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
ST1	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
	Begin Stage A. NTN awarded							RCPath Year 1 Assessment		RCPath Year 1 Assessment		Earliest opportunity to end Stage A
ST2	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24
	Earliest opportunity to begin Stage B	Part 1 FRCPath opportunity		Part 1 FRCPath results				Part 1 FRCPath opportunity		Part 1 FRCPath results		Earliest opportunity to exit Stage B
ST3	Month 25	Month 26	Month 27	Month 28	Month 29	Month 30	Month 31	Month 32	Month 33	Month 34	Month 35	Month 36
	Earliest opportunity to begin Stage C	Part 2 FRCPath opportunity	Part 2 FRCPath results				Part 2 FRCPath opportunity	Part 2 FRCPath results				
ST4	Month 37	Month 38	Month 39	Month 40	Month 41	Month 42	Month 43	Month 44	Month 45	Month 46	Month 47	Month 48
			Part 2 FRCPath opportunity	Part 2 FRCPath results					Part 2 FRCPath opportunity	Part 2 FRCPath results		Earliest opportunity to exit Stage C
ST5	Month 49	Month 50	Month 51	Month 52	Month 53	Month 54	Month 55	Month 56	Month 57	Month 58	Month 59	Month 60
	First opportunity to begin stage D								First opportunity to exit stage D			

APPENDIX 4: ACRONYMS

AIDS	Acquired immune deficiency syndrome
ARCP	Annual Review of Competence Progression
BMA	British Medical Association
BMS	Biomedical scientist
BSP	Breast Screening Programme
CbD	Case-based discussion
CCT	Certificate of Completion of Training
CEMACH	Confidential Enquiry into Maternal and Child Health
CESH	Confidential Enquiry into Suicide and Homicide
CESR	Confirming Eligibility for Specialist Registration
CHAT	Certificate of Higher Autopsy Training
CHCCT	Certificate of Higher Cervical Cytology Training
CNS	Central nervous system
CPD	Continuing professional development
CSF	Central spinal fluid
CSP	Cervical Screening Programme
CSTC	College Specialty Training Comittee
DMJ	Diploma of Medical Jurisprudence
DOPS	Directly observed practical skills
ECE	Evaluation of clinical events
EQA	External Quality Assurance
FNA	Fine needle aspiration
FRCPath	Fellowship of The Royal College of Pathologist
GI	Gastrointestinal
GMC	General Medical Council
GP	General Practitioner
HCC	Healthcare Commission
HOPS	Head of Pathology School
HPV	Human papilloma virus
IBD	Inflammatory bowel disease
IQC	Internal quality control
LBC	Liquid-based cytology
MDT	Multidisciplinary team meeting
MSF	Multi-source feedback
NCEPOD	National Confidential Enquiry into Patient Outcome and Deat
NHS	National Health Service
NICE	National Institute for Health and Clinical Excellence
NOS	Not otherwise specified
NPSA	National Patient Safety Agency

NTN	National Training Number
NTN(A)	National Training Number (Academic)
ONS	Office of National Statistics
OOPR	Out-of-programme research
OOPT	Out-of-programme training
QAT	Quality assurance testing
SAC	Specialty Advisory Committee
SIDS	Sudden infant death syndrome
SOP	Standard operating procedure
ST	Specialty training
STC	Specialty Training Committee
SUDI	Sudden unexpected death in infancy
TEM	Tubo-endometrioid metaplasia
UK	United Kingdom
WHO	World Health Organization

APPENDIX 5: DIRECTED WORKPLACE-BASED ASSESSMENTS BY STAGES OF TRAINING AND OPTIONAL PACKAGES

The following are lists of workplace-based assessments, from which should be selected appropriate examples to make up the 'directed' component of assessments during each stage of training. Each item in the lists is in fact a group of possible scenarios to be used, and each group may be used more than once as long as exact circumstances are not duplicated. Additionally, it can be seen that the lists are similar for each stage, but increase in complexity and/or depth as a trainee progresses through the stages of training. Finally, the relative numbers of DOPS, ECEs and CbDs changes with increasing stage, until in stage D, no DOPS are required, but ECEs and CbDs make up all the required workplace-based assessments.

