

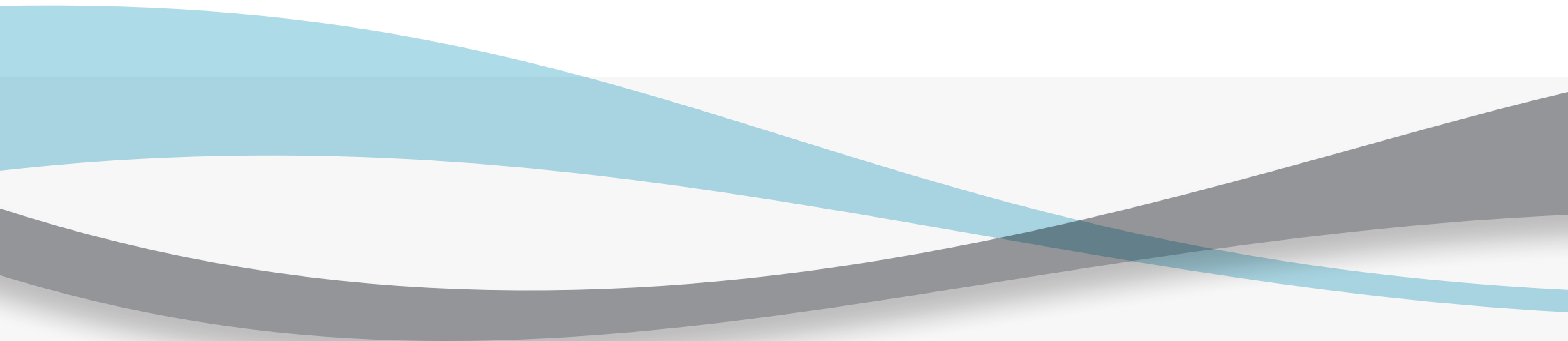


The Royal College of Pathologists

Pathology: the science behind the cure

Curriculum for specialty training in histopathology

June 2010



Unique document number	G051
Document name	Curriculum for specialty training in histopathology
Version number	4
Produced by	Joint Committee on Pathology Training
Date active	June 2010
Date for review	June 2012
Comments	<p>In accordance with the College's publications policy, the original version of this document was placed on the Fellows and Members' area of the College website for consultation from 16 to 27 November 2009. A total of 71 responses were submitted. The authors considered the feedback and amended the document accordingly. Please email publications@rcpath.org if you wish to see the authors' responses to the feedback.</p> <p>This version has had major amendments made as a result of suggestions from the CATT, changes to the College's Royal Charter and changes to the College's house style.</p> <p>Dr Peter Cowling Director of Communications</p>

Joint Committee on Pathology Training
The Royal College of Pathologists
2 Carlton House Terrace
London, SW1Y 5AF

Telephone: 020 7451 6700

Email: training@rcpath.org

Website: <https://www.rcpath.org/trainees/training.html>

© The Royal College of Pathologists, 2010



CONTENTS

Introduction	4
Entry requirements.....	5
Duration of training.....	5
Subspecialty training in cytopathology	5
Stages of training and learning	6
Optional training	12
Training regulations.....	16
Less than full-time training	16
Research.....	16
Academic trainees.....	17
Overseas training	17
Rationale.....	18
Purpose of the curriculum	18
Curriculum development	19
Content of learning	19
Purpose of assessment.....	21
Methods of assessment	21
Evidence of competence.....	22
Models of learning	22
Learning experiences	23
Supervision and feedback	24

Managing curriculum implementation	25
Curriculum review and updating	26
Equality and diversity	26
Acknowledgements	27
APPENDIX 1 General histopathology curriculum	28
Expected training during stage A / ST1 OF TRAINING	28
Curriculum content for stages B–D / ST2–6.....	42
APPENDIX 2 Cytopathology subspecialty curriculum	85
APPENDIX 3 Optional training packages.....	89
APPENDIX 4 Illustrative timetable of histopathology training.....	110
APPENDIX 5 Acronyms	111
APPENDIX 6 Directed workplace-based assessment by stages of training and optional packages.....	113
APPENDIX 7 Good medical practice	122

Website: <https://www.rcpath.org/trainees/training.html>

© The Royal College of Pathologists, 2010

INTRODUCTION

Histopathology in the UK encompasses surgical pathology, autopsy and cytopathology. Cytopathology may also be practised independently as a recognised subspecialty. Forensic pathology, neuropathology and paediatric pathology are related specialties (CCT-status currently being applied for) 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 training in both *Good Medical Practice* and 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 the *Good Medical Practice* and core aspects of the curriculum.

The curriculum and assessment system meets the Postgraduate Medical Education and Training Board's (PMETB) [Standards for Curricula and Assessment Systems \(July 2008\)](#). In addition, the curriculum complies with the training framework described at ([A Reference Guide for Postgraduate Specialty Training in the UK, The Gold Guide 2009, Third Edition June 2009, Section 7](#)).

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 Assessment](#)
- [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 PMETB's [Guidance on applying for a CESR under Article 14](#). 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 (Article 14) in Histopathology (specialty-specific guidance)
- guidance for CESR applicants in specialties and subspecialties overseen by The Royal College of Pathologists
- CESR curriculum vitae guidance.

Entry requirements

Trainees are eligible for entry to a histopathology training programme following satisfactory completion of a UK foundation training programme or after demonstrating equivalent competencies. 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.

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 three available optional packages of additional training described below, and achieve a CCT or CESR(CP). The minimum duration of training as identified in Schedule 3 of the General and Specialist Medical Practice (Education, Training and Qualification) Order 2003 is 4 years.

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 Assessment
- 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.

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 their chosen 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.

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.

Experience in Neuropathology and Paediatric Pathology is recommended during either stage A or B of training; in whichever stage this experience is gained, the total recommended time spent in these areas is 2 weeks each. 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).

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, 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
- ability to write an autopsy report including appropriate clinicopathological correlation for a straightforward case.

Minimum practical experience:

- surgical histopathology 500 cases
- cytopathology 150 cervical and 150 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 autopsies
- audit completion of 1 audit.

Assessments:

- workplace-based assessments 18 in total, 12 directed (see Appendix 6)
- multi-source feedback 1 completed and satisfactory
- year 1 assessment pass
- educational supervisor's report satisfactory
- 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. 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, usually because they have required two attempts to pass the Part 1 FRCPATH, 18 or 24 months should be spent in stage C.

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, unless extended training is required.

The aims of this stage are to:

- broaden experience and understanding of histopathology

- broaden understanding of subspecialty pathology including all subspecialties
- 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.

Competencies required to exit stage B:

- independent cut-up of all simple specimens (see above for examples)
- independent cut-up of all common larger specimens (including mastectomy, prostatectomy, complex hysterectomy 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 demonstrate effective time management and task prioritisation
- independent evisceration and dissection of more complex autopsies (see those described as ‘Complex post-mortems for observation’ in stage A curriculum content, page 37)
- ability to write an autopsy report including appropriate clinicopathological correlation for a more complex case (as described above).

Minimum practical experience (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 in stage.

Assessments:

- workplace-based assessments 18 in total, 12 directed (see Appendix 6)
- FRCPath Part 1 pass (can be taken any time after 6 months 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
- ability to appropriately refer for specialist/second opinion
- ability to demonstrate appropriate time management and task prioritisation for the stage of training.

Minimum practical experience (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.

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 (earliest opportunity at 21 months in stage)
- educational supervisor's report satisfactory
- ARCP satisfactory outcomes (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 or more in-depth general reporting
- to develop experience of teaching histopathology trainees
- to develop experience of involvement in MDTs
- to demonstrate evidence of the above achievements in a training portfolio.

Practical experience per 12-month period in stage (increased pro rata for extended stage):

- 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
- audit completion of 1 audit during stage.

Assessments:

- workplace-based assessments 12 in total (all directed in training plan, see Appendix 6)
- 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 6).
- educational supervisor's report satisfactory
- ARCP outcome 6 (including assessment of Cytopathology training logbook)

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:

1. 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 speciality 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

Assessments:

- workplace-based assessments 4 in total, all directed (see Appendix 6)
- CHCCT pass (Certificate of Higher Cervical Cytopathology Training)
- educational supervisor's report satisfactory

2. 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 page 37, '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 6)
- CHAT pass (Certificate of Higher Autopsy Training)
- educational supervisor's report satisfactory.

3. 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 contain detailed curricula and assessment processes for these optional packages.

Assessments:

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

Training programmes

Training programmes will be quality assured by PMETB. Training posts and programmes will be recommended for approval by the relevant Postgraduate Deanery with input from The Royal College of Pathologists.

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 Programme Director and Regional Specialty Advisor are 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.

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 training programme director. 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.

Training regulations

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

Less than full-time training

'Less than full-time training' (previously referred to as flexible training) is the term used to describe doctors undertaking training on a basis that is less than full-time, normally between five and eight sessions per week. 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.

[PMETB guidance on approval of flexible training](#) states that from 1 December 2007, "Deaneries, in conjunction with Royal Colleges/Faculties, will take responsibility for ensuring that all less than full-time training of any kind is undertaken in prospectively approved posts and programmes and that it meets the statutory requirements of the General and Specialist Medical Practice (Education, Training and Qualifications) Order 2003". Prior to beginning their less than full-time training, trainees must inform the Training and Educational Standards Department at The Royal College of Pathologists in order that the Histopathology College Advisory Training Team (CATT) 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. Separate guidance and an application form are available on the [College website](#) for this purpose.

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 work directly relevant to the histopathology curriculum* prior to entering a histopathology training programme can have this period recognised towards an entry on the Specialist Register. However, as the research is unlikely to have been prospectively approved by PMETB, their route of entry to the Specialist Register will be through the CESR.

Research undertaken during entry to 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) can have up to 1 year accepted by the Histopathology CATT 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 by PMETB before beginning their research. **Prior to beginning the period of research, trainees must agree the OOPR with their Deanery and inform the Training and Educational Standards Department at The Royal College of Pathologists in order that the Histopathology CATT can ensure that the trainee will comply with the requirements of the CCT programme.** The period of research must include clinical work directly relevant to the Histopathology curriculum. The documentation towards a CCT recommendation will be collected by the Training and Educational Standards 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 CATT, PMETB 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.

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 and Educational Standards Department at the College on an individual basis with regard to the agreement of their provisional CCT date.

Overseas training

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 entry to 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. **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 PMETB 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 and Educational Standards Department at The Royal College of Pathologists that they will be undertaking overseas training in order that the Histopathology CATT 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 and Educational Standards 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 CATT, PMETB prospectively approves the OOPT 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.

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, neurology 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 CATT towards the requirements of the CCT and the clinical specialties.

RATIONALE

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 PMETB 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:

- experience of the diagnostic techniques required to become technically competent in practical work, and to master the underlying analytical and clinical principles
- 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 and critical assessment of published work so as to contribute in a team and individually 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 a CCT or CESR(CP) will indicate suitability for independent professional practice. During training, trainees will be able to use the curriculum and feedback from assessments to monitor their progress towards this goal. All assessments and examinations will be based on curricular objectives and competencies

Curriculum development

This curriculum was originally developed in 2005 (with subsequent review and amendments made in 2007 and 2008) by the Histopathology CATT and the Curriculum Review Group, with input from the Specialty Advisory Committees (SAC) on Histopathology and Paediatric Pathology; the Cytopathology Subcommittee and Examination Panels of The Royal College of Pathologists, who have also had the same input into this version. In addition, the College's Lay Advisory Committee (LAC) and Trainee Advisory Committee (TAC) were consulted and a draft version of the curriculum was published on the College website for consultation with College Fellows and Registered Trainees on 16 November 2009 for a 2-week period.

The content of this curriculum was derived from current UK hospital practice in histopathology. Educational supervisors and trainees were involved in its development via their representation on various College committees such as the Histopathology CATT, SAC on Histopathology, the related subspecialty's sub-committees and the Trainees Advisory Committee (TAC).

This version of the curriculum is designed to be trainee-focussed, to 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.

The curriculum was agreed by the Histopathology Pathology CATT on 14 September 2009 and the Joint Committee on Pathology Training (JCPT) on 16 October 2009 and approved by the Council of The Royal College of Pathologists on 14 January 2010.

The curriculum was approved by PMETB on 25 March 2010 and formally published in June 2010.

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.

The general professional and specialty-specific content of the curriculum is outlined below.

1. Basic knowledge and skills (see pages 42–88)
2. Clinical histopathology including surgical pathology, autopsy and cytopathology (see pages 42–88)

3. Subspecialist areas of histopathology. The trainees will acquire a basic knowledge of cytopathology. Subspecialisation within this area may be undertaken (see Appendix 2)
4. Generic skills required for histopathology, in accordance with *Good Medical Practice* (see Appendix 7).

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.

Additional guidance is provided for ST1 training (see Appendix 1) and subspecialty training (see Appendix 2), 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 42–88, 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 on page 23.

The Royal College of Pathologists is committed to supporting self-care, promoting well-being and community engagement, prevention and early intervention with services designed around the patient/service user rather than the needs of the patient/service user being obliged to fit with the services offered. Therefore, the following common core principles of self-care are supported:

These are:

- Principle 1: Empower service users to make informed choices to manage their condition and care needs effectively
- Principle 2: Communicate effectively to enable service users to develop confidence in their self-care skills
- Principle 3: Enable and support service users to use technology to support self-care
- Principle 4: Enable and support service users to develop skills in self-care
- Principle 5: Enable and support service users to participate in service planning and to access support networks.

Further details are available in [Supporting People with Long Term Conditions to Self Care: A guide to developing local strategies and best practice](#) (2005).

Upon satisfactory 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.

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 its subspecialties 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
- promote and encourage learning
- 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 and capable of unsupervised professional practice.

A blueprint of the medical histopathology assessment system is available on the [PMETB website](#).

Methods of assessment

Trainees will be assessed in a number of different ways during their training. 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 Assessment and the FRCPath examination are required as part of the eligibility criteria for the award of the CCT.

Year 1 Histopathology Assessment

Trainees must pass the [Year 1 Histopathology Assessment](#) 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 6.

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 towards the end of Stage C (FRCPath Part 2 examination).

The results of workplace-based assessments and examinations are evaluated by the JCPT as part of their role in monitoring training. 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 (ARCP)

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 competences 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 additional training to rectify deficiencies will lead to the extension of training. Training leading to the issue of an ARCP 3 or 5 and necessitating additional 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.

MODELS OF LEARNING

There are three broad categories of learning which trainees employ throughout run-through training – instructional model, constructionist model and the social learning model. The models of learning can be applied to any stage of training in varying degrees. The majority of the curriculum will be delivered through work-based experiential learning, but the environment within the departments will encourage independent self-directed learning. 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 or PhD.

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 rotas should also be arranged in such a way that trainees have time available for participation in research projects as part of their training. 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 MD or 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 Assessment and the FRCPath examination.

LEARNING EXPERIENCES

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

- a. **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.
- b. **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.
- c. **Private study:** more systematic reading of textbooks and journals will be required in preparation for examinations.
- d. **'Black box' and other departmental teaching sessions:** these occur on a regular basis in most departments.
- e. **Regional training courses:** these are valuable learning opportunities. Trainees should be released from service duties to attend.
- f. **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.
- g. **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.
- h. **Discussion with BMS:** BMS staff can provide excellent training, particularly in relation to laboratory methods, health and safety, service delivery, procurement and human resources.

- i. **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.
- j. **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.
- k. **E-learning.**
- l. **Learning with peers.**
- m. **Work-based experiential learning.**
- n. **Medical clinics including specialty clinics.**
- o. **Multidisciplinary team meetings.**
- p. **Practical laboratory experience.**
- q. **Formal postgraduate teaching.**
- r. **Independent self-directed learning.**
- s. **Formal study.**

SUPERVISION AND FEEDBACK

Specialist training must be appropriately supervised by the senior medical and scientific staff on a day-to-day basis under the direction of a designated educational supervisor and an STC 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 (see above).

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 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 Specialty Training Committee. 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.

MANAGING CURRICULUM IMPLEMENTATION

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

It is the responsibility of the Training Programme Director and their Deanery/Postgraduate School, with the assistance of the regional STC and supported by the Regional Specialty Advisor, to ensure that the programme delivers the depth and breadth of histopathology and subspecialty

training outlined in the curriculum. The Programme Director must ensure that each post or attachment within the programme is approved by PMETB. 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- and PMETB-agreed curriculum and is provided to the standards set by the College and PMETB.

It is the responsibility of PMETB and Deaneries to quality assure training programmes to ensure training programmes across the UK are able to deliver a balanced programme of training.

It is the responsibility of the educational/clinical 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 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, the Year 1 Histopathology Assessment 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.

CURRICULUM REVIEW AND UPDATING

The curriculum will be evaluated and monitored by The Royal College of Pathologists as part of continuous feedback from STCs, Programme Directors, Regional Specialty Advisors, trainers and trainees.

The curriculum will be formally reviewed in the first instance by the Histopathology CATT Curriculum Review Group within 2 years of publication. In reviewing the curriculum, opinions will be sought from the College's SAC on Histopathology, 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 PMETB.

EQUALITY AND DIVERSITY

Extract from The Royal College of Pathologists' *Diversity and equality policy and approach* (December 2006). 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 ethnic origin, nationality, age, disability, gender, sexual orientation, race or religion. 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. Key legislation includes:

- The Race Relations Act 1976 and the Race Relations Amendment Act (RRAA) 2000
- The Disability Discrimination Act 1995 and subsequent amendments
- The Sex Discrimination Act 1975 and 1986 and the 1983 and 1986 Regulations
- The Equal Pay Act 1970 and the Equal Pay (Amendment) Regulations 1983 and 1986
- The Human Rights Act 1998
- The Employment and Equality (Sexual Orientation) Regulations 2003
- The Employment and Equality (Religion or Belief) Regulations 2003
- Gender Recognition Act 2004
- The Employment Equality (Age) Regulations 2006.

The Training and Educational Standards 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.

ACKNOWLEDGEMENTS

Dr David Bailey [current Histopathology College Advisory Training Team (CATT) Chair], Dr Adrian Bateman (immediate past Histopathology CATT Chair), Dr Angus McGregor (National Histopathology Training Schools Board Chair), members and deputies of the Histopathology CATT, Professor Shelley Heard (current Director of Training and Educational Standards), Dr Hani Zakhour (immediate past Director of Training and Educational Standards), Joanne Brinklow (Head of Educational Standards) and Sandra Dewar (Acting Head of Educational Standards/Assessment Manager).

APPENDIX 1 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 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.

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

System	Macroscopic pathology	Microscopy	Knowledge base
Upper gastrointestinal tract	Radical oesophagectomy Radical gastrectomy Antrectomy	Recognise <i>Helicobacter</i> associated gastritis; oesophageal and gastric malignancy on biopsy Report oesophageal and gastric malignancy resection specimens	<i>Helicobacter</i> associated gastritis, reactive gastritis, Barrett's oesophagus, oesophageal carcinoma, gastric carcinoma, coeliac disease, duodenitis
Lower gastrointestinal tract	Colectomy/proctectomy for cancer or inflammatory bowel disease Appendicectomy Polypectomy	Recognise colorectal carcinoma on biopsy Identify presence of inflammatory bowel disease (IBD) and attempt to classify type on biopsy Distinguish hyperplastic (metaplastic) from adenomatous polyps Recognise high-grade dysplasia Report colorectal carcinoma resection specimens	Appendicitis, inflammatory bowel 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 Report lung cancer resection specimens Describe the features of non-neoplastic lung disease Recognise the various types of mesothelioma	Squamous cell carcinoma, small cell carcinoma, adenocarcinoma, metastatic carcinoma, vasculitis, interstitial pneumonia Mesothelioma

System	Macroscopic pathology	Microscopy	Knowledge base
Skin	<p>Accurate gross description of skin lesions</p> <p>Appropriate handling of orientated or complex skin specimens</p>	<p>Diagnose basic skin cancer types including squamous cell carcinoma, basal cell carcinoma and typical cases of melanoma</p> <p>Recognise presence of severely atypical features in naevi</p> <p>Adequate morphological description of features seen in an inflammatory skin biopsy</p>	<p>Basal cell carcinoma, squamous cell carcinoma, melanoma, melanocytic naevi, haemangioma, seborrhoeic keratosis, actinic keratosis, chronic dermatitis NOS, epidermal inclusion cysts, dermatofibroma</p>
Lymphoreticular pathology	<p>Lymph node for neoplastic and non-neoplastic disease</p> <p>Gain experience of examining bone marrow trephine biopsies, where locally available</p> <p>Taking tissue for supplementary techniques (e.g. flow cytometry)</p>	<p>Screen lymph node dissections and marrow biopsies for metastatic tumour</p> <p>Recognise common reactive node patterns including follicular hyperplasia and sinus histiocytosis</p> <p>Detect high-grade lymphoma, common types of low-grade lymphoma and Hodgkin's disease in lymph node specimens and marrow biopsies</p>	<p>Follicular hyperplasia, sinus histiocytosis, high-grade lymphoma, common types of low-grade lymphoma, Hodgkin's disease, granulomatous diseases, metastatic carcinoma</p>
ENT Head and neck	<p>Mucosal biopsy</p> <p>Tonsillectomy</p> <p>Nasal polypectomy</p> <p>Salivary gland tumour</p>	<p>Recognise reactive changes in tonsils; distinguish from high-grade lymphoma</p> <p>Identify main types of salivary gland tumour</p>	<p>Simple nasal polypi, pleomorphic adenoma, adenocarcinoma, Warthin's tumour</p>

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	Open biopsy of liver 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 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, angioliipoma, 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 Report nephrectomy	Bladder carcinoma, renal cell carcinoma, chronic pyelonephritis Understand the value of immunohistochemistry and electron microscopy in the diagnosis of glomerulonephritis
Osteoarticular pathology	Handling a trephine bone-biopsy Use of calcified versus de-calcified sections	Normal bone Normal synovium	Osteoporosis versus osteomalacia Main types of primary bone tumours

System	Macroscopic pathology	Microscopy	Knowledge base
Paediatric pathology	<p>Description and processing of biopsy specimens</p> <p>Examination, description and sampling of placentas</p> <p>Examination, description and sampling of other specimens only under direct consultant supervision</p>	<p>Recognise common inflammatory and neoplastic conditions occurring in childhood</p>	<p>Common paediatric tumours, e.g. neuroblastoma, nephroblastoma, rhabdomyosarcoma</p> <p>Awareness of special stains in paediatric pathology</p> <p>Understand value of cytogenetics</p>

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	<p>Methods for identification of the patient</p> <p>External examination including breast examination</p> <p>Removal of organs</p> <p>Organ weights</p>	<p>Procedures for obtaining consent for autopsy. Workings of the coroner's (or procurator fiscal's) system</p> <p>Full details of current practice for retention of organs and tissues</p> <p>Familiarity with current College <i>Guidelines on Autopsy Practice, 2002</i></p> <p>Knowledge of normal organ weights</p>
Cardiovascular	<p>Excision of heart</p> <p>Master one technique for the dissection of the heart</p> <p>Anatomy of the coronary arteries, their ostia and branches</p> <p>Dissection of aorta and major abdominal branches</p>	<p>Normal, age-related and pathological abnormalities of cardiac valves</p> <p>Identification of acute and healed myocardial infarcts, macroscopically and histologically</p> <p>Assessment of ventricular thickness and atrial and ventricular dilatation</p> <p>Pulmonary embolism</p>
Respiratory system	<p>Removal of lungs from mediastinum</p> <p>Dissection of pulmonary vessels and major bronchi</p> <p>Dissection of individual lobes</p>	<p>Identification of respiratory tract infection and pneumonia</p> <p>Assessment of chronic bronchitis, emphysema and lung fibrosis</p> <p>Appearances of primary and secondary lung tumours</p>
Upper gastrointestinal tract	<p>Removal and dissection of oesophagus, stomach and duodenum in continuity</p> <p>Identification of ampulla of Vater</p>	<p>Range of appearances due to autolysis in stomach.</p> <p>Identification of oesophageal varices, gastric erosions and peptic ulcers</p> <p>Assessment of pyloric stenosis</p>