Stage A (18 in stage, 12 directed)

Directly Observed Practical Skills (DOPS) (six from the following):

Set up and use microscope

Autopsy:
- performing a straightforward evisceration
- dissection of single organ / system

Cut-up:
- completion of a simple cut up session (e.g. simple skins, gall bladders, appendices)
- macroscopic description and block taking of a major cancer resection (e.g. colonic cancer)

Microscopy:
- demonstrate ability to recognise normal histology
- demonstrate ability to recognise straightforward pathological entities (e.g. basal cell carcinoma, adenocarcinoma in biopsies, acute appendicitis)

Cytology:
- screen a gynae cytology slide and correctly identify various cells

Comment: all six DOPS undertaken in Stage A will be taken from this list.

Evaluation of Clinical Events (ECEs) (three from the following):

Histology/cytology:
- present a case with ancillary investigations to a consultant trainer

Autopsy:
- presentation to trainer or clinicians of findings in straightforward cases (e.g. bronchopneumonia, myocardial infarction, pulmonary embolus, cerebrovascular accident)

Audit:
- present at audit meeting and lead discussion, having discussed findings with trainer beforehand

Poster presentation:
- show a poster at the Pathological Society meeting or similar

Teaching event for medical students or demonstration of interesting case to other trainees:

- to be observed by trainer

Referral letter:

- write a draft letter on a case for referral

Comment: three further ECEs in stage A may be taken from outside this list.

Case-Based Discussions (CbDs) (three from the following):

Autopsy:

- write an appropriate post-mortem report with clinicopathological correlation and cause of death

Histology/non-cervical cytology:

- present a case with ancillary investigations (e.g. additional levels, blocks or immuno- or histo-chemical stains, review of previous samples) to a consultant trainer, indicating the relevance of the ancillary investigations
- write an appropriate report for a major cancer resection (with appropriate TNM staging and prognostic information)

Cytology:

- present and discuss a case of cervical dyskaryosis (including appropriate follow-up and clinical management)

Molecular Pathology (x2 CbDs)

- HEE genomics module

Comment: three further CbDs in stage A may be taken from outside this list.

Stage B (18 in stage, 12 directed)

Directly Observed Practical Skills (DOPS) (four from the following):

Autopsy:

- performing an evisceration (not including complex case, e.g. post-operative)
- dissection of single organ/system

Cut-up:

- completion of a whole cut-up session
- macroscopic description and block taking of a major cancer resection (e.g. radical prostatectomy or hysterectomy for cancer)

Microscopy:

- demonstrate ability to recognise pathological entities (e.g. ulcerative colitis, small cell carcinoma of the lung, urothelial carcinoma *in situ*)

Cytology:

- screen a gynae cytology slide and correctly grade the degree of dyskaryosis
- demonstrate the ability to recognise simple pathological entities in non-cervical cytology samples (e.g. fibroadenoma, Warthin's tumour, non-small cell carcinoma of the lung)

Photography:

- macro or microscopic specimens

Comment: two further DOPS undertaken in stage B may be taken from outside this list.

Evaluation of Clinical Events (ECEs) (four from the following):

Histology/cytology:
- present a case with ancillary investigations to a consultant trainer

Autopsy:
- presentation to trainer or clinicians of findings (e.g. carcinomatosis, road traffic accident, gastrointestinal haemorrhage, cirrhosis)

Audit:
- present at audit meeting and lead discussion, having discussed findings with trainer beforehand

Poster presentation:
- show a poster at the Pathological Society or similar

Teaching event for medical students or demonstration of interesting case to other trainees:
- to be observed by trainer

Referral letter:
- write a draft letter on a case for referral

MDTs:
- demonstrate a case that the trainee has reported at MDT or other clinicopathological meeting

Comment: two further ECEs in stage B may be taken from outside this list.