Systems	Trainees should be able to demonstrate:	Clinicopathological knowledge base
Lower gastrointestinal tract	<p>Identification and dissection of superior mesenteric artery</p> <p>Examination of intestinal mucosal surface</p>	<p>Identification of colonic diverticula</p> <p>Identification of bowel necrosis and distinction from autolysis or post-mortem change</p>
Hepatobiliary system	<p>Removal of liver and its dissection</p> <p>Identification of portal and hepatic veins</p> <p>Dissection of gall bladder, common bile duct, and pancreatic ducts</p>	<p>Assessment of hepatic congestion and dilatation of hepatic veins</p> <p>Appearances of intra- and extra-hepatic ducts</p> <p>Identification of secondary tumours</p> <p>Identification of hepatic cirrhosis</p>
Nervous system	<p>Removal of brain</p> <p>Dissection of circle of Willis and venous sinuses</p> <p>One method for sectioning of cerebral and cerebellar hemispheres and brain stem</p>	<p>Sites of berry aneurysms</p> <p>Identification of old and recent cerebral infarcts</p> <p>Assessment of cerebral and cerebellar atrophy</p> <p>Taking of 'key' blocks for histological examination</p>
Urogenital system	<p>Dissection of renal arteries and veins and ureters</p> <p>Removal of kidneys, examination of cut surfaces and renal pelvices</p> <p>Examination of bladder mucosa and identification of ureteric orifices</p> <p>Examination of the prostate gland</p> <p>Examination of the testes and female genital system</p>	<p>Estimation of degree of cortical atrophy</p> <p>Identification and assessment of cortical scarring and cyst formation. Hydronephrosis and ureteric dilatation</p> <p>Prostatic disease</p>
Endocrine system	<p>Removal of pituitary</p> <p>Identification of parathyroid glands and dissection of thyroid</p> <p>Removal of adrenal glands</p>	<p>Size and overall appearance of thyroid gland</p> <p>Size of parathyroid glands</p> <p>Adrenal cortical hyperplasia or adrenal atrophy</p>
Lympho-reticular system	<p>Examine all lymph node groups (e.g. mediastinal or para-aortic) for evidence of lymphadenopathy</p> <p>Examination of the spleen</p> <p>Exposure of vertebral bone marrow</p>	<p>Significance of lymphadenopathy in different anatomical sites</p> <p>Clinical explanation for splenic enlargement or atrophy</p> <p>Identification of secondary deposits in vertebral bone marrow</p>

Systems	Trainees should be able to demonstrate:	Clinicopathological knowledge base
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 <i>Guidelines on Autopsy Practice, 2002</i> and <i>Best Practice Scenarios, 2005</i> 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 PIAG guidance
	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	<p>The pathogenesis of cervical carcinoma</p> <p>The process by which cervical screening prevents the development of cervical carcinoma</p> <p>The roles of the various disciplines involved in delivering the cervical screening programme, e.g. General Practitioners, Public Health, Laboratories, Colposcopy Units, Gynaecologists</p> <p>The numerical reporting system, patient call and recall mechanisms, failsafe</p>
	Technical aspects	Liquid-based cytology techniques
	Normal	Recognise normal cellular components in cervical specimens
	Adequacy	<p>The methods and rationale for sampling the cervix</p> <p>The principles of assessing adequacy of a cervical specimen</p>
	Benign cellular changes	<p>The physiology and recognition of squamous metaplasia</p> <p>Iatrogenic changes which may occur in the cervix</p> <p>Recognise common morphological changes seen in inflammation</p>
	Borderline nuclear changes	Circumstances in which this category is used and the implications of its use
	Cervical intraepithelial neoplasia (CIN, CGIN) and dyskaryosis	<p>Criteria for diagnosis of dyskaryosis</p> <p>Features used to grade dyskaryosis</p> <p>Typical examples of dyskaryosis</p> <p>Criteria for diagnosis of glandular abnormality</p>

Category	Topic	Knowledge base Trainees should be able to demonstrate their knowledge of or ability to:
Cervical cytology (cont'd)	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

CURRICULUM CONTENT FOR STAGES B–D / ST2–6

1. GOOD CLINICAL CARE

Objective: to demonstrate adequate knowledge and skills and appropriate attitudes in routine clinical work.

New specialists will:

- have the breadth of knowledge and skills to take responsibility for safe clinical decisions
- have the self-awareness to acknowledge where the limits of their competence lie and when it is appropriate to refer to other senior colleagues for advice
- have the potential (or the ability) to take responsibility for clinical governance activities, risk management and audit in order to improve the quality of service provision.

SURGICAL PATHOLOGY

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Basic knowledge	Possess sufficient general clinical knowledge including major changes in trends of diagnosis and treatment Possess sufficient knowledge of normal anatomy, physiology and pathophysiology Possess 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	Develop 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'	Understand importance of integration of clinical and pathological data for accurate diagnosis

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Surgical cut-up ('General')	<p>Understand principles of specimen dissection, macroscopic description and block selection in neoplastic and non-neoplastic disease</p> <p>Stages B–D: understand principles of dissection of all major cancer resection specimens and tissue sampling to enable completion of RCPATH's <i>Standards and Datasets for Reporting Cancers</i></p> <p>Stage A: See <i>Appendix 1</i></p>	<p>Possess sufficient manual dexterity to perform dissection safely and accurately, without damage to tissues</p>	<p>Understand importance of accuracy and requirement for attention to detail during specimen description and block selection</p> <p>Understands importance of ensuring that request form and specimen identification is accurate and the requirement to identify and resolve any errors or discordance</p>
Laboratory processes	<p>Understand the principles of laboratory processing within surgical pathology and cytopathology</p>	<p>Stage A: one week's or equivalent experience of laboratory processing including section cutting</p>	<p>Respect the work of the technical staff in preparing slides for viewing</p>
Surgical reporting ('General')	<p>Understand the principles of microscopy</p> <p>Knowledge of the microscopic features of the range of normality within tissues as well as the major common pathological processes and patterns of disease</p> <p>Stage A: See <i>Appendix 1</i></p> <p>Stages B–D: develop a special interest in one or more diseases or organ systems</p> <p>May remain generalised or become specialised in one or more areas</p>	<p>Be able to set up a microscope with ergonomic safety and operate it effectively</p> <p>Be able to recognise the microscopic features of tissue structure in normality and disease, as appropriate to one's level of experience</p> <p>Able to complete RCPATH <i>Standards and Datasets for Reporting Cancers</i></p>	<p>Understand requirement for attention to detail during surgical reporting and the need for correlation with the clinical situation</p> <p>Demonstrate an understanding of the importance of surgical pathology to clinicians and patients (e.g. timeliness and accuracy of reporting)</p>
Special techniques	<p>Understand principles of 'special' histochemical and immunohisto-chemical methods</p> <p>Understand principles of common molecular pathology techniques</p>	<p>Know when to resort to special techniques</p> <p>Be able to recognise histological features of histochemical and immunohisto-chemical stains in normal</p>	<p>Understand cost–benefit issues when considering the use of additional techniques</p> <p>Stages B–D: initiate special techniques in preparation of cases</p>

	Understand principles of electron microscopy	and diseased tissues	
--	--	----------------------	--

MOLECULAR PATHOLOGY

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.

Subject	Knowledge	Skills and knowledge application	Attitudes
Fundamentals of molecular biology	Understanding of the origins and consequences of germline variation and somatic mutations, including DNA methylation and gene expression changes	Ability to understand origins of and justifications for molecular tests	Ability to understand and explain the underlying principles of molecular genetics and molecular pathology
Fundamentals of databases and bioinformatics	Knowledge of basic molecular databases	Ability to retrieve relevant data from public sources	Appreciation of state of knowledge and how to update that knowledge
Sample preparation	Knowledge of how histological samples are taken AND prepared, and how nucleic acids are extracted from them	Ability to undertake the appropriate sample collection, retrieval and preparation for the common molecular tests, whether performed on extracted nucleic acid or <i>in situ</i>	Ability to relate histological sample types and availability to the molecular analyses which might be performed on them
Molecular techniques	The principles of the most up-to-date molecular methods	Knowledge of sequencing, PCR, microarrays (DNA and RNA), <i>in situ</i> hybridisation, mutation detection	Appreciation of the available technologies
Available tests	Knowledge of molecular tests currently performed on histological samples, including the limitations of those tests, and of tests which are anticipated in the near future	Ability to assess the demand for molecular tests and the modes of supply	Appreciation of how molecular methods can contribute to patient care and could do so in the future

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.

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Pathological basis of disease	A wide knowledge of the pathological basis of disease and the macroscopic/microscopic pathology of various types of death	Basic standard of practice in the techniques used for identifying morphological abnormalities at autopsy examination	A desire to learn about common disease processes through the autopsy
General	Possess knowledge of anatomy, macroscopic features of major disease processes and common tissue dissection techniques relevant to autopsy practice Have some 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)	Demonstrate manual dexterity sufficient to perform autopsies safely and to demonstrate the major abnormalities Liaise with the APTs to maximise the autopsy learning opportunities	Be able to identify and address the questions and issues raised by the death Welcome clinicians and other appropriate visitors to the mortuary to share knowledge Demonstrate an understanding of the importance of autopsy findings to clinicians and relatives

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Clinical liaison	Have an understanding of the use of clinical information and the health record in autopsy examination	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 Be able to identify issues to be addressed by the autopsy examination	Be conversant with current clinical practice Be able to liaise with clinical colleagues in order to obtain clinical information prior to autopsy
External examination	Familiarity with the RCPATH's <i>Guidelines on Autopsy Practice, 2002</i> and <i>Best Practice Scenarios, 2005</i>		Not to authorise an evisceration by others without personally examining the body first
Autopsy technique	Have knowledge of, and the ability to perform, autopsies in a variety of situations, such as the following: <ul style="list-style-type: none"> • 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 	Carry out a normal full evisceration Dissect the internal organs Describe the appearances accurately and succinctly Interpret the findings in the light of the clinical information available Present the findings to clinicians either immediately or later at a clinical meeting	
Deaths in the community	Have a basic knowledge of the aims of the autopsy and investigations required where death occurs in the community and there are no suspicious circumstances		

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Microbiology	Knowledge of those areas of microbiology that are relevant to autopsy practice, e.g. sepsis, meningitis, pneumonia, endocarditis, tuberculosis, viral hepatitis	Ability to take appropriate samples	Ability to think laterally
Histopathology	Knowledge of the autopsy histological appearances of various common fatal conditions	Ability to select appropriate tissue blocks	Ability to think laterally
Other investigations	Knowledge of those areas of haematology, biochemistry, medical genetics and other investigative modalities that are relevant to autopsy practice	Ability to take appropriate samples	Ability to think laterally
Consent	<p>Be conversant with current policy in relation to consent for autopsies and for tissue or organ retention</p> <p>Be conversant with current policy in relation to tissue or organ donation</p> <p>Understand the legal basis of consent to autopsy examination and the circumstances in which consent is not required</p>	Be able to obtain consent for autopsies and for further investigation of tissue or whole organs	<p>Be able to give explanation to families of the reasons for, and – if requested – details of, the investigations required by an autopsy examination</p> <p>Be able to explain to families when tissue or organs may need to be sent away for expert review and options for funeral, disposal, etc.</p> <p>Understand issues of autopsy consent, tissue/organ retention and Coroners'/Procurator Fiscals' practice</p> <p>Be aware of religious and cultural sensitivities relating to autopsy</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Health and safety	<p>Be conversant with relevant protocols and documentation of departmental working practices, and be familiar with the practicalities of mortuary practice</p> <p>Have a working knowledge of the regulatory aspects of health and safety issues</p> <p>Be familiar with the documents:</p> <p><i>Safe Working and Prevention of Infection in the Mortuary and Autopsy Suite</i> (Health Services Advisory Commission)</p> <p><i>Guidelines on Autopsy Practice</i> (RCPATH, 2002)</p>	<p>Be able to work in the mortuary in a safe way</p>	<p>Care for the safety of all staff and visitors in the mortuary</p>
Medico-legal issues	<p>Be familiar 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</p> <p>Be conversant with current legislation and regulations relating to medico-legal autopsies and related matters</p> <p>Attend some inquests to gain passive experience</p>	<p>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)</p>	

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Reports	Familiarity with the RCPATH's <i>Guidelines on Autopsy Practice, 2002</i> and <i>Best Practice Scenarios, 2005</i>	Write a final gross and microscopic report with suitable summaries, according to the RCPATH's <i>Guidelines on Autopsy Practice, 2002</i> Produce finished reports in a timely way	
Teaching	Be aware of the value of the autopsy as a teaching aid	Appropriate teaching skills	Be prepared to teach at every available opportunity
Feedback to families and other interested parties		Communication skills required to inform clinical colleagues and other non-clinical professionals involved in inquiries into deaths and assist in multidisciplinary mortality review	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

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.

Cervical cytology (Stage B)

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Cervical screening programme	Rationale, methodology and organisation of the CSP Basic understanding of roles of component organisations, failsafe	Ability to source information on the CSP	Understand the importance of the CSP to the population
Specimen adequacy	Knowledge of features that are assessed to determine the adequacy of a cervical sample	Understand difficulties in producing rigid criteria for adequacy. Ability to recognise inadequate specimens	
Infections	Knowledge of features of infections in cervical samples.	Recognise typical morphological appearances of specific organisms commonly seen in cervical specimens, e.g. <i>Trichomonas</i> , <i>Candida</i> , herpes simplex, human papilloma virus, actinomyces	Understanding of the psychological effects on women of diagnosis of infections
Borderline nuclear changes	Understanding of criteria for diagnosis of borderline nuclear changes		Understanding of significance of diagnosis to women Awareness of uncertainty in diagnosis in some cases Awareness of the dangers of overcalling and undercalling

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Dyskaryosis	Understand criteria for diagnosis and grading of squamous and glandular dyskaryosis	Recognise typical examples of mild, moderate and severe squamous dyskaryosis and endocervical cellular abnormalities	
Squamous carcinoma and adenocarcinoma	Knowledge of criteria for diagnosis of possibly invasive lesions	Recognise typical malignant cells of squamous, endocervical, endometrial and ovarian origin	
New technologies in cervical screening	Basic knowledge of automated screening devices and HPV testing Be aware of the process involved in approving new technologies for use in cervical screening		

Histopathology relating to cervical screening (Stages B–D)

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Management of women with cervical smear abnormalities	Understanding of the NHS screening programmes as a patient centred multidisciplinary approach		
Audit (specific to screening programmes)	Knowledge of process of audit in cervical and breast screening Basic knowledge of guidelines for audit of invasive cervical cancer Awareness of quality assurance team	Demonstrate the ability to undertake clinical audit, normally by performing at least one clinical audit project per stage of training	Ethos of audit, openness and disclosure in cervical screening
New technologies	Keeping up with new developments through journals and other media		Culture of lifelong learning

Non-cervical cytology (Stages B–D)

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Technical aspects	<p>Knowledge of preparation and staining techniques for common specimen types</p> <p>Knowledge of use of special techniques, e.g. immunocytochemistry</p>	<p>Ability to recognise faults and artefacts of preparation, e.g. air-drying</p> <p>Panels of antibodies for particular diagnostic applications, e.g. mesothelioma</p>	<p>Ability to work with BMS staff</p>
Diagnosis	<p>Features of malignancy in sites commonly investigated with cytopathology</p> <p>Features of specific non-malignant diagnoses, e.g. infection</p>	<p>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</p> <p>Ability to integrate clinical information and histology or other investigations into diagnosis</p> <p>Ability to recognise when definitive diagnosis is beyond capability</p>	<p>Care and attention to detail</p> <p>Acknowledgement of personal limitations</p> <p>Awareness of work within a multidisciplinary team</p> <p>Able to investigate discrepancies between histology and cytology findings</p>
Reporting	<p>Requirements for a report</p> <p>Relevant datasets</p> <p>Nationally recognised coding systems</p>	<p>Ability to write an accurate report that gives clinicians the information they need</p> <p>Knowledge of the likely outcome in terms of further investigation or management of the patient</p>	<p>Understand multidisciplinary approach to diagnosis and management</p> <p>Able to present cytological findings at a multidisciplinary team meeting</p>

Health determinants and inequalities

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
<p>Nationality and culture</p>	<p>Recognise that good health includes both mental and physical health</p> <p>Recognise the relationship between health inequalities and wealth inequalities</p> <p>Be aware of social and cultural issues and practices such as:</p> <ul style="list-style-type: none"> • 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. <p>Be aware of the national and international situation regarding the distribution of disease, the factors that determine health and disease, and major population health responses</p> <p>Be aware of the impact of globalisation on health, major causes of global morbidity and mortality, and effective and affordable interventions to reduce these</p> <p>Be aware of the impact on health of armed conflict, natural disasters and other social upheavals</p>	<p>Communicate effectively with patients from diverse backgrounds and those with special communication needs, such as the need for interpreters, etc.</p> <p>Communicate effectively and respectfully with parents, carers, etc.</p>	<p>Recognise issues of health that are related to social class</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
<p>Inequality and discrimination/ stigmatising</p>	<p>Be aware of the impact on health of armed conflict, natural disasters and other social upheavals</p> <p>Understand the implications of disability discrimination legislation for healthcare</p> <p>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</p> <p>Recognise the stigmatising effects of some illnesses and work to help in overcoming stigma</p> <p>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</p> <p>Recognise the effects of exclusion and discrimination on physical and mental health</p>	<p>Respect diversity and recognise the benefits it may bring, as well as associated stigma</p> <p>Be aware 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</p> <p>Assess the patient's ability to access various services in the health and social system and offer appropriate assistance</p> <p>Help to empower patients and negotiate complex systems to improve health and welfare including, where appropriate, the right to work</p> <p>Where values and perceptions of health and health promotion conflict, facilitate balanced and mutually respectful decision-making</p> <p>Identify and communicate effectively with influential decision-makers/facilitators of change</p>	<p>Respect diversity of status and values in patients and colleagues</p> <p>Adopt assessments and interventions that are inclusive, respectful of diversity and patient-centred</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Personal beliefs and biases	<p>Recognise that personal beliefs and biases exist and understand their impact (positive and negative) on the delivery of health services</p> <p>Be aware of the impact of globalisation on health, major causes of global morbidity and mortality, and effective and affordable interventions to reduce these</p> <p>Be aware of similarities and distinctions between the beliefs and values of the doctor, the patient and the policy-makers</p>	<p>Recognise in routine practice the doctor's role as advocate and manager</p> <p>Advocate and facilitate appropriate self-care</p> <p>Recognise and be able to address 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</p>	<p>Be confident and positive in one's own professional values</p> <p>Accept uncertainty</p> <p>Be aware of one's own behaviour and how it might impact on patients' health issues</p>
Values, ethics and law	<p>Ensure that all decisions and actions are in the best interests of the patient and the public good</p> <p>Be familiar with and uphold the rights of children and vulnerable adults</p> <p>Be familiar with and uphold the rights of disabled people to participate in healthy and rewarding employment</p> <p>Practise in accordance with an appropriate knowledge of contemporary legislation</p> <p>Act with appropriate professional and ethical conduct in challenging situations</p>	<p>Seek out and utilise opportunities for health promotion and disease prevention</p> <p>Based on 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</p> <p>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 <i>in utero</i></p>	<p>Respond to people in an ethical, honest, and non-judgmental manner</p> <p>Use appropriate methods of ethical reasoning to come to a balanced decision where complex and conflicting issues are involved</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Policy, research and change	<p>Be aware of current UK screening programmes</p> <p>Be aware of issues that might affect health inequalities that are currently under debate regarding changes in the NHS, including the public policy process</p> <p>Be aware of and maintain an up to date knowledge of research evidence regarding the most important determinants of health</p> <p>Know how to access and use local health data</p> <p>Know how to access resources for community action and advocacy (e.g. resources, legislation, policy documents)</p>	<p>Be able to access and make use of appropriate population, demographic, socio-economic and health data</p> <p>Conduct an assessment of community health needs, and where appropriate apply these in practice</p>	

2. 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 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.

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Overall clinical judgement	Demonstrate sufficient clinical and pathology knowledge to enable integration of clinical data and pathological features	Correctly interpret test results in the context of available clinical information	Critically appraise the available clinical and laboratory data in coming to diagnostic/treatment decisions
Recognise own limitations	Be aware of the extent of one's own limitations and know when to ask for advice		Consult and admit mistakes
Written records	Demonstrate knowledge of the appropriate content of clinical records Recognise the problems faced by people for whom English is not a first language Recognise the problems faced by people with educational and/or physical disabilities Explain the relevance of data protection pertaining to patient confidentiality	Produce accurate reports with clear conclusions and other written correspondence	Reflect the importance of timely dictation, cost-effective use of medical secretaries and the growing use of electronic communication Be aware of the need for prompt and accurate communication with clinicians Show courtesy towards medical secretaries and clerical staff

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Decision making	Demonstrate in practice the clinical priorities for investigation and management	Analyse and manage clinical problems effectively	Be flexible and willing to change in the light of changing conditions Ask for help when necessary
Life-long learning	Demonstrate in practice the importance of continuing professional development	Recognise and use learning opportunities Use the potential of study leave to keep one up to date Able to maintain a professional portfolio Monitor own performance through audit and feedback	Be self-motivated and eager to learn Show willingness to learn from colleagues and to accept constructive feedback