Case-Based Discussions (CbDs) (four from the following):

Autopsy:
- write an appropriate post-mortem report with clinicopathological correlation and cause of death

Histology/non-cervical cytology:
- present a case with ancillary investigations (e.g. additional levels, blocks or immuno- or histo-chemical stains, review of previous samples) to a consultant trainer, indicating the relevance of the ancillary investigations
- write an appropriate report for a major cancer resection (with appropriate TNM staging and prognostic information)

Cytology:
- present and discuss a case of cervical dyskaryosis (including appropriate follow-up, clinical management and histocytological correlation)
- present and discuss a non-cervical cytology case (with appropriate follow-up, clinical management and histocytological correlation)

Molecular Pathology
- laboratory attachment time

Comment: two further CbDs in stage B may be taken from outside this list.

Stage C (18 in stage, 12 directed)

Directly Observed Practical Skills (DOPS) (four from the following):

Cut-up:
- supervision and training of more junior trainees undertaking cut-up, observed by trainer

- cut-up of complex case (e.g. laryngectomy, multi-organ resection for cancer, Whipple's resection)

Microscopy:

- demonstrate ability to recognise pathological entities (e.g. medical renal or liver biopsies, inflammatory skin biopsies)

Cytology:

- demonstrate the ability to recognise pathological entities in non-cervical cytology samples (e.g. high-grade lymphoma, metastatic tumours in lymph nodes, complex serous fluid samples with ancillary investigations where appropriate)

Photography:

- macro or microscopic specimens for presentation/publication

Comment: two further DOPS undertaken in stage C may be taken from outside this list.

Evaluation of Clinical Events (ECEs) (four from the following):

Histology/cytology:

- present a case with ancillary investigations to a consultant trainer

Audit:

- present at audit meeting and lead discussion, having discussed findings with trainer beforehand

Poster presentation:

- show a poster at the Pathological Society or similar

Teaching event for medical students or other trainees:

- to be observed by trainer

Referral letter:

- write a draft letter on a case for referral

MDTs

- review and present case(s) at MDT or other clinicopathological meeting

Comment: two further ECEs in stage C may be taken from outside this list.

Case-Based Discussions (CbDs) (four from the following):

Histology/non-cervical cytology:

- present a case with ancillary investigations (e.g. additional levels, blocks or immuno- or histo-chemical stains, review of previous samples) to a consultant trainer, indicating the relevance of the ancillary investigations
- write an appropriate report for a major cancer resection (with appropriate TNM staging and prognostic information)
- present and discuss a non-cervical cytology case (with appropriate follow-up, clinical management and histo-cytological correlation)

Management:

- clinical incident reporting (draft formulation and discussion of report)
- involvement in business planning of a clinical development

Molecular Pathology

- relating to integrated report writing

Comment: two further CbDs in stage C may be taken from outside this list.

Stage D (12 in stage, all directed)

Evaluation of Clinical Events (ECEs) (six from the following):

Audit:
- present at audit meeting and lead discussion, having discussed findings with trainer beforehand

Poster or oral presentation:
- present a poster or supervise the composition of a poster presentation by a more junior trainee

Teaching event for medical students or other trainees:
- to be observed by trainer

Referral letter:
- initiate the referral of and write a referral letter for a complex case requiring a second opinion

MDTs
- review cases for and present a complete MDT or other clinicopathological meeting

Case-Based Discussions (CbDs) (six from the following):

Histology/non-cervical cytology:
- present a complex case to a consultant trainer, indicating the relevance of any ancillary investigations
- write an appropriate report for a complex special interest case of the trainee's choice
- present and discuss a non-cervical cytology case (with appropriate follow-up, clinical management and histo-cytological correlation).

Management:
- clinical incident reporting (draft formulation and discussion of report)
- involvement in business planning of a clinical development
- participation in an appropriate departmental or other management meeting, with a demonstration of an understanding of the issues discussed therein
- demonstration of an understanding of the management and financial issues affecting the NHS outside of as well as within histopathology (e.g. in the context of an observed presentation to more junior trainees on one or more of these subjects/issues).