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
<p>Good use of information technology</p>	<p>Use email, internet, fax and telephone</p> <p>Apply the principles of how to retrieve and utilise data recorded in clinical systems</p> <p>Apply the principles of literature searching using medical databases</p> <p>Demonstrate an understanding of the range of possible uses for clinical data and information and appreciate the dangers and benefits of aggregating clinical data</p> <p>Define the main features, responsibilities and liabilities in the UK and Europe pertaining to confidentiality</p> <p>Correctly apply the principles of healthcare-related coding systems, e.g. diagnostic coding within histopathology reports</p> <p>Demonstrate an understanding of the range of possible uses for clinical data and information and appreciate the advantages and disadvantages of aggregating clinical data</p> <p>Define the main features, responsibilities and liabilities in the UK and Europe pertaining to confidentiality</p>	<p>Demonstrate competent use of database, word processing and statistics programmes</p> <p>Find, access and evaluate websites and health-related databases (including literature searches)</p> <p>Apply the principles of confidentiality in the context of IT. Use digital imaging devices effectively and manage image resolution and colour-space</p> <p>Use videoconferencing and telepathology equipment when necessary</p> <p>Use data encryption and passwords appropriately</p> <p>Use coding systems effectively</p>	<p>Be prepared to use IT tools within a diagnostic and, where relevant, research setting e.g. video-conferencing and telepathology systems</p> <p>Demonstrate an understanding of the importance of accurate diagnostic coding</p> <p>Keep up-to-date with new developments within IT that are pertinent to histopathology</p> <p>Be prepared to invest time and effort in learning new IT skills as appropriate to one's role</p> <p>Be aware of ethical issues that might arise during the use of IT tools such as patient databases</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Good use of information technology (cont'd)	<p>Apply the principles of videoconferencing and telepathology, including a recognition of the strengths and pitfalls of these systems</p> <p>Use the pathology-related material on the https://cabig.nci.nih.gov/ website</p>		
The organisational framework for clinical governance and its application in practice	<p>Demonstrate an understanding of these important aspects of clinical governance:</p> <ul style="list-style-type: none"> • medical and clinical audit • research and development • integrated care pathways • evidence-based practice • 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. <p>Explain the benefits a patient might reasonably expect from clinical governance.</p>	<p>Be an active participant in clinical governance</p> <p>Undertake medical and clinical audit</p> <p>Be actively involved in audit cycles</p> <p>Be active in research and development</p> <p>Critically appraise medical data research</p> <p>Practise evidence-based medicine</p> <p>Aim for clinical effectiveness (best practice) at all times</p> <p>Educate self, colleagues and other healthcare professionals</p> <p>Deal with complaints in a focused and constructive manner</p> <p>Learn from complaints</p>	<p>Make the care of your patient your first concern</p> <p>Respect patients' privacy, dignity and confidentiality</p> <p>Be prepared to learn from mistakes, errors and complaints</p> <p>Recognise the importance of teamwork</p> <p>Share best practice with others</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Risk management	<p>Demonstrate appropriate knowledge of such matters as health and safety policy, policies on needle stick injuries, note keeping, communications and staffing numbers</p> <p>Demonstrate appropriate knowledge of risk management issues pertinent to laboratory processing</p> <p>Demonstrate appropriate knowledge of risk assessment, perception and relative risk</p> <p>Be familiar with the complications and side effects of treatments and investigations</p>	<p>Confidently and authoritatively discuss relevant risks with patients and to obtain informed consent</p> <p>Balance risks and benefits with patients</p>	<p>Respect and accept patients' views and choices</p> <p>Be truthful and admit error to patients, relatives and colleagues</p>
Evidence	<p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> • the principles of evidence-based medicine • types of clinical trial • types of evidence 	<p>Critically appraise evidence</p> <p>Be competent in the use of databases, libraries and the internet</p> <p>Discuss the relevance of evidence with individual patients or their families</p>	<p>Display a keenness to use evidence in the support of patient care and own decisions therein</p>
Clinical audit	<p>Competently utilise the audit cycle, data sources and data confidentiality</p> <p>Understand the principles of internal and external quality assurance</p>	<p>Be involved in ongoing audit</p> <p>Initiate and complete at least one clinical audit project per year (of which one may be in cytopathology)</p>	<p>Consider the relevance of audit to benefit patient care and individual performance (i.e. to clinical governance)</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Guidelines	Compare the advantages and disadvantages of guidelines	Demonstrate the ability to utilise guidelines Be able to contribute to the evolution of guidelines	Show regard for individual patient needs when using guidelines Show willingness to use guidelines as appropriate
Structure of the NHS and the principles of management including change management	Describe the structure of the NHS, primary care groups and hospital Trusts Describe the local Trust's management structure (including chief executives, medical directors, clinical directors and the pathology laboratory) Explain finance issues in general in the NHS, especially budgetary management and commissioning Explain the importance of a health service for the population	Demonstrate developing skills in managing change and managing people Demonstrate developing interviewing techniques including those required for performance reviews Build a business plan Utilise one's position in the NHS to best effect	Show an awareness of equity in healthcare access and delivery Demonstrate an understanding of the importance of a health service for the population Show respect for others, ensuring equal opportunities

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Relevance of outside bodies	<p>Demonstrate a knowledge and understanding of the role and relevance to professional life of:</p> <ul style="list-style-type: none"> • the Medical Royal Colleges • General Medical Council (GMC) • Postgraduate Dean and Deaneries • PMETB • Clinical Pathology Accreditation (UK) Ltd and other accreditation bodies • defence unions • British Medical Association (BMA) • specialist societies <p>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)]</p>	Recognise situations when it would be appropriate to involve these bodies and individuals	<p>Be open to constructive criticism.</p> <p>Accept professional regulation</p>
Media awareness	Explain the importance of media awareness and public communications training and where to obtain it	Recognise situations when it may be appropriate to implement such training and/or seek further advice from the Trust	<p>Act professionally</p> <p>Be willing to ask for help</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Planning	<p>Demonstrate knowledge of:</p> <ul style="list-style-type: none"> • 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 <p>Explain the concept of and principles of good information governance</p> <p>Maintain information security, including use of passwords and data encryption</p> <p>Demonstrate a working knowledge of the range of pathology-related material available on the internet</p> <p>Be able to find and evaluate specific resources, including molecular, image and text data</p> <p>Be aware of web-based IT tools</p>	<p>Develop and implement protocols and guidelines</p> <p>Analyse feedback and comments and integrate them into plans for the service</p>	<p>Demonstrate an awareness of equity in healthcare access and delivery</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Managing resources	Demonstrate an effective knowledge of: <ul style="list-style-type: none"> • 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 	Demonstrate the ability to: <ul style="list-style-type: none"> • use clinical audit with the purpose of highlighting resources required • manage time and resources effectively in terms of delivering services to patients 	Show a commitment to the proper use of public money and take action when resources are not used efficiently or effectively Demonstrate awareness that in addition to patient specific clinical records, clinical staff also have responsibilities for other records (e.g. research)
Managing people	Demonstrate knowledge of: <ul style="list-style-type: none"> • 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) • individual performance review purpose, techniques and processes, including difference between appraisal, assessment and revalidation 	Demonstrate the ability to: <ul style="list-style-type: none"> • 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 	Demonstrate: <ul style="list-style-type: none"> • a willingness to supervise the work of less experienced colleagues • commitment to good communication whilst also inspiring confidence and trust
Managing performance	Demonstrate knowledge of: <ul style="list-style-type: none"> • organisational performance management techniques and processes • how complaints arise and how they 	Demonstrate the ability to: <ul style="list-style-type: none"> • use and adhere to clinical guidelines and protocols, morbidity and mortality, reporting systems, and complaints management 	Respond constructively to the outcome of reviews, assessments or appraisals of performance Demonstrate an understanding of the needs and priorities of non-clinical

	are managed	systems <ul style="list-style-type: none"> improve services following evaluation/performance management 	staff
--	-------------	--	-------

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Identifying the contexts for change	Summarise: <ul style="list-style-type: none"> 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 	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	Comply with national guidelines that influence healthcare provision Willingly articulate strategic ideas and use effective influencing skills
Applying knowledge and evidence	Demonstrate knowledge of: <ul style="list-style-type: none"> patient outcome reporting systems within the specialty, and the organisation and how these relate to national programmes research methods and how to evaluate scientific publications including the use and limitations of different methodologies for collecting data 	Demonstrate the ability to: <ul style="list-style-type: none"> compare and benchmark healthcare services use a broad range of scientific and policy publications relating to delivering healthcare services 	Evaluate issues and potential solutions before acting

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Making decisions	Demonstrate knowledge of: <ul style="list-style-type: none"> • how decisions are made by individuals, teams and the organisation • effective communication strategies within organisations 	Demonstrate the ability to: <ul style="list-style-type: none"> • 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 	Demonstrate: <ul style="list-style-type: none"> • 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
Evaluating impact	Demonstrate an understanding of: <ul style="list-style-type: none"> • impact mapping of service change • barriers to change • qualitative methods to gather the experience of patients and carers 	Demonstrate the ability to: <ul style="list-style-type: none"> • evaluate outcomes and re-assess the solutions through research, audit and quality assurance activities • understand the wider impact of implementing change in healthcare provision and the potential for opportunity costs 	Demonstrate a commitment to implementing proven improvements in clinical practice and services obtain the evidence base before declaring effectiveness of changes adopt attitudes and behaviours that assist dissemination of good practice

3. 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.

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
To have the skills, attitudes and practices of a competent teacher	To have the skills, attitudes and practices of a competent teacher	Identify adult learning principles Identify learner needs Structure of a teaching activity Varied teaching strategies Identify learning styles Principles of evaluation	Facilitate learning process Identify learning outcomes Construct educational objectives Design and deliver an effective teaching event Communicate effectively with the learners Use effective questioning techniques Teach large and small groups effectively Select and use appropriate teaching resources Give constructive effective feedback Evaluate programmes and events Use different media for teaching that are appropriate to the teaching setting

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
To be able to plan and analyse a research project	<p>Know the principles of performing a research study</p> <p>Know how to use appropriate statistical methods</p> <p>Know the principles of research ethics and the structure and function of local research ethics committees</p> <p>Know how to write a scientific paper</p> <p>Understand the principles of research funding and how to obtain it</p>	<p>Undertake systematic critical review of scientific literature</p> <p>Ability to frame questions to be answered by a research project</p> <p>Develop protocols and methods for research</p> <p>Be able to use databases</p> <p>Be able to accurately analyse data</p> <p>Be able to write a scientific paper</p> <p>Have good written and verbal presentation skills</p> <p>Be able 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</p>	<p>Demonstrate curiosity and a critical spirit of enquiry</p> <p>Ensure patient confidentiality</p> <p>Demonstrate knowledge of the importance of ethical approval and patient consent for clinical research</p> <p>Humility</p>
Appraisal and assessment	<p>Understand the concepts of appraisal and assessment</p> <p>Understand how to conduct an appraisal interview or assessment</p>	<p>Able to maintain an appraisal portfolio</p> <p>Develop the ability to undertake an effective appraisal or assessment</p>	<p>Demonstrate a positive attitude to appraisal</p> <p>Be aware of equality and diversity issues as they relate to appraisal</p>

4. 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.

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Patient safety	Understand the issues around patient safety and the role of the NPSA Be aware of the NPSA National Reporting and Learning System	Demonstrate awareness of patient safety in a practical situation	Show regard for patient safety
Continuity of care	Understand the relevance of continuity of care	Ensure satisfactory completion of reasonable tasks at the end of the shift/day with appropriate handover Ensure appropriate documentation of/for handover Make adequate arrangements to cover leave	Recognise the importance of punctuality and attention to detail Recognise the importance of communication with patients/carers

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Informed consent	<p>Know the process for gaining informed consent</p> <p>Understand the principles of consent issues as relating to cellular pathology clinical practice and research</p> <p>Know how to gain consent for a research project</p>	<p>Give appropriate information in a manner patients understand and be able to gain informed consent from patients</p> <p>Demonstrate appropriate use of written material</p>	<p>Respect for patients' and relatives' points of view and wishes</p> <p>Consider the patient's needs as an individual</p>
Confidentiality	<p>Be aware of relevant strategies to ensure confidentiality</p> <p>Be aware of situations when confidentiality might be broken</p>	<p>Use and share all information appropriately</p> <p>Avoid discussing one patient in front of another</p> <p>Be prepared to seek patient's wishes before disclosing information</p>	<p>Respect the right to confidentiality</p>
Within a consultation	<p>Know how to structure the interview to identify the patient's:</p> <ul style="list-style-type: none"> • concerns/problem list/priorities • expectations • understanding • acceptance 	<p>Listen</p> <p>Use 'open' questions followed by appropriate 'closed' questions</p> <p>Avoid jargon and use familiar language</p> <p>Be able to communicate both verbally and in writing to patients whose first language may not be English in a manner that they understand</p> <p>Use interpreters appropriately</p> <p>Give clear information and feedback to patients and share information with relatives when appropriate</p> <p>Reassure 'worried well' patients</p>	<p>Demonstrate an understanding of the need for:</p> <ul style="list-style-type: none"> • involving patients in decisions • offering choices • respecting patients views • dress and appearance that is appropriate to the clinical situation and patient

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Breaking bad news	<p>Know how to structure the interview and where it should take place</p> <p>Be aware of the normal bereavement process and behaviour</p> <p>Have awareness of organ donation procedures and role of local transplant coordinators</p>	<p>Be able to break bad news in steps appropriate to the understanding of the individual and be able to support distress</p> <p>Avoid jargon and use familiar language</p> <p>Encourage questions</p> <p>Maintain appropriate hope whilst avoiding inappropriate optimism</p>	<p>Act with empathy, honesty and sensitivity</p>
Complaints	<p>Have awareness of the local complaints procedures</p> <p>Have an awareness of systems of independent review</p>	<p>Manage dissatisfied patients/relatives</p> <p>Anticipate potential problems</p>	<p>Act promptly and with honesty and sensitivity</p> <p>Be prepared to accept responsibility</p>
Doctor-patient relationship	<p>Understand all aspects of a professional relationship</p> <p>Establish the limiting boundaries surrounding the consultation</p> <p>Deal with challenging behaviour in patients who transgress those boundaries, e.g. aggression, violence, racism and sexual harassment</p>	<p>Help the patient appreciate the importance of cooperation between patient and doctor</p> <p>Develop the relationship that facilitates solutions to patient's problems</p> <p>Deal appropriately with behaviour falling outside the boundary of the agreed doctor-patient relationship in patients, e.g. aggression, violence, sexual harassment</p>	<p>Adopt a non-discriminatory attitude to all patients and recognise their needs as individuals</p> <p>Seek to identify the healthcare belief of the patient</p> <p>Acknowledge patient rights to accept or reject advice</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Educating patients about: <ul style="list-style-type: none"> • disease • investigations • therapy 	Know investigation procedures including possible alternatives and choices Be aware of strategies to improve adherence to therapies	Give information to patients clearly in a manner that they can understand, including written information Encourage questions Negotiate individual treatment plans including action to be taken if patient deteriorates or improves	Consider involving patients in developing mutually acceptable investigation plans Encourage patients to access: <ul style="list-style-type: none"> • further information • patient support groups
Environmental and lifestyle risk factors	Understand the risk factors for disease including: <ul style="list-style-type: none"> • diet • exercise • social deprivation • occupation • substance abuse • behaviour 	Advise on lifestyle changes Involve other healthcare workers as appropriate	Suppress any display of personal judgement

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Epidemiology and screening	<p>Describe the methods of data collection and their limitations</p> <p>Formally notify diseases where this is required</p> <p>Apply principles of primary and secondary prevention and screening.</p>	<p>Assess an individual patient's risk factors</p> <p>Encourage participation in appropriate disease prevention or screening programmes</p>	<p>Consider the:</p> <ul style="list-style-type: none"> • positive and negative aspects of prevention • importance of patient confidentiality <p>Respect patient choice</p>
Legal issues	<p>Understand the legal issues relating to surgical pathology and cytopathology reporting</p> <p>Know the legal responsibilities of completing death certificates</p> <p>Understand the legal framework of the Coronial/Procurator Fiscal system, including the types of deaths that should be referred to the Coroner/Procurator Fiscal</p>	<p>Liaison with the Coroner/Procurator Fiscal</p>	<p>Act with compassion at all times</p>
Ensuring patient safety	<p>Demonstrate knowledge of:</p> <ul style="list-style-type: none"> • 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 	<p>Demonstrate the ability to:</p> <ul style="list-style-type: none"> • 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 environment relevant to the specialty 	<p>Demonstrate:</p> <ul style="list-style-type: none"> • 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

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Critically evaluating	Demonstrate a good working knowledge of: <ul style="list-style-type: none"> • 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 	Demonstrate ability to: <ul style="list-style-type: none"> • undertake an audit project • contribute to meetings which cover audit, critical incident, report patient outcomes 	Listen to and reflect on the views of patients and carers Deal with complaints in a sensitive and cooperative manner Act as an advocate for the service
Encouraging innovation	Apply a variety of methodologies for developing creative strategies for improving services <ul style="list-style-type: none"> • 	Demonstrate the ability to: <ul style="list-style-type: none"> • question existing practice in order to improve services • apply creative thinking approaches (or methodologies or techniques) in order to propose solutions to service issues 	Demonstrate: <ul style="list-style-type: none"> • being open minded to new ideas. • a proactive approach to new technologies and treatments • supporting colleagues to voice ideas
Facilitating transformation	Demonstrate knowledge of: <ul style="list-style-type: none"> • the implications of change on systems and people • project management methodology 	Demonstrate the ability to: <ul style="list-style-type: none"> • provide medical expertise in situations beyond those involving direct care • make effective written and verbal presentations 	Demonstrate: <ul style="list-style-type: none"> • being positive about improvement and change. • striving for continuing improvement in delivering patient care services

5. 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.

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Working with clinical teams	<p>Describe how a team works effectively</p> <p>Explain the roles and responsibilities of team members, especially within the department and within multidisciplinary teams</p> <p>Summarise the roles of other clinical specialties and their limitations</p> <p>Demonstrates knowledge of a wide range of leadership styles and approaches, and their applicability to different situations and people</p>	<p>Communicate effectively. Seek advice if unsure</p> <p>Recognise when input from another specialty is required for individual patients</p> <p>Work effectively with other healthcare professionals, including demonstration of material at MDT meetings</p> <p>Respect skills and contribution of colleagues</p> <p>Recognise and work within own limitations</p> <p>Recognise when to delegate</p> <p>Show leadership and supervise safely</p> <p>Stages B–D: delegate, show leadership and supervise safely</p> <p>Enable individuals, groups and agencies to implement plans and decisions</p> <p>Identify and prioritise tasks and responsibilities including to delegate and supervise safely</p>	<p>Show respect for others opinions</p> <p>Be conscientious and work cooperatively</p> <p>Respect colleagues, including non-medical professionals, and recognise good advice</p> <p>Recognise and work within own limitations</p> <p>Show recognition of a team approach and willingness to consult and work as part of a team</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Communication with colleagues	<p>Communicate with other members of the pathology department, other departments and other members of the MDT</p> <p>Communicate appropriately in writing, through letters and reports</p> <p>Justify when to phone a general practitioner (GP)</p>	<p>Use appropriate language</p> <p>Select an appropriate communication method</p>	<p>Be prompt and respond courteously and fairly</p>
Complaints	<p>Have awareness of the local complaints procedures</p> <p>Have an awareness of systems of independent review</p>	<p>Anticipate potential problems</p> <p>Manage dissatisfied colleagues</p>	<p>Act with honesty and sensitivity and promptly</p> <p>Be prepared to accept responsibility</p>
<p>Interactions between:</p> <ul style="list-style-type: none"> • hospital and GP • hospital and other agencies, e.g. social services • medical and surgical specialties 	<p>Describe how a team works effectively</p> <p>Explain the roles and responsibilities of team members, especially within the department and within multidisciplinary teams</p> <p>Summarise the roles of other clinical specialties and their limitations</p>	<p>Delegate, show leadership and supervise safely</p> <p>Communicate effectively</p> <p>Handover safely</p> <p>Seek advice if unsure</p> <p>Recognise when input from another specialty is required for individual patients</p> <p>Work effectively with GPs, other medical and surgical specialists and other healthcare professionals</p>	<p>Show respect for others opinions</p> <p>Be conscientious and work cooperatively</p> <p>Respect colleagues, including non-medical professionals, and recognise good advice</p> <p>Recognise and work within own limitations</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Creating an environment in which mistakes and mismanagement of patients can be openly discussed and lessons learned		<p>Recognise the advantages and disadvantages of guidelines</p> <p>Report and investigate critical incidents</p> <p>Take appropriate action if you suspect you or a colleague may not be fit to practise</p>	
Self awareness	<p>Demonstrate knowledge of :</p> <ul style="list-style-type: none"> • ways in which individual behaviours impact on others; personality types, group dynamics, learning styles, leadership styles • methods of obtaining feedback from others 	<p>Maintain and routinely practice critical self-awareness, including ability to discuss strengths and weaknesses with supervisor, recognising external influences and changing behaviour accordingly</p> <p>Show awareness of and sensitivity to the way in which cultural and religious beliefs affect approaches and decisions, and to respond respectfully</p>	<p>Adopt a patient-focused approach to decisions that acknowledges the right, values and strengths of patients and the public</p> <p>Recognise and show respect for diversity and differences in others</p>
Self-management	<p>Appropriately apply tools and techniques for managing stress</p> <p>Recognise the role and responsibility of occupational health and other support networks</p> <p>Recognise the limitations of self professional competence</p>	<p>Recognise the manifestations of stress on self and others and know where and when to look for support</p> <p>Balance personal and professional roles and responsibilities</p> <p>Prioritise tasks, having realistic expectations of what can be completed by self and others</p>	<p>Be conscientious, able to manage time and delegate appropriately</p> <p>Recognise personal health as an important issue</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Self-development	<p>Describe local processes for dealing with and learning from clinical errors</p> <p>Acknowledge the importance of best practice, transparency and consistency</p>	<p>Use a reflective approach to practice with an ability to learn from previous experience</p> <p>Use assessment, appraisal, complaints and other feedback to discuss and develop an understanding of own development needs</p>	<p>Be prepared to accept responsibility</p> <p>Show commitment to continuing professional development which involves seeking training and self-development opportunities, learning from colleagues and accepting constructive criticism</p>
Acting with integrity	<p>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.</p> <p>Summarise the key issues of prejudice and preferences within self, others, society and cultures</p>	<p>Recognise, analyse and know how to deal with unprofessional behaviours in clinical practice, taking into account local and national regulations</p> <p>Create open and non-discriminatory professional working relationships with colleagues</p> <p>Awareness of the need to prevent bullying and harassment</p>	<p>Acceptance of professional regulation</p> <p>Promotion of professional attitudes and values</p> <p>Act with probity and willingness to be truthful and to admit errors</p>
Developing networks	<p>Describe the role of team dynamics in the way a group, team or department functions</p> <p>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</p>	<p>Take on differing and complementary roles within the different communities of practice within which they work</p> <p>Support bringing together different professionals, disciplines, and other agencies, to provide high quality healthcare</p>	<p>Interact effectively with professionals in other disciplines and agencies</p> <p>Respect the skills and contributions of colleagues</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Building and maintaining relationships	Use specific techniques and methods that facilitate effective and empathic communication	Develop effective working relationships with colleagues and other staff through good communication skills, building rapport and articulating own view Communicate effectively in the resolution of conflicts, providing feedback, and identifying and rectifying team dysfunction	Recognise good advice and continuously promote values based non prejudicial practice Use authority appropriately and assertively; willing to follow when necessary
Encouraging contribution	Appropriately apply facilitation and conflict resolution methods	Enable individuals/groups and agencies to implement plans and decisions Identify and prioritise tasks and responsibilities including to delegate and supervise safely	Show recognition of a team approach and willingness to consult and work as part of a team Respect colleagues, including non-medical professionals
Identifying the contexts for change	Show recognition of a team approach and willingness to consult and work as part of a team Respect colleagues, including non-medical professionals	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	Comply with national guidelines that influence healthcare provision Be willing to articulate strategic ideas and use effective influencing skills
Applying knowledge and evidence	Describe and correctly use the patient outcome reporting systems within the specialty, and the organisation and how these relate to national programmes Based on an understanding of research methods, evaluate scientific publications including the use and limitations of different methodologies for collecting data	Compare and benchmark healthcare services Use a broad range of scientific and policy publications relating to delivering healthcare services	Evaluate issues and potential solutions before acting

6. 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.

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Personal health	Know of occupational health services Know of one's responsibilities to the public Know not to treat oneself or one's family	Recognise when personal health takes priority over work pressures and to be able to take the necessary time off	Recognise personal health as an important issue
Stress	Know the effects of stress Have knowledge of support facilities for doctors	Develop appropriate coping mechanisms for stress and ability to seek help if appropriate	Recognise the manifestations of stress on self and others

7. 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.