Molecular Pathology (2 x CbDs)

Subspecialist Cytopathology Training (18 in total, 12 directed)

Directly Observed Practical Skills (DOPS):

Perform an FNA using an aspiration technique (targeting may be by palpation or ultra-sound).
Perform an FNA using a non-aspiration technique.
Spread and stain a direct smear from an FNA.
Assess adequacy of a targeted aspirate from a deep lesion (mediastinal or retro-peritoneal structure).

Case-Based Discussions (CbDs):

Provide a second opinion/review on a case previously reported.
Discuss a case where morphology and ancillary studies give inconclusive results.
Discuss a case assessed in a rapid diagnosis clinic where an immediate report was not appropriate.
Discuss a case where ancillary studies were essential to the diagnosis.

Evaluation of Clinical Events (ECEs):

Present a non-cervical case at an MDT where there are discordant cytological findings.
Discuss statistical data prepared for KC61 returns.
Audit and present cytology performance in an area of specialist practice.
Explain procedure and take consent for a fine needle aspirate.

Optional packages of training

Cervical cytopathology (four in package, all directed)

Evaluation of Clinical Events (ECEs) (two from the following):

- perform a formal NHSCSP audit of a case of invasive squamous carcinoma of the cervix
- present a case at an MDT where there is non-correlation between histology and cytology
- attend an NHSCSP management meeting

Case-Based Discussions (CbDs) (at least two from the following):

- present and discuss a set of QA performance data
- write a draft failsafe letter
- present and discuss a case involving either review of previous cervical cytology slides or ancillary tests (e.g. HPV)

Higher Autopsy Training (six in package, all directed)

Directly Observed Practical Skills (DOPS) (two from the following):

- removal of spinal cord
- dissection of heart to examine and sample histologically the conduction system
- taking blood cultures
- taking peripheral blood for toxicology screen
- removal and slicing a femur
- exposure and dissection of the neck in a hanging case
- exposure of the vertebral arteries.

Evaluation of Clinical Events (ECEs) (two from the following):

- interpretation of a positive illicit drug-related death toxicology results, in conjunction with relevant histopathology
- interpretation of a complex medical multi-organ death with histology, e.g. HIV, haematopathology case
- head injury examination and interpretation.

Case-Based Discussions (CbDs) (two from the following):

- clinicopathological evaluation of a perioperative death
- clinicopathological evaluation of an alcohol-related death
- clinicopathological evaluation of a mesothelioma death, with co-morbidities (i.e. affecting compensation claims)
- mock inquest − presenting evidence
- presentation of autopsy gross and histopathology findings to a mortality review meeting with clinicians
- presentation of an autopsy in real time to visiting ambulance/police trainees coming to the mortuary.

Research methodology (six in package, all directed)

Directly Observed Practical Skills (DOPS) (two from the following):

- instruct a research technician to undertake a simple experiment, defining rationale for each step, and expected practical outcomes
- safely conduct an experiment within a laboratory
- deposit a specimen within a tissue bank and correctly document the process, showing an understanding of, and strict adherence to local and national guidelines
- give a five-minute presentation of own work.

Evaluation of Clinical Events (ECEs) (two from the following):

- given a research goal within the trainees experience and understanding by a consultant trainer, the trainee should construct the outline of a research application
- chair a journal review meeting (journal club)
- conduct a health and safety review of a research laboratory
- draw up the documentation needed for an MHRA review of an analytical histopathology laboratory involved in clinical trials.

Case-Based Discussions (CbDs) (two from the following):

- critically review an ethics application form
- undertake an analytical review of the methodology of a research paper
- having written a review article, justify the approach and conclusions to a consultant trainer.

APPENDIX 6: GOOD MEDICAL PRACTICE

The following table indicates where the *Good Medical Practice* headings can be found in the curriculum.

Good Medical Practice	**Page number**
Good clinical care	42
Maintaining good medical practice	58
Teaching and training, appraising and assessing	69
Relationships with patients	71
Working with colleagues	77
Health	83
Probity	84