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Service information	Legal framework for advertisements		Recognise absolute importance of accuracy and impartiality
Writing reports and giving evidence			Honesty and integrity Timeliness
Research		Obtain ethical approval	Put safety and care of patients first Conduct research with honesty and integrity
Financial dealings			Not induce patients to accept private medical care Manage funds for the purpose for which they are intended Declare conflicts of interest

APPENDIX 2 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 cytopathology

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Cervical Screening Programme (CSP)	<p>Detailed knowledge of all guidance relating to the CSP</p> <p>Knowledge of roles and responsibilities of hospital-based programme coordinator, screening commissioner and lead cytopathologist</p> <p>Knowledge of the benefits and limitations of cervical screening</p>	<p>Regular attendance at meetings of screening programme committees within the Trust and the community</p>	<p>Comfortable communicating with staff from a wide variety of professional backgrounds</p> <p>Able to communicate effectively with lay people with regard to the CSP, which has a very high level of public and media exposure</p>
Cytopathology – histopathology correlations	<p>Knowledge of reasons why smears and biopsies may not correlate</p> <p>Understanding management options in non-correlating cases</p>	<p>Ability to review histology and cytopathology of non-correlating cases and present results to gynaecologists at MDTs</p> <p>Ability to contribute to discussions on clinical management of patients</p>	<p>Understanding the limitations of cervical histology and cytopathology</p> <p>Working within a multidisciplinary team</p>
Cervical cytopathology – diagnosis	<p>Features of common and rarer pitfalls in diagnosis of dyskaryosis</p>	<p>Review cases presented as difficult. This may involve accessing local or more widely referred cases</p> <p>Be able to make a likely classification and management plan on difficult cases</p>	
Quality assurance	<p>Fully understand the role of cervical screening quality assurance testing (QAT)</p>	<p>Undertake a period of secondment to the QAT</p>	

Non-cervical cytopathology

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Specimen taking	Techniques, risks and benefits of fine needle aspirates (FNAs)	Ability to perform a FNA from superficial sites, e.g. breast	Learning a clinical skill Having the communication skills for a consultation with a patient
Immediate diagnosis	Principles, benefits and disadvantages of one-stop clinics Familiarity with immediate stains, e.g. DiffQuick Features of specimen adequacy for radiologically guided deep FNAs	Regular attendance at one-stop clinics Ability to make and communicate a firm diagnosis quickly to clinicians Recognition of limits of competence – when not to give a firm diagnosis Ability to confirm adequacy of deep FNA specimens	Having confidence in a diagnosis that will be immediately communicated to the patient
Breast screening programme (BSP)	Place of cytopathology in the BSP Principles of the breast screening programme, and quality assurance	Access to BSP documentation Attendance at local BSP meetings	Understanding role of cytopathology in this multidisciplinary, multiagency process
Morphology	Knowledge of appearance of normal and abnormal cells on all preparation techniques (LBC, direct smears, cytospins, etc.) and all stains	Familiarity with all commonly used staining and preparation techniques and the ability to recognise normal and abnormal cells in such preparations	Awareness of the relative merits of different staining and preparation modalities
Diagnostic capability	Features of malignancy in more unusual specimen types, e.g. pancreatico-biliary tract, upper urinary tract Diagnosis of infections, including in the immunosuppressed patient	Ability to diagnose malignancy in these specimens Ability to diagnose more exotic infections in these patients	Wide experience in all aspects of diagnostic cytopathology

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Application of techniques	Knowledge of application of immunocytochemistry, flow cytometry, molecular techniques and other investigations in diagnostic cytopathology	<p>Appropriate use of ancillary techniques</p> <p>Knowledge of advantages and limitations</p> <p>Able to apply results to clinicopathological decision-making</p>	<p>Receptive to new ideas</p> <p>Ability to interact with other professionals and departments in organising and interpreting these specimens</p>

APPENDIX 3 OPTIONAL TRAINING PACKAGES

Appendix 3a 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.

Subject	Knowledge	Skills and knowledge application	Attitudes
Screening organisation	Knowledge of national and local groups involved in management of cervical screening programme and their responsibilities	Ability to liaise with key individuals locally	Communication skills
Quality assurance	Make use of the quality standards/performance indicators and explain the reasons for variation in these	Ability to interpret quality assurance data and suggest appropriate action	Adopt a logical, non-judgmental approach to problem-solving
Normal	Knowledge of the range of normal appearances seen in cervical samples	Ability to recognise normal cervical cytology specimens, including cyclical, atrophic and inflammatory variations	Understand the risks of false-negative reports
Borderline nuclear changes	Detailed knowledge of the circumstances when borderline nuclear changes are reported	Ability to recognise borderline nuclear changes and its various subcategories (endocervical, ?high grade)	Recognise limits of competence Express degrees of uncertainty
Dyskaryosis	Ability to reliably recognise all variants of squamous and glandular dyskaryosis Detailed knowledge of recognised pitfalls in the diagnosis of squamous and glandular dyskaryosis	Ability to take and weigh advice on diagnosis from screening staff Ability to formulate appropriate management advice	Understand the psychological effects of a positive cytology report Aware of the risks of false-positive reports

Subject	Knowledge	Skills and knowledge application	Attitudes
Treatment	<p>Knowledge of the treatment options for treating CIN, CGIN cervical cancer</p> <p>Understand the effects previous cervical treatment will have on subsequent cytology specimens</p>	<p>Ability to recognise iatrogenic and post-treatment effects in cervical cytology specimens</p>	
Discrepancies	<p>Understand the reasons for discrepancy between colposcopy, histology and cytology</p> <p>Knowledge of the evidence base detailing reasons why cervical cytology may fail to detect significant disease</p>	<p>Able to discuss cases at cervical screening discrepancy meetings</p>	<p>Awareness of own limitations</p> <p>Ability to express degrees of uncertainty</p> <p>Ability to recognise mistakes</p>
Service management	<p>Demonstrate a good working knowledge of the commissioning process for cervical screening services</p> <p>Knowledge of the process by which new technologies are assessed for possible use in the NHSCSP</p>		

Appendix 3b 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.

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Pathological basis of disease	<p>A wide knowledge of the pathological basis of disease and the macroscopic/microscopic pathology of various types of death</p> <p>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</p>	<p>A high standard of practice in the techniques used for identifying morphological abnormalities at autopsy examination</p> <p>Practice at integrating multiple co-morbidities to explicate a death</p>	<p>A desire to learn about common & less common disease processes through the autopsy</p> <p>Acceptance of uncertainty in determining the cause of death in some scenarios</p> <p>Willingness to discuss difficult cases with colleagues to optimise the diagnostic outcome</p>
General	<p>Possess knowledge of anatomy, macroscopic features of major disease processes and common tissue dissection techniques relevant to autopsy practice</p>	<p>Demonstrate manual dexterity sufficient to perform autopsies safely and to demonstrate the major abnormalities</p>	<p>Be able to identify and address the questions and issues raised by the death</p> <p>Be responsible for identification of the deceased and to take ultimate responsibility for this</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
General continued	Have some 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)	Liaise with the APTs to maximise the autopsy learning opportunities	Welcome clinicians and other appropriate visitors to the mortuary to share knowledge Demonstrate an understanding of the importance of autopsy findings to clinicians and relatives.
Clinical liaison	Have an 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	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. All these investigation modalities and others can provide useful positive or negative clues in the diagnostic process Be able to identify issues to be addressed by the autopsy examination	Be conversant with current clinical practice Be able to liaise with clinical colleagues in order to obtain clinical information prior to autopsy Know the main side effects of common treatments and the major complications of most surgical procedures
External examination	Familiarity with the RCPATH's <i>Guidelines on Autopsy Practice, 2002</i> and <i>Best Practice Scenarios, 2005</i>	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 Practice at evaluating the morphological effects of resuscitation	Not to authorise an evisceration by others without personally examining the body first

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Autopsy technique	<p>Have knowledge of, and the ability to perform, autopsies in a variety of situations, such as the following:</p> <ul style="list-style-type: none"> • 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 	<p>Carry out a normal full evisceration</p> <p>Dissect the internal organs</p> <p>Describe the appearances accurately and succinctly</p> <p>Interpret the findings in the light of the clinical information available</p> <p>Present the findings to clinicians either immediately or later at a clinical meeting</p> <p>Ensure that special dissections are made in appropriate circumstances</p> <p>Have skills in techniques used in perioperative autopsies and autopsies following death in hospital, in a variety of situations such as:</p> <ul style="list-style-type: none"> • 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 	<p>Desire to keep up to date with medical advances and their consequences for autopsy practice</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Deaths in the community	<p>Have a knowledge of the aims of the autopsy and investigations required where death occurs in various situations, including examples as follows:¹</p> <ul style="list-style-type: none"> • 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 		

¹ Saukko P, Knight B. *Knight's Forensic Pathology (3rd edition)*. London: Arnold, 2004.

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Histopathology	Knowledge of the autopsy histological appearances of various common fatal conditions	Ability to select appropriate tissue blocks	Ability to think laterally
Microbiology	Knowledge of those areas of microbiology that are relevant to autopsy practice, e.g. sepsis, meningitis, pneumonia, endocarditis, tuberculosis, viral hepatitis, HIV disease	Ability to take appropriate samples	Ability to think laterally
Toxicology	Knowledge of those areas of toxicology that are relevant to autopsy practice, e.g. drug abuse and evaluation of compliance with prescribed medications	Ability to take appropriate samples	Ability to think laterally
Other investigations	<p>Knowledge of those areas of haematology, biochemistry, medical genetics and other investigative modalities that are relevant to autopsy practice</p> <p>Have a basic knowledge of disorders having an inherited defect and of procedure relating to appropriate investigation of families</p>	Ability to take appropriate samples	Ability to think laterally

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Consent	<p>Be conversant with current policy in relation to consent for autopsies and for tissue or organ retention</p> <p>Be conversant with current policy in relation to tissue or organ donation</p> <p>Understand the legal basis of consent to autopsy examination and the circumstances in which consent is not required</p> <p>Be able to advise as to when an autopsy is not necessary or when its aims might be fulfilled by a limited examination</p>	<p>Be able to obtain consent for autopsies and for further investigation of tissue or whole organs</p>	<p>Be able to give explanation to families of the reasons for, and – if requested – details of, the investigations required by an autopsy examination</p> <p>Be able to explain to families when tissue or organs may need to be sent away for expert review and options for funeral, disposal, etc.</p> <p>Understand issues of autopsy consent, tissue/organ retention and Coroners’/Procurator Fiscals’ practice</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Health and safety	<p>Be conversant with relevant protocols and documentation of departmental working practices, and be familiar with the practicalities of mortuary practice</p> <p>Have a working knowledge of the regulatory aspects of health and safety issues, sufficient to be able to draw up a mortuary policy</p> <p>Be familiar with the document Safe Working and Prevention of Infection in the Mortuary and Autopsy Suite (Health Services Advisory Commission), Guidelines on Autopsy Practice (RCPATH, 2002)</p> <p>Have some understanding of the design concepts of a modern mortuary. These are inextricably linked to health and safety issues. NHS Estates Building Note 20 specifically covers advice for modern mortuary design</p>	Be able to work in the mortuary in a safe way	Take an active interest in safe working practices for all staff and visitors to the mortuary

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Medico-legal issues	<p>Be conversant with current legislation and regulations relating to medico-legal autopsies and related matters</p> <p>Be familiar 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</p> <p>Be familiar with the practicalities of identification of bodies</p> <p>Be familiar 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</p> <p>Be familiar 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</p> <p>Be aware of coronial reform issues and ongoing legislation; also amendments to Coroners Rules, e.g. those relating to tissue retention (June 2005)</p>	<p>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).</p>	<p>An impartial stance and a commitment to justification of any opinion from a balanced interpretation of medical literature</p> <p>A commitment to best autopsy practice</p> <p>Ability to incorporate changes in medico-legal practice and reform as they take place</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Reports	<p>A knowledge of College documents relating to the production of autopsy reports</p> <p>Familiarity with the RCPATH's Guidelines on Autopsy Practice, 2002 and Best Practice Scenarios, 2005.</p>	<p>Write a final gross and microscopic report with suitable summaries, according to the RCPATH's Guidelines on Autopsy Practice, 2002</p> <p>Produce finished reports in a timely way</p> <p>Produce reports that address the issues and questions raised by a death, with acknowledgement of limitations as appropriate</p>	<p>Caution in reiterating medical histories, especially where sensitive personal information is concerned.</p> <p>An impartial stance and a commitment to justification of any opinion from a balanced interpretation of medical literature</p>
Photography	<p>See GMC² and Home Office³ guidelines and the RCPATH's Guidelines on Autopsy Practice, 2002</p>	<p>Be able to use a camera</p>	<p>Be aware of confidentiality issues</p>
Teaching	<p>Utilise the value of the autopsy as a teaching aid</p>	<p>Develop appropriate teaching skills</p>	<p>Be prepared to teach at every available opportunity</p>

² *Making and using visual and audio recordings of patients*, London: GMC, 2002

³ *Guidelines on the use of photographic and other materials obtained during examination*, London: Home Office, 1994

⁴ Dorries C. *Coroner's Courts (2nd edition)*. Oxford, 2004.

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Inquests	Have a working knowledge of judicial process particularly within the Coroner's court and the role of the pathologist/medical witness ⁴	<p>Practical experience of judicial inquiries into deaths</p> <p>Be familiar with inquest procedure and have experience observing inquests and ideally of giving evidence in Court</p> <p>Practice at integrating information provided during an inquest so as to better assist the Court in the investigation of a death</p>	<p>Can maintain an impartial stance</p> <p>Skilled presentation of complex issues in a simple manner</p> <p>Recognises role as provider of information to the court and limitations of expertise</p> <p>An 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</p>
Feedback to families and other interested parties		Communication skills required to inform clinical colleagues and other non-clinical professionals involved in inquiries into deaths and assist in multidisciplinary mortality review	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
Future developments	<p>Have a knowledge of the concepts that underpin continuing professional development, revalidation and quality assurance</p> <p>Maintain an awareness of developments in the field and in legislation and regulations, that may lead to developments of or changes in practice</p>		

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Audit (specific to autopsy)	Have 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	<p>Know where to find relevant information from the UK and other professional pathology associations elsewhere in the world</p> <p>Develop a critical approach to autopsy reports and how well they address the questions raised by a death</p>	Facilitates provision of information for mortality review, for open investigation and for the provision of information

APPENDIX 3c: 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.

Subject	Knowledge	Skills	Attitudes
Fundamentals of the scientific process and evidence-based medicine	<p>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</p> <p>Understand the limitations of applying scientific principles within a pathobiology setting and methods available for bringing scientific stringency to studies in this area</p> <p>Understand meaning and implications of ‘evidence-based’ medicine in directing processes of research</p> <p>Have a working knowledge of the place of pathology research in the past, current and future development of medical concepts, diagnostics and therapies</p>	<p>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</p>	<p>Ability to work within different settings and appreciate the impact and values of research principles and outputs</p>

Subject	Knowledge	Skills and knowledge application	Attitudes
<p>Role of research in the modern NHS</p>	<p>Know what the NHS and the Government expect from research</p> <p>Understand how the NHS funds research and how its perspective differs from and complements that of other funders</p> <p>Know 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</p> <p>Know how to access support from the local trust and wider NHS to undertake research</p> <p>Develop a working knowledge of the full range of advantages that might accrue to an NHS Trust through undertaking research</p> <p>Develop an understanding of the management of research in the NHS at the levels of Trusts, Clinical Research Networks, SHAs and the DoH</p>	<p>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</p>	<p>Develop the thought processes that always ask at every stage in the research pathway how research might be used to benefit patients</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Ethical background of research on people and human tissue	<p>Understand the regulatory framework within which research on people and human tissue is undertaken</p> <p>Understand the role of the HTA and MHRA in defining the framework in which research is undertaken</p>	<p>Be able to construct applications to, and reports for, regulatory bodies</p> <p>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.</p> <p>This includes being able to construct:</p> <ul style="list-style-type: none"> • letters requesting assistance from other health professionals • understandable information sheets for patients and/or patient's relatives • consent forms 	<p>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</p> <p>Ensure his/her own research is always conducted in an ethical manner</p>
Ethical background to research on animals	<p>Understand the regulatory framework within which research on animals is undertaken</p> <p>Understand the role of the Home Office and Home Office Inspectors in overseeing and regulating animal research</p> <p>Be able to identify non-animal models in preference to the use of animals for research</p>	<p>Be able to write an argued and justified case for a project and personal licence</p>	<p>Develop a desire to ensure all animal research is conducted in an ethical and thoughtful manner</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Tissue banking	<p>Have a 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</p> <p>Know how to access the resources of tissue banks</p>	Be able to work within key regulatory frameworks in a timely and efficient manner	Be a caring researcher fully aware of the impact on patients and their relatives of storing and manipulating human tissues
Study design	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	Ability to design a research study that is recognised by peers and reviewers as relevant and well constructed	Develop the ability to ask pertinent questions and to examine those questions in the most economical manner
Statistics	<p>To understand the uses and limitations of statistical methods</p> <p>To know how, or where to find how, to ask the correct statistical question</p>	The ability to use statistics as a research tool	To use and not abuse statistics
Working in a research laboratory	<p>Demonstrate a knowledge of the regulatory frameworks under which research laboratories function</p> <p>Know and understand the importance of local health and safety practices and how they differ from those within a diagnostic laboratory</p>	Develop the skills needed to work within different environments	Be prepared to work within and adjust to the different practices within research and diagnostic laboratories

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Scope of pathology techniques	<p>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 <i>in situ</i> and <i>ex vivo</i> molecular biology and pathology techniques</p> <p>Understand the role of different tissue processing techniques to preserve specific molecular types</p>	<p>The ability to select and perform, or advise others in performing, appropriate techniques to investigate disease mechanisms</p> <p>To be able 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</p>	<p>To recognise the nature of a pathological problem and critically appraise the best methods for investigating the problem</p> <p>To develop a thoughtful and self-regulatory approach to data extraction and analysis</p>
Pathologist's role in the research team and the research of a team	<p>To know how research teams work and to recognise the skill sets that the individual can bring to each research programme</p> <p>To understand the best ways of ensuring that individual members of a research team can be enabled to function optimally in undertaking a piece of research</p>	<p>Lead a research team</p> <p>Develop the skills of integration into a research team</p>	<p>Recognise the value of every member of a research team</p> <p>Assist or direct a team to function within an appropriate ethical framework</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Pathologist as educator, advisor, facilitator and supervisor of research	<p>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</p> <p>Use the research management and support frameworks available at the level of the laboratory, department and institution</p>	<p>Advise, guide and direct from a sound knowledge base and to recognise when external assistance needs to be sought</p>	<p>Assure that all guidance, support and advice is delivered fairly and honestly and in a timely manner</p> <p>Be able to act as 'critical friend', advocate and guide</p>
Managing research grants and people employed on research grants	<p>Properly cost a research grant.</p> <p>Manage accounts and interpret financial spreadsheets.</p> <p>Know the relevant employment law with respect to employees on short and more permanent contracts</p>	<p>Use basic accountancy skills and the associated necessary computer skills.</p> <p>Manage people and their expectations within the legal framework pertaining to their employment</p>	<p>Exercise probity in the management of research grant income.</p> <p>Ensure honesty in interactions with staff employed on research grants.</p>
Importance of probity in research	<p>To know the legal frameworks regulating research and researchers</p> <p>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</p>	<p>To develop the enquiry, reasoning and analytical skills needed to ensure data are properly derived and presented, and placed within the correct context</p>	<p>Honesty when, acquiring, presenting and interpreting data</p>

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
Evaluation of the impact and cost of introducing research-based discoveries into clinical practice	<p>Have an understanding of how discoveries can be translated into patient-focused or commercial outputs</p> <p>Have or 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</p> <p>Know how to develop and manage intellectual property</p>	Basic skills in marketing ideas and discoveries to managers and commercial sponsors	Recognise the added value that one's own research can bring to society and manage its exploitation within accepted frameworks
Use of information technology (IT) in research	<p>Understand how to use databases for undertaking literature searches</p> <p>Have knowledge of the IT systems used for storing and handling research data</p> <p>Understand the regulatory frameworks around storing and managing patient-derived data</p>	Become conversant with the scope of computer systems needed in performing literature searches, data holding and handling	Ensure that all patient data are properly stored and used within a framework that protects the rights and needs of patients and their families
Critical assessment of own and other people's data	Know how to analyse data and the processes involved in obtaining data in a critical way and with the perspective of an external reviewer	Critical analysis	Always to question whether the study and the subsequent data meet stringent scientific principles
Applying for grant funding	<p>Be conversant with potential sources of funding</p> <p>Know how to write an argued case for grant funding</p>	Be able to write a well argued and designed grant application within the parameters of the funding call	Ability to construct an argument and plan future work

Subject	Knowledge	Skills and knowledge application	Attitudes and behaviours
<p>Writing a paper, preparing a paper and/or writing a chapter or book</p>	<p>Develop an understanding of what is expected in preparing data and ideas for publication in different media</p> <p>Understand the need for succinctness, clarity and a style appropriate to the medium being employed and the target audience</p>	<p>To clearly state 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.</p>	<p>To display honesty and insight when describing one's own work and its importance within the field.</p>
<p>Reviewing publications, theses and grants</p>	<p>Know what a funder, journal or other body or person requesting advice about the quality and cost-effectiveness of a research proposal are asking for</p> <p>Develop a high level of knowledge of the field</p> <p>Understand the need to work to deadlines imposed by others</p>	<p>Be able to assess the significance of a piece of research in its own right and within the local, national or international context</p> <p>Develop time management skills around the process of review and feedback</p>	<p>Maintain an honest impartial and objective approach to the review process</p> <p>To develop the attitudes required to work to a deadline</p>

**APPENDIX 4 ILLUSTRATIVE TIMETABLE OF HISTOPATHOLOGY TRAINING
(WITHOUT A NECESSARY EXTENSION OF TRAINING)**

	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		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 1 FRCPATH opportunity	Part 1 FRCPATH results		Second opportunity to exit Stage B	Second opportunity to begin Stage C		Part 1 FRCPATH opportunity	Part 1 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 1 FRCPATH opportunity	Part 1 FRCPATH results					Part 2 FRCPATH opportunity	Part 2 FRCPATH results		
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
			Part 2 FRCPATH opportunity	Part 2 FRCPATH results		First opportunity to exit Stage C	First opportunity to begin stage D		Part 2 FRCPATH opportunity	Part 2 FRCPATH results		
ST6	Month 61	Month 62	Month 63	Month 64	Month 65	Month 66	Month 67	Month 68	Month 69	Month 70	Month 71	Month 72
			Part 2 FRCPATH opportunity	Part 2 FRCPATH results		First opportunity to exit stage D						

APPENDIX 5 ACRONYMS

AIDS	Acquired immune deficiency syndrome
ARCP	Annual Review of Competence Progression
BMA	British Medical Association
BMS	Biomedical scientist
BSP	Breast Screening Programme
CATT	College Advisory Training Team
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
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 Pathologists
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
JCPT	Joint Committee on Pathology Training
LBC	Liquid-based cytology
MDT	Multidisciplinary team meeting
MSF	Multi-source feedback
NCEPOD	National Confidential Enquiry into Patient Outcome and Death
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
PIAG	Patient Information Advisory Group
PMETB	Postgraduate Medical Education and Training Board
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 6 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)

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)

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

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).

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 7 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